Wednesday
April 22, 2009

Seminar #01 12:00 PM-2:45 PM 1001

CREATING EDUCATIONAL TOOLS: FROM CONCEPT TO PRODUCT

Cathy D. Meade, PhD RN FAAN

Health Outcomes & Behavior, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL.

Studies that emphasize behavioral change often entail the use of printed, electronic or other novel technological communication interventions. National imperatives call for the creation of culturally, linguistically and literacy relevant communications in light of a demographically changing population. Yet, in many cases, information intended to inform and impact behaviors involves complex terminology and irrelevant concepts that don't resonate well with worldviews important to those to whom they are intended. Thus, the goal of this skill-building, interactive and hands-on seminar is to delve into a series of health communication strategies and processes for creating culturally and literacy appropriate educational tools. What is called for is a learner-centered approach that is dynamic and engaging, and involves iterative and systematic developmental processes. This means that health communications are not geared to a "one size fits all" approach. Seminar objectives are to: highlight the importance of culture and literacy in health communications; illustrate how to incorporate formative research findings into communications; describe learner centered procedures to ensure understanding, acceptability, efficacy, and usability, and persuasion; and examine practical aspects of preproduction, production, and post-production phases including budget considerations. The presenter draws from her broad media experiences and outlines a systematic framework to create customized educational tools (e.g., brochures, DVD/video, flipcharts). Specific examples will illustrate educational tools that address cancer prevention (breast/ cervical, prostate), and stress management training techniques for English Speaking and Non-English Speaking groups undergoing chemotherapy. Attention to methods that foster behavioral outcomes including the use of testimonials and role-modeling techniques are also highlighted. Last, the use of the CLEAN Look Checklist, (CLEAN is an easy-to-remember mnemonic of Culture, Literacy, Education, Assessment, and Networking) is examined as a helpful aid when developing educational tools.

CORRESPONDING AUTHOR: Cathy D. Meade, PhD RN FAAN, Moffitt Cancer Center, Tampa, FL, 33612; cathy.meade@moffitt.org

Seminar #02 12:00 PM -2:45 PM 1002

IMPLEMENTING SELF-MANAGEMENT SUPPORT: LESSONS FROM NEW HEALTH PARTNERSHIPS

Judith Schaefer, MPH[1] and Doriane Miller, MD[2]

.[1]Center for Health Studies, Group Health Cooperative, Seattle, WA and [2]Rush University Medical Center / John H. Stroger Hospital, Chicago, IL.

Delivering effective self-management support (SMS) of complex chronic conditions requires application of complex behavior change models in stressed and often unorganized clinical settings. We will present data from New Health Partnerships Learning Communities that demonstrate improvement in SMS from the perspective of the clinical team, patients and families, and from medical record documentation and promising results obtained across all measures. We will apply findings from real world settings to assure robust, representative, and replicable interventions.

Effective implementation of behavior change models involves innovations in roles for clinicians and staff, and use of other healthcare system and community supports from the Chronic Care Model(CCM). Over the course of a pilot and two learning communities, New Health Partnerships teams tested models utilizing the 5A's and motivational interviewing techniques, building a set of core competencies for supporting self-management of multiple behaviors and risk factors across disease conditions. Within a variety of primary care practice settings, improvement teams devised sustainable strategies that can be implemented by diverse clinical teams. Looking for sustainable models, teams instituted planned and group visits, optimized team care, utilized prompts and standing orders, engaged the patients themselves in peer interventions and developed community partnerships to provide services collaboratively.

This seminar will present lessons learned from three learning communities in 35 healthcare systems in delivering effective self-management support. We will demonstrate core competencies, skills and tools based on the 5 A's model of behavior change and motivational interviewing; discuss three implementation models based on the Chronic Care Model from health care teams with diverse system characteristics and populations; and introduce strategies involving patients and families as partners in leveraging improvement in their own health management and that of other patients.

CORRESPONDING AUTHOR: Judith Schaefer, MPH, Center for Health Studies, Group Health Cooperative, Seattle, WA, 98101-1448; schaefer.jk@ghc.org

Seminar #03 12:00 PM -2:45 PM 1003

TRANSLATING RESEARCH INTO PRACTICE: DEVELOPING A BEST-PRACTICE PROGRAM TO TREAT CONCURRENT MENTAL HEALTH AND SUBSTANCE ABUSE PROBLEMS

Shari A. McKee, PhD,[2] David Boyce, MA, RSW[1] and Olivia Forrest, AC[1]

[1]Georgianwood Concurrent Disorders Program, Mental Health Centre Penetanguishene, Penetanguishene, ON, Canada and [2]Georgianwood Concurrent Disorders Program & Research Department, Mental Health Centre Penetanguishene, Penetanguishene, ON, Canada.

In the last decade or so, numerous best-practice manuals and guidelines have been produced about what an effective program for concurrent disorders should look like. However, much less seems to be known about how well existing frontline services actually implement such guidelines. This presentation will describe how one residential addictions program in Ontario made the transformation to a fully-integrated concurrent disorders program embodying best practice. Participants will hear how decisions were made with respect to the design of the new Georgianwood Concurrent Disorders Program: from choosing the program components and ensuring both addiction and mental health interventions were fully integrated to creating new curricula, training, and clinical supervision. Lessons learned along the way will also be described; for example, how to adapt guidelines intended for urban centres to services for small towns and more rural areas. Because this new concurrent disorders program will involve a program evaluation measuring client outcomes, the evaluation plan will be presented. Preliminary data on proximal outcomes will be presented (e.g., pre-post measures of symptoms, knowledge and skill acquisition, and various community reintegration outcomes). This talk will provide practical information on implementing best-practices for concurrent disorders, transforming from a traditional addictions model to truly integrated service, selecting intake assessments and measures of program integrity, and designing an outcome evaluation.

CORRESPONDING AUTHOR: Shari A. McKee, PhD, Georgianwood Concurrent Disorders Program, Mental Health Centre Penetanguishene, Penetanguishene, ON, L9M 1G3; smckee@mhcp.on.ca

Seminar #04 12:00 PM -2:45 PM 1004

USING THE STATISTICAL LANGUAGE R TO ANALYZE ITEM RESPONSE DATA FOR MEASUREMENT DEVELOPMENT

Yuelin Li, PhD[1] and Mariya Shiyko, MS[1,2]

[1]Psychiatry & Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY and
[2]Educational Psychology, Graduate Center, City University of New York, New York, NY.

This seminar is developed for behavioral scientists who want to learn Item Response Theory with minimal mathematics. With the help of R (an open-source statistical computer language), many complicated quantitative concepts in IRT become more accessible to visual/spatial learners. This seminar is a How-To guide to IRT basic theories and a step-by-step tutorial on how to use R to analyze IRT data for measurement development. Participants are encouraged to bring a laptop with R already installed (http://www.r-project.org). The seminar is organized as follows. We will first cover a few basic techniques in using R for general statistical analysis and data visualization. For IRT, we will use real examples from our own research to cover the basic concepts as well as the more advanced topics. The basic skills include how to select/modify items and response categories by visually inspecting the Item Characteristic Curves and the Category Response Curves. The more advanced topics will include Differential Item Function (DIF) and Computerized Adaptive Testing (CAT). DIF addresses the question of whether or not some items work differently for different respondents (e.g., old vs. young, female vs. male). CAT addresses the interactive administration of an instrument, e.g., over the web. Time permitting, we will discuss the concept of latent-class IRT (by Jürgen Rost, on identifying respondents who give polarized responses).

CORRESPONDING AUTHOR: Yuelin Li, PhD, Psychiatry & Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY, 10022; liy12@mskcc.org

Seminar #05 12:00 PM -2:45 PM 1005

MIXED MODELS FOR LONGITUDINAL DATA: AN APPLIED INTRODUCTION

Don Hedeker, PhD

Division of Epidemiology & Biostatistics, University of Illinois at Chicago, Chicago, IL.

Longitudinal, or repeated measures, data are increasingly observed in many research areas. Statistical methods and software for analysis of such data has rapidly advanced in the last twenty years or so. In particular, mixed models, aka multilevel or hierarchical linear models, are increasingly used for analysis of longitudinal data. These methods are more appropriate than traditional ANOVA techniques since they allow for missing data across time and also for a variety of variance-covariance structures of the longitudinal data. In this workshop, attendees will learn about use of mixed models for analysis of longitudinal data. The focus will be on application of these models, with direct application illustrated using standard statistical software (e.g., SAS and SPSS). In particular, the basic mixed-effects regression model for continuous outcomes will be introduced and described, including use of polynomials for expressing change across time, the multilevel representation of the mixed model, treatment of time-invariant and time-varying covariates, and modeling of the variance-covariance structure of the repeated measures. It will be shown how this model can allow for missing data across time in terms of the outcome variable, thus permitting analysis of subjects who have incomplete data across time. Methods will be illustrated using a psychiatric study in which patients level of depression is modeled over time as a function of time, diagnostic group, and drug-plasma levels.

CORRESPONDING AUTHOR: Don Hedeker, PhD, Division of Epidemiology & Biostatistics, University of Illinois at Chicago, Chicago, IL, 60612-4336; hedeker@uic.edu

Seminar #06 12:00 PM -2:45 PM 1006

PROBLEM-SOLVING THERAPY: BEHAVIORAL MEDICINE APPLICATIONS

Arthur M. Nezu, PhD[1,2] and Christine M. Nezu, PhD[1,2]

[1]Psychology, Drexel University, Philadelphia, PA and [2]Medicine, Drexel University, Philadelphia, PA.

Problem-Solving Therapy (PST) is an evidenced-based, cognitive-behavioral intervention, based on research demonstrating a strong link between social problem solving (SPS) and psychopathology. SPS represents the process whereby people direct their coping efforts at altering the problematic nature of a given stressful situation, their emotional reactions to such stressors, or both. Rather than reflecting a singular type of coping behavior or activity, SPS is the multidimensional meta-process of idiographically identifying and selecting various coping responses to implement in order to adequately address the unique features of a given stressful situation at a given time. The overarching treatment goal of PST is to foster adoption and implementation of adaptive problem-solving attitudes and behaviors as a means of decreasing emotional distress and improving one's overall quality of life. More specifically, PST is geared to increase optimism, improve emotional regulation, and foster successful resolution of stressful problems. Although PST was originally developed to treat various mental health problems (e.g., major depressive disorder), it is increasingly being adopted successfully for use in behavioral medicine applications. Treatment goals include improving medical patients' quality of life, enhancing their ability to cope with chronic illness, fostering adherence to medical treatment, decreasing comorbid depression, and enhancing patient caregiver effectiveness. Moreover, PST has been implemented in a variety of venues, including face-to-face individual therapy, group counseling, bibliotherapy, internet-based protocols, and telephone counseling programs. Both qualitative and quantitative reviews of the relevant extant outcome literature define PST as an effective approach for a variety of health and mental health problems. In this seminar, we will (a) teach the basic principles comprising PST, (b) demonstrate its applicability across a variety of medical patient populations (e.g., oncology, cardiology, diabetes, pain), and (c) demonstrate the various means of implementing this intervention.

CORRESPONDING AUTHOR: Arthur M. Nezu, PhD, Psychology, Drexel University, Philadelphia, PA, 19147; amn23@drexel.edu

Seminar #07 12:00 PM -2:45 PM 1007

IMPLEMENTING THEORETICALLY-BASED OBESITY PREVENTION PROGRAMS IN UNDERSERVED YOUTH ACROSS DEVELOPMENTAL STAGES

Dawn K. Wilson, PhD,[1] Alan Delamater, PhD,[2] Ken Resnicow, PhD,[3] Marian L. Fitzgibbon, PhD[4] and Tom Baranowski, PhD[5]

[1]Psychology, University of South Carolina, Columbia, SC; [2]Pediatrics and Psychology, University of Miami Medical School, Miami, FL; [3]School of Public Health, University of Michigan, Ann Arbor, MI; [4]Institute of Health Research and Policy, University of Illinois at Chicago, Chicago, IL and [5]Pediatrics, Baylor College of Medicine, Houston, TX.

Given the increasing rate of obesity in underserved youth this seminar proposes to present a variety of innovative theoretically-based interventions for preventing obesity in underserved youth. Emphasis is placed on understanding cultural issues and developmental issues in youth ranging from preschool to adolescence. Four NIH funded community-based trials will be described by leading experts in the field that highlight integrating relevant theoretical approaches for preventing obesity in minority and underserved youth. Dr. Marian Fitzgibbon will present her trial that builds on the "Hip-Hop to Health Jr." trial in linking a family-based intervention to neighborhood food environments in Mexican American youth (3–5 years old). The study design and the development of intervention materials will be discussed. Dr. Alan Delamater will describe his trial that uses an ecological framework to integrate three intervention components: the SPARK training for teachers to increase physical activity of youth, a community outreach component for parents with monthly programs at the school to increase health promotion skills, and an environmental component to improve school nutrition. Formative work will presented in developing this approach to preventing type 2 diabetes in Hispanic children (ages 5–6 years). Dr.Ken Resnicow will describe his trial that uses motivational interviewing techniques with pediatric practitioners to reduce body mass index in youth ages (2–8 years old). The study employs a cluster-randomized design with Pediatric Research Office practices as the unit of randomization. An overview of the study design will be presented along with results from formative pilot work. Dr.Dawn Wilson will describe her on-going randomized school-based trial, "Active by Choice Today" (ACT) which is evaluating the efficacy of a motivational plus behavioral skills after-school program on increasing physical activity in underserved adolescents (minorities, low-income; ages 12–14). The intervention integrates constructs from Self-Determination Theory and Social Cognitive Theory to enhance intrinsic motivation and life style skills for promoting long-term physical activity beyond the school environment. Formative research will be presented along with process evaluation data. Dr.Tom Baranowski, will serve as the discussant, and will highlight the key conceptual issues as well as on-going challenges for the field in developing effective obesity prevention programs.

Seminar #10 12:00 PM -2:45 PM 1008

FUNCTIONAL ANALYTIC CAUSAL MODELING IN BEHAVIORAL MEDICINE

William H. O'Brien, PhD[1] and Jennifer J. McGrath, PhD[2]

[1]Psychology, Bowling Green State University, Bowling Green, OH and [2]Psychology, Concordia University, Montreal, ON, Canada.

Behavioral medicine scientist-practitioners must often design treatments for individual patients who present with a wide array of biobehavioral disorders. Functional analytic causal modeling (FACM) is an empirically based cognitive-behavioral assessment technique used to systematically gather, integrate, and summarize information about the form and function of a patient's symptoms.

FACM is a critical component of effective treatment design because most interventions attempt to modify relationships between causal factors and symptoms. Many behavioral medicine scientist-practitioners only construct intuitively-derived causal models because they lack the necessary training to know how to translate research into clinical practice as it applies to empirically based assessment (e.g., Bayesian statistical models, causal questioning techniques). Purely intuitive approaches are problematic because they commonly lead to decisional errors including: failure to consider base rate information, illusory correlations, recall biases, and judgment overconfidence. In turn, these decisional errors negatively impact treatment design.

This seminar is designed to provide participants with a foundation in cognitive-behavioral conceptualizations of biobehavioral disorders. In presenting these foundations, we will compare and contrast traditional cognitive-behavioral conceptualizations with newer "third wave" conceptualizations (Acceptance and Commitment Therapy and Functional Analytic Psychotherapy) which are showing promise as alternative approaches to the assessment and treatment of biobehavioral disorders. Participants will also be provided with step-by-step instruction on how to construct functional analytic causal models and use important decision making aids (Bayes theorem, computer programs) that can enhance clinical decision making. Finally, participants will be provided with hands-on experience in constructing functional analytic causal models using actual cases from inpatient and outpatient behavioral medicine settings.

CORRESPONDING AUTHOR: William H. O'Brien, PhD, Bowling Green State University, Bowling Green, OH, 43403; wobrien@bgsu.edu

Wednesday
April 22, 2009

Seminar #08 3:15 PM -6:00 PM 1009

CANCER INFORMATION SERVICE RESEARCH CONSORTIUM (CISRC): A MODEL FOR TRANSLATING RESEARCH INTO EVIDENCE BASED INTERVENTIONS FOR CANCER PATIENTS

Michael A. Diefenbach, PhD,[1] Al Marcus, PhD,[6] Peter Raich, MD,[6] Annette L. Stanton, PhD,[4] Suzanne M. Miller, PhD,[3] Linda Fleisher, MPH,[3] Kuang-Yi Wen, PhD,[3] Mary Ropka, PhD, RN, FAAN,[3] Nigel Bush, PhD[5] and Marianne Bright, PhD[2]

[1]Department of Urology & Oncological Sciences, Mount Sinai School of Medicine, New York, NY; [2]Cancer Information Service, National Cancer Institute, Rockville, MD; [3]Population Science, Fox Chase Cancer Center, Philadelphia, PA; [4]Psychology & Psychiatry, UCLA, Los Angeles, CA; [5]CIS Northwest Region, Fred Hutchinson Cancer Research Center, Philadelphia, PA and [6]AMC Cancer Research Center, Denver, CO.

This seminar will provide information and "lessons learned" about developing a program of research within a large service organization, the Cancer Information Service (CIS). The CIS serves cancer patients who are calling about cancer-disease and treatment specific information. Callers speak to a Cancer Information Specialist to receive evidence based information about cancer and its treatment options. The goal of this seminar is to introduce the audience to the CIS and its potential to serve as a platform for patient-centered evidence-based behavioral research of high public health relevance. First, Al Marcus, Ph.D., Scientific Director of the AMC Cancer Research Center, University of Colorado Cancer Center will provide an introduction of the CIS and its research program. Next, Kwang Yi Wen, Ph.D., and Linda Fleisher, MPH, Assistant Vice President, Health Communications and Disparities at Fox Chase Cancer Center will discuss the lessons learned from developing three interactive web-based patient education tools, the application of health behavior theory to the design of the interventions, the involvement of the patient target group to obtain feedback, and the use of state-of-the art software to assess usability. There will be ample opportunity for participants to ask questions about the logistics of developing interactive material within a large service organization. Issues about data-sharing and communication software to facilitate interaction among researchers and software developers will also be discussed. Annette Stanton, Ph.D., will integrate this approach of designing evidence-based interventions with current advances in intervention development and dissemination.

Seminar #09 3:15 PM -6:00 PM 1010

PATIENT-REPORTED OUTCOMES MEASUREMENT INFORMATION SYSTEM (PROMIS): USING NEW THEORY AND TECHNOLOGY TO IMPROVE ASSESSMENT OF HEALTH-RELATED QUALITY OF LIFE IN CLINICAL RESEARCH

Richard Gershon, PhD,[1] Nan Rothrock, PhD,[1] Jin-Shei Lai, PhD,[1] Susan Czajkowski, PhD[2] and William Riley, PhD[3]

[1]Center on Outcomes, Research, and Education, Evanston Northwestern Healthcare, Evanston, IL; [2]National Heart, Lung, and Blood Institute, Bethesda, MD and [3]National Institute of Mental Health, Bethesda, IL.

The Patient-Reported Outcomes Measurement Information System (PROMIS, www.nihpromis.org) is an NIH Roadmap initiative with the goal of establishing national patient-reported outcome (PRO) tools in self-reported health-related quality of life/ symptoms across people with various chronic diseases. The goals of PROMIS are to: (1) develop and test item banks in five domains (fatigue, pain, physical function, emotional distress and social health) by using modern test theories such as Item Response Theory models; (2) create a computerized adaptive test (CAT) platform allowing for valid, efficient and tailored PRO assessments; and (3) create a publicly available, adaptable and sustainable system allowing clinical researchers access to a common item repository and CAT.

PROMIS represents an exciting new approach to measuring patient-reported outcomes in clinical research that is more precise, tailored to the patient, and less burdensome to both patients and staff than currently used measures. This workshop will introduce researchers to the PROMIS project and tools. Speakers will describe the PROMIS domain and instrument development process, wave 1 testing, and evaluation of psychometric properties of the item bank by using fatigue as an example. Both qualitative and quantitative results will be presented. Assessment CenterSM, a free online software application that can utilize a CAT engine, will be demonstrated in depth. This software allows researchers to create study-specific websites to administer CAT and short form instruments to participants. It includes features allowing for complex longitudinal study designs, customized instruments, randomization, online consenting, and real-time data export.

A background in psychometrics, statistics or computer-based technologies is not required.

CORRESPONDING AUTHOR: Nan Rothrock, PhD, Center on Outcomes, Research, and Education, Evanston Northwestern Healthcare, Evanston, IL, 60201; nrothrock@enh.org

Seminar #11 3:15 PM -6:00 PM 1011

EFFECT SIZES: EVERYTHING YOU WANTED TO KNOW BUT WEREN'T EVEN SURE WHAT TO ASK

Jennifer J. McGrath, PhD, MPH[1] and William H. O'Brien, PhD, ABPP[2]

[1]Psychology Department, Concordia University, Montreal, QC, Canada and [2]Psychology Department, Bowling Green State University, Bowling Green, OH.

Contrary to popular belief, traditional null hypothesis significance testing or p values tell us nothing about the magnitude of an effect or the probability of replication of a study. All too often, "statistically significant" is incorrectly taken to mean important or big findings. An important paradigm shift is occurring as the field has been moving away from emphasizing only statistical significance tests and toward emphasizing evaluations of both practical significance and result replicability. Relatedly, a shift in editorial policy has taken place, with leading journals now requiring the reporting of effect size statistics. An effect size is a unit-free measure of the magnitude of the strength of the relationship between an independent (predictor) and dependent (outcome) variable. There are two predominant classes of effect sizes: standardized difference and variance accounted for. As behavioral medicine scientist practitioners, it is essential that we be informed about effect sizes, know how to calculate effect sizes, know how to interpret effect sizes, and be competent consumers of effect sizes reported by others.

Participants in this seminar will learn six critical skills: 1) to understand the difference between the two classes of effect sizes, 2) to calculate effect sizes using appropriate and straight-forward formulas depending on the research question of interest, 3) to be able to interpret effect sizes and know how to compare different types of effect sizes, 4) to understand the relationship with power and sample size dependence, 5) to know how effect sizes can facilitate understanding of what non-significant results might mean, and 6) to realize when trivial differences become significant. All of the seminar content is presented in a clear, user-friendly format assuming no prior knowledge of effect sizes; advanced information will be highlighted as well. Participants also will receive a valuable packet that will serve as a convenient reference for calculating and interpreting effect sizes.

CORRESPONDING AUTHOR: Jennifer J. McGrath, PhD, MPH, Psychology Department & Pediatric Public Health Psychology Laboratory, Concordia University, Montreal, QC, H4B 1R6; jennifer.mcgrath@concordia.ca

Seminar #12 3:15 PM -6:00 PM 1012

MEDICALLY UNEXPLAINED ILLNESS: A BEHAVIORAL APPROACH

Fred Friedberg, PhD

Stony Brook University, Stony Brook, NY.

An estimated 30–80% of patients in medical care present with medically unexplained symptoms. Although physicians often express skepticism about these patients, the behavioral clinician can offer significant help. This seminar will focus on three related categories of unexplained illness: (1) chronic widespread pain and fibromyalgia, (2) chronic fatigue and chronic fatigue syndrome, and (3) multiple chemical sensitivities.

The use of a relatively new evidence-based cognitive behavioral model of clinical assessment and intervention provides credibility and understanding to these patients' difficulties (Friedberg, 2006; Friedberg & Sohl, in press; Jason, Torres-Harding, Friedberg et al., 2007; Taylor, Friedberg & Jason, 2001). Assessment procedures, as explained in this seminar, include (a) differential diagnosis with depressive and anxiety disorders and (b) identification of lifestyle and stress factors related to illness severity and persistence.

The presenter will also describe the model's stepwise approach to intervention – based on the principal of balancing activity and rest for these highly stressed individuals. The activity/rest balance is achieved by using clinical assessments to individualize six mind-body techniques. These techniques include relaxation, sleep improvement, cognitive coping skills, graded activity and pacing, scheduling of low effort pleasant experiences, and strategies to increase healthy social support. With this targeted approach, the behavioral clinician can offer realistic hope for substantial improvement to these often difficult-to-treat and medically underserved patients.

CORRESPONDING AUTHOR: Fred Friedberg, PhD, Stony Brook University, Stony Brook, NY, 11794-8790; fred.friedberg@stonybrook.edu

Seminar #13 3:15 PM -6:00 PM 1013

SECONDARY DATA ANALYSIS OF NATIONAL AND STATE HEALTH SURVEY DATA: ACCESS, ANALYSIS AND FUNDING

Richard P. Moser, PhD,[1] Lila Finney Rutten, PhD, MPH,[2] Erik Augustson, PhD, MPH[1] and Amy Yaroch, PhD[1]

[1]National Cancer Institute, Bethesda, MD and [2]HealthPartners Research Foundation, Minneapolis, MN.

Numerous federal and state health survey databases are publicly available that are currently underutilized by research scientists, such as the National Health Interview Survey, the Health Information National Trends Survey, the California Health Interview Survey, and the Behavioral Risk Factor Surveillance System. Many of these databases capture national estimates of health-related behavior, knowledge, and attitudes. Secondary data analyses of existing databases may serve as an economical alternative to expensive and time-consuming new data collection projects and may serve as a valuable tool to test complex statistical models, perform meta-analyses and develop and test empirical hypotheses.

The seminar, through lecture, applied demonstrations, and group discussion will inform participants about Internet-based health survey databases available for analysis and describe the utility and content of these databases, as well as explain how to access and analyze the data. Presentations will highlight analytic issues involved with utilizing these data, describe statistical software available to perform analyses, demonstrate the types of analyses that can be completed, describe relevant NIH funding mechanisms, and discuss the process of obtaining funding with successful applicants.

CORRESPONDING AUTHOR: Richard P. Moser, PhD, National Cancer Institute, Bethesda, MD, 20892; moserr@mail.nih.gov

Seminar #14 3:15 PM -6:00 PM 1014

CULTURAL TRANSLATION OF CHRONIC DISEASE INTERVENTIONS

Judith DePue, EdD, MPH,[1,2] Rochelle Rosen, PhD,[1,2] Marian Batts-Turner, MSN, RN,[3] Nicole Bereolos, PhD,[1,2] Meaghan House, MPH,[2] Rachel Held, MA,[2] Ofeira Nuusolia, MEd,[4] Michael Goldstein, MD[1,2] and Stephen McGarvey, PhD[2]

[1]Ctr for Behavioral & Preventive Medicine, Miriam Hospital, Providence, RI; [2]Alpert Medical School/Brown, Providence, RI; [3]Real Matters Consulting LLC, Baltimore, MD and [4]Tafuna Family Health Center, Tafuna, AS.

Translating recent research advances into clinical practice for communities at risk is important in order to eliminate disease disparities. However, doing so requires thoughtful adaptation in order to effectively meet the needs of the community and culture. This seminar presents a model for cultural translation of chronic disease self management interventions intended for those currently designing or conducting translational research projects.

We will use examples from our ongoing behavioral intervention study "Diabetes Care in American Samoa", and from "Project Sugar-2", a nurse-community health worker team intervention to support diabetes self management with African Americans in Baltimore. The Samoan project is the first diabetes intervention research in that community and is modeled after parts of Project Sugar-2. We will describe translational research steps including: 1) considerations for choosing evidence-based studies to translate, 2) preliminary meetings with community partners, 3) formative focus groups and qualitative interviews, 4) cognitive interviews for planned measures, 5) adaptation of theory, measures and interventions, 6) implementation of randomized controlled trial, and 7) follow-up focus groups to verify appropriateness of cultural adaptations.

We will address challenges encountered, practical solutions, and lessons learned in both Baltimore and Pacific island settings. The session will be interactive and encourage sharing of experiences from attendees. Therefore, participants are encouraged to bring examples from their own research for discussion and feedback. The discussion will identify key considerations for cultural translation intervention research that may be generalizable across settings.

CORRESPONDING AUTHOR: Judith DePue, EdD, MPH, Ctr for Behavioral & Preventive Medicine, Miriam Hospital, Providence, RI, 02903; jdepue@lifespan.org

Seminar #15 3:15 PM -6:00 PM 1015

TRANSLATION RESEARCH: DESIGN AND METHODOLOGY CONSIDERATIONS

Christine Hunter, PhD[2] and Rodger Kessler, PhD[1]

[1]University of Vermont College of Medicine, Montpelier, VT and [2]National Institute of Diabetes & Digestive & Kidney Diseases, Bethesda, MD.

Although efficacy research has a critical role in scientific advancement, improved public health is not always realized because of challenges related to issues such as adoption, cost, duration, acceptability and sustainability. Promoting high quality phase two translation research is an important step towards bridging the gap between science and practice. However, translating established efficacy research into effectiveness trials requires research designs that balance internal and external validity and researchers that understand the special issues involved in translation research in relation to such issues as sampling, comparison condition, and approach to causal inference. For many investigators trained in traditional randomized controlled trial design and methodology, moving toward translation research requires a new skill set that includes an appreciation of the strengths and limitations in translation research. As such, this seminar is designed to provide a beginner to intermediate level overview of these skills and issues. The specific topics covered in the seminar include a) an overview of the fundamentals of phase two translation research including the state of the science in this area; b) review of research designs and methodologies commonly used; c) review of some promising new design and analytic techniques to that are likely to enhance translation research. The seminar format will include instruction and active discussion between speakers and attendees.

Thursday
April 23, 2009

Symposium #01 8:45 AM-10:15 AM 2001

CRITICALLY APPRAISING AND IMPROVING THE QUALITY OF META ANALYSES IN BEHAVIORAL MEDICINE

James C. Coyne, PhD,[1,2] Brett D. Thombs, PhD,[3] Mariet Hagedoorn, PhD,[2] Noel Brewer, PhD,[4] Seth Noar, PhD,[5] Blair T. Johnson, PhD[6] and Robert Kaplan, PhD[7]

[1]Psychiatry, University of Pennsylvania, Philadelphia, PA; [2]Health Psychology, University of Groningen, Groningen, Netherlands; [3]Psychiatry, McGill University, Montreal, QC, Canada; [4]Health Behavior and Health Education, University of North Carolina School of Medicine and Public Health, Chapel Hill, NC; [5]Communication, University of Kentucky, Lexington, KY; [6]Psychology, University of Connecticut, Storrs, CT and [7]Health Services, UCLA, Los Angeles, CA.

Expectations that interventions in behavioral medicine should be evidence based have spawned numerous meta analytic reviews evaluating the efficacy of classes of interventions. Reviews are facilitated by the ready availability of user friendly software such as RevMan. By providing seemingly objective evaluations in the form of summary effect sizes, meta analyses can credibly declare classes of interventions to be efficacious, effectively closing important policy and research questions. User friendly software runs the risk of making meta analyses almost too easy to conduct, without the requisite critical thought or awareness of the difficult decisions that have to be made whether and how to combine diverse studies. There remains a strongly subjective element to such evaluations, particularly when meta analyses draw on small numbers of studies with limited sample size and serious methodological limitations. Much of the behavioral medicine intervention literature can be so characterized. There is a need for transparency in the conduct and reporting of meta analyses to allow sophisticated reader/consumers to come to their own independent evaluations. This symposium is intended to provide a set of tools not only for readers to evaluate the appropriateness of conclusions in published meta analyses, but also for prospective reviewers to improve the quality of future meta analyses. Each of three complementary presentations is by a group or individual familiar with these issues as a result of recently having conducted meta analyses. The discussant is Robert Kaplan, Editor of Health Psychology, a journal that has served as a key outlet for meta analyses commissioned by the Society of Behavioral Medicine's EBBM Committee. The symposium is intended to provide a means of evaluating the existing literature, recognizing its strengths and limitations, and moving the field forward with increasingly sophisticated reviews and consumers who can independently judge its quality for themselves.

CORRESPONDING AUTHOR: James C. Coyne, PhD, Psychiatry, University of Pennsylvania, Philadelphia, PA, 19104; jcoyne@mail.med.upenn.edu

Symposium #01A 2002

MAKING THE DATA SPEAK BETTER: META-ANALYSIS AS A TOOL TO MAXIMIZE KNOWLEDGE AND APPLIED OUTCOMES

Blair T. Johnson, PhD

Psychology, University of Connecticut, Storrs, CT.

In the span of one generation, science has changed dramatically: Sharply increasing numbers of studies are available on nearly every topic. On the one hand, these data are an amazing resource with the potential to answer into a myriad of important questions. On the other hand, results typically vary widely from study to study and may be difficult to rectify. Consequently, systematic meta-analytic reviews have become nearly indispensable to the scientific enterprise and show increasingly sophistication in application to a given research literature. Unfortunately, meta-analysis is sharply limited by the information available about each reviewed study. Journal space is always a limited commodity and is squeezed even further by editorial policies that restrict descriptions (e.g., blinding of manuscripts), resulting in methodological descriptions of studies that may intentionally or unintentionally fail to describe important features of studies (e.g., details of intervention content; date and location of intervention). These muted study reports compromise meta-analyses' abilities to assess the impact of moderators, meaning that models may be incorrectly specified. Muted knowledge, in turn, also implies muted generalizations: In the health domain, these losses logically translate into premorbidity and sub-optimal quality of life.

CORRESPONDING AUTHOR: Blair T. Johnson, PhD, Psychology, University of Connecticut, Storrs, CT, 06269-1020; jcoynester@gmail.com

Symposium #01B 2003

META-ANALYSES TO ESTABLISH THE EFFECTIVENESS OF PSYCHOSOCIAL INTERVENTIONS IN HEALTH PSYCHOLOGY: IS THE LITERATURE READY?

James C. Coyne, PhD,[1,2] Brett Thombs, PhD[3] and Mariët Hagedoorn, PhD[2]
[1]Psychiatry, University of Pennsylvania, Philadelphia, PA; [2]University Medical Center Groningen, Groningen, Netherlands and [3]McGill University, Montreal, QC, Canada.

Increasingly, meta-analyses are appearing that claim to provide the basis for practice recommendations and clinical guidelines. Consumers are left to decide for themselves whether authors have made an adequate case for their recommendations and even whether a literature is ready to draw any definitive substantive conclusions. This presentation describes some criteria in the form of a checklist by which readers can independently evaluate such claims. For example, are there a sufficient number of studies with adequate sample size to draw a conclusion? Was an adequate effort made to deal with the methodological quality of studies? Is there sufficient clinical homogeneity to justify summarizing the literature in terms of a single effect size? Are there enough clinical trials providing head to head direct comparisons? We will describe the rationale for these criteria and demonstrate their use in a systematic re-review of recent meta-analyses published in high impact journals, including evaluations of psychosocial interventions for distress, fatigue, and arthritic pain. We will provide ample examples to illustrate how a lack of transparency and other threats to the credibility of the interpretations should limit the confidence in the conclusions that were drawn. It will be argued that shortcomings in the available literature require clinical connoisseurship, a familiarity with clinical issues to evaluate the appropriateness of combining the results of diverse interventions involving diverse patients and outcomes. For many literatures, summary effect sizes are premature. Rather, attention should be provided to the moderating influence of study quality, type of intervention and comparison group (active control group versus wait list or no treatment control). In some instances, a "failed meta analysis" or alternative systematic narrative review is preferable to a premature meta analysis.

CORRESPONDING AUTHOR: James C. Coyne, PhD, Psychiatry, University of Pennsylvania, Philadelphia, PA, 19104; jcoyne@mail.med.upenn.edu

Symposium #01C 2004

A CONSUMER'S GUIDE TO UNDERSTANDING AND CRITICALLY EVALUATING META-ANALYSES OF HEALTH BEHAVIOR RESEARCH

Noel T. Brewer, PhD[1] and Seth Noar, PhD[2]

[1]Health Behavior and Health Education, UNC School of Public Health, Chapel Hill, NC and [2]University of Kentucky, Lexington, KY.

Method: We apply standard criteria for assessing the merits of individual studies to meta-analysis in order to identify important conceptual and methodological issues. These include internal, external, construct, and statistical conclusion validity. We also discuss issues that are commonly overlooked when interpreting meta-analytic findings.
Findings: Differences in effect sizes among subgroups of studies (i.e., moderation) should be viewed as correlational evidence with limited internal validity. Greater attention should be paid to sampling and response rates in meta-analyses to demonstrate external validity. Combining conceptually distinct outcomes in meta-analysis has questionable construct validity. Statistical conclusion validity rests on choice of statistical modeling approach (i.e., fixed, random effects). We also discuss the stainless steel law, the quality principle and new directions including meta-meta-analysis.
Discussion: Meta-analyses can yield valuable research findings, but we encourage researchers to appraise them critically. Rather than a definitive endpoint in a line of research, meta-analysis is best viewed as a method that 1) takes stock of where a particular literature is, and 2) raises new questions to be examined in future primary studies that utilize rigorous methods.

CORRESPONDING AUTHOR: Noel T. Brewer, PhD, Health Behavior and Health Education, UNC School of Public Health, Chapel Hill, NC, 27599; ntb1@unc.edu

Symposium #02 8:45 AM -10:15 AM 2005

CHALLENGES OF ADDRESSING HEALTH RISK BEHAVIORS IN CO-OCCURRING MAJOR DEPRESSION

William Riley, PhD,[1] Jennifer McClure, PhD,[2] Sherry Pagoto, PhD,[3] Steven Safren, PhD[4] and Bonnie Spring, PhD[5]

[1]Division of AIDS and Health & Behavior Research, NIMH, Bethesda, VA; [2]Center for Health Studies, Group Health Cooperative, Seattle, WA; [3]Department of Medicine, University of Massachusetts Medical School, Worchester, MA; [4]Massachusetts General Hospital, Boston, MA and [5]Preventive Medicine, Northwestern University, Chicago, IL.

Health risk behaviors such as smoking, energy inbalance, poor diet, sedentary activity, unsafe sexual behavior, and inadequate treatment adherence are disproportionately higher in those with comorbid depression, contributing to the higher rates of medical morbidity and mortality among depressed patients. Little is known, however, about how to intervene to reduce health risk behaviors in depression since most health behavior intervention studies either do not assess for depression or exclude those with depression from participation. To address this problem, the NIMH initiated a program in 2005 to encourage studies of health behavior change in those with mental disorders. This symposium features recent grantees of this program who are studying interventions targeting depression and various co-occurring health risk behaviors including obesity, smoking, physical activity, and HIV risk behaviors. The focus of this symposium is on the challenges involved in this research including the differential interests and motivations of participants to depression and the health risk behaviors, considerations for sequenced or stepped care approaches, the effects of psychotropic medications on health behaviors, and the effects of reduced motivation and other associated features of depression on recruitment, attrition, and intervention adherence. Although the presence of depression complicates study procedures and intervention design and delivery of health behavior interventions, addressing these complications and challenges is critical to advance our understanding of how to address health risk behaviors in those with co-occurring depression.

CORRESPONDING AUTHOR: William Riley, PhD, NIMH, Bethesda, VA, 20892; wiriley@mail.nih.gov

Symposium #02A 2006

DEVELOPING AN INTEGRATED PROGRAM TO TREAT DEPRESSION, SEDENTARY ACTIVITY, AND SMOKING: LESSONS LEARNED FROM THE STEP UP STUDY

Jennifer McClure, PhD, Evette Ludman, PhD, Sheryl Catz, PhD, Amee Morrow, MA and Julie Richards, MPH

Center for Health Studies, Group Health, Seattle, WA.

Depression, sedentary activity, and smoking frequently co-occur, but standard interventions are designed to treat each behavior separately. This approach is less efficient, less person-centered, and may be less effective than treating each behavior concurrently. By combining interventions for each behavior into a single program, success in one area of change may help promote change in other areas, resulting in a synergistic intervention effect, but important questions remain about the feasibility of this approach and the best way to structure this type of intervention. The goal of Step Up is to develop an integrated program for treating depression, physical inactivity, and smoking that can be offered in conjunction to standard medical care. This work is being accomplished through a series of pilot trials used to refine and evaluate recruitment and engagement strategies and the intervention program itself. Participants are recruited from a large, regional health plan and all counseling is provided by phone by a 'health coach'. The original program design was modeled on existing programs addressing depression, smoking, and physical activity, but has been refined to accommodate an emphasis on multi-risk factor change. Our experience has illuminated a number of challenges, some inherent to the population (e.g., fatigue, lack of motivation for change) and some a result of design choices. Examples of the design decisions we have faced include: sequential vs. concurrent behavior change emphasis, incorporation of in person physical activity sessions vs. self-led activities, and inclusion all smokers vs. smokers ready to quit. We will discuss each of our design choices and delivery challenges to date and how these have been addressed. Additionally, we will offer advice on methodological issues that other researchers interested in this area should consider in designing multi-risk factor treatment programs targeting persons with depression.

CORRESPONDING AUTHOR: Jennifer McClure, PhD, Group Health, Seattle, WA, 98115; mcclure.j@ghc.org

Symposium #02B 2007

TESTING A SELF-EFFICACY MODEL OF HIV TRANSMISSION RISK BEHAVIORS IN HIV-INFECTED MSM WITH AND WITHOUT DEPRESSION

Steven A. Safren, PhD,[1] Margie Skeer, MPH, MSW,[2] Conall O'Cleirigh, PhD,[1] Christina Meade, PhD[4] and Kenneth Mayer, MD[2,3]

[1]MGH/Harvard Medical School and Fenway Community Health, Boston, MA; [2]Fenway Community Health, Boston, MA; [3]Brown Univ, Providence, RI and [4]Mclean/Harvard, Belmont, MA.

Generally, theoretical models of HIV transmission risk behavior tend not to take into consideration the impact of clinical depression. Depressive disorders, however, are among the most common comorbid diagnoses among people with HIV, and are associated with worse health risk behaviors. Self efficacy models have been used to explain sexual risk behavior among a variety of populations, including people with HIV (e.g., Wulfert et al., 1999).

This study compared, using structural equation modeling, the relative applicability of a self efficacy model for sexual transmission risk behaviors among depressed and non-depressed sexually active HIV-infected MSM (N=408). The model included expectancies about condoms and social models as predictors of condom use self-efficacy, and condom use self-efficacy as a predictor of condom use. After developing the best fitting model for the entire sample, the model was tested for participants who screened in and did not screen in for major depression.

The self-efficacy model fit the data well both for the overall sample $\chi 2$ (6, N=408)= 4.78, p=0.57; CFI=1.00, SRMR=.01, RMSEA .00), and for the subset of the sample of individuals who did not screen in for depression ($\chi 2$ (6, N=356)=4.20, p=0.65; CFI=1.00; SRMR=0.01; RMSEA=0.00). In both cases, pathways from predictors to outcomes were significant. The model did not fit the data, however, for individuals who screened in for depression, and for this data, both the indices of model fit were poor, and the hypothesized pathways were not significant.

Models of health risk behaviors, including sexual risk taking, may not apply as well for individuals who have a diagnosable mental health disorder such as depression. Interventions based on these models should account for mental health conditions in order to maximize their effectiveness.

CORRESPONDING AUTHOR: Steven A. Safren, PhD, MGH/Harvard Medical School and Fenway Community Health, Boston, MA, 02114; ssafren@partners.org

Symposium #03 8:45 AM -10:15 AM 2008

HOW DOES THE CLINICIAN'S RECOGNITION OF PATIENT'S MENTAL MODELS AFFECT HEALTH OUTCOMES?

Howard Leventhal, PhD

Institute for Health & Psychology, Rutgers University, New Brunswick, NJ.

Clinical practice demands expertise in at least three areas: 1) Diagnosis of disease and prescribing effective treatment; 2) Psychosocial sensitivity and respect for the patient' as an individual and representative of his/her culture; and 3) Recognizing that patient's have their own models of illness and treatment that need to be understood and negotiated when discrepant with biomedical models for effective management. The papers in this symposium will address different challenges to chronic illness management and how attention to patient models can integrate clinical medicine and psychosocial sensitivity. L. Alison Phillips will examine patient's perceptions of their doctor's psychosocial sensitivity and their expertise in addressing the patients model of a presenting problem and compare how these factors relate to satisfaction with the encounter and resolution of the presenting complaint. Dr. Alex Federman will describe the effects of poor health literacy on management of asthma and suggest that this challenge can be met by addressing common-sense beliefs associated with poor health literacy. Dr. Edith Burns will report on the use of computer based system for blood sugar management in diabetic patients with elevated HbA1c and patient's perceptions of the computer system. The system challenges traditional and contemporary view of how best to frame relationships between practitioners and patients. Dr. Paul Falzer will present initial evidence suggesting that evidence based findings may be best used to match treatments to the features of specific patients rather than to rigid guidelines. Finally, Dr. Elaine Leventhal will address the various issues raised by these papers respecting the nature of the relationship between practitioners and patients and their implications for how this relationship can be shaped to achieve desired health outcomes.

CORRESPONDING AUTHOR: Howard Leventhal, PhD, Institute for Health & Psychology, Rutgers University, New Brunswick, NJ, 08901; hleventhal@ifh.rutgers.edu

Symposium #03A 2009

VALIDATION OF A COMMON SENSE MODEL SCALE FOR PREDICTION OF HEALTH OUTCOMES IN A PRIMARY CARE SETTING

L Alison Phillips, MS and Howard Leventhal, PhD

Institute for Health & Psychology, Rutgers University, New Brunswick, NJ.

Adherence to treatment regimens is a widely studied area of behavioral medicine important for many different health outcomes. The role a medical provider plays in promoting treatment adherence has specifically been researched by many, with a common focus being on the provider's psychosocial skills, often measured by how well a patient likes the provider and by patient satisfaction. The current study provides a theoretical framework based on the Common Sense Model (CSM) that specifies which behaviors of medical providers should promote patient adherence as well as lead to a greater likelihood of presenting problem resolution. We created a scale using CSM items which assess the patients' view of their physician's comments that addressed the patient's common-sense model. Validation of the scale is presented in this paper for the scale's use in a primary care medical setting for prediction of short-term health-related outcomes, including treatment adherence and problem resolution. Evidence was found for the concurrent, predictive and discriminate validity of the scale, supporting the hypothesis that the behaviors assessed by the CSM form a latent construct distinct from that of psychosocial skills. The CSM scale predicted health outcomes in the current study differently from psychosocial skills: treatment adherence was predicted by both the CSM scale (B=.19, p<.10) and by psychosocial skills (B=.228, p<.05); problem resolution was only predicted by the CSM scale (B=.22, p<.05) and not by psychosocial skills (B=-.14, p=.2); patient satisfaction was predicted uniquely by both the CSM scale and psychosocial skills (B=.27, p<.001 and B=.59, p<.001, respectively). The current study speaks to the symposium's theme in that it provides a scale of CSM indicators of adherence and problem resolution. The scale could easily be used for assessment and prediction by health researchers or by physicians as a teaching aid to medical students and other medical providers.

CORRESPONDING AUTHOR: L Alison Phillips, MS, Rutgers University, New Brunswick, NJ, 08901; lphillips@ifh.rutgers.edu

Symposium #03B 2010

COMMON SENSE SELF MANAGEMENT IN THE ERA OF TREATMENT GUIDELINES: A ROLE FOR CLINICAL DECISION MAKING

Paul R. Falzer, PhD,[1] D. Melissa Garman, MSW, DCSW[2] and Brent A. Moore, PhD[3]

[1]Clinical Epidemiology Research Center, VA Connecticut Healthcare System, West Haven, CT; [2]Mental Health and Addiction Services, State of Connecticut, Bridgeport, CT and [3]Psychiatry, Yale School of Medicine, New Haven, CT.

Sound clinical decision making requires the ability to apply general knowledge, as expressed by clinical guidelines, to the needs of individual patients. This task is particularly complex when the disorder is heterogeneous with respect to course, treatment response, and outcome; when available treatments have limited effectiveness generally, and when patient adherence tends to be remarkably low. This is the situation that psychiatric practitioners are facing as they make treatment decisions for severely mentally ill patients. Significantly, no studies to date have examined how these problems are addressed in the course of treatment decision making. In particular, patient adherence has been acknowledged as a critical indicator and requisite of illness self management; however, no studies have described how adherence influences the use of clinical guidelines in making treatment decisions.

The presenters recently concluded a vignette study of psychiatric trainees that used a switching algorithm designed for treatment resistant schizophrenia. The study manipulated adherence along with other clinical and guideline-related factors, then examined their effect on treatment decisions. Findings support the conclusion that adherence has a pervasive rather than specific influence on treatment decisions. Most significant is that adherence combines with other factors to influence decision making strategies. Two recommendations that follow from the study are: 1) To develop a standard that reflects how clinicians incorporate guidelines into treatment decisions, rather than targeting conformance, which implicitly transforms decision tools into standards of care. 2) To use patient perception of illness and self regulation as means of assisting clinicians in applying guidelines to specific cases.

CORRESPONDING AUTHOR: Paul R. Falzer, PhD, VA Connecticut Healthcare System, West Haven, CT, 06516; paul-falzer@snet.net

Symposium #03C 2011

USING COMMON-SENSE IN CLINICAL PRACTICE

Elaine A. Leventhal, MD, PhD

[1]Medicine, Robert Wood Johnson Medical School/UMDNJ, New Brunswick, NJ and [2]Rutgers, the State University of New Jersey, New Brunswick, NJ.

Discussant: Using common-sense in clinical practice.
Elaine Leventhal, MD, PhD, RWJ Medical School
Accuracy in diagnosis and prescribing treatment and sensitivity to the psychosocial characteristics and needs of patients are two arms of clinical practice emphasized in medical education. Expertise in perceiving how patients perceive, i.e., see, feel and understand their symptoms and function, form a third arm that is essential for the treatment of chronic illnesses since patients manage themselves in their home environment and community. Recognizing that patients have mental models of illnesses and treatments, patient's have minds, that these models or schemata are non-verbal, often implicit and not always verbal, is critical for understanding likely patterns of adherence to treatment protocols and the adoption of non-prescribed interventions that may be complementary or harmful. The key points of each presentation will be re-stated and examples given of their implications for clinical practice with specific patients. Implications will be discussed for a patient centered framework for medical education, and clinical trials and the use of evidence in clinical practice.

CORRESPONDING AUTHOR: Elaine A. Leventhal, MD, PhD, Medicine, Robert Wood Johnson Medical School/UMDNJ, New Brunswick, NJ, 08901; eleventh@umdnj.edu

Symposium #03D 2012

TEACHING PATIENTS WITH POORLY CONTROLLED T2DM TO DEVELOP EXPERTISE IN SELF-MANAGEMENT WITH HOME TECHNOLOGY

Edith Burns, MD, Jeffrey Whittle, MD, MPH and Paul Knudson, MD
Medicine, Medical College of Wisconsin, Milwaukee, WI.

Successful control of type 2 diabetes (T2DM) involves a complex regimen of medication, self-monitoring of blood glucose (SMBG), physical activity, and dietary modulation. Self-management is difficult because glucose regulation can be chaotic, often requiring 14 hours or more a week, and SMBG measurements may fail to have a clear relationship to exercise or eating unless properly timed. Thus many patients rely on symptoms rather than SMBG as an indicator of control, as the latter may seem unreliable. We present preliminary data on baseline self-management skills of participants enrolled in a randomized trial of usual care for self management vs. an in-home automated reminder and feedback system to assist with self-management. Participants have established disease (mean=9.7 years) and are in poor control (mean HbA1c 9.5%; 77% with complications). Participants report Common Sense Views of T2DM including the belief that they only have diabetes when symptomatic, that their disease may be cured, or elevated blood sugars are caused by anger. Over half disagree with/are unsure about statements that overweight, troubles with endogenous insulin, or advancing age are associated with T2DM. Most believe they are in control of their diabetes and can do SMBG, but few are confident in the ability to use diabetes medicine or affect glucose levels by altering diet or physical activity. Our pilot study of the computer assisted system showed that patients with poorly controlled T2DM receiving regular reminders to perform SMBG showed >1 decrease in HbA1c% over a 9 month trial. The current randomized trial tests the efficacy of the system in lowering A1c by correcting erroneous Common Sense beliefs of T2DM. Real-time feedback, including trends over time, and relating SMBG measures and timing to specific self-management behaviors, may be more effective in building these skills than standard advice provided in the clinical setting.

CORRESPONDING AUTHOR: Edith Burns, MD, Medicine, Medical College of Wisconsin, Milwaukee, WI, 53295; eaburns@mcw.edu

Symposium #03E 2013

DOES HEALTH LITERACY AFFECT ASTHMA-BELIEFS AMONG OLDER ASTHMATICS?

Alex D. Federman, MD, MPH,[1] M. S. Wolf, PhD, MPH,[3] J. P. Wisnivesky, MD,[1] H. Leventhal, PhD[2] and E. A. Halm, MD, MPH[4]

[1]General Internal Medicine, Mount Sinai Hospital, New York, NY; [2]Institute for Health & Psychology, Rutgers University, New Brunswick, NJ; [3]Northwestern University, Chicago, IL and [4]University of Texas, Dallas, TX.

Asthma is associated with high rates of morbidity and use of acute care services in older adults. Effective self-management to improve asthma outcomes may face barriers among older adults from ethnic minorities such as poor health literacy and sub-optimal asthma beliefs. Our first study showed poorer asthma control, more frequent use of resources and lower quality of life ($p<.05$ for all) for Hispanic adults who had limited proficiency in English (18% of a sample of 318 participants 38% of whom were Hispanic). A second pilot study was conducted to identify potential mediators of this relationship, i.e., beliefs about asthma. Identifying mediators would provide clinician with specific targets for addressing health literacy. Fifty adult asthmatics (age ≥50 y) were selected at random from a hospital-based primary care clinic in an academic medical center in New York City, NY (response, 62%). Interviews, conducted in English and Spanish, included the Short Test of Functional HL in Adults (STOFHLA) and asthma beliefs, including the No Symptoms/No Asthma belief (NSNA), which is associated with poor asthma-self management. The mean age was 62 years, 88% were women, 51% Latino, 53% black, and 52% were previously hospitalized for asthma. HL was inadequate in 34%, and 40% had the NSNA belief. NSNA belief was more common among patients with inadequate HL (59% vs. 30%). Differences were also observed for other beliefs: doctor can cure asthma (47% vs. 27%); asthma drugs do not work as well if used all the time (41% vs. 34%); and future health depends on my asthma medications (61% vs. 76%).

The results suggest that adverse asthma beliefs may be more common among older asthmatics with inadequate health literacy. If confirmed, these findings suggest clinicians should target these specific health beliefs when addressing self management for asthma among elderly, minority patients with limited English competency.

CORRESPONDING AUTHOR: Alex D. Federman, MD, MPH, General Internal Medicine, Mount Sinai Hospital, New York, NY, 10029; alex.federman@mountsinai.org

Symposium #04 8:45 AM -10:15 AM 2014

POSITIVE AFFECT AND HEALTH BEHAVIOR: BEHAVIORAL PATHWAYS AND NEW EVIDENCE FROM RANDOMIZED CONTROLLED TRIALS

John P. Allegrante, PhD

[1]Health and Behavior Studies, Teachers College, Columbia University, New York, NY and [2]Sociomedical Sciences, Mailman School of Public Health, Columbia University, New York, NY.

An extensive body of behavioral medicine research has sought to identify intervention approaches that can support the adoption and maintenance of health and disease self-management behaviors. Most of the approaches to facilitating health-related behavior change have relied largely on established theoretical positions derived from expectancy-value models of human behavior, despite mixed results from studies utilizing such models as the basis of intervention. Moreover, most behavioral interventions aimed at influencing health behavior have focused largely on cognitions; few studies have focused on mood states and affect. When affective states have been studied, the focus is usually on the role of negative affective states in the causation of disease. Recent popular interest in positive psychology has led to new scientific efforts to understand the role of mood and affective states as a basis for behavioral intervention. This symposium will present new research that examines the theoretical pathways (both physiological and psychosocial) by which positive affect influences health behaviors and how these behaviors may be connected to improvements in physical health. In addition, several reports of new evidence from randomized controlled trials with clinical populations showing that positive affect holds promise for supporting health behavior change will be presented.

CORRESPONDING AUTHOR: John P. Allegrante, PhD, Health and Behavior Studies, Columbia University, New York, NY, 10027; jpa1@columbia.edu

Symposium #04A 2015

BEHAVIORAL PATHWAYS BETWEEN POSITIVE AFFECT AND HEALTH

Sarah D. Pressman, PhD

Psychology, University of Kansas, Lawrence, KS.

While relatively neglected in the past, there is growing evidence that positive affect (PA) plays an important role in a wide variety of health outcomes ranging from mortality and disease morbidity to the report of symptoms and pain. Less understood at this point in time are the behavioral pathways that are responsible for the observed associations between greater PA and better physical health. One interesting possibility is that high PA is associated with engagement in more healthful behaviors, such as getting sufficient sleep, eating a proper diet, engaging in more exercise, and adhering to doctor's orders. It may also be the case that higher PA is associated with the decreased likelihood of engaging in negative health behaviors such as substance abuse. This presentation will review the existing literature that links PA to better health behaviors and present a theoretical model of the various pathways (both physiological and psychosocial) that appear to be involved in connecting these behaviors to improved physical health and the plausible role of PA in these associations.

CORRESPONDING AUTHOR: John P. Allegrante, PhD, Health and Behavior Studies, Columbia University, New York, NY, 10027; jpa1@columbia.edu

Symposium #04B 2016

INTERVENTIONS TO ENHANCE POSITIVE AFFECT AND STRESS MANAGEMENT—NOT ONE AND THE SAME

Margaret A. Chesney, PhD

Center for Integrative Medicine, University of Maryland School of Medicine, Baltimore, MD.

Despite the evidence that positive affect is associated with reduced risk of disability, morbidity, and mortality, as well as increased health and well-being, there have been very few randomized clinical trials of interventions specifically designed to enhance positive mood with the purpose of improving health. This presentation will review intervention efforts relevant to positive affect. There is evidence that cognitive behavioral interventions directed toward managing the stress of chronic illness not only reduce distress but increase positive affect. Interventions designed to specifically improve positive affect and well-being have been tested in school children and in pilot studies as a therapeutic approach to depression in adults. Results from studies investigating the effects of meditative interventions have also suggested positive effects on mood. A randomized clinical trial of coping effectiveness training, augmented with strategies to enhance personal growth by Chesney et al, will be described. This trial, conducted in adults with chronic illness, indicates that interventions used often in cardiovascular trials to reduce stress may need to be complemented by interventions specifically focused on enhancing positive affect in order to increase personal growth and positive outcomes.

CORRESPONDING AUTHOR: John P. Allegrante, PhD, Health and Behavior Studies, Columbia University, New York, NY, 10027; jpa1@columbia.edu

Symposium #04C 2017

THREE RANDOMIZED CONTROLLED TRIALS OF POSITIVE AFFECT AND SELF-AFFIRMATION TO FACILITATE HEALTH BEHAVIOR CHANGES IN PATIENTS WITH CARDIOPULMONARY DISEASES

Mary E. Charlson, MD,[1] Carla Boutin-Foster, MD, MS,[1] Carol A. Mancuso, MD,[2,1] Janey C. Peterson, EdD, MS,[1] Gbenga Ogedegbe, MD, MPH, MS,[3] Martin T. Wells, PhD,[4,1] Laura Robbins, DSW,[5] Alice M. Isen, PhD[6] and John P. Allegrante, PhD[7,1]

[1]Center for Complementary and Integrative Medicine, Weill Medical College of Cornell University, New York, NY; [2]Medicine, Hospital for Special Surgery, New York, NY; [3]Medicine, New York University School of Medicine, New York, NY; [4]Biological Statistics and Computational Biology, Cornell University, Ithaca, NY; [5]Education, Hospital for Special Surgery, New York, NY; [6]Marketing, Johnson Graduate School of Management, Cornell University, Ithaca, NY and [7]Health and Behavior Studies, Teachers College, Columbia University, New York, NY.

Much of the morbidity and mortality associated with cardiopulmonary diseases can be reduced through lifestyle modifications such as increased physical activity and medication adherence. However, few studies have been successful in achieving these outcomes. This presentation will describe the methods and results of three concurrent randomized controlled trials designed to test the efficacy of a novel behavioral intervention that combined positive affect and self-affirmation to increase physical activity among patients with coronary artery disease (CAD) and asthma, and medication adherence among African-American patients with hypertension. Results among CAD and hypertension patients showed that patients receiving the positive affect and self-affirmation intervention had significantly greater changes in behavior over 12 months than a control behavioral intervention. In addition, a greater proportion of hypertension patients in the positive affect and self-affirmation group achieved greater medication adherence and better control of blood pressure. No significant differences were observed in physical activity between intervention and control groups for asthma patients. Thus, the positive affect and self-affirmation intervention resulted in significant improvements in the angioplasty and hypertension patients, but not in asthma patients.

CORRESPONDING AUTHOR: John P. Allegrante, PhD, Health and Behavior Studies, Columbia University, New York, NY, 10027; jpa1@columbia.edu

Symposium #05 8:45 AM -10:15 AM 2018

DISSEMINATION TO IMPLEMENTATION TO THE UPTAKE OF EVIDENCE IN BEHAVIORAL MEDICINE: THE NEW FRONTIER

Sherri S. Gorin, PhD,[1] David Abrams, PhD,[2] Brian Mittman, PhD,[3] Ian Graham, PhD[4] and Jon Kerner, PhD[5]

[1]HBS, Epidemiology, Columbia University, New York, NY; [2]Steven A Schroeder Institute for Tobacco Research and Policy Studies, American Legacy Foundation, Washington, DC; [3]Center for Implementation Research and Improvement Science, VA Greater Los Angeles Healthcare System, Sepulveda, CA; [4]Knowledge Translation, Canadian Institutes of Health Research, Ottawa, ON, Canada and [5]Cancer Control and Knowledge Translation, Canadian Partnership Against Cancer, Toronto, ON, Canada.

Uptake of evidence for behavioral medicine involves a process of mutual adjustment at the frontier between the intervention and the community, organization, clinician, and the patient. Theories of organizational change provide conceptual understandings of how evidence-based interventions, as innovations, disseminate to specific audiences, and how to implement changes within particular settings to change practice patterns. Empirical studies of dissemination and implementation of evidence in behavioral medicine are, however, rare. In this symposium, we describe novel empirical approaches to creating, packaging, transmitting, and interpreting information for dissemination to various stakeholder groups. Further, we illustrate the process of implementation in real-world settings. David Abrams will use simulation modeling to illustrate the nationwide impact on population smoking prevalence with implementation of key components of an integrated systems approach. Brian Mittman will discuss the successful application of dissemination and implementation principles in selected VA implementation research projects conducted by the VA's Quality Enhancement Research Initiative (QUERI). Ian Graham will discuss a partnership between health services researchers, a community nursing agency, and a home care authority in Ottawa to successfully implement evidence-based guidelines to reduce leg ulcers in diabetics. Sherri Sheinfeld Gorin will explore intervention models to disseminate evidence for primary care physician behavior change to reduce disease risks and increase cancer screening change among underserved populations. Jon Kerner, discussant, will explore the implications of these findings overall.

CORRESPONDING AUTHOR: Sherri S. Gorin, PhD, Columbia University, New York, NY, 10027; sherri.gorin@gmail.com

Symposium #05A 2019

SYSTEMS INTEGRATION TO OPTIMIZE ADULT SMOKING CESSATION IMPACT ON POPULATION PREVALENCE: AN IMPLEMENTATION CHALLENGE

David Abrams, PhD

Steven A. Schroeder Institute for Tobacco Research and Policy Studies, American Legacy Foundation and Johns Hopkins University, Wsshington, DC.

Three outcomes will reduce overall smoking prevalence: (1) reach/motivate more smokers to quit, especially underserved; (2) ensure quitters use evidence-based programs; and (3) enact policy for delivery of a comprehensive system of care management. The single most critical issue for increasing population cessation impact lies in a lack of full "systems integration" of cessation services. This presentation explores critical components of a systems integrative model. Simulation modeling will illustrate the nationwide impact on population smoking prevalence of key components of an integrated systems approach to implementation. Components include concepts such as: stepped care; use of new informatics and communications technology for tailored (mass customization) of interventions (personalized medicine); the balance between reach, efficiency and cost-efficiency in choosing optimal strategies; and the need to reach low SES and subgroups with co-morbid conditions. Health services factors are explored such as aligned incentives, quality improvement and sustainability. Individual and systems levels must be integrated into policy. Optimal population impact requires political will and a shift in national health care, from acute care medicine to prevention and a broad public health ecological model. New models, tools and technology provide a window of opportunity to transform health and health care delivery for the 21st century.

CORRESPONDING AUTHOR: Sherri S. Gorin, PhD, Columbia University, New York, NY, 10027; sherri.gorin@gmail.com

Symposium #05B 2020

DISSEMINATING AND IMPLEMENTING CLINICAL EVIDENCE INTO PRACTICE: THE U.S. DEPARTMENT OF VETERANS AFFAIRS AND VA QUALITY ENHANCEMENT RESEARCH INITIATIVE (QUERI)

Brian Mittman, PhD

Center for Implementation Research and Improvement Science, VA Greater Los Angeles Healthcare System (152), Sepulveda, CA.

The U.S. Department of Veterans Affairs healthcare system has achieved levels of clinical quality performance and adoption of evidence-based clinical practices that exceed those of most other healthcare systems in the U.S. Researchers within and outside VA generally attribute this performance to a wide range of factors, including strong leadership, external pressure and expectations for improvement, and a rich array of management structures and programs providing active support and management of clinical care practices. VA's management structures and programs illustrate and suggest many principles for overcoming barriers to implementation of evidence-based practice, including (a) the importance of a multi-level, multi-faceted portfolio of implementation strategies, (b) partnerships between research, clinical practice, organizational leadership and consumers, and (c) the need for a coordinated, mutually reinforcing set of strategies for establishing, promoting and monitoring evidence-based clinical policies and practices.
This presentation will describe these principles and their underlying theoretical basis, and will illustrate their operationalization in selected VA implementation research projects conducted by the VA's Quality Enhancement Research Initiative (QUERI), as well as their role in guiding and explaining VA's implementation success. Evidence will be presented regarding hypotheses linking multi-level strategies to implementation outcomes and additional hypotheses regarding the importance of research-practice partnerships. The presentation will conclude with a discussion of implications of the VA experience for other healthcare delivery systems and for theory and empirical research on dissemination and implementation processes in healthcare delivery and public health.

CORRESPONDING AUTHOR: Sherri S. Gorin, PhD, Columbia University, New York, NY, 10027; sherri.gorin@gmail.com

Symposium #05C 2021

PARTNERSHIP MODELS FOR IMPLEMENTING EVIDENCE-BASED PRACTICE

Ian Graham, PhD

Knowledge Translation, Canadian Institutes of Health Research, Ottawa, ON, Canada.

Dr. Graham will discuss a partnership between health services researchers from Queen's University and the University of Ottawa, a community nursing agency and a home care authority in Ottawa led to major improvements in the quality of care for people with leg ulcers (an increase in healing rates from 23% to 56%). The synthesis of both external and local evidence played a key role in the adoption of an evidence-based protocol and provided the critical context to support a significant reorganization of the existing service delivery model. This case demonstrates that, with a collaborative-partnership approach, systematic and transparent research processes can be rapidly developed to support policy and practice change. This demonstration of the successful navigation of the continuum from dissemination to implementation and uptake of evidence will illustrate the knowledge to action cycle. This cycle follows the uptake of knowledge through the steps of: identification of the problem, review and selection of the evidence, adaptation of the knowledge to a local context, assessment of barriers to changes, tailoring of the intervention, monitoring of knowledge use, evaluation of outcomes and sustaining knowledge use.

CORRESPONDING AUTHOR: Sherri S. Gorin, PhD, Columbia University, New York, NY, 10027; sherri.gorin@gmail.com

Symposium #05D 2022

DISSEMINATING EVIDENCE TO PRIMARY CARE PHYSICIANS FOR IMPLEMENTATION IN LOW-RESOURCE CLINICAL SETTINGS

Sherri S. Gorin, PhD

HBS, Epidemiology, Columbia University, New York, NY.

Primary care physician counseling is influential on risk modification through physical activity, dietary change, safe sexual behavior, Human Papillomavirus and Hepatitis B vaccinations, as well as on cancer screening, particularly in low-resource communities. Numerous studies have found that clinical practice guidelines alone have been extremely unsuccessful in changing physician behavior. Other approaches, including Continuing Medical Education, quality improvement, and reducing clinical inertia have demonstrated weak effects on physician behavior change. Studies of academic detailing have reported more promising findings. Given the importance of physician recommendation to risk reduction and screening, disseminating effective intervention approaches and integrating them into clinical practice over time are critical. Within the RE-AIM conceptual model, using a systematic review, we will: (1) evaluate the findings on the effectiveness of published strategies designed to disseminate clinical guidelines to physicians to reduce a set of risk factors, and to increase cancer screening approaches. (2) We will examine the factors that influence implementation and maintenance of evidence-guided physician behavioral change. Findings reveal that the components of the intervention, including opportunities for reinforcement, and improvement in behavioral capacities (knowledge and skills), outcome expectancies, and self-efficacy to perform the behavior, opportunities for observational learning, and cues for action (for example, in office-based procedures and materials) are critical to evidence-based clinical change. Influential factors for implementation span content, context, and process, from the clinical organization to the clinician. Increased dissemination and implementation of clinical practice guidelines–using theory- and evidence-based strategies–could increase public health.

CORRESPONDING AUTHOR: Sherri S. Gorin, PhD, Columbia University, New York, NY, 10027; sherri.gorin@gmail.com

Symposium #06 8:45 AM -10:15 AM 2023

MINDFULNESS MEDITATION AND BEHAVIORAL MEDICINE

Jean Kristeller, PhD[1] and James Carmody, PhD[2]

[1]Psychology, Indiana State University, Terre Haute, IN and [2]Center for Mindfulness, U Mass Medical School, Worcester, MA.

Mindfulness meditation continues to offer promise in promoting self-regulatory processes in physical and emotional health. In addition to the widely available Mindfulness-Based Stress Reduction (MBSR) program created by Jon Kabat-Zinn, variations on this program, in combination with other therapeutic strategies, are being developed and evaluated. This symposium will address a number of the conceptual, research and clinical issues related to offering mindfulness meditation-based programs in behavioral medicine settings. Dr. Linda Carlson will review her programmatic work developing her Mindfulness-Based Cancer Recovery (MBCR) program with cancer patients. Dr. Beverly Thorn will review her efforts at extending Mindfulness-Based Cognitive Therapy (MBCT), originally developed to treat depression, to treating chronic pain. Dr. Jean Kristeller will present her research on Mindfulness-Based Eating Awareness Training (MB-EAT), which has adapted MBSR to treatment of obesity and related eating disorders. Each speaker will offer a conceptualization of the application of mindfulness mediation for her particular patient population, review the empirical evidence to date, discuss modifications in treatment approaches that may be useful, and conclude with implications for broader application.

CORRESPONDING AUTHOR: Jean Kristeller, PhD, Indiana State University, Terre Haute, IN, 47803; J-Kristeller@indstate.edu

Symposium #06A 2024

DEVELOPMENT OF MINDFULNESS-BASED COGNITIVE THERAPY FOR PAIN (MBCT-P)

Beverly E. Thorn, PhD,[1] Steven D. Hickman, PsyD[2] and Rochelle D. Voth, PhD[2]

[1]Psychology, The University of Alabama, Tuscaloosa, AL and [2]Psychiatry, University of California at San Diego, San Diego, CA.

Chronic pain is a common and costly experience, with prevalence rates from 10% to 40% and annual costs upward of $100 billion. Typical biomedical treatments are associated with a number of adverse events and their success depends upon a complex interaction of psychosocial, physical, and emotional factors. Thus, to improve biomedical treatment outcome, it is critical that patients concurrently learn coping and stress reduction strategies. Mindfulness-Based Cognitive Therapy (MBCT), a modification of Mindfulness-based Stress Reduction (MBSR), incorporates cognitive-behavioral exercises and interventions into the MBSR framework. Research on the efficacy of MBCT suggests that it addresses ruminative and catastrophic thinking specifically, while incorporating the general positive effects of MBSR. There is no published work adapting MBCT to chronic pain patients. We report ongoing work on two feasibility trials of MBCT with chronic pain patients: One at the University of California, San Diego Center for Pain and Palliative Medicine, and one with a group of rural AL patients who have successfully completed either an education/support group or a CBT group for pain management, followed for one year, and offered the option of participating in a pilot trial of MBCT. In this symposium we will discuss adaptation of the currently available MBCT manual for use with chronic pain patients, potential shared and unique mechanisms of action with CBT, MBSR, and MBCT, descriptive data of pre-treatment participant characteristics, and any available ongoing treatment data.

CORRESPONDING AUTHOR: Beverly E. Thorn, PhD, Psychology, The University of Alabama, Tuscaloosa, AL, 3487-0348; bthorn@as.ua.edu

Symposium #06B 2025

MINDFULNESS-BASED CANCER RECOVERY (MBCR) FOR CANCER PATIENTS AND FAMILY MEMBERS: OVERVIEW OF A PROGRAM OF RESEARCH

Linda E. Carlson, PhD,[1,3] Sheila N. Garland, MSc,[2] Laura Labelle, MSc,[2] Kathryn Birnie, BA[3] and Michael Speca, PsyD[1,3]

[1]Oncology, University of Calgary, Calgary, AB, Canada; [2]Psychology, University of Calgary, Calgary, AB, Canada and [3]Psychosocial Resources, Tom Baker Cancer Centre, Calgary, AB, Canada.

Living with a diagnosis of cancer affects people on a number of levels; physical symptoms of disease and treatments may include fatigue, pain, nausea, insomnia and discomfort. Psychological symptoms of fear, sadness, anger, grief, loss of control and uncertainty about the future can plague patients throughout the cancer journey. Within this context a tremendous opportunity exists for introducing patients and families to mindfulness meditation, which has the potential to address symptoms within the physical, psychological, social and existential domains.

Our group at the Tom Baker Cancer Centre in Calgary, Alberta, Canada began offering a modified program of Mindfulness-Based Stress Reduction (MBSR) for cancer patients, which we have termed Mindfulness-Based Cancer Recovery (MBCR), in 1996. Since that time close to 1500 patients and family members have participated and numerous studies have been conducted evaluating its efficacy. Initially large improvements were documented in symptoms of stress and mood disturbance such as anger, anxiety, depression, muscle tension, irritability, sleep disturbance, symptoms of physical arousal and fatigue. These beneficial effects persisted for 6-months after program participation. Investigation of biomarkers of stress and immune system function found that patients who had elevated cortisol levels prior to program participation showed decreases afterwards, and the secretion of cytokines by cells of the immune system shifted from a pro-inflammatory to anti-inflammatory environment. These effects persisted up to one-year later. Improvements in sleep and blood pressure have also been seen. Recent investigations into the salubrious effects of MBCR support the promotion of positive psychological growth, and increased levels of spirituality and post-traumatic growth in the face of cancer after program participation. Similar benefits have been documented in family members.

CORRESPONDING AUTHOR: Linda E. Carlson, PhD, Oncology, University of Calgary, Calgary, AB, T2S 3C1; lcarlso@ucalgary.ca

Symposium #06C 2026

MINDFULNESS-BASED EATING AWARENESS THERAPY (MB-EAT): A REVIEW OF THEORY, RESEARCH AND APPLICATION

Jean Kristeller, PhD

Indiana State University, Terre Haute, IN.

Obesity represents a complex system of disregulated physical, cognitive, emotional, and behavioral states. Mindfulness approaches have a rich tradition and increasing empirical support for creating self-awareness, facilitating disengagement from undesired emotional and behavioral reactivity, and engaging healthier behaviors. The Mindfulness-Based Eating Awareness Training (MB-EAT) program offers substantial promise for helping individuals create healthier balance in their food intake, body image and emotional balance. This presentation will introduce the conceptual background, research evidence and treatment components of a mindfulness meditation-based approach to treatment of obesity and related compulsive overeating. An overview of results from a completed NIH-funded clinical trial will be presented, along with evidence from smaller related studies. The MB-EAT program produced significant improvement in eating behavior and mood in individuals with binge eating disorder. Furthermore, the amount of improvement, including weight loss, was directly related to degree of mindfulness practice reported. In the currently funded research, the MB-EAT program has been broadened to working with wider range of issues contributing to obesity and barriers to weight loss. Applications to other populations (i.e., adolescents, children, diabetics, pre-bariatric surgery) will also be discussed.

In our work, meditation appears to act by rapidly promoting self-awareness, awareness of relevant cues, such as hunger and satiety, and internalization of control and self-acceptance. The MB-EAT program will also be presented as an example of how general mindfulness meditation practice can be melded with components targeted at particular areas of disregulation. The MB-EAT program will be presented in the context of a larger comprehensive model of meditation effects (Kristeller, 2007), that proposes a unifying theory of treatment effectiveness across domains of response, including physiological, emotional, behavioral, and relation to self.

CORRESPONDING AUTHOR: Jean Kristeller, PhD, Indiana State University, Terre Haute, IN, 47803; J-Kristeller@indstate.edu

Symposium #07 8:45 AM -10:15 AM 2027

TRANSFORMING SCIENCE: CYBERINFRASTRUCTURE IN CANCER PREVENTION AND CONTROL

Audie A. Atienza, PhD, Abdul Shaikh, PhD, MHSc and Brad Hesse, PhD

Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD.

Cyberinfrastructure integrates hardware for computing, data and networks, digitally-enabled sensors, observatories and experimental research facilities, and an interoperable suite of software and middleware services and tools. Cyberinfrastructure offers much promise to behavioral medicine research to support collaboration, encourage the use of standardized data elements and data sharing, and provide greater computational power. Cyberinfrastructure also provides the ability to run cutting-edge analyses that integrate data from geo-spatial, social networks, personal health records, real-time data capture and other informatics-based sources. This symposium will discuss the advantages of cyberinfrastructure research in cancer prevention and control, as well as, illustrate some of these research technologies and methodologies currently being developed. The importance of improving and connecting cancer prevention research tools, such as cancer-related psychosocial measures and portable physical activity monitors, to cyberinfrastructure grids will be highlighted. In addition, the behavioral research opportunities enabled by cyberinfrastructure in cancer care will be discussed. By utilizing distributed resources to increase collaboration, encourage standardized data elements and data sharing, and harness computational power, cyberinfrastructure has great potential to support a new, transformative science in cancer prevention and control research.

CORRESPONDING AUTHOR: Audie A. Atienza, PhD, National Cancer Institute, Bethesda, MD, 20892-7335; atienzaa@mail.nih.gov

Symposium #07A 2028

CONCURRENT & REAL TIME MEASUREMENT OF PHYSICAL ACTIVITY LOCATION AND CONTEXT: A CYBERINFRASTRUCTURE-ENABLED APPROACH

Kevin Patrick, MD,[1,2] Greg Norman, PhD,[1] Jacqueline Kerr, PhD,[1] Fred Raab, BA,[1] Ingolf Krueger, PhD,[1] Barry Demchak, MS,[1] William Griswold, PhD,[1] Jim Sallis, PhD[3,2] and Sheri Thompson, PhD[2]

[1]University of California, San Diego, La Jolla, CA; [2]Santech, Inc, San Diego, CA and [3]San Diego State University, San Diego, CA.

Ecological theory is increasingly used to frame research on health behaviors. Yet measurement of health behaviors is still rooted in methods based upon self-reports that capture little about the environment. Even objective methods of assessing behaviors often lack the ability to link behavioral data with environmental data. Mobile, wireless, GPS and GIS technologies can help overcome this problem.

Two projects intended to improve the measurement of physical activity (PA) in its geospatial and temporal context will be presented. The Physical Activity Location Measurement System (PALMS) project, funded by the NIH Gene/Environment Initiative, is designed to collect and link data from: a) accelerometers (A) and accelerometer+heart rate (A+HM) monitors; b) GPS devices (inclusive of satellite and assisted-GPS technology); and momentary sampling of cognitive factors via mobile phone (MP). Standardized GIS software and map (e.g. ESRI, Google) interfaces are being created. The PALMS software is modeled on large-scale cyberinfrastructure projects that have demonstrated value in the biological sciences; it will support multiple studies and researchers and novel methods of data visualization and mining. e/Balance, an NCI SBIR contract, is developing an MP-based system to inform energy balance research. e/Balance incorporates wireless connectivity from an A+HM device to an MP where it is processed and up-linked to a server. MP or server-side data can be used to prompt near-real time feedback to users to change behaviors. Cyberinfrastructure-enabled approaches to data collection, analysis, visualization and modeling are supported by e/Balance.

These projects demonstrate the feasibility of new ways to collect behavioral data but also challenge conventional methods of data interpretation.

CORRESPONDING AUTHOR: Audie A. Atienza, PhD, National Cancer Institute, Bethesda, MD, 20892-7335; atienzaa@mail.nih.gov

Symposium #07B 2029

USING CYBERINFRASTRUCTURE TO SUPPORT A BEHAVIORAL MEASURES DATABASE FOR CANCER PREVENTION AND CONTROL RESEARCH

Richard P. Moser, PhD

Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD.

This presentation will describe the development and implementation by the National Cancer Institute of a database of behavioral and social measures mounted on top of an underlying grid cyberinfrastructure. Behavioral health (e.g., smoking cessation, increased physical activity, improvements in diet, obesity reduction and cancer screening) plays a critical role in cancer prevention and control research. This interoperable, dynamic, tool will allow researchers to search for measures, receive information about these measures (e.g., validity, reliability, constructs, history, and usage) and download them. Behavioral researchers will also be able to submit their own measures that will be considered for possible inclusion in the database. In addition, this cyberinfrastructure tool will allow users to upload and exchange data with common data elements to promote innovative prospective meta-analyses using the grid. The challenges of deciding on criteria for vetting the measures and creating a viable "business model" for incentivizing a small number of common measures will be described. The discussion will also focus on the transformative research opportunities in cancer prevention and control that are enabled by the development of this cyberinfrastructure tool.

CORRESPONDING AUTHOR: Audie A. Atienza, PhD, National Cancer Institute, Bethesda, MD, 20892-7335; atienzaa@mail.nih.gov

Symposium #07C 2030

CYBERINFRASTRUCTURE AND PATIENT-CENTERED CANCER CONTROL RESEARCH

Audie A. Atienza, PhD

Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD.

In a 2001 Institutes of Medicine (IOM) report, creating "patient-centeredness" in health care is identified as a core aim to improve the health care system. Patient-centered care depends collectively on clinicians, patients, relationships (clinical and social), and health services. The 2001 IOM report also emphasized the importance of using information technologies to transform health care, and specifically make care more patient-centered.

In 2007, the National Cancer Institute published a monograph entitled "Patient-Centered Communication in Cancer Care: Promoting Healing and Reducing Suffering". Improving and optimizing the communication processes between cancer patients/families and the health care delivery team, not just the patient-physician dyad, was emphasized. This perspective highlights the important roles that family members and other health care team members (e.g., care coordinators, nurses, etc.) in optimizing health of any particular cancer patient. However, empirically examining these complex processes and relationships is quite challenging. This presentation will discuss the use of cyberinfrastructure in patient-centered cancer control research. Cyberinfrastructure offers promising opportunities to not only improve patient-centered communication in cancer care, but also facilitate complex behavioral research related to cancer control. Cyberinfrastructure integrates hardware for computing, data and networks, digitally-enabled sensors, observatories and experimental research facilities, and an interoperable suite of software and middleware services and tools.

Exemplars of health care systems integrating information technologies in patient care will be presented, and the application and implications of cyberinfrastructure and patient-centeredness for cancer control research will be discussed.

CORRESPONDING AUTHOR: Audie A. Atienza, PhD, National Cancer Institute, Bethesda, MD, 20892-7335; atienzaa@mail.nih.gov

Symposium #08 8:45 AM -10:15 AM 2031

FACING CANCER TOGETHER: HIS STORY, HER STORY, AND THEIR STORY

Youngmee Kim, PhD,[1] Michael Diefenbach, PhD,[2] Frank Keefe, PhD[3] and Julia Rowland, PhD[4]

[1]Psychology, University of Miami, Coral Gables, FL; [2]Urology & Oncological Sciences, Mount Sinai School of Medicine, New York, NY; [3]Psychiatry and Behavioral Sciences, Duke University, Durham, NC and [4]Cancer Control and Population Sciences, NCI, Bethesda, MD.

This symposium aims to present the state of the science about how the ways in which cancer patients and their family caregivers deal with the cancer affect each one's quality of life at different phases of the survivorship trajectory. Findings from a nationwide longitudinal caregivers study of the individual and dyadic effects of social support provide evidence on the quality of life of survivors and caregivers, comparing prostate, breast, and colorectal cancer and focusing on 2 years post-diagnosis. The findings highlight the significant role of the different sources of social support on cancer survivors' mental health and the benefit of providing support, in addition to receiving it, for cancer survivors' quality of life. In another study examined the couples' adjustment to prostate cancer when side effects of treatment and surgery could lead to severe life constrains. The illness perception, worries about cancer recurrence, and psychological distress of patients and their partners were significant predictors of the couples' poor adjustment to prostate cancer treatment, suggesting that couple-based psychosocial intervention will be beneficial for both patients and caregivers. A conceptual framework emphasizing the significance of the social context of cancer survivorship is proposed, along with multiple studies supporting the conceptual model among spouses and patients diagnosed with different types of cancer. Findings of several studies document the efficacy of couple-based intervention for enhancing the quality of life of individuals touched by cancer. Discussion compares and contrasts the findings from diverse populations across different phases of survivorship and addresses the implications of these findings to improve overall quality of life of patients and family caregivers.

CORRESPONDING AUTHOR: Youngmee Kim, PhD, University of Miami, Coral Gables, FL, 33124-0751; ykim@psy.miami.edu

Symposium #08A 2032

DYADIC AND INDIVIDUAL EFFECTS OF SOCIAL SUPPORT ON THE QUALITY OF LIFE OF CANCER SURVIVORS AND THEIR SPOUSAL CAREGIVERS

Youngmee Kim, PhD,[1] Charles S. Carver, PhD[1] and Rachel L. Spillers, BS[2]

[1]Psychology, University of Miami, Coral Gables, FL and [2]Behavioral Research Center, American Cancer Society, Atlanta, GA.

Evidence suggests that availability of social support has salutary effects on quality of life (QOL) of patients. Less is known about the degree to which the same is true of cancer caregivers. Whether different sources of social support would have differing effects on QOL is also unknown. Thus, this study examined the dyadic and individual effects of social support on the QOL of couples dealing with prostate cancer, breast cancer, or colorectal cancer.

A total of 252 married survivor-caregiver dyads participating in national surveys provided complete data for study variables. Participating survivors were diagnosed with prostate (102), breast (96), or colorectal (54) cancer approximately 2 years prior to the study. Perceived availability of social support from significant others, family, and friends; and QOL (mental and physical health: MOS SF-36) were measured for both survivors and caregivers.

Analysis by the Actor Partner Interdependence Model revealed the differential impact of social support resources on individuals' QOL, which varied by type of cancer. Specifically, with regard to survivors' mental health, support from family for prostate cancer, support from significant other for breast cancer, and support from friends for colorectal cancer were distinctive predictors. These results suggest that social support programs be tailored for specific resources by cancer type. Another finding was that when caregivers of colorectal cancer survivors reported greater support from their significant other (the survivor), the survivor reported better physical health. This suggests that survivors may derive health benefit by providing support to their spousal caregivers. The findings provide valuable evidence to help identify subgroups of cancer survivors and their spouses who are vulnerable to poor QOL due to their differential social support resources.

CORRESPONDING AUTHOR: Youngmee Kim, PhD, University of Miami, Coral Gables, FL, 33124-0751; ykim@psy.miami.edu

Symposium #08B 2033

THE SOCIAL CONTEXT OF CANCER SURVIVORSHIP: APPROACHES TO INVOLVING PARTNERS AND CAREGIVERS IN PSYCHOSOCIAL INTERVENTIONS

Francis J. Keefe, PhD

Psychiatry and Behavioral Sciences, Duke University, Durham, NC.

There is growing recognition that cancer survivorship occurs in a social context and heightened interest in involving patient's partners and caregivers in psychosocial intervention efforts. This presentation is divided into three parts. Part one focuses on the conceptual background for research in this area and highlights the distinction between partner-assisted and couples-based interventions. Part two presents outcome data from NCI supported treatment outcome studies testing interventions involving both patients and partners. The results of two studies of partner-assisted treatment will be presented. The first study tested the efficacy of a partner-assisted pain management intervention with cancer patients who were at end of life. The intervention produced significant improvements in partners' self-efficacy for controlling the patient's pain, and self-efficacy for controlling the patient's symptoms. The pattern of findings also suggested improvements in pain and other patient outcomes. The second study tested the efficacy of a partner-assisted coping skills training intervention for early stage lung cancer patients. Findings revealed significant improvements in patient (pain, anxiety, self-efficacy) and partner outcomes (self-efficacy) with later stage patients and their partners benefiting more. In addition, the presentation will present the results of study testing the efficacy of a couples-based protocol for ennhancing emotional disclosure in patients with GI cancer. Patients who received this intervention showed significant improvements in their marital relationship and tended to show improvements in psychological distress. Part three of this presentation highlights important future directions for research in this area with a special emphasis on the need to adapt these interventions so as to enhance their cultural sensitivity.

CORRESPONDING AUTHOR: Youngmee Kim, PhD, University of Miami, Coral Gables, FL, 33124-0751; ykim@psy.miami.edu

Symposium #08C 2034

PSYCHOLOGICAL DISTRESS, ILLNESS PERCEPTION, AND WORRIES ABOUT RECURRENCE AMONG COUPLES COPING WITH PROSTATE CANCER

Michael A. Diefenbach, PhD and Nihal E. Mohamed, PhD

Urology & Oncologocial Sciences, Mount Sinai School of Medicine, New York, NY.

Diagnosis and treatment of cancer can be disruptive for both patients and their partners. This is especially likely when side effects of treatment lead to severe life constrains. The present study examines associations among psychological distress, illness perception (e.g., emotional representation, consequences, treatment and personal control, and illness coherence), and worries about cancer recurrence in couples coping with prostate cancer treatment.

Ninety six couples (M agePatient=64.52±7.54 Yrs; M agePartner=59.40±8.63 Yrs) participated in the study. Of the full sample, 90 % were Caucasians, 43% employed, and 54% had college and higher education. Measurements used in the study include Impact of Event Scale (IES), and 3 items measuring worries about cancer recurrence, and the Revised Illness Perception Questionnaire (IPQ-R). Data was collect at baseline (after diagnosis), and 6 and 12 months thereafter.

Couples reported frequent worries about recurrence at 6 and 12 months. Repeated measures ANOVA revealed significant decrease in worries about recurrence and distress over time among patients and partners. Significant crossectional and longitudinal associations emerged among illness perceptions, worries about recurrence, and distress that varied across measurements (all ps<.05). Negative emotional representation, a less coherent illness model, and perceived sever illness consequences were significantly associated with higher levels of distress and worries at 6 months. These relationships remained unchanged when we examined associations between illness perception, and distress, and worries at 12 months among patents and partners.

This study indicates that patients' and partners' illness perception and worries about recurrence may influence their adjustment and emotional wellbeing following prostate cancer treatment. The present findings may have implications for the development of patient/spouse centered educational intervention that can elicit spouses' and patients' treatment related expectation and values.

CORRESPONDING AUTHOR: Youngmee Kim, PhD, University of Miami, Coral Gables, FL, 33124-0751; ykim@psy.miami.edu

Thursday
April 23, 2009
2:00 PM -3:30 PM

Meritorious Student Paper
Paper Session #01 2:00 PM -2:15 PM 2035

EXPECTATIONS FOR BREAST RECONSTRUCTION AMONG WOMEN UNDERGOING MASTECTOMY SURGERY

Mary Carol Mazza, MA,[1] Lisa R. Rubin, PhD[1] and Andrea L. Pusic, MD[2]

[1]The New School for Social Research, New York, NY and [2]Memorial Sloan Kettering Cancer Center, New York, NY.

Background: Currently little published research exists exploring expectations about breast reconstruction after mastectomy or how these expectations might change after reconstruction. This area of research is important to the field, since understanding patient expectations may predict satisfaction with outcome, facilitate shared decision making, and allow physicians to tailor educational materials to the patients' needs.

Method: Qualitative interviews were conducted with 19 women (mean age=47), recruited through the plastic surgery clinic at Memorial Sloan Kettering Cancer Center for a study of expectations about breast reconstruction. All women were interviewed twice, first in the pre- or peri-operative phase with follow-up interviews conducted post-surgery. Audiotaped interviews were transcribed and analyzed via grounded theory methodology (Charmaz, 2006).

Results: Emergent themes concerning the formation and articulation of pre-surgical expectations are presented. When initially interviewed most women expressed vague expectations for reconstruction, offering simple descriptions, repeating facts, or minimizing the importance of issues such as post-surgical aesthetics and quality of life. In follow-up interviews, women stated that initial expectations were difficult to form due to the distress and overwhelming emotions being experienced. They felt that vague expectations left them unprepared for reconstructive surgery. Some describe denial or overwhelming optimism getting in the way of the formation of their expectations. Most women discussed significant clarification of and changes in their expectations between the initial and follow-up interviews.

Conclusions: Study participants expressed great difficulty articulating specific expectations prior to reconstructive surgery. A better understanding of personal, emotional, and physical factors interfering with the formation of initial expectations is necessary to best prepare women for the process of making decisions about and undergoing breast reconstruction.

CORRESPONDING AUTHOR: Mary Carol Mazza, MA, The New School for Social Research, New York, NY, 10028; mazzm313@newschool.edu

Meritorious Student Paper
Citation Paper
Paper Session #01 2:15 PM -2:30 PM 2036

EFFECTIVENESS OF PSYCHOSOCIAL INTERVENTIONS ON SEXUAL QUALITY OF LIFE IN FEMALE CANCER SURVIVORS

Julie Peoples, MA,[2] Sara I. McClelland, MA[1] and Tracey A. Revenson, PhD[1]

[1]Psychology, The Graduate Center, CUNY, New York, NY and [2]National Cancer Institute, NIH, Rockville, MD.

Aims: This study used systematic review methods to describe and evaluate psychosocial interventions being conducted with female cancer patients to improve sexual quality of life (SQoL). The focus on interventions to increase female SQoL after cancer treatment is both timely and relevant to NCI priorities in cancer survivorship. Methods: A replicable, systematic search strategy was used to locate all psychosocial interventions published between 2000–2007 aimed at increasing SQoL among female cancer patients. Data from the 12 available studies that met study criteria (original research; female cancer patients; SQoL measured as outcome) were analyzed using vote counting procedures. Results: Psychosocial interventions varied widely including: individual counseling, cognitive-behavioral therapy, mindfulness techniques, and group-based expressive therapy. Three studies added pharmacological components. All but one study (colorectal) targeted breast or gynecological cancer and most focused on early-stage cancer. The design of the studies was uniformly poor, with small sample sizes (and low power), lack of a no-treatment control or comparison group, primarily White and affluent participants, and non-validated outcome measures of FSQoL. Because many of the studies lacked the statistical data necessary for a meta-analysis, vote counting procedures (Bushman, 1994) were used to quantify the number of statistically significant positive results, stratified by quality of research design (treatment vs. control comparisons [6 studies], one group pre-post designs [5] and studies comparing multiple treatments [1]). Overall, less than half of the studies (5/12) demonstrated effects, and their impact often took the form of slowing the decline of FSQoL rather than improving it. Implications: Little is known about expected sexual health after treatment, how sexual function is defined, or whether interventions can maximize adjustment. Further targeted, theory-based psychosocial interventions to improve sexual quality of life are needed.

CORRESPONDING AUTHOR: Sara I. McClelland, MA, Psychology, The Graduate Center, CUNY, New York, NY, 10016; smcclelland@gc.cuny.edu

Meritorious Student Paper
Citation Paper
Paper Session #01 2:30 PM -2:45 PM 2037

INTERVENTION MODULES PROTECT SEXUALITY IN BREAST CANCER

Anna O. Levin, BA, Hae-Chung Yang, PhD and Barbara Andersen, PhD

Department of Psychology, Ohio State University, Columbus, OH.

Women undergoing breast cancer treatments face multiple threats to sexual functioning. Chemotherapy-induced menopause may lead to sexual problems, such as vaginal dryness, pain during intercourse, and decreased desire. Breast surgery and diminished ovarian function may threaten women's sense of femininity. Effective interventions targeting sexuality are needed. This study examined the efficacy of intervention strategy use on sexuality.

Method: Participants were 80 stage II-III breast cancer patients randomized to the treatment arm of an RCT targeting distress and health outcomes. The multi-component psychosocial intervention's sexuality modules (2 of 26 sessions) aimed to improve partner communication, ease anxiety regarding sexual activity, and prompt sexual and intimate activities. Self-reports of intercourse frequency and sex life satisfaction were collected at baseline (post-surgery; pre-intervention, adjuvant therapy) and 4, 8, and 12 months later. Patients' use of the sexual treatment strategies was also assessed. Hierarchical linear models tested the relationship between utilization of strategies and sexuality outcomes.

Results: For both intercourse frequency and sexual satisfaction, there was a significant quadratic change during follow-up (ps<.05) with patients showing a steady decline in both outcomes during the first 4 months (during adjuvant chemotherapy), and an increase during the next 8 months. There was significant effects for Strategy Use on both outcomes (ps<.03), indicated that more frequent use was associated with more frequent intercourse and greater satisfaction. Importantly, the Strategy Use x Time effect was significant (ps<.03). For intercourse frequency, more frequent use of the treatment strategies was associated with a slower decline during the first 4 months and a more rapid increase during the next 8 months. The association between more frequent use and greater improvement in sexual satisfaction was most pronounced during months 4-8.

Conclusion: Using our simple intervention strategies provided women with breast cancer with much needed protection against future sexual problems.

CORRESPONDING AUTHOR: Anna O. Levin, BA, Department of Psychology, Ohio State University, Columbus, OH, 43215; levin.1922@osu.edu

Paper Session #01 2:45 PM -3:00 PM 2038

EFFECT OF A LIFESTYLE PHYSICAL ACTIVITY INTERVENTION FOR BREAST CANCER SURVIVORS ON TRANSTHEORETICAL MODEL VARIABLES

Stacie Scruggs, MPH,[1] C. Carmack Taylor, PhD,[1] T. Douglas, PhD,[2] P. Diamond, PhD[2] and K. Basen-Engquist, PhD MPH[1]

[1]The University of Texas M.D. Anderson Cancer Center, Houston, TX and [2]The University of Texas Health Science Center at Houston - School of Public Health, Houston, TX.

Purpose: To determine the effect of a stage-based, lifestyle physical activity intervention has on Transtheoretical Model variables in a sample of breast cancer survivors.

Methods: Sedentary breast cancer survivors (N=60) were randomized to either a standard care study condition or to a 6-month, 21-session intervention. The Transtheoretical Model variables stage of change, self-efficacy, decisional balance (pros and cons to exercise), and processes of change were measured at baseline, 3 months, and 6 months. Results: Women in the lifestyle group had significantly higher self-efficacy than women in the standard care group at 3 and 6 months (F=9.55, p=0.003). Although there was not a significant difference between the two groups for perceived pros of exercise, there was a significant difference between the groups for perceived cons of exercise. Women in the lifestyle group perceived significantly fewer cons of exercise at both 3 and 6 months compared with women in the standard care condition (F=5.416, p=0.025). Between baseline and the 6 month assessment results show significant effects on the following processes of change: self- reevaluation, self-liberation, counter conditioning, reinforcement management, and stimulus control. The intervention also had a significant effect on exercise stage of change with women in the intervention group reporting increased stage progression compared with standard care counterparts (F=7.080, p=0.011).

Conclusions: Data from the pilot study suggest that a stage-based, lifestyle physical activity intervention has an effect on Transtheoretical Model variables, which have been shown to facilitate exercise adoption, and should be tested in a larger trial.

CORRESPONDING AUTHOR: Stacie Scruggs, MPH, The University of Texas, Houston, TX, 77030; sscruggs@mdanderson.org

Paper Session #01 3:00 PM -3:15 PM 2039

TAI CHI CHUAN (TCC) AND BONE HEALTH (BH) AMONG BREAST CANCER SURVIVORS

Luke J. Peppone, PhD,[1] Karen Mustian, PhD,[1] Randy Rosier, MD,[1] Kenneth Piazza, MD, MPH,[2] David Hicks, MD,[1] Tom Darling, PhD,[1] Jason Purnell, PhD,[1] Oxana Palesh, PhD,[1] Michelle Janelsins, PhD[1] and Gary R. Morrow, PhD, MS[1]

[1]University of Rochester, Rochester, NY and [2]Roswell Park Cancer Institute, Buffalo, NY.

Background: Treatments for breast cancer, specifically hormonal therapy, accelerate bone loss among breast cancer survivors, leading to osteoporosis and an increase in fracture risk. Exercise, specifically load-bearing exercises slow the rate of bone loss and onset of osteoporosis, ultimately decreasing fracture risk among women. TCC is a moderate form of weight-bearing exercise equivalent to walking that has been shown to improve aerobic capacity and strength among breast cancer survivors. TCC may also be effective in slowing bone loss in breast cancer survivors. Purpose: This pilot study compared the influence of a TCC exercise intervention to standard support therapy (ST; exercise control) on BH biomarkers among breast cancer survivors. Methods: Randomly assigned breast cancer survivors (N=17; Median Age=53; <30 Month Post-Treatment) completed 12 weeks (3x/week; 60 min/session) of TCC or ST. Serum levels of N-telopeptides of type I collagen (NTx), a marker of bone resorption, and bone specific alkaline phosphatase (BAP), a marker of bone formation, were determined by ELISA at baseline and post intervention. Results: Previous work showed those in the TCC group had significant (p<0.05) gains in aerobic capacity and strength, compared to those in the ST. Using ANCOVA, survivors in the TCC experienced a greater increase in levels of bone formation (BAP μg/L: Pre=8.2/Post=10.2; Change=2.0 μg/L and 27.4%; p=0.10) compared to survivors in ST (BAP μg/L: Pre=7.8/Post=8.2; Change=0.4 μg/L and 5.0%; p=0.53). Survivors in the TCC group also experienced a significant decrease in bone resorption (NTx nm BCE: Pre=16.9/Post=11.4; Change=-5.5 nm BCE/-23.8%; p=0.05), while women in the ST group did not (NTx nm BCE: Pre=21.3/Post=18.5; Change=-2.8 nm BCE/-9.5%; p=0.32). Conclusion: This pilot study suggests that TCC has positive effects on bone health, through increase bone formation and decreasing bone resorption. A larger, more definitive trial examining the influence of TCC on bone health is warranted.

CORRESPONDING AUTHOR: Luke J. Peppone, PhD, Radiation Oncology, University of Rochester, Rochester, NY, 14642; luke_peppone@urmc.rochester.edu

Paper Session #01 3:15 PM -3:30 PM 2040

DYADIC COPING IN METASTATIC BREAST CANCER

Hoda Badr, PhD,[1] Cindy Carmack Taylor, PhD,[1] Massimo Cristofanilli, MD[2] and Tracey Revenson, PhD[3]

[1]Behavioral Science, University of Texas M. D. Anderson Cancer Center, Houston, TX; [2]Breast Medical Oncology, University of Texas M. D. Anderson Cancer Center, Houston, TX and [3]Psychology, Graduate Center, CUNY, New York, NY.

Couples coping with metastatic breast cancer must cope with a number of stressors that can affect their quality of life including the patient's functional decline, the partner's anticipatory grief, and the need for both to discuss end-of-life issues and care. Unlike traditional approaches to couples' coping that evaluate the effects of social support provided by the spouse to the patient, common dyadic coping involves taking a "we" approach whereby both partners join in the coping process to relieve their own and each other's stress. Using Bodenmann's dyadic coping scale (FDCTN), we examined whether common dyadic coping predicted patients' and partners' psychological (IES) and marital adjustment (DAS7) beyond the effects of demographic and medical variables, the patient's stress communication to the partner, and the partner's supportive and unsupportive responses to the patient's stress communication. Couples (N=191) completed surveys at the start of treatment for metastatic breast cancer (baseline), and 3 and 6 months later. At baseline, 23% of patients and partners scored below the DAS7 cut-off for marital distress; 50% had high cancer-specific distress (IES). Multilevel models using the couple as the unit of analysis showed that, at each time point, engaging in common emotion-focused (effect size r=.24) and problem-focused (r=.23) dyadic coping was associated with greater dyadic adjustment; mutual avoidance of dyadic coping was associated with more cancer-specific distress (r=.22) and poorer dyadic adjustment (r=.14). There were no significant interactions with social role; thus the effects of dyadic coping were similar for patients and partners. Results underscore the importance of couples approaching cancer as a shared problem and working together to manage each other's stress. Future research may benefit from an increased focus on the interactions between patients and their partners to address ways that couples can adaptively cope together.

CORRESPONDING AUTHOR: Hoda Badr, PhD, behavioral science, m d anderson cancer center, Houston, TX, 77494; hodab01@gmail.com

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Meritorious Student Paper
Paper Session #02 2:00 PM -2:15 PM 2041

CO-VARIATION OF MULTIPLE BEHAVIOR CHANGE: SYNERGISTIC EFFECTS OF AN OBESITY PREVENTION PROGRAM

Karen Sherman, BA, Leanne Mauriello, PhD, Andrea Paiva, PhD, Mary Margaret Ciavatta, MPH and Patricia Castle, MA

Pro-Change Behavior Systems, Inc., West Kingston, RI.

Consensus exists that curbing the epidemic of obesity requires impacting multiple behaviors. Yet to date, there have been few population-based trials testing the efficacy of such approaches. Cross-sectional studies have demonstrated the clustering of behavioral risks for obesity among samples of elementary, middle, and high school students. This presentation reports on a longitudinal evaluation of the synergistic effects of treating multiple behaviors as part of an adolescent obesity prevention program.

A computer-delivered program offering fully tailored feedback based on the Transtheoretical Model of Behavior Change for physical activity (PA) and optimally tailored feedback for fruit and vegetable consumption (FV) and television viewing (TV) was tested over 14-months in 8 schools. The majority of participants (N=1800) were White (71.5%), female (50.8%), and 16 years old.

Logistic regression was conducted to determine the likelihood of participants moving to criteria (action or maintenance stage) for another behavior if they had moved to criteria for one behavior. Findings show that progress on one behavior led to progress on another behavior among treatment but not control group participants. The treatment group exhibited significant co-variation among behavior pairs at each timepoint. At two months odds ratios were 4.20 for PA and FV, 2.60 for PA and TV, and 2.13 for FV and TV. At six months odds ratios were 3.36 for PA and FV, 2.08 for PA and TV, and 1.99 for FV and TV. At 12 months for PA and FV odds ratios were 2.66. The control group did not exhibit co-variation for any behavior pair at any timepoint.

The findings of this study indicate the synergistic effects possible when impacting multiple behaviors. Implications are wide reaching in that such population-based programs can efficiently and effectively treat multiple risks among student populations. Discussion will focus on how various levels of tailoring can effectively achieve synergistic effects in multiple behavior interventions.

CORRESPONDING AUTHOR: Karen Sherman, BA, Pro-Change Behavior Systems, Inc., West Kingston, RI, 02892; KSherman@prochange.com

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Paper Session #02 2:15 PM -2:30 PM 2042

PREVENTING THE "FRESHMAN 15": AN INTERNET-BASED WEIGHT SELF-REGULATION PILOT INTERVENTION FOR COLLEGE FRESHMEN

Elizabeth E. Richardson, PhD,[1,2] Cassie Brode, MA,[3] Katrina D'Amore, MA[2] and Rena Wing, PhD[2]

[1]Psychology, University of Massachusetts Dartmouth, North Dartmouth, MA; [2]Brown Medical School, Providence, MA and [3]Virginia Commonwealth University, Richmond, VA.

Background: While not the "Freshman 15", college students gain an average of 2–3 kg during their first year and an additional 1–1.5 kg during their second year, a significant gain during a short timeframe. The college environment is fraught with opportunities to overeat, consume excess alcohol, and be inactive. Few studies have targeted freshmen to prevent weight gain. Methods: A randomized controlled trial was piloted during the 1st semester of freshman year, examining the efficacy of a three-month Internet-delivered weight management program, compared with Internet newsletter education. Persons in the Weight Self-Regulation (WSR) condition: received scales and were asked to submit weights weekly for 14 weeks; received weekly personalized feedback, daily behavioral quick-etips, and bi-weekly education on weight management strategies. Strategies were tailored to the college environment, addressing late-night eating, social influences, and alcohol consumption. Participants in Newsletter Education (NE) received three monthly newsletters. Participants (N=151) were college freshmen (73% Female; 50% Caucasian; age 18.5±.60 yrs), with mean BMI of 21.9±0.24 kg/m2. Retention rates at end-of-semester (3-months; 85%) and end-of-year (8-months; 80%) were good. Results: By end of intervention, both WSR and NE had gained a comparable amount of weight (1.5 vs. 1.1 kg, respectively). However, only NE participants continued to gain weight their second semester, such that those in NE gained 2.5 kg their freshman year, as compared to a gain of 1.1 kg among WSR participants (p<.05). Change in BMI was related to increased Block FFQ total caloric intake (r=0.18, p<.05) and increased AUDIT alcohol consumption (r=0.29, p<.05), but not to total Paffenbarger exercise minutes (r=-0.04, ns). Conclusions: Our pilot study results suggest healthy prevention of weight gain is possible in a college sample. Intervention elements considered most useful by students will be discussed.

CORRESPONDING AUTHOR: Elizabeth E. Richardson, PhD, Psychology, University of Massachusetts Dartmouth, North Dartmouth, MA, 02747; erichardson@umassd.edu

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Meritorious Student Paper
Citation Paper
Paper Session #02 2:30 PM -2:45 PM 2043

MULTIPLE BEHAVIOR RISK REDUCTION AND RISK ACQUISITION: RESULTS FROM AN ADOLESCENT OBESITY PREVENTION PROGRAM

Patricia H. Castle, MA, Andrea L. Paiva, PhD, Leanne M. Mauriello, PhD, Karen J. Sherman, BA and Janice M. Prochaska, PhD

Pro-Change Behavior Systems, Inc, West Kingston, RI.

Individuals with multiple health behavior risks have the highest likelihood for morbidity and premature mortality. The present study examines risk reduction as part of an adolescent obesity prevention program. A TTM-based computer intervention offering fully tailored feedback for physical activity and optimally tailored feedback for fruit and vegetable consumption and television viewing was delivered over 14-months in 8 high schools. Participants (N=864) completing all time points were included in the following repeated measure analyses. The mean number of behavioral risks at baseline was 1.87 and 1.84 for treatment and control groups, respectively. Those in the treatment group reported significantly (p<.001) less risks compared to the control group at 2 months, F(1, 861)=95.61, η2=.10 (1.34 vs. 1.87), 6 months F(1, 861)=30.41, η2=.03 (1.46 vs. 1.76), and 12 months F(1, 861)=51.731, η2=.06 (1.46 vs. 1.83). Among individuals with at least one risk at baseline (n=809), the mean number of risks at baseline was 1.97 and 2.03 for treatment and control groups, respectively. Among these students, those in the treatment group displayed significantly fewer (p<.001) risks compared to the control group at 2 months, F(1, 807)=72.24, η2=.05 (1.39 vs. 1.97), 6 months F(1, 807)=27.73, η2=.03 (1.51 vs. 1.86), and 12 months F(1, 807)=44.70, η2=.05 (1.51 vs. 1.93). Among those individuals with zero risks at baseline (N=55), the treatment group reported less acquisition of risks compared to the control group at 2 months, F(1, 53)=18.59, p<.001 η2=.26 (.22 vs. .94), 6 months F(1, 53)=6.63, p<.05 η2=.11 (.30 vs. .78), and 12 months F(1, 53)=5.68, p<.05 η2=.10 (.35 vs..88). Findings indicate the effectiveness of treating multiple risks simultaneously while also reducing relapse and risk acquisition. The intervention's high level impact of 65.5% on multiple behavior changes will be discussed and demonstrates that interventions focusing on clusters of at-risk behaviors, rather than single behaviors, are likely to produce the largest population-based impact.

CORRESPONDING AUTHOR: Patricia H. Castle, MA, Pro-Change Behavior Systems, Inc., West Kingston, RI, 02892; pcastle@prochange.com

Paper Session #02 2:45 PM -3:00 PM 2044

PREVENTION OF WEIGHT GAIN IN YOUNG ADULTS: A PRELIMINARY COMPARISON OF LARGE VS. SMALL CHANGES APPROACHES

Jessica Gokee-LaRose, PhD,[1] Deborah F. Tate, PhD,[2] Amy A. Gorin, PhD[3] and Rena R. Wing, PhD[1]

[1]Brown Medical School / The Miriam Hospital, Providence, RI; [2]University of North Carolina, Chapel Hill, NC and [3]University of Connecticut, Storrs, CT.

Young adults (YA), ages 20–35, experience the greatest rate of weight gain, averaging 1 to 2 pounds a year, making prevention critical in this group. The aim of this pilot study was to evaluate the feasibility and preliminary efficacy of two self-regulation (SR) approaches to weight gain prevention in YA. Fifty-two YA, ages 18–35 (mean age 25.6; mean BMI 26.7, 30.8% minority) were randomized to one of two groups: SR with small changes (SC) or SR with large changes (LC). Participants attended 8 weekly and 2 monthly meetings, and were taught to self-weigh daily and use this information to make changes in energy balance behaviors as needed. LC participants were given initial calorie and exercise goals to produce 5–10 lbs weight loss to buffer against future weight gain. SC participants were taught to make small changes (roughly equivalent to 100 cal / day) in eating and activity, with the goal of continuing to make these changes daily. Participants attended an average of 8.2 of 10 sessions; retention rates were >85% at 8 and 16 weeks. Results indicate that the approaches were distinct in implementation. For example, the LC group scored higher on items assessing difficulty of the prescribed dietary changes and how different their eating was from their usual eating (p's<.01) and reported greater use of food diaries and cutting calories, whereas the SC group reported greater use of pedometers and more focus on increasing daily steps (p's<.001). Weight change was significantly different between groups at 8 weeks (SC=-1.6lbs, LC=-6.7lbs, p<.001) and 16 weeks (SC= -3.4lbs, LC=-7.3lbs, p=.015). There were no reported differences in weighing (p=.35), program satisfaction (p=.61), confidence in the approach (p=.99), or willingness to recommend the approach to others their age (p=.88). Findings are discussed in terms of directions for future research and implications for prevention.

CORRESPONDING AUTHOR: Jessica Gokee-LaRose, PhD, Brown Medical School / The Miriam Hospital, Providence, RI, 02903; Jessica_Gokee_LaRose@brown.edu

Meritorious Student Paper
Paper Session #02 3:00 PM -3:15 PM 2045

TWO YEAR OUTCOMES OF A HEALTH-CARE BASED INTERVENTION TARGETING PHYSICAL ACTIVITY, SEDENTARY BEHAVIOR, AND DIET AMONG ADOLESCENTS

Dori E. Rosenberg, MPH, MS,[1,2] Greg Norman, PhD,[2] James Sallis, PhD,[1] Kevin Patrick, MD, MPH[2] and Karen Calfas, PhD[1]

[1]San Diego State University, San Diego, CA and [2]University of California, San Diego, La Jolla, CA.

Background: Effective long-term behavioral interventions for preventing childhood obesity are needed.

Purpose: To examine the effects of a 2-year behavioral intervention on physical activity (PA), sedentary behavior (SB), dietary fat, fruit and vegetable intake, and body mass index (BMI) for adolescents.

Methods: Participants (baseline N=878; 2 Year N=660; baseline M age=12.7; 54% female; 58% white; 13% Hispanic; M BMI=22.7) were recruited from physician offices and randomized to receive a PA, SB, and diet intervention or a comparison group. The intervention consisted of physician advice, printed and mailed materials, parent support, mailed materials, and telephone based health counseling (11 contacts the first year and 6 the second year) all matched to participant stage of change. Control participants received a sun protection program. Outcomes included 7-day PA Recall, dietary fat and fruit and vegetable intake (multiple 24-hour recalls), and self-reported SBs. To compare group differences, intent-to-treat ANCOVA was used for each 2 year outcome variable with the baseline value, age, ethnicity (white, non-white), and BMI z-score as covariates.

Results: Compared to the control group, those in the intervention group had higher servings of fruit and vegetables (Adj M=3.3 vs. 3.0 controls; p<.02), fewer hours/day of SB (Adj M=3.7 vs. 4.6; p<.001), and fewer hours/day screen time (Adj M= 1.4 vs. 1.8; p<.001). Sex specific analyses revealed similar results except fruit and vegetable intake was only significant for boys, boys in the intervention group had more moderate-vigorous PA per week (Adj M=431.4 vs. 371.3 minutes; p=.05), and intervention girls had lower BMI z-scores (Adj M=.75 vs. .81; p<.05) than controls.

Conclusion: A 2-year tailored clinical, phone and mail-based intervention to promote better PA, diet, and SBs among adolescents can improve some health behaviors and, for girls, lead to improved BMI.

CORRESPONDING AUTHOR: Dori E. Rosenberg, MPH, MS, Clinical Psychology, UCSD/SDSU, San Diego, CA, 92103; drosenberg@paceproject.org

Citation Paper
Paper Session #02 3:15 PM -3:30 PM 2046

EXAMINING THE UTILITY OF A SCIENTIFIC CONFERENCE FOR INITIATING KNOWLEDGE TRANSLATION IN BEHAVIORAL MEDICINE

Amy E. Latimer, PhD, Lucie Levesque, PhD, Alisa Yocum, BSc and Colleen Daly, BSc

Queen's University, Kingston, ON, Canada.

The growing awareness of the gap between the creation and application of knowledge in behavioral medicine has highlighted the need for effective knowledge translation (KT) strategies. The knowledge to action process model (Graham et al., 2006) suggests that gathering and critically appraising information is an essential step towards KT. Scientific conferences may facilitate this process. The purpose of the current study was to examine the effectiveness of an international conference as a tool for initiating KT. Participants were 75 health practitioners (*M*age=39.52±11.05: 77% female; 41% >15 yrs of field experience) attending the International Conference on Physical Activity and Obesity in Children (Katzmarzyk et al., 2008). The conference aimed to assimilate, interpret, and disseminate scientific evidence to key stakeholders (e.g., researchers, practitioners, policy makers). Participants' perceived knowledge and skill capacity (5 items), resource capacity (3 items), intentions (6 items), and self-efficacy (6 items) for implementing evidence-based childhood obesity prevention interventions were assessed one week prior to and one week after the conference (Woodward, 2004; $\alpha>.65$). KT actions (i.e., steps taken to integrate knowledge into practice) were assessed 6 months later (6 items, $\alpha=.87$; Ottoson & Patterson, 2000). Separate paired t-tests indicated that after attending the conference participants reported greater skill and knowledge capacity, $t(1,48)=-3.27$, $p<.05$, self-efficacy, $t(1,48)=-4.37$, $p<.05$, and intentions, $t(1,46)=-2.08$, $p<.05$ to implement evidence-based childhood obesity interventions than before attending. A hierarchical regression analysis controlling for pre-conference intentions, self-efficacy, and capacity revealed that participants' post-conference intentions, $\beta=.34$, $p=.05$, predicted their KT actions 6 months later, $F(7, 27)=3.63$, $p<.05$. These findings suggest that a conference aimed at synthesizing, evaluating, and disseminating scientific evidence may be an important step in the KT process.

CORRESPONDING AUTHOR: Amy E. Latimer, PhD, School of Kinesiology and Health Studies, Queen's University, Kingston, ON, K7L 3N6; amy.latimer@queensu.ca

Paper Session #03 2:00 PM -2:15 PM 2047

PSYCHOLOGICAL PROFILES PREDICTING CHANGES IN DIURNAL CORTISOL SECRETION IN OLDER ADULTS

Joelle Jobin, B A , B Comm and Carsten Wrosch, PhD

Psychology Department, Concordia University, Montreal, QC, Canada.

Long-term physical health can be adversely affected by dysregulation of cortisol secretion (Heim, Ehlert, & Hellhammer, 2000). Cortisol dysregulation can take different forms, from elevated levels to blunted levels of cortisol (Miller, Chen, & Zhou, 2007). Cortisol secretion has also been associated with a variety of psychosocial factors, such as perceived stress, positive and negative affect, and social support (Polk et al., 2005; Rosal, King, Ma, & Reed, 2004). Given these associations, identifying psychological profiles associated with dysregulated secretion of cortisol would be important for the maintenance of physical health in older adulthood. In this study, we examined 169 older adults over a period of two years. It was hypothesized that maladaptive psychological profiles would lead to dysregulated rhythms of diurnal cortisol secretion over time, whereas positive psychological profiles were expected to predict normative patterns of cortisol secretion. Participants completed a self-report questionnaire at baseline, assessing perceived stress (Cohen, Kamarck, & Mermelstein, 1983), positive affect and negative affect (Watson et al., 1988), social support (Sarason et al., 1983), and sociodemographic characteristics (age, sex, and socioeconomic status). Diurnal cortisol secretion was assessed at baseline and follow-up, and five daily samples were collected over a period of three non-consecutive days. Participants exhibited increased levels of cortisol secretion over time, and these increases were associated with significant interactions between positive affect, perceived stress, and social support. Contrary to expectations, however, individuals with positive psychological profiles exhibited the largest increase in cortisol secretion over the period of two years. This may imply that either reduced levels of cortisol secretion represent patterns of dysregulation in old age, or extreme levels of positive psychological profiles may put older adults at risk of experiencing dysregulated biological rhythms. Implications for future research will be discussed.

CORRESPONDING AUTHOR: Joelle Jobin, B A , B Comm, Concordia University, Montreal, QC, H3G 1M8; joelle.jobin@gmail.com

Citation Paper

Paper Session #03 2:15 PM -2:30 PM 2048

DISTRESS AMONG MOTHERS OF CHILDREN NEWLY DIAGNOSED WITH CANCER PREDICTS INFLAMMATORY RESPONSE

Anna Marsland, PhD,[1] Kevin McDade, MS,[1] Aric Prather, MS,[1] Chelsea Howe, MA,[2] Kristin Long, BS[1] and Linda Ewing, PhD[2]

[1]Psychology, University of Pittsburgh, Pittsburgh, PA and [2]Psychiatry, University of Pittsburgh Medical Center, Pittsburgh, PA.

Cross-sectional evidence shows that chronic stress is associated with an upregulation of innate inflammatory processes, which may render the host vulnerable to inflammatory disease. To further examine this association, we conducted a prospective study of endotoxin-stimulated activation of immune cells, as measured by production of the proinflammatory cytokines interleukin (IL)-1β, IL-6, and TNF-α, among mothers of children newly diagnosed with cancer. Mothers were randomly assigned to an intervention (n=15) or standard care control (n=8) group. The intervention group received a 3 month stress management intervention. Blood samples and psychosocial measures (symptoms of depression, anxiety, perceived stress, and social support) were assessed shortly after diagnosis (Time 1) and again 3 months later (Time 2). Across both groups, there was a significant decrease in symptoms of depression, perceived stress, and state anxiety and in stimulated production of IL-6 and TNF-α from Time 1 to Time 2 (p's<.05). Cross-sectional associations of distress with cytokine production were not significant; however, higher levels of perceived stress and anxiety and lower levels of social support at Time 1 predicted higher stimulated production of IL-1β, TNF-α, and IL-6, at Time 2 (p's<.03). Mothers in the intervention group showed greater Time 1 to Time 2 declines in perceived stress & symptoms of depression and anxiety and increases in social support than those in the control group. Intervention participants also showed a larger Time 1-to-Time 2 decrease in proinflammatory cytokine production than controls; however, there was insufficient power for these findings to achieve significance. In sum, our findings suggest that psychosocial distress may prime immune cells to mount larger inflammatory responses on future exposure to pathogens. Further investigation is warranted to determine whether stress management intervention may be of benefit to physical as well as mental health.

CORRESPONDING AUTHOR: Anna Marsland, PhD, Psychology, University of Pittsburgh, Pittsburgh, PA, PA 15260; marsland@pitt.edu

Meritorious Student Paper

Citation Paper

Paper Session #03 2:30 PM -2:45 PM 2049

GENDER INEQUALITY IN TRAJECTORIES OF FUNCTIONAL LIMITATIONS IN ADULTS WITH TYPE 2 DIABETES: BIOBEHAVIORAL AND PSYCHOSOCIAL MEDIATORS

Ching-Ju Chiu, MS and Linda A. Wray, PhD

Biobehavioral Health, Penn State University, University Park, State College, PA.

Background: Women with type 2 diabetes have higher levels of and changes in functional limitations than do men from midlife to older age. Purpose: We test if the gender differences in functional limitation change can be attributed to biomarkers (cholesterol, blood pressure, BMI, and HbA1c), self-care behaviors (medication, blood sugar test, diet and exercise), or psychosocial well-being (perceived diabetes control, depressive symptoms, and perceived family/friends support in meal plan, take medication, foot care, physical activities, see doctor, weight control, and feeling in living with diabetes).

Methods: We used data from the core interviews of the U.S. representative Health and Retirement Study and the diabetes-specific mail survey (778 men and 825 women with type 2 diabetes in 2002, mean age=68.5). Functional limitations were measured by difficulties with ADLs, IADLs, and mobility (range=0–18), measured in 2002, 2004 and 2006. All mediators and covariates (comorbidities, years after diabetes diagnosis) were measured during 2002–2003. We used multilevel modeling to identify age trajectory of functional limitations. Results: Women are disadvantaged, compared to men, on BMI, HbA1c, diet and exercise behaviors, perceived control, depressive symptoms, and support in meal plan, but not in cholesterol, blood pressure, medication, blood glucose test, and most family/friends support measures. The age*gender interactions were nonsignificant after adding the gender-differentiated factors.

Conclusions: Gender inequalities in change in functional limitations in adults living with diabetes may be attributed to differences in clinical determinants (BMI and HbA1c), self-care behaviors (especially exercise), and mental health (perceive control and depressive symptoms). Interventions targeting these domains may help improve the long-term functional health in women with diabetes.

CORRESPONDING AUTHOR: Ching-Ju Chiu, MS, Biobehavioral Health, Penn State University, University Park, State College, PA, 16802; cuc197@psu.edu

Paper Session #03 2:45 PM -3:00 PM 2050

THE PAIN, DEPRESSION, AND FATIGUE SYMPTOM CLUSTER: COVARIATION WITH THE HYPOTHALAMIC-PITUITARY-ADRENAL AXIS

Lisa M. Thornton, PhD and Barbara L. Andersen, PhD

Department of Psychology, Ohio State University, Columbus, OH.

Purpose: Neuroendocrine-immunologic models have been proposed to account for the frequent co-occurrence of pain, depression, and fatigue symptoms (PDF) in humans. PDF is a common and debilitating symptom cluster, particularly for cancer patients. Studying cancer patients troubled with these symptoms, we test the hypothesis that the PDF cluster covaries with activation of the hypothalamic-pituitary-adrenal (HPA) axis. Methods: Patients recently diagnosed with advanced cancer (N=104) completed the Brief Pain Inventory, Fatigue Severity Index, and the Center for Epidemiological Studies-Depression scales and provided plasma samples for cortisol, adrenocorticotropin hormone, epinephrine, and norepinephrine assays. The sample was primarily Caucasian (89%; 11% African-American), middle aged (mean=53 +/- 11 years), and post-menopausal (78%). Twenty four (23%) patients had received a primary diagnosis of stage IV breast cancer, and 80 (77%) were diagnosed with a first recurrence of breast cancer. The PDF symptoms and the four neurohormones were used to define PDF and HPA latent variables, respectively, for covariance structure modeling. With this analysis, we tested the cross-sectional relationship between PDF and HPA activation. Results: Preliminary analyses supported the use of latent variable analysis: Correlations among psychological symptoms were positive and high, ranging from .62 to .70; correlations among endocrine variables ranged from .31 to .75. The final covariance structure model showed good fit to the data (RMSEA=.052). HPA accounted for significant variance in PDF (standardized β=.23, p=.039), after controlling for other important variables (extent of disease, performance status, presence of a significant other). Conclusion: While previous studies have linked one symptom to individual HPA indicators, the observed significant pairing of the HPA axis to the PDF cluster found here provides the first evidence suggestive of HPA neurohormones as a common mechanism for the clustering of pain, depression, and fatigue symptoms.

CORRESPONDING AUTHOR: Lisa M. Thornton, PhD, Department of Psychology, Ohio State University, Columbus, OH, 43210; thornton.84@osu.edu

Paper Session #03 3:00 PM -3:15 PM 2051

POLARITY THERAPY AND MASSAGE FOR BREAST CANCER (BC) PATIENTS RECEIVING RADIATION THERAPY: BIOMARKERS, FATIGUE AND QUALITY OF LIFE

Karen M. Mustian, PhD, Charles Heckler, PhD, Jan Moynihan, PhD, Joseph Roscoe, PhD, Jacqueline Williams, PhD, Michelle Janelsins, PhD, Oxana Palesh, PhD, Tom Darling, PhD and Luke Peppone, PhD

URCC, Rochester, NY.

Cancer and its treatments produce cytokine and neuroendocrine dysregulation, cause cancer-related fatigue (CRF) and impair quality of life (QOL). Polarity therapy (PTH) and massage (MAS) elicit a relaxation response that may improve inflammatory cytokine expression and cortisol (CORT) rhythm, as well as CRF and QOL. PTH is an integrative medical therapy that uses light touch without tissue manipulation, whereas MAS involves tissue manipulation. This 3-arm pilot study compared the influence of PTH, MAS and standard care on cytokines, CORT, CRF and QOL. Randomly assigned BC patients (N=45; mean age=52) received standard radiation plus 3 weekly treatments of PTH or MAS (75 minutes/session) or no additional treatments (control). Serum cytokines (i.e., tumor necrosis factor (TNF)α, sTNFr1) and salivary CORT were measured by enzyme-linked immunoassays; CRF and QOL were assessed using the FACIT-F at baseline and during study week (wk) 1, wk 2, and wk 3. ANOVAs were performed using change scores as the dependent variable (baseline as reference). Significant differences in sTNFr1 were found at wks 1 and 3 (all p<0.05) and a trend at wk 2 (p=0.16), with sTNFr1 increasing in the PTH group, but not in the MAS or control groups. TNFα decreased in the PTH (mean change=-0.96 wk 1; -3.32 wk 2; -0.49 wk 3, ns) and MAS (mean change=-1.33 wk 1; -0.96 wk 2; -7.07 wk 3, ns) groups across all 3 wks, but not in the control group (mean change=-0.55 wk 1; -0.55 wk 2; 4.83 wk 3; ns). Significant differences in CRF and QOL were found at wk 2 (all p<0.05), with CRF and QOL improving in the PTH group, but not in the MAS or control groups. Mixed modeling revealed a significant difference in diurnal CORT rhythm profiles, with a smaller area under the curve at wk 2 among the PTH and MAS groups compared to the control group (p<0.05). Results of this pilot study suggest that PTH and MAS may be promising for improving inflammatory cytokine expression, diurnal CORT rhythm, CRF and QOL among BC patients receiving radiation. Funding: NCCAM 5R21AT2531.

CORRESPONDING AUTHOR: Karen M. Mustian, PhD, Radiation Oncology, University of Rochester Cancer Center, Rochester, NY, 14642; Karen_Mustian@URMC.Rochester.edu

Paper Session #03 3:15 PM -3:30 PM 2052

BASELINE ALEXITHYMIA PREDICTS SIGNIFICANTLY LOWER STIMULATED PRODUCTION OF A KEY HIV ANTI-PROGRESSION FACTOR OVER 24 MONTHS OF FOLLOW-UP

Lydia Temoshok, PhD,[1] Rebecca Wald, PhD,[1] Stephen Synowski, PhD,[1] Alfredo Garzino-Demo, PhD[1] and James A. Wiley, PhD[2]

[1]Department of Medicine, Institute of Human Virology of the University of Maryland School of Medicine, Baltimore, MD and [2]Public Research Institute, San Francisco State University, San Fransisco, CA.

We recently published findings that alexithymia, a cognitive deficit in identifying, differentiating, and expressing emotions, was significantly related to lower antigen-stimulated production of the chemokine MIP-1∝, which blocks HIV entry into CD4+ T-lymphocytes by binding to the CCR5 co-receptor. These results provide clear empirical evidence for our long-theorized hypotheses regarding relationships between emotion regulation and HIV progression-relevant immune function. We further hypothesized that these relationships would be found longitudinally.

The sample of 200 HIV+ outpatients (92% African American, 51% women, mean age 44.5) from an inner city primary-care HIV clinic were followed longitudinally, with assessments every 6 months for 24 months. Alexithymia was assessed using the well-validated Toronto Alexithymia Scale, 20 items. In vitro production of MIP-1∝ was measured in response to the HIV core protein p24. A Stimulation Index was defined as antigen-stimulated production compared to unstimulated controls. We used generalized estimating equations (GEE) to make longitudinal predictions, based on a linear model, of the natural logarithm of the MIP-1∝ stimulation index for $N=587$ assays.

Controlling for age, CD4+ count at baseline, and time of measurement, baseline alexithymia scores were inversely associated with the MIP-1∝ stimulation index ($p<.012$) at follow-up. Moreover, an increase in alexithymia over the range of measurements observed in this study was associated with 40% decrease in the stimulation index. Thus, both baseline alexithymia and changes over time were associated with the same pattern of immune response observed in concurrent baseline analyses.

These longitudinal results confirm our baseline results that emotion regulation is associated with a key immune factor linked to HIV progression, strengthening our hypothesis that a chronic pattern of emotional dysregulation may contribute to HIV progression via persistent suppression of anti-HIV chemokine production. To the extent that pharmaceutical HIV entry inhibitors are being actively evaluated as HIV treatments, our findings suggest that enhancing natural MIP-1∝ production through behavioral medicine approaches to enhance emotion regulation may hold therapeutic promise for HIV disease.

CORRESPONDING AUTHOR: Lydia Temoshok, PhD, Department of Medicine, Institute of Human Virology of the University of Maryland School of Medicine, Baltimore, MD, 21201; ltemoshok@ihv.umaryland.edu

Paper Session #04 2:00 PM -2:15 PM 2053

TRANSLATING SYSTEMS-LEVEL TOBACCO CESSATION GUIDELINES INTO ACUTE CARE PRACTICE IN RURAL HOSPITALS IN NORTHWESTERN ONTARIO, CANADA

Patricia M. Smith, PhD[1] and Scott M. Sellick, PhD[2]

[1]Northern Ontario School of Medicine, Thunder Bay, ON, Canada and [2]Thunder Bay Regional Health Sciences Centre, Thunder Bay, ON, Canada.

Background: This paper reports on the assessment and implementation of the 6 USDHHS systems-level tobacco cessation guidelines in northern rural hospitals in Ontario. The guidelines have been approved by the Ontario Guideline Advisory Committee, a joint venture of the Ontario Medical Association and the Ministry of Health and Long-term Care.

Methods: All 12 hospitals in NW Ontario participated (11 community hospitals, 1 regional hospital). Semi-structured interviews, based on the guidelines, were developed. Interviews covered: tobacco use identification and documentation systems; tobacco intervention training, resources, and feedback; dedicated tobacco cessation counsellors; policies to support tobacco cessation; counselling and pharmacotherapy services; and, expectations for clinician interventions. Individualized baseline reports, with recommendations for implementation mapped onto accreditation standards, were provided to all hospitals. Over 2 years, hospitals were assisted with recommendation implementation.

Results: At baseline, none of the hospitals had implemented any of the systems-level guidelines; after 2 years, all had implemented all 6 guidelines to varying degrees. Hospitals were motivated by the opportunity to map guideline implementation onto accreditation. Implementation was eased by standardizing protocols across hospitals, implementing interventions consistent with provincial best practices for nurses and physicians, and by partnering with the provincial smokers' helpline to provide post-discharge counselling services and ongoing replenishment of patient materials.

Discussion: This top-down approach, initiating change at the systems-level, was successful in institutionalizing tobacco cessation guidelines, whereby recent efforts by health professional associations championing institutional change via clinicians using a bottom-up approach have not been. This study provides a model for guideline implementation in Canada.

CORRESPONDING AUTHOR: Patricia M. Smith, PhD, Northern Ontario School of Medicine, Thunder Bay, ON, P7B 5E1; patricia.smith@normed.ca

Paper Session #04 2:15 PM -2:30 PM 2054

TRANSLATING BEHAVIORAL INTERVENTIONS INTO PRIMARY CARE PRACTICE

Deborah J. Cohen, PhD, Bijal Balasubramanian, MBBS, PhD and Nicole Isaacson, PhD, MSS

Family Medicine, UMDNJ-RWJ Medical School, Somerset, NJ.

Background: Health risk behaviors contribute significantly to mortality and morbidity in the US. Primary care is an important venue for addressing these risks due to the high prevalence of patients seen in need of support with behavior change. There is paucity of information on how best to connect primary care to counseling resources so patients receive the intensive counseling needed to make improvements. Methods: We evaluated 10 practice-based research networks implementing interventions to improve health behavior counseling in primary care. All attempted, in different ways, to link practices with counseling resources. Using quantitative and qualitative data, we conducted a cross-case analysis to compare linking strategies. Results: We identified four approaches for linking practices with counseling resources. These varied on the following dimensions:(1) delivery of brief counseling in the practice; (2) location and type of intensive counseling; (3) type of linkage between practice and counseling resource; and (4) how information was exchanged among practice, resource and patient. Two approaches that included brief clinician counseling and referral to a behavioral counseling resource were successfully implemented in practices. Of these, one fostered a collaborative relationship between practice and counseling resource and included ways to exchange patient information. This approach also showed significant improvements in patients' health behaviors. The other, which did not foster the same level of collaboration and information exchange, showed non-significant trends towards health behavior improvements. Approaches that attempted to by-pass clinician brief counseling or by-pass the practice (e.g. mass mailing to patients) encountered implementation barriers and did not change patient behavior. Conclusion: Linking approaches that involve brief clinician counseling, establish strong collaboration and information exchange among practice, counseling resources and patients may be most effective in improving patients' behaviors in primary care.

CORRESPONDING AUTHOR: Deborah J. Cohen, PhD, Family Medicine, UMDNJ-RWJ Medical School, Somerset, NJ, 08873; cohendj@umdnj.edu

Paper Session #04 2:30 PM -2:45 PM 2055

ADAPTATION AND FOLLOW-UP STUDY OF A STRESS MANAGEMENT TRAINING IN REAL-WORLD SETTING

Adrienne Stauder, MD, PhD,[1] Virginia P. Williams, PhD,[2] Monika E. Kovacs, MD, PhD[1] and Redford B. Williams, MD[3]

[1]Institute of Behavioural Sciences, Semmelweis University Budapest, Faculty of Medicine, Budapest, Hungary; [2]Williams LifeSkills Inc, Durham, NC and [3]Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC.

Objectives: This T2 research aims to answer the questions whether an RCT-proved short, structured BM intervention can be translated to another language, other culture, and real world settings.

Methods: After translating into Hungarian and culturally adapting a 12 hours standardized stress management training (Williams LifeSkills Program) we offered it on a non-profit basis at usual health care and social care settings. Between 2005 and 2007 over 60 groups took place, data was collected in 26 groups, by 20 Facilitators. Questionnaires were completed at baseline, after the training, and posted 4–6 month later for follow-up. The outcome measures were Cohen Perceived Stress scale (PSS10), Spielberger Trait Anxiety Inventory (STAIT), shortened Beck Depression Inventory (BDI), Patients Health Questionnaires (PHQ15), WHO Well-being (WWB5), life-satisfaction.

Results: Among the 221 participants completing the baseline questionnaire 157 qualified as distressed ($PSS10>19$ or $STAIT\geq 48$ or $BDI\geq 10$), 21,7% were men, the mean age was $37{,}3\pm 13{,}3$ yeras. 107 persons (68%) completed and returned the post training, and a subsample of 42 persons (39%) the follow-up questionnaires. We found a clear decrease (paired sample T-test $p<0{,}0001$) of PSS10, STAIT, BDI and PHQ scores, and a significant increase in well-being and satisfaction. Symptom reduction was maintained at follow-up ($p<0{,}001$), increase in well-being was still significant ($p<0{,}05$), life satisfaction tended towards baseline scores (ns.).

Conclusion: This standardized intervention proved to be effective to reduce stress related symptoms in a different cultural context and in "real world" settings. These results encourage further dissemination of the program, and further research with more rigorous data collection and inclusion of a control group.

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CORRESPONDING AUTHOR: Adrienne Stauder, MD, PhD, Institute of Behavioural Sciences, Semmelweis University Budapest, Faculty of Medicine, Budapest, 1089; staadr@net.sote.hu

Meritorious Student Paper
Paper Session #04 2:45 PM -3:00 PM 2056

REACH BY EFFECTIVENESS: UNDERSTANDING THE IMPACT OF A COMMERCIAL WORKSITE WEIGHT LOSS PROGRAM

Mita Shah Bhagat, MSc and Paul Estabrooks, PhD

Virginia Tech, Blacksburg, VA.

Worksite health professionals are faced with numerous decisions related to promotion programs that will be offered to their workforce. Decisions are typically made on information related to effectiveness (i.e., does it work?) or reach (i.e., does it engage a lot of people?). Rarely is the information on effectiveness and reach combined to allow for more sophisticated decision making. This study provides an example of combining the reach and effectiveness outcomes of a commercial internet and incentive-based program delivered in work sites.De-identified archival data from 7 worksites (10513 total employees) that received the program and had objective pre-program, 3, & 6 month data on retention and weight loss were used to document natural rates of attrition and weight loss. A total of 4198 employees (39.9% of employee population; 66% women) were eligible (BMI>25) and participated in the program. Each participant completed an online registration and an objective assessment of weight on a validated scale. Attrition was operationalized as a lack of completion of the 3 or 6 month assessment. At 3 and 6 months, respectively, 1928 (45% of initial participants) and 1607 participants (38%) completed the assessment of body weight. An overall intention to treat analysis with last assessment carried forward imputation indicated a significant but small weight loss at both 3 (2.1 lbs; p<.01) and 6 months (2.5 lbs; p<.01). Follow-up analyses were conducted to determine the overall proportion of the workforce that benefited (i.e., lost weight) at 6 months. Of the 1607 participants who were retained at 6 months 1088 were successful in losing weight and lost, on average 9.4 pounds (95% CI: 8.8 to 9.9 pounds), a clinically significant 4.4% of initial body weight. Thus, 10.1% of the total employee population benefited from the weight loss program and lost a clinically relevant amount of weight. It is concluded that although, from a scientific perspective intention to treat analyses improve the internal validity of the findings, the resultant outcomes may mask the overall impact of a health promotion program.

CORRESPONDING AUTHOR: Mita Shah Bhagat, MSc, Virginia Tech Polytechnic Institute, Pine Brook, NJ, 07058; mita@vt.edu

Paper Session #04 3:00 PM -3:15 PM 2057

WHAT LEADS TO THE CHOICE OF DELIVERING A COMMUNITY PHYSICAL ACTIVITY PROGRAM?

Samantha M. Downey, Bachelor of Science,[1] Joan Wages, Master of Science,[1] Paul Estabrooks, PhD[1] and Sharolyn Jackson, MS[2]

[1]Human, Foods, Nutrition and Exercise, Virginia Tech, Blacksburg, VA and [2]Kansas State University, Manhattan, KS.

The purpose of this study was to determine (1) cooperative extension agents' perceptions of the attributes of an evidence-based physical activity (PA) program that are thought to improve the rate of translation from research to practice and (2) which were considered in the decision making process to deliver the program. A second purpose was to determine if the findings differed between early adopters and those who adopted the program after its initial year. Ninety-nine percent of the agents in the area of study (n= 96; all women; >90% Caucasian; age between 40 & 50 years) completed a survey to assess the study variables; years of delivery (1 to 6) was used to determine early adopters (n=35) and was based on registration records for each year of program delivery. The most endorsed characteristic of the program was that it was effective at increasing and maintaining PA (89%) and the factor that the highest proportion of agents used when deciding to deliver the program (77%). The order of endorsement of the presence of other program characteristics and if they were considered in the delivery decision process, respectively, was compatibility with organizational mission (83%, 73%), ability to reach more people (70%, 63%), ease of delivery (69%, 60%). The relative advantage of the program (40%) and the specific adaptation for the geographic region (25%) were not considered by the majority of agents during the adoption decision making process. Early adopters were more likely to have chosen to deliver the program because they thought it would reach more people (80% vs 53%, p<.01) and less likely to have made the decision because they saw the program impact in other counties (14% vs 42%, p<.01). Based on these findings, the implications for PA intervention research are that documentation of program effectiveness, compatibility with the organizational mission of potential delivery agencies, reach more people, and ease of delivery should improve the chances that PA interventions will be translated into practice.

CORRESPONDING AUTHOR: Samantha M. Downey, Bachelor of Science, Human, Foods, Nutrition and Exercise, Virginia Tech, Blacksburg, VA, 24060; SMDowney@vt.edu

Paper Session #04 3:15 PM -3:30 PM 2058

DISSEMINATION OF THE BODY & SOUL PROGRAM

Marlyn Allicock, PhD, MPH,[1] Marci Campbell, PhD, MPH, RD,[1] Carol Carr, MA,[1] Ken Resnicow, PhD[2] and Ziya Gizlice, PhD[1]

[1]University of North Carolina at Chapel Hill, Chapel Hill, NC and [2]University of Michigan, Ann Arbor, MI.

Efficacious programs that can be successfully replicated, disseminated and implemented are needed to alleviate health disparities. Body & Soul is a church-based, fruit and vegetable (FV) program for African Americans (AA). After completing efficacy and effectiveness trials the program is now in dissemination. Materials are free from the National Cancer Institute via telephone/web. Components include pastor support, educational and environmental/policy change activities, and peer-counseling. Sixteen churches participated to assess implementation, process, and outcomes using surveys, observation, and interviews.

We assessed impact of the disseminated program on FV intake among AA congregants; and compared results to the earlier studies. Churches were randomized to early or delayed intervention. Self-administered baseline and follow-up surveys measured FV intake with a 9-item validated food frequency questionnaire. Data were analyzed using mixed models adjusting for baseline values, demographic covariates, and study design effects.

The baseline sample (N=960) was mainly female (73%), mean 52 yrs, 90% had at least a high school education, and half were married. Mean FV intake was 4.5 servings/day. At follow-up adjusted mean FV intake in the control group was 4.5 servings/day compared to 4.7 intervention (p=0.57). Suboptimal implementation may explain the lack of effect on dietary change. Although peer counseling training was confirmed via on-site observation, only 33% of participants reported at least one peer counselor discussion compared to 67% in the effectiveness trial. Recall of peer counselor interaction was significantly associated with eating more FV at follow-up (p=.02). While 79% recalled hearing about at least one church event, less than half attended two or more events.

The current dissemination may not improve FV intake similar to earlier efficacy and effectiveness trials. Church coordinators reported barriers and facilitators suggesting that effective dissemination may require added resources, training, and technical assistance.

CORRESPONDING AUTHOR: Marlyn Allicock, PhD, MPH, Nutrition, University of North Carolina at Chapel Hill, Chapel Hill, NC, 27599; allicock@email.unc.edu

Citation Paper
Paper Session #05 2:00 PM -2:15 PM 2059

EXPLORING DISPARITIES AND VARIABILITY IN PERCEPTIONS AND SELF-REPORTED COLORECTAL CANCER SCREENING AMONG ETHNIC SUBGROUPS OF U.S. BLACKS

Clement K. Gwede, PhD, MPH, RN, Claire M. William, FMG, Kamilah B. Thomas, MPH, Will L. Tarver, MPH, MLS, Gwendolyn P. Quinn, PhD, Susan T. Vadaparampil, PhD, MPH, Jongphil Kim, PhD, Ji-Hyun Lee, PhD and Cathy D. Meade, PhD, RN, FAAN

Population Sciences, Moffitt Cancer Center, Tampa, FL.

Colorectal cancer (CRC) mortality is highest among U.S. blacks, yet little is understood about potential variability and disparities among ethnic subgroups of U.S. blacks. This pilot project assessed recruitment methods, perceptions and self-reported CRC screening among U.S-born/African American (AA), Caribbean-born (CB) and Haitian-born (HB) blacks residing in medically underserved areas (MUA) of Hillsborough County, Florida. Respondents aged 50 years or older, without a personal history of cancer, were interviewed in English between January and May 2008. Participants responded to an in-person qualitative interview and a brief quantitative survey of perceptions and use of CRC screening, with items adapted from the Health Information & Trends Survey (HINTS). Results were summarized using descriptive statistics and multivariate logistic regression. A total of 122 men and women were assessed for eligibility; the primary reason for ineligibility was current residency outside the MUAs. The enrolled sample (n=62) consisted of 22 AA, 20 CB and 20 HB respondents. The groups had similar socio-demographic characteristics except the CB were older, and a higher proportion of HB reported children under age 18 living in household. Face-to-face recruitment at community-based events was most effective for CB and HB, whereas flyers and participant referrals were most effective for AA. There were low levels of: awareness, risk perception or worry about CRC, self-efficacy to complete CRC screening, and self-reported use of CRC screening, across all subgroups. However, only 55% of HB had ever heard about the fecal occult blood test compared to 84% for CB and 91% for AA (p=0.017). Similarly, only 15% of HB ever had a colonoscopy compared to 50% for CB and AA (p<.029). Logistic regression analysis supported these findings. Our findings show feasibility of recruitment methods and support the need for a large-scale community-based study to elucidate and address disparities among subgroups.

CORRESPONDING AUTHOR: Clement K. Gwede, PhD, MPH, RN, Population Sciences, Moffitt Cancer Center, Tampa, FL, 33612; clement.gwede@moffitt.org

Paper Session #05 2:15 PM -2:30 PM 2060

INTENTION TRANSLATION IN COLORECTAL SCREENING BEHAVIOR

Emily Power, MSc, Anne Miles, PhD, Kathryn Robb, PhD and Jane Wardle, PhD

Epidemiology and Public Health, UCL, London, United Kingdom.

Understanding the processes through which intentions are translated into action is a major challenge. Barriers to intention-translation have been theorized to come from fewer resources, new priorities and unanticipated obstacles. Planning has been shown to protect people against some of these barriers. In earlier research, we showed that lower SES, higher stress and poorer health were associated with lower attendance at colorectal screening among ‘intenders’. We set out to replicate these effects and to assess the impact of intention priority, daily hassles, planning and ethnicity. This study was part of a demonstration project to assess the feasibility of a nurse-led Flexible Sigmoidoscopy (FS) screening program in the UK. We predicted that SES, daily hassles, lower intention priority and lower tendency to plan ahead would decrease translation of intentions into screening attendance. We invited adults aged 58–59 years ($n=2262$) to FS screening and included a pre-screening questionnaire. Non-responders were not included because we did not have data on the predictor variables, 22% of non-responders attended screening. 812 completed a pre-screening questionnaire, of whom 93% indicated a positive intention, and 88% subsequently attended screening. Among non-intenders, attendance was 15%. Among self-professed ‘intenders’, higher deprivation, being from a Black ethnic background, Muslim religion, living in the UK for fewer years, and more daily hassles were associated with non-attendance at FS screening. Having a family history of colorectal cancer was associated with attendance (all $p<0.05$). Self-reported health was not associated with attendance. Deprivation weakened the intention-action link more among those with stronger intentions ($p<0.01$). Contrary to our predictions, intention priority and planning were unrelated to intention translation. These results highlight the importance of supporting individuals who have lower resources and more stress, to help them follow through with positive intentions towards cancer screening. Future research should examine the value of coping planning in real-life health actions.

CORRESPONDING AUTHOR: Emily Power, MSc, Epidemiology and Public Health, University College London, London, WC1E 6BT; emily.power@ucl.ac.uk

Paper Session #05 2:30 PM -2:45 PM 2061

EXPLORING THE ROLE OF PERCEIVED SUSCEPTIBILITY ON COLORECTAL CANCER SCREENING: COMPARING MEDIATED AND MODERATOR HYPOTHESES

Amy McQueen, PhD,[1] Sally W. Vernon, PhD,[2] Alex Rothman, PhD[3] and Greg Norman, PhD[4]

[1]Division of Health Behavior Research, Washington University, School of Medicine, St. Louis, MO; [2]University of Texas, School of Public Health, Houston, TX; [3]University of Minnesota, Minneapolis, MN and [4]University of California, San Diego, La Jolla, CA.

A new research collaboration was formed to explore longitudinal mediation models of cancer screening behaviors to develop hypotheses that can be tested across different health behaviors. This collaboration is an outgrowth of the NCI’s initiative to improve the use of theory in cancer prevention and control research. We acknowledged different conceptualizations for the role of perceived susceptibility in models predicting intention and behavior and chose to explore competing hypotheses using data from The Next Step Trial, a behavioral intervention designed to increase colorectal cancer screening (CRCS) among automotive workers. Using data from white males, with no cancer history, eligible for CRCS but who did not get CRCS during the first year of the two-year trial ($N=1001$), we tested mediation (effect of perceived risk on CRCS intentions and behaviors was mediated by pros, cons, self-efficacy, family influence, and cancer worry) and moderation (perceived risk moderated the change in these psychosocial variables from baseline to year 1 follow-up) hypotheses in the same models controlling for baseline intention or pre-trial CRCS. Path models were tested using Mplus 5.1. Neither hypothesis was supported in initial analyses for pros and family influence, but removal of the non-significant interaction supported the mediation hypothesis for family influence. Higher levels of baseline perceived susceptibility predicted greater change in self-efficacy and cons, supporting the moderation hypothesis. The effect of perceived susceptibility on CRCS intentions and behavior also appeared to be mediated by the change in cons. We propose to confirm these exploratory models with data from a more recent CRCS intervention trial involving a more diverse sample and shorter intervals between the three waves of data collection.

CORRESPONDING AUTHOR: Amy McQueen, PhD, Division of Health Behavior Research, Washington University, School of Medicine, St. Louis, MO, 63108; amcqueen@dom.wustl.edu

Paper Session #05 2:45 PM -3:00 PM 2062

INTERVENTION EFFECTS OF PROJECT PCCASO (PROMOTING COLORECTAL CANCER SCREENING AMONG ADULTS 50 AND OLDER): MEDIATION ANALYSES

Amy McQueen, PhD,[1] Sally W. Vernon, PhD,[2] L. Kay Bartolomew, EdD, MPH[2] and Anthony J. Greisinger, PhD[3]

[1]Washington Univ., School of Medicine, St. Louis, MO; [2]Univ. of Texas, School of Public Health, Houston, TX and [3]Kelsey Research Foundation, Houston, TX.

OBJECTIVE: To increase colorectal cancer screening (CRCS) among patients at a multi-specialty clinic in Houston, Texas. METHOD: We used the clinic’s administrative database to identify potential participants with the following characteristics: 50–70 years of age, never had CRC or polyps, never had or due for CRCS, received primary care, but no physical exam within the past year, no diagnosis of Crohn’s disease or ulcerative colitis, and able to speak English. Baseline survey participants ($N=1224$) were randomized to one of three groups; an interactive computer program tailored on individual’s stage of change for CRCS, a generic CRC website (CDC’s Screen for Life), or a survey-only control. All participants met with research staff at the clinic’s Health Information Center to review study materials as appropriate prior to seeing a physician for a wellness visit. Follow-up surveys were conducted 2-weeks and 6-months post-visit. CRCS was assessed through medical record review 12-months post-visit. Mediation analyses in Mplus examined whether perceived susceptibility, pros, cons, self-efficacy, social influence, and stage of change were significant mediators of the intervention effect on CRCS. RESULTS: No significant intervention effects on CRCS were observed, but intervention groups had higher self-efficacy and stage of change at 2-week follow-up than controls ($p<.05$). No other hypothesized mediators differed by study group. Pros ($\beta=.15$, $p<.01$), cons ($\beta=.14$, $p<.01$), and stage ($\beta=.26$, $p<.001$) at 2-week follow-up predicted stage at 6-month follow-up. Only stage at 2-week ($\beta=.26$, $p<.001$) and pre-trial CRCS experience ($\beta=-.29$, $p<.001$) predicted CRCS at 12-month follow-up. CONCLUSIONS: Although our intervention improved patients’ CRCS self-efficacy, it was not related to increased CRCS. Our evaluation analyses will examine whether physicians’ standardized treatment superseded intervention messages.

CORRESPONDING AUTHOR: Amy McQueen, PhD, Division of Health Behavior Research, Washington University, School of Medicine, St. Louis, MO, 63108; amcqueen@dom.wustl.edu

Paper Session #05 3:00 PM -3:15 PM 2063

GROUP EDUCATION WITH AND WITHOUT FREE FOBT KITS INCREASES COLORECTAL CANCER SCREENING AMONG FILIPINO AMERICANS

Annette Maxwell, DrPH, Leda Danao, PhD, Catherine M. Crespi, PhD, Cynthia Antonio, MPH, Gabriel M. Garcia, PhD and Roshan Bastani, PhD

School of Public Health and Jonsson Comprehensive Cancer Center, UCLA, Los Angeles, CA.

Background: Studies have documented low rates of colorectal cancer (CRC) screening among Filipino Americans, but no interventions to increase screening have been tested in this population.

Methods: In collaboration with 45 Filipino American CBOs, we recruited 548 Filipino Americans who were non-adherent to CRC screening guidelines and randomized them into one of three groups: small group CRC education session with or without free FOBT kits or control group promoting physical activity. Each 60 to 90 minute session was lead by a trained Filipino nurse. Health educators in the two intervention arms discussed all CRC screening tests and demonstrated how to collect a stool sample for a FOBT. Telephone interviews 6 months after baseline assessed receipt of any CRC screening during follow-up. Using intent-to-treat analysis of all randomized subjects and treating subjects without follow-up data as not screened, we compared receipt of CRC screening during the follow-up period in the intervention versus control groups. Estimates were obtained using multilevel logistic regression with clustering on organization and family membership within organization.

Results: Follow-up interviews were completed with 78% of all subjects. Screening rates at 6 month follow-up were: 27% (54/202) in the education + FOBT kit group, 24% (43/183) in the education only group, and 9% (15/163) in the control group. The odds of getting screening as compared to the control group was 3.7 ($p<.0001$) in the education + FOBT kit group, and 3.1 ($p<.001$) in the education group only.

Discussion: A small group education session lead by trained Filipino health professionals increased CRC screening among Filipino Americans who were not up to date on screening. Although a larger effect was observed in the group that received free FOBT kits, rates also significantly improved in the education only group. This is an important finding for the dissemination of this intervention.

CORRESPONDING AUTHOR: Annette Maxwell, DrPH, School of Public Health and Jonsson Comprehensive Cancer Center, UCLA, Los Angeles, CA, 90095-6900; amaxwell@ucla.edu

Paper Session #05 3:15 PM -3:30 PM 2064

THE IMPACT OF FEAR OF RECURRENCE ON COLORECTAL SCREENING AMONG CANCER SURVIVORS: RESULTS FROM THE AMERICAN CANCER SOCIETY'S STUDIES OF CANCER SURVIVORS

Tenbroeck Smith, MA, Melissa Love-Ghaffari, MEd and Chiewkwei Kaw, MS

BRC, American Cancer Society, Atlanta, GA.

Introduction: Understanding the determinants of cancer screening among cancer survivors (CS) is important because they are a growing group at increase risk for new cancers and recurrence. Fear of Recurrence (FOR) is prevalent among CS and linked to some health behaviors. This paper explores how FOR affects CS colorectal cancer (CRC) screening behavior.

Methods: A population-based sample of CS of the 10 most incident cancers in the US was drawn from 11 state cancer registries and surveyed at 2-years post diagnosis. CS less than 50 years of age and those diagnosed with CRC were excluded. CRC screening (FOBT, flex sig, colonoscopy) was dichotomized into never or ever screen. The relation of screening to medical-demographic characteristics and FOR was modeled with hierarchical logistic regression.

Results: The sample (n=2,884) was 46% male, 34% >high school educated (>HS), mean age 63 yrs, 86% ever had CRC screening, and mean FOR score of 0.5 on a scale from 0-no problem to 2-severe problem. In the final model, males were 1.6 times more likely to screen (p=.02), those with >HS 1.5 times more likely (p=.002), those 10 years older 1.7 times more likely (p<.001), and those indicating FOR was a severe problem 2.3 times more likely than those indicating no problem (p=.004).

Discussion: Results suggest that FOR in CS functions like cancer worry in the general populace–higher levels of FOR correlate with improved CRC screening. The relation between FOR and screening was linear at both the scale and items levels, in contrast to suggestions of curvilinear relation where very high levels of FOR decrease screening compliance. These results have implications for screening interventions among CS. FOR is a highly prevalent problem among CS linked to anxiety, panic attacks, and unscheduled medical appointments, prompting the design of interventions for it; these interventions should take into account the positive relation between FOR and screening.

CORRESPONDING AUTHOR: Chiewkwei Kaw, MS, BRC, American Cancer Society, Atlanta, GA, 30303; chiewkwei.kaw@cancer.org

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Paper Session #06 2:00 PM -2:15 PM 2065

MATERNAL BODY MASS INDEX AND ITS EFFECTS ON POSNATAL DEPRESSION

Monica C. Romero, undergraduate,[1] Guido Urizar, PhD[1] and Ricardo Munoz, PhD[2]

[1]Psychology, California State University, Long Beach, Los Angeles, CA and [2]University of California, San Francisco, San Francisco, CA.

Postpartum depression has been shown to have negative consequences for both the mother and her child, yet few studies have prospectively examined whether factors, such as postpartum weight, are related to increased risk for depressive symptoms. The current study examined whether body mass index (BMI) at two weeks postpartum was associated with depression (CES-D) at 6 months postpartum, controlling for parity status, pre-gravid BMI and prenatal depression (CES-D). Our sample consisted of 102 low-income women (mean age=25 + 5 years) who were initially screened for depression risk during pregnancy and followed through six months postpartum. Weight and height information during this time period was collected via a medical record review. The distribution of BMI categories in our sample (based on CDC guidelines) was as follows: 11% normal weight, 19% overweight, 21% obese, and 49% morbidly obese. Correlation analyses demonstrated body mass index (BMI) at two weeks postpartum to be associated with an increase in depressive symptoms at 6 months postpartum (r=.18, p<.05). Hierarchical regression analyses showed that prenatal depressive symptoms were the strongest predictor of depressive symptoms at 6 months postpartum, controlling for parity status, gestational age, prenatal depression (CES-D) and BMI at 2 weeks postpartum (R^2=.28 p<.001). These findings suggest the need to design and test prevention programs focused on healthy dieting and exercising in order to reduce the risks associated with weight gain and depressive symptoms during the postpartum period.

CORRESPONDING AUTHOR: Monica C. Romero, undergraduate, Psychology, California State University, Long Beach, Los Angeles, CA, 90063; monica_c_romero@yahoo.com

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Paper Session #06 2:15 PM -2:30 PM 2066

PREDICTING WHICH WOMEN PROGRESS FROM PRE-PREGNANT OBESITY TO PRE-PREGNANT MORBID OBESITY BETWEEN PREGNANCIES

Felix A. Okah, MD, MS,[1,2] Jinwen Cai, MD,[3] Paul Dew, MD[4] and Gerald Hoff, PhD[3]

[1]Department of Pediatrics, Children's Mercy Hospital, Kansas City, MO; [2]Department of Pediatrics, University of Missouri Kansas City School of Medicine, Kansas City, MO; [3]Department of Epidemiology and Community Health Monitoring, Health Department, Kansas City, MO and [4]Kansas City University of Medicine and Biomedical Sciences, Kansas City, MO.

Morbid obesity is the highest risk BMI category for adverse health outcomes, in general, and during pregnancy among women of childbearing age, in particular. To identify factors associated with a shift to morbid obesity among obese women, a high-risk group, we conducted a retrospective study of 904 women who were obese before their first pregnancy in Kansas City, MO, 1990–2004, using birth certificate records. Variables studied included age (<20y v 20–34y v >34y), Race/Ethnicity [White=W v Black=B v Others=O], Education (<12y v >12y), Medicaid (yes=Y v no=N), gestational weight gain (low/normal v high), marital status, pregnancy interval (<18 v >18mo) and smoking. The cohort was 48% Black, 81% 20–34y, 41% Medicaid, and 50% single. Twenty-five percent of obese women became morbidly obese before the second pregnancy. Change rates varied by Race/Ethnicity (W 21% v B 28% v O 29%) and pregnancy interval (18% v 27%) but not by age, education, Medicaid, smoking, marital status, weight gain, and prenatal care. On multivariable analyses, the odds of becoming morbidly obese were significantly lower among teenage mothers (0.42 l 0.25, 0.73), and those with short inter-pregnancy period (0.53 0.27, 0.91) and higher with women with <12y education (1.68; 1.02, 2.76) and single (1.73; 1.78, 2.54). The risk of becoming morbidly obese was not associated with weight gained during the first pregnancy. Obese women are at risk, not only for adverse perinatal outcomes but, for becoming morbidly obese. Factors related to life-style, rather than pregnancy-related, factors play significant roles in the transition to morbid obesity.

CORRESPONDING AUTHOR: Felix A. Okah, MD, MS, Department of Pediatrics, Children's Mercy Hospital, Kansas City, MO, 64108; faokah@cmh.edu

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Paper Session #06 2:30 PM -2:45 PM 2067

REACHING THE UNREACHABLE: WEB-BASED PROGRAM FOR OVERWEIGHT POSTPARTUM TEENS

Elizabeth L. Budd, MPH in progress,[1] Cynthia Schwarz, MPH,MS,RD,[2] Michael Elliott, PhD[2] and Debra Haire-Joshu, PhD[2]

[1]School of Public Health, St. Louis University, St. Louis, MO and [2]Washington University in St. Louis, St. Louis, MO.

PURPOSE: To assess the technology use and preferences of postpartum teens participating in Moms 4 Healthy Balance (MFHB), a national weight loss study with 1325 enrolled teens.

DESIGN: A cross-sectional study with 102 randomly selected postpartum teens from MFHB.

SUBJECTS: Participants resided in 18 states (MN age=17, SD=1.3; African American 19%; receive WIC 90%).

MEASURES: A 19 question multiple choice, 5-point Likert scale and open-ended telephone survey on general technology use and preferences.

ANALYSIS: Descriptive analysis was used.

RESULTS: Teen moms are frequent users of the internet (49% daily: 28% weekly), at home (62%) via high speed internet connections (70%). Use included emailing at least weekly (57%) and using MySpace (45%). Most teens (85%) used the MFHB website at least once; 68% of those for >10 minutes at each visit. Favorite features included health information and resources on nutrition and exercise (57%) and blogs with teen moms (19%); 91% intended to use the MFHB website information. Personal profiles (14%) and the calorie calculator (11%) were the least favorite features; lack of time was the primary reason (4%) for not using the MFHB website. Other sources of contact included cell phone use (76% daily) and text messaging (62% daily).

CONCLUSIONS: The internet is an excellent vehicle to reach teen moms with weight related interventions. Sites should be simple, informative, and provide opportunities to connect with other teens. There is also promise for cell phones and text messages as successful paths to keeping in touch and sending reminders.

CORRESPONDING AUTHOR: Elizabeth L. Budd, MPH in progress, Institute of Public Health, Washington University in St. Louis, St. Louis, MO, 63110; ebudd1@slu.edu

Paper Session #06 2:45 PM -3:00 PM 2068

PRENATAL EXPOSURE TO A NATURAL DISASTER INCREASES RISK FOR OBESITY IN 5 ½ YEAR OLD CHILDREN

David P. Laplante, PhD,[1] Sarah Fraser, MA,[2] Alain Brunet, PhD,[1,3] Antonio Ciampi, PhD,[1] Norbert Schmitz, PhD[1,2] and Suzanne King, PhD[1,3]

[1]Douglas Institute Research Center, Verdun, QC, Canada; [2]Université Laval, Québec, QC, Canada and [3]McGill University, Montreal, QC, Canada.

Objective: To determine whether higher levels of prenatal maternal stress, whether objective and/or subjective, resulting from a natural disaster is predictive of obesity status in 5½ year-old children. Research Methods and Procedures: Subjects were 111 women, who were pregnant at the time of the January 1998 Quebec Ice Storm, and their children. Information on objective stress exposure and subjective distress from the ice storm, general psychological functioning, and socioeconomic status were obtained from the women 5 months following the storm. Parental height, obstetric complications, life events during pregnancy, breastfeeding status, children's birth weight, birth length and gestational age, were obtained 6 months following each child's birth. Child height and weight were obtained during a face-to-face assessment when the children were 5½ years of age. Obesity status was determined using CDC BMI norms. Results: Nine of the 111 children (8.1%) were above the 95th percentile in BMI. Eight children from the high objective stress group (14.5%) were obese compared to 1.5% (n=1) in the low objective stress group (p=.02). Higher objective stress exposure increased the children's risk of obesity after controlling for other potential risk factors (OR=1.32, CI 1.07 - 1.61). Discussion: Our results suggest that high levels of prenatal maternal stress are associated with increased risk of childhood obesity.

CORRESPONDING AUTHOR: David P. Laplante, PhD, Psychosocial, Douglas Institute Research Center, Verdun, QC, H4H 1R3; david.laplante@douglas.mcgill.ca

Meritorious Student Paper

Paper Session #06 3:00 PM -3:15 PM 2069

MATERNAL-FETAL DISEASE INFORMATION AS A SOURCE OF EXERCISE MOTIVATION DURING PREGNANCY

Anca Gaston, MA and Harry Prapavessis, PhD

University of Western Ontario, London, ON, Canada.

Despite the confirmed health benefits of exercise during pregnancy, many expectant mothers are inactive. The present research used a Protection Motivation Theory (PMT) framework to examine whether information about the role of exercise in preventing maternal-fetal disease served as a meaningful source of exercise motivation. Pregnant women (n=208) were randomly assigned into one of three conditions: PMT present, attention control, and non-contact control. Baseline demographic and self-reported exercise behavior was collected prior to treatment. Women in the PMT present group read a brochure about the benefits of exercise during pregnancy incorporating the four major components of PMT; perceived vulnerability (PV), perceived severity (PS), response efficacy (RE) and self-efficacy (SE). Participants in the attention-control condition read a brochure about diet. Following treatment, all participants completed measures of their beliefs towards maternal-fetal disease and exercise, goal intention (GI) and implementation intention (IMI) scales. One week later, a measure of self-reported exercise behavior was collected. Only women who were under 30 weeks pregnant were used in subsequent analyses (n=105). Separate ANOVAs followed by planned comparisons for all four PMT constructs and two intention constructs showed that compared to the control groups, participants assigned to the PMT present group reported significantly higher (all p's<.05) PS (η2=.11), RE (η2=.28), SE (η2=.11), GI (η2=.12), and IMI (η2=.05). For follow-up exercise behavior, a repeated measures ANOVA showed a significant interaction effect (η2=.41, p=001) where only the PMT group reported higher follow-up exercise behavior. Regression analyses revealed that PS, RE & SE accounted for 51% of the variance in GI, GI accounted for 12% of the variance in IMI, and IMI accounted for 12% of the variance in follow-up exercise behavior. This study demonstrates that exposure to information about the role of exercise in preventing maternal-fetal disease grounded in PMT can influence pregnant women's beliefs, motivation and initial behavior.

CORRESPONDING AUTHOR: Anca Gaston, MA, The University of Western, London, ON, N6A 3K7; agaston2@uwo.ca

Paper Session #06 3:15 PM -3:30 PM 2070

MOTHERS' LIFESTYLES ARE RELATED TO THEIR CHILDREN'S GENDER AND HYPERTENSION RISK CATEGORY

Tiffany B. Morton, MS,[1] Tara Flint, BS,[1] Conner Evans, BA[2] and Margaret Savoca, PhD[1]

[1]Nutrition, University of North Carolina - Greensboro, Greensboro, NC and [2]Medical College of Georgia, Augusta, GA.

Parental lifestyle may influence future hypertension risk of young African American adults. To learn more, we conducted interviews with 56 mothers whose children (17–20 year-olds) had differing hypertension risk profiles based on parent projects examining hemodynamics under stress of normotensive adolescents. Their children were either high risk (HR, n=27, 15 males [M]) as defined by having at least two of three risk factors (screening SBP>113 mm Hg, BMI>85th percentile, and change in sodium excretion (UNAV [mEq/hr]) from baseline to post stress ≤0) or low risk (LR, n=29, 13 M) with screening SBP<108 mm Hg, BMI between 15th and 85th percentiles, and change in UNAV from baseline to post stress >0. The mothers described their typical eating, physical activity, and smoking practices in audiotaped interviews, later transcribed and coded. Variable based analyses were used to categorize the mothers' "health styles" and compare these by risk/gender categories of their children. Mothers of LR males distinguished themselves across all behaviors. These mothers reported lower smoking rates (8%) than mothers of HR males (20%) or LR (19%) or HR females (58%). More mothers of LR males (30%) described their eating habits as good compared to zero to 16% across other groups. Exercise was reported by 61% of mothers of LR males compared to 19% to 33% of other groups. Overall, mothers of HR children were less likely to describe positive health behaviors. Mothers of HR females reported the fewest positive health behaviors. These data suggest that African American mothers may have distinct "health styles" that relate to their child's gender and hypertension risk category. Further research is needed to better understand how mothers' behaviors influence health practices and risk profiles of their young adult children.

CORRESPONDING AUTHOR: Tiffany B. Morton, MS, Nutrition, University of North Carolina - Greensboro, Greensboro, NC, 27410; tbmorton@uncg.edu

Paper Session #07 2:00 PM -2:15 PM 2071

SUBCLINICAL DEPRESSIVE SYMPTOMS ARE ASSOCIATED WITH MRI-DERIVED INDICES OF SUBCLINICAL NEUROVASCULAR DISEASE AMONG HEALTHY OLDER WOMEN, NOT MEN

Carrington Rice, MA,[1] Megan M. Hosey, BS,[1] David M. Lefkowitz, MD,[2] Leslie I. Katzel, MD, PhD,[3,4] Eliot L. Siegel, MD,[2,4] William F. Rosenberger, PhD[5] and Shari R. Waldstein, PhD[1,4]

[1]Psychology, University of Maryland Baltimore County, Baltimore, MD; [2]Diagnostic Radiology, University of Maryland School of Medicine, Baltimore, MD; [3]Medicine, University of Maryland School of Medicine, Baltimore, MD; [4]Geriatric Research Education and Clinical Center, Baltimore VA Medical Center, Baltimore, MD and [5]Statistics, George Mason University, Fairfax, VA.

Associations between depression and cerebrovascular disease are well known. Yet, little research has investigated whether sex may modify such associations, despite known sex differences in depression. The present study examined whether depressive symptoms are disproportionately related to subclinical neurovascular disease in women versus men. One hundred five older adults (60% male; mean age=67 years), free of major medical, neurologic, and psychiatric disease, completed the Beck Depression Inventory (BDI) and underwent magnetic resonance imaging (MRI). MRI scans were neuroradiologist-rated for markers of subclinical neurovascular disease (SND: periventricular and deep white matter hyperintensities, number of infarcts) and brain atrophy (BA: ventricular enlargement, sulcal widening). We created two rank-sum variables (SND, BA) that served as outcome variables. BDI values were relatively low in magnitude (M=3.8, SD=3.6, range=0–17). Multiple regression analyses, adjusted for age, sex, education, systolic blood pressure, glucose, maximal oxygen consumption, body mass index, average weekly alcohol consumption, and Mini Mental State Examination performance, revealed sex to be a significant effect modifier of BDI in the prediction of SND (b=-11.9, p=.02). Sex-stratified regression analyses indicated BDI and SND were related among women (r sq=.16, b=12.1, p=.01) but not men (r sq=.001, b=.90, p=.79). Depressive symptoms were not related to BA, regardless of inclusion of sex as an effect modifier. Thus depressive symptoms, even in a subclinical range, are significantly associated with MRI-derived indices of SND among women, but not men, in the present sample of healthy older adults.

CORRESPONDING AUTHOR: Carrington Rice, MA, Department of Psychology, University of Maryland, Baltimore County, Baltimore, MD, 21250; carrington@umbc.edu

Paper Session #07 2:15 PM -2:30 PM 2072

DEPRESSIVE SYMPTOMOLOGY PREDICTS MEDICATION ADHERENCE IN HYPERTENSIVE BLACKS

Sara A. Gallagher, BS, Antoinette Schoenthaler, EdD and Gbenga Ogedegbe, MD, MPH

Medicine, NYU Medical Center, New York, NY.

Poor adherence to medication is a significant problem in hypertensive blacks. While research has demonstrated that depression negatively affects adherence (MAD), longitudinal data on this relationship is lacking. Using analysis of variance we evaluated the impact of depressive symptom severity on MAD among 190 hypertensive black patients followed in primary care practices. Depressive symptomology was assessed at baseline, 6, and 12-months with the Center for Epidemiologic Studies Depression Scale (CES-D). Scored as a continuous measure, a cut-off score of 16 or greater indicated depressive symptoms. For this study, three levels of depressive symptom severity were created: persistently nondepressed (scores < 16 at all timepoints), persistently depressed (scores > 16 at all timepoints) and remittently depressed (scores of both >16 and <16 at different timepoints). The 4-item Morisky scale was used to assess self-reported MAD at baseline and 12-months. Patients were predominately female, low-income, unemployed, had a HS degree, and mean age of 54 years. Of the 148 patients with complete CES-D data, MAD rates over the 12-months ranged from 66% for those persistently nondepressed, to 47% for those remittently depressed, and 34% for those persistently depressed. In unadjusted analyses, depressive symptomology was associated with poorer MAD (F=5.75, p=.004). Using Tukey's post hoc tests, comparison of the three levels of depressive symptomology showed that patients who were persistently depressed were significantly more likely to be nonadherent then those labeled persistently nondepressed (p=.003) and remittently depressed (p=.07). This relationship remained significant in multivariate analysis, adjusting for patient demographics (age, sex, SES) and baseline MAD (p=.002 and .05, respectively).

CORRESPONDING AUTHOR: Sara A. Gallagher, BS, Medicine, NYU Medical Center, New York, NY, 10016; sara.gallagher@nyumc.org

Paper Session #07 2:30 PM -2:45 PM 2073

DEPRESSIVE SYMPTOM DIMENSIONS AND CARDIOVASCULAR PROGNOSIS AMONG WOMEN WITH SUSPECTED MYOCARDIAL ISCHEMIA: THE NHLBI-SPONSORED WISE STUDY

Sarah E. Linke, MS,[1] Thomas Rutledge, PhD,[1] B. Delia Johnson, PhD,[2] Vera Bittner, MD,[3] Carol E. Cornell, PhD,[4] Viola Vaccarino, MD, PhD,[5] David S. Sheps, MD[6] and C. Noel Bairey Merz, MD[7]

[1]UCSD, San Diego, CA; [2]University of Pittsburgh, Pittsburgh, PA; [3]University of Alabama, Birmingham, AL; [4]University of Arkansas for Medical Sciences, Little Rock, AR; [5]Emory University, Atlanta, GA; [6]University of Florida, Gainesville, FL and [7]Cedars-Sinai Medical Center, Los Angeles, CA.

Differentiating between dimensions of depressive symptoms may improve our understanding of the relationship between depression and cardiovascular disease (CVD). This study compared symptom dimensions of depression as predictors of cardiovascular-related death and events among women undergoing coronary angiography to evaluate suspected myocardial ischemia (n=550; mean age=58.4 [11.2] years) and enrolled in the Women's Ischemia Syndrome Evaluation (WISE) project. Baseline evaluations included demographic and clinical measures, depressive symptoms using the Beck Depression Inventory (BDI), and coronary artery disease severity via coronary angiogram. Incidence of cardiovascular-related mortality and events (stroke, myocardial infarction, and congestive heart failure) was tracked for a median of 5.8 years.

Principal components analyses (PCA) of the BDI items was used to derive the symptom dimensions of depression. Using a three-factor structure from PCA, somatic/affective (HR=1.35, 95%CI=1.04–1.74) and appetitive (HR=1.42, 95% CI=1.21–1.68) but not cognitive/affective (HR=.89, 95%CI=.70–1.14) symptoms predicted cardiovascular prognosis in adjusted multivariate Cox regression analysis. Using a two-factor structure from PCA, adjusted results indicated that somatic (HR=1.63, 95% CI=1.28–2.08) but not cognitive/affective (HR=.87, 95% CI=.68–1.11) symptoms predicted prognosis.

Thus, in a sample of women with suspected myocardial ischemia, somatic but not cognitive/affective depressive symptoms were associated with an increased risk of cardiovascular-related mortality and events. These results support the need to research dimensions of depression in CVD populations and have implications for understanding the connection between depression and CVD.

CORRESPONDING AUTHOR: Sarah E. Linke, MS, Behavioral Medicine, SDSU/UCSD Joint Doctoral Program in Clinical Psychology, La Jolla, CA, 92037; slinke@ucsd.edu

Paper Session #07 2:45 PM -3:00 PM 2074

OPTIMAL BDI-2 SCORES FOR PREDICTING DEPRESSION AMONG CARDIAC SURGICAL PATIENTS

Bret Boyer, PhD and Heather Coats, MA

Institute for Graduate Clinical Psychology, Widener University, Chester, PA.

The Beck Depression Inventory (BDI-2) has been useful for expedient screening for depression symptoms in busy medical settings. The optimal cut-off score for predicting Depression, however, varies depending upon the population assessed. The BDI-2 has not been empirically tested for optimal scores for predicting major depressive episodes (MDE) among those undergoing cardiac surgeries. The current study compared BDI-2 scores and structured clinical interview depression evaluations (SCID) for 66 patients (31 women, 35 males) undergoing cardiac surgeries (coronary artery bypass grafts). Different cut-off scores were compared to a symptom cluster scoring, in which BDI-2 items were compared directly to the DSM-IV MDE diagnostic criteria. Despite evidence with posttraumatic stress disorder self-report measures that symptom cluster scoring yields greater accuracy and fewer false positives than cut-off scoring, the symptom cluster scoring of the BDI-2 did not improve the predictive accuracy over a cut-off score of 20. A cut-off score of 20 on the BDI-2 yielded a .76 agreement with the SCID DX, with only 2 false positives and 2 false negatives. A cut-off score of 17 yielded a .64 agreement with greater (5) false-positives; a cut-off score of 18 yielded a .72 agreement, with 3 false-positives and 2 false-negatives, and 21 yielded a .62 agreement, with 4 false-negatives and 2 false-positives. For screening major depressive symptomatology among patients receiving cardiac surgeries, a cut-off score of 20 appears to yield the greatest diagnostic accuracy. Practical applications of the BDI-2 in hospital settings, with the greatest Dx accuracy, will be discussed.

CORRESPONDING AUTHOR: Bret Boyer, PhD, Institute for Graduate Clinical Psychology, Widener University, Chester, PA, 19013; baboyer@mail.widener.edu

Paper Session #07 3:00 PM -3:15 PM 2075

CARDIOVASCULAR DISEASE RISK FACTORS AND CLINICAL EVENTS AMONG WOMEN WITH AND WITHOUT DEPRESSION: THE NHLBI SPONSORED WOMEN'S ISCHEMIA SYNDROME EVALUATION (WISE)

Thomas Rutledge, PhD,[1] Sarah Linke, MS,[1] B. Delia Johnson, PhD,[2] Vera Bittner, MD,[3] David Krantz, PhD,[4] Carol Cornell, PhD,[5] Viola Vaccarino, MD/PhD,[6] Carl Pepine, MD,[7] Wafia Eteiba, MD,[2] Kaki York, PhD,[7] Sheryl Kelsey, PhD,[2] David Sheps, MD/MSPH,[7] Leslee Shaw, PhD,[6] Susmita Parashar, MD/MPH,[6] C. Diane Vido, MS[2] and C. Noel Bairey Merz, MD[8]

[1]UCSD, San Diego, CA; [2]U Pittsbrugh, Pittsburgh, PA; [3]U Alabama, Birmingham, AL; [4]USUHS, Bethesda, MD; [5]U Arkansas, Little Rock, AR; [6]Emory, Atlanta, GA; [7]U Florida, Gainesville, FL and [8]UCLA, Los Angeles, CA.

Background: Modifiable cardiovascular disease (CVD) risk factors account for the majority of variability in CVD events. Depression is associated with CVD outcomes independent of risk factors, but whether depression affects the predictive value of these risk factors is unknown. This study examined the association of modifiable CVD risk factors on CVD events and total mortality in women with suspected myocardial ischemia with or without two markers of depression. Methods: 871 women referred for coronary angiography for symptoms suggestive of myocardial ischemia (mean age 59.6 [11.6]) participated in a prospective design including cardiac symptoms, coronary angiography, risk factor testing, and assessments of depression (antidepressant use and reported depression treatment history). Total mortality and cardiovascular events (stroke, myocardial infarction, and congestive heart failure) were tracked over 5.9 years of follow-up. Results: Women with CVD risk factors and concurrent depression as defined by antidepressant use experienced higher rates of clinical events compared to women with the CVD risk factors but no depression. This effect was observed with separate CVD risk factors including hypertension (HR=2.1, 95% CI=1.4–3.2), physical inactivity (HR=2.4, 95% CI=1.5–3.9), dyslipidemia (HR=2.3, 95% CI=1.5–3.5), and waist-hip ratio (HR=2.1, 95% CI=1.3–3.4), after demographic variable and CAD severity adjustment. Similar risk factor results were observed when defining depression based on depression treatment history. Conclusion: The impact of conventional CVD risk factors may be worse among women with comorbid depression.

CORRESPONDING AUTHOR: Thomas Rutledge, PhD, Psychiatry, UC San Diego, San Diego, CA, 92161; thomas.rutledge@va.gov

Paper Session #07 3:15 PM -3:30 PM 2076

SOCIAL PROBLEM SOLVING AND DEPRESSION AMONG HEART FAILURE PATIENTS

Arthur M. Nezu, PhD,[1,2] Christine M. Nezu, PhD,[1,2] Diwakar Jain, MD[2] and Minsun Lee, MS[1]

[1]Psychology, Drexel University, Philadelphia, PA and [2]Medicine, Drexel University, Philadelphia, PA.

Given the significant public health concerns that having both heart failure (HF) and depression represents, research is needed to better understand the role of psychosocial variables in the pathogenesis of depression among this population of cardiac patients. As such, we conducted two separate studies investigating the relationship between social problem solving (SPS) and depression among HF patients. SPS is the cognitive-behavioral process by which a person attempts to identify or discover effective or adaptive solutions for stressful problems, such as those engendered by the experience of a medical illness. Study I involved 118 adults (52 women), whereas Study II included 179 adults (66 women). All participants were asked to complete self-report inventories addressing depressive symptomatology and SPS. Study II was conducted specifically to provide for a replication of Study I findings, to control for additional demographic variables, and to enhance construct validity by including two measures of depression. Results from Study I found various SPS factors to account for 67% of the variance in predicting depressive severity above and beyond that related to various patient characteristics (age, gender, ethnicity, comorbid medical diagnosis). Study II results provide for further confirmation of an association between SPS and depression. Specifically, above and beyond an increased set of demographic variables (age, gender, ethnicity, comorbid medical diagnosis, marital status, current treatment for psychological distress, left ventricular ejection fraction), SPS continued to account for a sizable amount of the variance in predicting each of two differing measures of depression (63% and 75%, respectively). In general, these results underscore the strong relationship between SPS and depression among two different samples of heart failure patients. An important implication involves the desirability of targeting impaired SPS among depressed CHF patients as a potentially efficacious treatment approach.

CORRESPONDING AUTHOR: Arthur M. Nezu, PhD, Psychology, Drexel University, Philadelphia, PA, 19147; amn23@drexel.edu

Paper Session #08 2:00 PM -2:15 PM 2077

TRANSLATING INFORMATION ABOUT PERSONALIZED GENOMIC TESTS FOR COMMON HEALTH CONDITIONS TO PATIENTS: IS IT UNDERSTOOD AND VALUED?

Kimberly A. Kaphingst, ScD,[1] Colleen M. McBride, PhD,[1] Andreas D. Baxevanis, PhD,[1] Sharon Hensley Alford, MPH,[2] David Kanney, BA[1] and Lawrence C. Brody, PhD[1]

[1]National Human Genome Research Institute, Bethesda, MD and [2]Henry Ford Health System, Detroit, MI.

Recent advances allow individuals to be tested for numerous genetic variants and to learn about their inherited susceptibilities to common health conditions, but the clinical utility of this information is not fully understood. Behavioral research is needed to translate basic genomic findings into the clinic. Interactive web-based technologies may provide genomic information to patients in ways that support decision making. However, concerns have been raised that patients will not understand or be able to apply such information. To address this issue, we designed a prototype multiplex test for 15 genetic markers associated with increased risk for eight common health conditions. This study, called the Multiplex Initiative, examined uptake of multiplex genetic susceptibility testing among a population-based sample of healthy adults 25–40 drawn from an HMO system and studied factors predictive of uptake and behavioral responses. Prior to testing, 1960 eligible adults completed a baseline survey. 612 then visited a study website that provided information on each tested marker and health condition. 526 of those completed online assessments of this information and then were asked to decide whether to undergo testing; 266 opted to be tested. Men ($p<0.05$), individuals with less education ($p<0.0001$) and those who were not white ($p<0.0001$) were less likely to visit the study website for information. On average, participants rated the information as easy to understand (mean=5.5 of 7). Those who rated the website information as more trustworthy ($p<0.04$), satisfactory ($p<0.001$), helpful ($p<0.01$), and easy to understand ($p<0.01$) were more likely to decide to be tested than those with lower ratings. The findings suggest that this general population sample understood complex information provided via a website about susceptibility genes for common health conditions. Furthermore, their interactions with the website informed their decision about whether or not to be tested.

CORRESPONDING AUTHOR: Kimberly A. Kaphingst, ScD, Social and Behavioral Research Branch, National Human Genome Research Institute, Bethesda, MD, 20892; kkaphing@mail.nih.gov

Paper Session #08 2:15 PM -2:30 PM 2078

UNDERSTANDING PARENTS' INTERESTS IN PREVENTING COMMON DISEASES OF ADULTHOOD THROUGH PREDICTIVE GENETIC TESTING AMONG CHILDREN

Kenneth Tercyak, PhD,[1] Sharon Alford, MPH,[2] Karen Emmons, PhD,[3] Isaac Lipkus, PhD,[4] Benjamin Wilfond, MD[5] and Colleen McBride, PhD[6]

[1]GUMC, Washington, DC; [2]HFHS, Detroit, MI; [3]DFCI, Boston, MA; [4]DUMC, Durham, NC; [5]CHRMC, Seattle, WA and [6]NHGRI, Bethesda, MD.

Multiplex genetic susceptibility testing (MGST) holds promise for preventing common diseases of adulthood through personalizing risk, motivating behavior change, and tailoring therapies. Though prevention is often best achieved in childhood, predictive genetic tests like MGST occur in adulthood and are not yet available to young people because of lack of evidence about its benefits and risks. To address this, we surveyed mothers and fathers of children <18 offered MGST through the Multiplex Initiative: a research study of test uptake/outcomes among a population-based sample of healthy adults ages 25–40. The MGST prototype yields hereditary information associated with increased risk for several common diseases. Prior to testing, parents (N=219) completed a baseline survey assessing attitudes and interests in MGST for their children. Preliminary item analyses (to be augmented by multivariate models) indicate parents equally valued information about children's genetic (M=6.0, SD=1.3) and environmental (M=6.2, SD=1.3) contributions to adult disease risk, and were ambivalent about the ease/difficulty of learning their children's adult disease risk through MGST (M=4.0, SD=2.0, Min=1, Max=7). Parents generally anticipated positive emotional reactions to learning children's decreased risk information (M=6.1, SD=1.5, Min=1, Max=7), with uncertain reactions to increased risk information (M=4.0, SD=1.9, Min=1, Max=7). Parents emphasized the benefits of children's participation in MGST (M=5.0, SD=1.7) over its risks (M=3.1, SD=1.8), were moderately interested in such testing (M=4.3, SD=1.9, Min=1, Max=7), and anticipated making changes in their children's lifestyles to improve health (M=1.9, SD=0.6, Min=1, Max=3). Findings suggest that if parents were offered MGST, they could value such information for their children's health, further highlighting the importance of examining benefits/risks and impact of MGST for nontested family members.

CORRESPONDING AUTHOR: Kenneth Tercyak, PhD, Georgetown University Medical Center, Washington, DC, 20007; habit@georgetown.edu

Paper Session #08 2:30 PM -2:45 PM 2079

"ROLLING THE DICE:" QUALITATIVE DATA FROM THE PERCEPTION OF GENETIC RISK IN SEXUAL AND REPRODUCTIVE DECISION-MAKING (PGRID) BY COLLEGE STUDENTS STUDY

Heather H. Honore', PhD, MSW,[1,3] Patricia Goodson, PhD[2] and G. John Chen, MD PhD[1,3]

[1]Houston Center for Quality of Care & Utilization Studies, Michael E. DeBakey VA Medical Center, Houston, TX; [2]Department of Health and Kinesiology, Texas A&M University, College Station, TX and [3]Department of Medicine, Baylor College of Medicine, Houston, TX.

The Institute of Medicine (2004) defines health literacy as the "degree to which individuals can obtain, process, and understand the basic health information and services they need to make appropriate health decisions." A growing body of literature exists assessing how genetic literacy and numeracy, forms of health literacy, impact health decision-making. This qualitative, exploratory study is part of a larger mixed methods study and focuses specifically on describing how a sample of young adults conceptualizes abstract ideas such as genetics and genetic risk.

Students from three Southwestern universities were recruited for focus groups and responded to 15 open-ended questions (N=86). Group discussions were audiotaped, transcribed verbatim, and analyzed using holistic-content analysis.

Participants ranged in age from 18–54 years and were primarily female (67.4%), single, never married (74.4%), non-White/Caucasian (57%), and graduate students (55.8%). They exhibited moderate genetic literacy when interpreting and discussing genetic information (e.g., 58.1% and 55.8% correctly identified cystic fibrosis and sickle cell anemia as "severe genetic disorders," respectively). Yet, this information often contained inaccuracies (e.g., 19.8% thought that HIV/AIDS is a "severe genetic disorder").

Holistic-content analysis revealed 44 thematic clusters (n=559 themes) related to how participants process and understand genetics and genetic risk. For example, discussions related to "what is genetic" produced the clusters DNA as destiny and family as a genetic mechanism. Participants often defined genetic risk in relation to childbearing and their risk perceptions were more often grounded in highly contextualized personal narratives than mathematical ratios or scientific literature.

Further research is needed to understand how young adults conceptualize genetic risk and incorporate PGR into sexual/reproductive decision-making. Study findings affirm a need for health educators and other health professionals to consider adopting genomic competencies; creating gender and culturally appropriate interventions; and forming partnerships with genetic specialists and local/regional health departments.

CORRESPONDING AUTHOR: Heather H. Honore', PhD, MSW, Houston Center for Quality of Care & Utilization Studies, Michael E. DeBakey VA Medical Center, Houston, TX, 77030; heather.honore@va.gov

Paper Session #08 2:45 PM -3:00 PM 2080

MOTIVATORS FOR PARTICIPATION IN A WHOLE GENOME SEQUENCING STUDY: THE CLINSEQ EXPERIENCE

Barbara B. Biesecker, MS, CGC,[1] Flavia Facio, MS,[2] Stephanie Brooks, BS,[2] Johanna Loewenstein, MPH,[1] Susannah Green, high school student[1] and Leslie G. Biesecker, MD[2]

[1]Social and Behavioral Research Branch, NHGRI/National Institutes of Health, Bethesda, MD and [2]Genetic Disease Research Branch, NHGRI/National Institutes of Health, Bethesda, MD.

ClinSeq is a pilot study to investigate and develop large-scale medical sequencing (LSMS) and whole genome sequencing (WGS) for clinical research. A distinctive aspect of ClinSeq is that subjects can choose to receive individual genotype results. Existing literature shows that altruism, benefits to self, and benefits to family are major motivators for research participation. ClinSeq provides a novel setting to examine motivators for participation in the context of LSMS/WGS. The purpose of this qualitative study was to explore the reasons individuals choose to participate in a LSMS/WGS study. 313 individuals (age 45 to 65), who enrolled in ClinSeq between January 2007 and May 2008, were asked an open-ended question about their reasons for participating in the study and their demographics. Responses were imported into NVIVO 7 for coding and analysis. Inter-coder reliability was 95.4%. The majority of enrollees were White (89%), highly educated (85%), and of high socio-economic status (66%). Two main themes were identified: "altruism" and "seeking health information for oneself," with each theme arising from distinct groups. Conclusion: Our results suggest that ClinSeq participants share motivations with both general research participants, as well as with those who come forth for genetic studies. Although "personal health benefits" is a more salient theme among disease cohorts than among healthy volunteers, many of our volunteers cited this as a motivator. To our knowledge this is the first cohort to undergo LSMS/WGS with the option of receiving individual genotype results, which provides a unique opportunity to study the theme of "benefits to self" in the context of personalized genomics research. We will discuss the implications of our results for future translational genomics research and describe follow-up studies to explore preferences towards LSMS/WGS.

CORRESPONDING AUTHOR: Barbara B. Biesecker, MS, CGC, Social and Behavioral Research Branch, NHGRI/National Institutes of Health, Bethesda, MD, 20892-2073; barbarab@mail.nih.gov

Paper Session #08 3:00 PM -3:15 PM 2081

GENETIC INFLUENCES ON THE DYNAMICS OF PAIN AND AFFECT IN FIBROMYALGIA PATIENTS

Patrick H. Finan, MA,[1] Alex J. Zautra, PhD,[1] Mary C. Davis, PhD,[1] Kathryn Lemery, PhD,[1] Jonathan Covault, MD[2] and Howard Tennen, PhD[2]

[1]Psychology, Arizona State University, Tempe, AZ and [2]University of Connecticut Health Center, Farmington, CT.

Fibromyalgia (FM) is a chronic musculoskeletal disorder characterized by widespread pain, fatigue, and a variety of other comorbid physiological and psychological characteristics, including a deficit of positive affect (PA). Recently, the focus of research on the pathophysiology of FM has considered the role of a number of genomic variants. Many candidate gene association studies with FM patients have targeted pain sensitivity as the principal outcome, but none have explored affect and affective reactivity to pain within this population, despite the growing consensus that FM patients are at a greater risk of developing deficits in affective regulation than patients with other chronic pain disorders. The present investigation explored the relation of a functional single nucleotide polymorphism on the catechol-O-methyltransferase gene (COMT/val158met) to the experience of PA reported across a 30-day daily diary. Forty-five female patients with a physician-confirmed diagnosis of FM completed an electronic diary that included once-daily assessments of PA and soft tissue pain. Participants rated pain in fifteen quadrants identified on a body diagram, and a summary score was computed. Pain was then centered within-person to create an index of daily deviation from each person's mean. Multilevel analyses revealed a significant COMT X Pain interaction on PA, $F(2, 1217)=4.49$, $p<.05$, such that FM patients with the met/met genotype had a greater reduction in PA on days in which pain was elevated than did patients with either val/met or val/val genotypes. Interestingly, there was not a significant main effect of COMT genotype on PA, $F(2, 42)=.07$, $p=NS$. Results suggest that the met/met genotype may confer risk for FM individuals in the adaptation to daily elevations in pain. The findings may have implications for the identification of FM patients who could benefit from intervention efforts aimed at building resilience resources.

CORRESPONDING AUTHOR: Patrick H. Finan, MA, Psychology, Arizona State University, Tempe, AZ, 85287-1104; patrick.finan@asu.edu

Paper Session #08 3:15 PM -3:30 PM 2082

ETHNICITY, 5HTTLPR, AND ANGER IN AS RELATED TO NOCTURNAL DIPPING IN SINGAPORE

George D. Bishop, PhD,[1] Daniel Ng, PhD[2] and Francis Ngau, MS[1]

[1]Psychology, National University of Singapore, Singapore, Singapore and [2]Community, Occupational and Family Medicine, National University of Singapore, Singapore, Singapore.

Background: Epidemiological evidence shows significantly higher rates of coronary heart disease among Indians compared to Chinese or Malays in Singapore. Experimental and ambulatory monitoring studies have also found that Indians show distinctive patterns of cardiovascular responses to anger that are consistent with higher CHD risk and that Indians high in trait anger show reduced nocturnal dipping. This study examines the relationship of 5HTTLPR to nocturnal dipping.

Method: 234 undergraduates (62 Indians, 115 Chinese, and 55 Malays; 52.1% Female) participated in 24 h ambulatory monitoring, completed the STAXI and were genotyped. Average daytime and nighttime blood pressure and heart rate were computed based on self-reported sleep times with nocturnal dipping defined as the percentage drop from daytime to nighttime averages.

Results: Moderated regression showed a significant interaction between ethnicity, genotype and Anger In ($p<.02$) in which Indians with the SS genotype showed significantly less nocturnal SBP dipping when they were low on Anger In than did Indians possessing the L allele (LL/LS) or those with the SS genotype who were high in Anger In. This pattern was not obtained for Chinese or Malays. An Ethnic by Gender by Genotype by Anger In interaction ($p<.05$) indicated that while the lower dipping among Indians with the SS genotype who were low on Anger In was found for both males and females the effect appeared to be stronger among males. Differences between groups in SBP dipping were the result of higher nighttime SBP among low Anger In Indians with the SS genotype. There was no evidence that the higher nighttime SBP was due to poorer quality of sleep or shorter sleeping time.

Conclusions: These data provide further evidence for the role of 5HTTLPR in cardiovascular risk as well as ethnic differences. The significantly decreased SBP nocturnal dipping obtained for Indians with the SS genotype and low in Anger In points to increased CHD risk for these individuals.

CORRESPONDING AUTHOR: George D. Bishop, PhD, Psychology, National University of Singapore, Singapore, 117570; psygb@nus.edu.sg

Paper Session #09 2:00 PM -2:15 PM 2083

TWO YEAR OUTCOMES OF A PHYSICAL ACTIVITY MAINTENANCE RCT IN 50–70 year OLD ADULTS

Brian C. Martinson, PhD, Nancy E. Sherwood, PhD, Lauren A. Crain, PhD, Patrick O'Connor, MD, Marcia Hayes, MPH and Nico P. Pronk, PhD

HealthPartners Research Foundation, Minneapolis, MN.

Inadequate physical activity remains a significant problem for older adults in the U.S.. Because many who initiate physical activity have difficulty sustaining their efforts, we developed a maintenance intervention targeting those who had recently increased their PA to a minimum of two days a week of at least moderate intensity PA, for at least 30 minutes a day.

We've recently completed an RCT evaluating the efficacy of a 24 month physical activity maintenance program (Keep Active Minnesota) in 1,049 adults age 50–70 recruited from the membership of one managed care organization.

Following baseline assessment, study participants were randomly assigned to either a 24 month phone- and mail-based KAM intervention (KAM; $n=523$), or a usual care condition (UC; $n=526$). Physical activity was assessed at baseline, 6mo, 12mo, and 24mo follow-ups in terms of kcal/wk expenditure in total activities, and moderate/vigorous activities, based on self-report data using the CHAMPS questionnaire.

We have previously documented baseline similarities between groups and a significant benefit of the intervention at 6 month follow up. We now report a sustained, significant benefit of the intervention at 12 and 24 months. Mean change in total kcal/wk expenditure at 12 months was positive for KAM participants, but negative for UC participants (time x treatment, $p<.01$). Mean change in MVPA kcal/wk expenditure at 12 months was also positive for KAM participants, and negative for UC participants ($p<.001$). Similarly, mean change in total kcal/wk expenditure at 24 months was positive for KAM participants, but negative for UC participants ($p<.001$). Finally, mean change in kcal/wk expenditure in MVPA at 24 months was also positive for KAM participants, but negative for UC participants ($p<.001$).

This phone- and mail-based PA maintenance intervention was effective at maintaining PA in both the short-term (6 months) and longer-term (12 and 24 months). The intervention model is simple, relatively inexpensive and widely disseminable to a variety of community care settings.

CORRESPONDING AUTHOR: Brian C. Martinson, PhD, HealthPartners Research Foundation, Minneapolis, MN, 55440-1524; brian.c.martinson@healthpartners.com

Meritorious Student Paper

Paper Session #09 2:15 PM -2:30 PM 2084

IS THE IMPORTANCE OF PHYSICAL ACTIVITY ASSOCIATED WITH FUNCTION AND QUALITY OF LIFE IN OLDER ADULTS?

Thomas R. Wójcicki, BS,[1] Liang Hu, MS,[1] Amanda N. Szabo, BS,[1] Siobhan M. White, BS,[1] Emily L. Klamm, MS,[1] Arthur F. Kramer, PhD[2] and Edward McAuley, PhD[1,2]

[1]Kinesiology and Community Health, University of Illinois at Urbana-Champaign, Urbana, IL and [2]Beckman Institute, University of Illinois at Urbana-Champaign, Urbana, IL.

A number of studies have begun to examine the relationships among physical activity, function, and aspects of quality of life in older adults and have concluded that the value or importance one attaches to physical activity may have implications for relationships among and changes within these constructs. The purpose of the present study was to examine whether the importance of physical activity in one's life changed as a result of participation in a six-month exercise trial. Further, we were interested in whether any changes in levels of importance were associated with changes in functional limitations and quality of life indicators. Previously sedentary adults (N=110; M age=67.2) were randomly assigned to a walking condition (n=56) or a flexibility and strength condition (n=54), and asked to complete self-report measures of physical activity importance, physical health status, metal health status, and functional limitations at baseline and at the end of the six month program. Repeated measures ANOVA indicated that all participants significantly increased the level of importance attached to physical activity over the six-month period (η^2=.53, p<.0001). Next, we correlated the standardized residual change scores for importance and the quality of life and function variables. Changes in importance were significantly associated only with changes in physical health status (r=.25, p<.005). Thus, it would appear that engagement in formal activity enhances the importance one places upon such activity but that these changes are minimally associated with changes in health status and well-being in older adults. Whether changes in importance have implications for other physical activity outcomes needs to be determined.

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CORRESPONDING AUTHOR: Thomas R. Wójcicki, BS, Kinesiology and Community Health, University of Illinois at Urbana-Champaign, Urbana, IL, 61801; wojcicki@illinois.edu

Paper Session #09 2:30 PM -2:45 PM 2085

PHYSICAL ACTIVITY AND SATISFACTION WITH LIFE IN OLDER ADULTS

Siobhan M. White, BS, Thomas R. Wójcicki, BS and Edward McAuley, PhD

Kinesiology and Community Health, University of Illinois, Urbana, IL.

Physical activity (PA) has been consistently associated with enhanced quality of life (QOL) in older adults. However, few attempts have been made to determine whether this relationship is direct or operates through other psychosocial factors. It has been proposed that PA exerts its influence on global QOL through self-efficacy (SE) and health-status pathways. We attempted to replicate this model in a sample of 321 older community dwelling adults (M age=63.8). Participants completed measures of PA, SE, global QOL, physical self worth (PSW) and disability limitations. Data were analyzed using covariance modeling with the full-information maximum likelihood (FIML) estimator and structural equation modeling to test the fit of the hypothesized model. This model proposed: direct effects of a latent PA variable on SE but not disability limitations or PSW; direct effects of SE on disability limitations and PSW but not QOL; and direct effects of disability limitations and PSW on QOL. The proposed model adequately fit the data ($\chi 2$=15.59, p=.05; CFI=.97; SRMR=.04). All of the proposed path coefficients of the hypothesized model were significant. Overall, the model accounted for 22.4% of the variance in satisfaction with life. Thus, these data would appear to support the social cognitive perspective argued by McAuley et al. (2006) that SE and physical and mental health status variables play intermediary roles in the PA and QOL relationship. A second analysis was conducted to test the effects of demographic factors on model fit and path coefficients, as well as the model components themselves. This model fit the data reasonably well ($\chi 2$=38.16, p<.001; CFI=.93; SRMR=.04), and the path coefficients of the hypothesized model were not significantly changed. Results from this study support the role of SE in the relationship between PA and QOL as well as an expanded QOL model including both health status indicators and global QOL. These findings further suggest future PA promotion programs should include strategies to enhance SE, as a modifiable factor for improving QOL in this population.

CORRESPONDING AUTHOR: Siobhan M. White, BS, Kinesiology and Community Health, University of Illinois, Urbana, IL, 61801; smwhite1@illinois.edu

Meritorious Student Paper

Citation Paper

Paper Session #09 2:45 PM -3:00 PM 2086

BRAIN, BEHAVIOR, AND SELF-EFFICACY FOR COGNITIVE FUNCTION IN OLDER ADULTS

Amanda N. Szabo, BS and BA, Katherine S. Hall (Morris), MS, Maritza Alvarado, MS, Krik Erikson, PhD, Arthur F. Kramer, PhD and Edward McAuley, PhD

Kinesiology and Community Health, University of Illinois at Urbana-Champaign, Urbana, IL.

Self efficacy has been identified as an important predictor of an array of health behaviors including cognitive performance. However, little empirical evidence exists that has examined the underlying sources of self-efficacy relative to executive control, an aspect of function that declines dramatically with aging. The purpose of this study was to examine the contribution of activity in particular regions of the brain to self-efficacy independent of pre-existing efficacy expectations and actual performance on a challenging cognitive task. Specifically, we were interested in the role played by the middle pre-frontal gyrus and posterior cingulate brain regions which have been associated with self-reflection and envisioning, respectively, and the right and left precuneous areas which have been associated with self-consciousness. Older adults (N=122; M age=66.14) completed a dual task paradigm while lying in a 3 Tesla fMRI. Self-efficacy for performance accuracy was assessed prior to and following the cognitive task. Correlational analyses showed all four brain regions, task performance, and pre-task self-efficacy to be significantly associated with post-task efficacy. However, a hierarchical multiple regression analysis indicated that pre-task self-efficacy (β=.61), dual task reaction time (β=.18) and percent signal change in the middle pre-frontal gyrus (β=.27) were independent predictors of variance in post-task self-efficacy (F=19.75, p$\leqq$.001; R^2=.54). These findings support a social cognitive perspective relative to the independent contribution of past performance in the formation of self-efficacy expectations. Additionally, they provide support for a social cognitive neuroscience position that particularized regions of the brain are instrumental in the process of efficacy formation. Whether changes in cognitive function brought about by behavioral interventions will show parallel changes in efficacy and brain activity remains to be determined.

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CORRESPONDING AUTHOR: Amanda N. Szabo, BS and BA, Kinesiology and Community Health, University of Illinois at Urbana-Champaign, Urbana, IL, 61801; aszabo2@uiuc.edu

Paper Session #09 3:00 PM -3:15 PM 2087

DOES MEMORY PERFORMANCE PREDICT RETIREMENT IN OLDER WORKERS?

Linda A. Wray, PhD[1] and Duane F. Alwin, PhD[2]

[1]Biobehavioral Health, Penn State University, University Park, PA and [2]Sociology, Penn State University, University Park, PA.

Background: This study investigates the effects memory performance (both levels and rates of change) on the likelihood of retirement in older workers, net of the effects of previously-documented social, health, and economic determinants of retirement. Methods: We used six waves of data from the Health and Retirement Study on a sample of 4,742 men and women aged 51–61 in 1992 in order to estimate how two aspects of memory performance—objective assessments and perceptions of performance—are linked to the transition from working in 1992 and 1994 to retirement between 1996 and 2002 in older workers. We investigated these processes using a combination of latent curve models and logistic regression models, for the full sample as well as by gender and occupational groups. Results: Memory performance appears to play a role in the transitions to retirement. In particular, high levels of memory performance are associated with a lower likelihood of retirement in this sample of older workers, net of other relevant predictors, and particularly in men in blue-collar jobs. Differences in performance affect the retirement outcome via self-perceptions of memory performance, particularly for professional men and women. Rates of change in memory performance over six years do not alter the likelihood of retirement, except in professional and managerial women. Conclusions: Poorer health—both physical and cognitive—negatively impacts individuals and society via lost productivity, impaired family and social functioning, and economic well-being. The results of this and future studies may point to areas for policy or workplace interventions that enable workers to remain in their jobs longer than they might otherwise by compensating for either actual or perceived memory deficits.

CORRESPONDING AUTHOR: Linda A. Wray, PhD, Biobehavioral Health, Penn State University, University Park, PA, 16802; law30@psu.edu

Paper Session #09 3:15 PM -3:30 PM 2088

ROLE OF CEREBRAL OXIMETRY FOR PREDICTION OF EARLY POSTOPERATIVE NEUROPSYCHOLOGICAL DEFICIT IN ELDERLY PATIENTS UNDERGOING CORONARY ARTERY BYPASS SURGERY

Emilie de Tournay-Jetté, M Ps,[3] Dupuis Gilles, PhD,[1,3] Denault Andre, MD,[1] Cartier Raymond, MD,[1] Bherer Louis, PhD[2,3] and Alain Deschamps, MD[1]

[1]Montreal Heart Institute, Montreal, QC, Canada; [2]Institut Universitaire de Gériatrie de Montréal, Montreal, QC, Canada and [3]Université du Québec à Montréal, Montreal, QC, Canada.

Background: Postoperative Cognitive deficits (POCD) are frequent after coronary artery bypass graft surgery (CABG) in elderly population affecting patients'outcome. Cerebral oximetry measures regional cerebral oxygen saturation (rSO2). Studies have shown a significant correlation between intraoperative cerebral desaturation and POCD using brief screening instrument for dementia which is most effective in distinguishing patients with moderate to severe deficits. However, evidence is limited for more subtle POCD. The objective of this study is to evaluate the predictive value of rSO2 in the development of POCD.
Method: Forty-four patients undergoing CABG were enrolled. Neurocognitive evaluation included: logical memory (Rivermead battery), Rey Auditory verbal learning test, Digit Symbol , Trail-Making Test (Part A and B), and the Stroop test (short version) at 1 day before and 4–7 days after surgery. During surgery, rSO2 was continuously monitored.
Results: Logistic regression performed on rSO2 to predict POCD (at least 2 tests having a decrease of 1 standard deviation from baseline) show that higher rSO2 score is associated (p=0.037, Odds ratio: 0.88 (95% C.I.:774–992) with lower cognitive deficit. The Nagelkerke R Square is 0.158. ROC analysis showed that the best cutpoint is a rSO2 score of 68. At this level, sensitivity and specificity are 0.90 and 0.53. Positive and negative predictive value are: 0.84 and 0.72. Overall % of good prediction is 81.4%.
Conclusion: Intraoperative cerebral oxygen desaturation is associated with early POCD. Cerebral oxymetry is not only a promising approach to predict some moderate to severe deficits but also for predicting more subtle neuropsychological deficits. However, it remains to be determined whether interventions to maintain adequate cerebral oxygenation during the surgery could prevent these deficits.

CORRESPONDING AUTHOR: Emilie de Tournay-Jetté, M Ps, Psychology, UQAM, Montreal, QC, H2S 2S1; ejette00@hotmail.com

Thursday
April 23, 2009
4:00 PM -5:30 PM

Paper Session #10 4:00 PM -4:15 PM 2089

DISPOSITIONAL OPTIMISM PREDICTS PLACEBO ANALGESIA

Andrew L. Geers, PhD,[1] Suzanne Helfer, PhD,[3] Justin A. Wellman, MS[1] and Christopher R. France, PhD[2]

[1]Psychology, University of Toledo, Toledo, OH; [2]Psychology, Ohio University, Athens, OH and [3]Psychology, Adrian College, Adrian, MI.

Previous research finds individuals high in dispositional optimism to report less clinical and experimental pain than individuals low in dispositional optimism. It has been theorized that this effect occurs, in part, because optimists are more attentive to external cues for pain relief than pessimists (Geers et al., in press). If this supposition is correct, it suggests that optimists may be more responsive to placebo analgesia than pessimists. This possibility was tested in the present experiment. One hundred thirty-three undergraduate volunteers (65 men 68 women) were randomly assigned to either a placebo expectation condition or a control condition. Prior to the experimental sessions, participants' level of dispositional optimism was assessed. After arriving to the experimental session, an inert cream with a medicinal smell was applied to participants' hands. Half of the participants were told that the cream would reduce the pain sensations associated with the cold pressor. The other half were told it was a hand cleanser. Then participants immersed their hand in water and ice at 4 degrees Celsius for 2 minutes. After the cold pressor, participants completed the short form of the McGill Pain Questionnaire. Hierarchical linear regressions were used to analyze pain reports. These analyses produced a main effect of the placebo expectation manipulation on the pain sensitivity, present pain intensity, and the pain sensation subscales (all p's<.05). The regression analyses also produced significant Optimism x Placebo Expectation interactions on the pain sensitivity, present pain intensity, and pain sensation subscales (all p's<.05). Simple slope tests probing this interaction effect revealed that dispositional optimists displayed greater placebo analgesia than dispositional pessimists. These findings suggest that dispositional optimism is an important moderator of placebo analgesia and that pessimists may benefit less from a placebo analgesic than optimists in clinical settings. Supported by NIH- NS051687.

CORRESPONDING AUTHOR: Andrew L. Geers, PhD, Psychology, University of Toledo, Toledo, OH, 43606; ageers@utnet.utoledo.edu

Citation Paper

Paper Session #10 4:15 PM -4:30 PM 2090

REPRESSIVE COPING AND PAIN: SHIFTS IN ATTENTION BIASES FROM DISTRESS TOWARD PHYSICAL PAIN MAY PARTLY EXPLAIN “CONVERSION”

John W. Burns, PhD, Phillip J. Quartana, PhD, Erin Elfant, PhD, Wes Gilliam, MS and Justin Matsuura, MS

Rosalind Franklin University of Medicine and Science, North Chicago, IL.

Research shows that repressive copers have a distinct reporting pattern regarding both acute and chronic pain: they report high levels of physical pain but low levels of emotional distress. This discrepant pattern is distinct from both low and high anxious people, who report a close correspondence between pain and distress. In 2 studies, we addressed an attention bias model that explains this apparent “conversion” of repressed emotion into physical symptoms, and used the Weinberger et al. scheme for defining repressors. In Study 1, 84 normals underwent cold pressor pain, and reported pain and distress during recovery. Repressors reported greater physical pain than both low and high anxious groups [F(2,81)= 15.6;p<.01], but lower emotional distress than high anxious subjects (p<.05). Analysis of discrepancy scores indicated that repressors were significantly biased toward reporting high pain over low distress, while low and high anxious groups showed a balance between pain and distress reports. In Study 2, 74 normals underwent forearm ischemia pain while performing a dot-probe task. Repressors showed a shift in attention during the pain task toward sensory pain stimuli [F=6.9; p<.02] but away from negative affect pain stimuli [F=4.6;p<.05]. Low and high anxious subjects did not show significant changes in attention biases. Analyses also showed that only repressors showed a significant discrepancy in attention biases toward sensory and away from affect stimuli [F=12.6;p<.01]. Results imply that the apparent “conversion” of emotional distress into physical symptoms among repressors may partly involve a process by which they direct attention away from threatening negative emotional information and toward nonthreatening physical pain information.

CORRESPONDING AUTHOR: John W. Burns, PhD, Rosalind Franklin University of Medicine and Science, North Chicago, IL, 60064; john.burns@rosalindfranklin.edu

Paper Session #10 4:30 PM -4:45 PM 2091

PAIN SELF-EFFICACY, COPING BEHAVIOR, SOMATIC SYMPTOMS, AND DISABILITY IN YOUNG ADULTS WITH HEADACHES: A PATH ANALYSIS

Dustin P. Wallace, PhD[1] and Jay R. Skidmore, PhD[2]

[1]Psychiatry and Psychology, Mayo Clinic, Rochester, MN and [2]Graduate Psychology, Seattle Pacific University, Seattle, WA.

Chronic or recurrent headaches are prevalent in young adult populations. Some people report significant interference with daily activities due to headaches, whereas others experience less disability. Coping and pain self-efficacy have been identified as important constructs related to understanding disability in people with other chronic pain conditions. However, in people with recurrent headaches, both the predictors of active coping and the predictors of headache-related disability are currently unclear. The present study examined predictors of headache disability in a nonclinical sample. Subjects were 217 undergraduate students who completed a variety of self-report measures including the Coping Strategies Questionnaire-Revised, the Pain Self-Efficacy Questionnaire, the Modified Somatic Perceptions Questionnaire, the Headache Disability Inventory, and a measure of headache frequency. A model specifying the hypothesized relationships between these variables was evaluated with structural equation modeling software and found to have adequate fit to the data ($\chi 2/df$=2.93; CFI=0.91; RMSEA=0.09). The variables included in the model accounted for approximately 49% of the variance in Headache Disability reported by this sample. Results indicated that headache frequency and somatic symptoms correlated (r=0.36, p<.001) and were each associated with greater headache disability (β=0.24 and 0.26, respectively, both p<.001). Greater pain self-efficacy was associated with less headache disability (β=-0.56, p<.001) and with greater report of active coping (β=0.68, p<.001). Greater active coping was associated with greater headache disability (β=0.59, p<.001), which may be due to the use of a nonclinical sample (i.e. subjects with more headaches reported greater use of coping strategies in general). Pain self-efficacy was thus associated with greater use of active coping strategies and may also directly moderate the negative effects of recurrent headaches.

CORRESPONDING AUTHOR: Dustin P. Wallace, PhD, Dept of Psychiatry and Psychology, Mayo Clinic, Rochester, MN, 55901; wallace.dustin@mayo.edu

Paper Session #10 4:45 PM -5:00 PM 2092

PATIENT PREFERENCES FOR LEARNING SPECIFIC PAIN COPING SKILLS VARY AS A FUNCTION OF READINESS TO ADOPT A SELF-MANAGEMENT APPROACH

Patricia H. Rosenberger, PhD,[1] Robert Kerns, PhD[1] and Warren Nielson, PhD[2]

[1]VA Connecticut Healthcare System, West Haven, CT and [2]University of Western Ontario, London, ON, Canada.

Cognitive behavioral therapy (CBT) is an inherently flexible approach to chronic pain treatment that encourages consideration of patient preferences for learning specific pain coping skills to promote participation and improved outcomes. In an ongoing study of CBT for chronic low back pain (N=121, 84.3% males, mean age=55.7 years, mean duration of pain=143.3 months), we assessed patient preferences for coping skill acquisition, hypothesizing that patients would differ in their preferences for learning different coping strategies and that preferences would be related to their Pain Stages of Change Questionnaire scale scores (i.e., Precontemplation, Contemplation, Action, and Maintenance). Patients received information about nine pain coping skills: exercise, body mechanics, pacing, relaxation, assertiveness, cognitive control, time contingent rest, task persistence, and avoiding asking for help. Importance, interest, and confidence in ability to learn were rated for each skill and preference summary scores were derived. Preference mean scores ranged from cognitive control (X=24.13, SD=5.6) to avoiding asking for help (X=15.7, SD=9.9). Stepwise regression analyses identified the strategy preferences most closely associated with each stage of change. Specifically, the results revealed the following significant associations: assertiveness was positively associated and exercise was negatively associated with Precontemplation scores; cognitive control and body mechanics were positively associated and assertiveness was negatively associated with Contemplation scores; exercise and pacing were positively associated and time contingent rest was negatively associated with both Action and Maintenance scores (all p’s <.05). Results confirm that patients vary in their preferences for treatment strategies and that treatment preferences are differentially associated with overall readiness to change. Moreover, preferences related to physical activity are most reliably associated with a stated commitment to change.

CORRESPONDING AUTHOR: Patricia H. Rosenberger, PhD, VA Connecticut Healthcare System, West Haven, CT, 06516; patricia.rosenberger@va.gov

Citation Paper

Paper Session #10 5:00 PM -5:15 PM 2093

LONG TERM EFFECTS OF A STEPPED INTERVENTION ON SELF-MANAGEMENT BEHAVIORS AMONG PRIMARY CARE PATIENTS WITH PAIN AND DEPRESSION

Teresa M. Damush, PhD, Ellen Poleshuck, PhD, Matt Bair, MD, MS, Jingwei Wu, MS, Wandzhu Tu, PhD and Kurt Kroenke, MD

Roudebush VAMC/Indiana University School of Medicine, Indianapolis, IN.

Objectives: To determine long term effects of a combined intervention on self-management behaviors in primary care patients with musculoskeletal pain and depression.

Methods: We conducted a randomized controlled trial and recruited 250 primary care patients from University affiliated and VA primary care clinics. At baseline, all patients met inclusion criteria of having chronic pain in low back, knee or hip and comorbid depression. Participants were randomized to either usual care or a stepped intervention that consisted up 12 weeks of optimized antidepressant therapy followed by a pain self-management (PSM) program delivered biweekly over 6 sessions during the following 12 weeks, and continuation of the antidepressant therapy over the remaining 6 months with 2 self-management booster sessions at 8 and 10 months. We measured patient self-efficacy and self-management. We compared between group differences between intervention and usual care using intention to treat analyses. We analyzed the data using t-tests.

Results: Participants were 52% men; 62% White; 33% African-American and had a mean age of 59 years. Compared to usual care, participants randomized to the intervention group reported significantly more self-efficacy to manage their pain (p<.0001) and depression (p<.026), however, the groups did not differ on confidence in communication with physicians. Participants in the intervention group also significantly increased the time spent on performing self-management behaviors in the following areas: strength exercises (p<.03); stretching exercises (p<.0001); progressive muscle relaxation (p<.0001); visualizing (p<.02); and mental stress relaxation (p<.0001).

Impacts: Incorporating effective stepped interventions in primary care may increase patient self-management engagement and ultimately improve health-related quality of life in patients with common, disabling, and frequently comorbid symptoms like pain and depression.

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CORRESPONDING AUTHOR: Teresa M. Damush, PhD, Roudebush VAMC/Indiana University School of Medicine, Indianapolis, IN, 46202; tdamush@iupui.edu

Meritorious Student Paper

Paper Session #10 5:15 PM -5:30 PM 2094

DOES EXPRESSIVE WRITING ENHANCE THE EFFECTS OF A MULTIDISCIPLINARY CHRONIC PAIN MANAGEMENT PROGRAM (MCPMP)?

Heidi G. Stark, MA,[1] Melanie A. Greenberg, PhD[2,1] and R. Edward Harpin, PhD[3,1]

[1]Clinical Psychology: Health Track, Alliant International University, San Diego, CA; [2]Research Services, VA San Diego Healthcare System, San Diego, CA and [3]Pain Rehabilitation Services, Sharp Hospital, San Diego, CA.

Pennebaker's Expressive Writing (EW) intervention has been shown to improve health outcomes in chronic pain populations. The current standard of care for chronic pain is MCPMP. This randomized, controlled pilot study investigated whether EW would have added benefit in chronic pain patients attending MCPMP. We present preliminary data from 30 male and female participants (EW: n=16; Neutral Writing n=14) who wrote weekly for 20 minutes on 3 consecutive weeks and completed baseline, post-test, and 6-week follow-up assessments. Participants were HMO and PPO members, referred by their physicians to an 8-week MCPMP, who were invited to participate in the study at program intake and scheduled for their baseline assessment one week later. ANOVAs revealed a significant Group X Time interaction for the BDI-Fast Screen (p<.05; σ^2=.139), with a quadratic effect, such that controls initially decreased their depressive symptom scores, from pretest to posttest, then increased their scores from posttest to follow-up; whereas EW increased initially with subsequent decreases. The WHYMPI (Part III) showed a similar quadratic trend (p=.137; σ^2=.08). For Catastrophizing (PCS), a medium effect size Group X Time interaction (σ^2=.079) demonstrated greater decreases over time for EW, relative to controls. For DDS pain intensity, there was a significant Group X Time X Catastrophizer status interaction (p=.017; σ^2=.199), such that high Catastrophizers decreased their pain over time, regardless of group, whereas low Catastrophizers decreased their pain only in EW. Overall, EW may enhance or perpetuate longer-term mood and disability benefits of MCPMP and may improve pain treatment for low Catastrophizers. The results of this pilot study, although somewhat complex, suggest further investigation of EW's adjunctive efficacy to behavioral and multidisciplinary pain treatment is warranted.

CORRESPONDING AUTHOR: Heidi G. Stark, MA, Clinical Psychology: Health Track, Alliant International University, San Diego, CA, 92037; hgabri@hotmail.com

Citation Paper

Paper Session #11 4:00 PM -4:15 PM 2095

USE OF A COMMUNITY COALITION TO INTERPRET CONTEXTUAL DATA: LESSONS FROM THE TAKING NEIGHBORHOOD HEALTH TO HEART STUDY

Diane K. King, PhD,[1] Jennie L. Hill, MSc[2] and Deborah S. Main, PhD[3]

[1]Institute for Health Research, Kaiser Permanente, Denver, CO; [2]Virginia Tech University, Blacksburg, VA and [3]Family Medicine, UC Denver, Denver, CO.

This paper describes use of community-based participatory methods to interpret contextual data collected for a study that took advantage of a unique urban renewal opportunity. The primary aim was to understand the impact of neighborhood structural and social variables on the health of people living in an active living community, built on what was once Denver's Stapleton airport, and in four adjacent diverse neighborhoods. An initial goal was to establish a community coalition to partner with researchers. The 5-neighborhood coalition met monthly with the research team and was involved in the study design, data collection and interpretation of results. Data from environmental walking audits were collected by trained research staff and community members for a randomly-selected subset of census blocks (N=412) within all 5 neighborhoods, using validated audit instruments that were expanded by the coalition to include items of particular relevance. Neighborhoods varied significantly (p<.0001) on a range of factors including indicators of walkability (e.g. connectivity, mixed land-use) and presence of physical incivilities (i.e., declining houses/land, litter/graffiti). Post hoc analyses showed that the four adjacent neighborhoods had significantly fewer (p<.0001) environmental features that promote walking, healthful eating and safety, in comparison to the active living neighborhood. Neighborhood data were shared with the community coalition using GIS to create maps. The coalition validated results of the walking audits on location of food, recreation and other destinations displayed on the maps, also indicating whether destinations had low, medium or high value to their community. Residents added destinations they deemed important to health promotion including social resources such as churches, schools, and non-profits. Coalition members emphasized the importance of highlighting assets within communities to avoid further stigmatizing these neighborhoods.

CORRESPONDING AUTHOR: Diane K. King, PhD, Institute for Health Research, Kaiser Permanente, Denver, CO, 80237-8066; diane.king@kp.org

Citation Paper

Paper Session #11 4:15 PM -4:30 PM 2096

FRUIT AND VEGETABLE INCREASES IN RESPONSE TO A CBPR INTERVENTION AMONG LOW-INCOME LATINAS

Linda K. Larkey, PhD, Julie Gonzalez, MS and Lily Amaya, BA

University of Arizona, Scottsdale, AZ.

Consumption of fruits and vegetables (F&V) has been suggested as an important moderator of a number of health risks. In Arizona, over 80% of Latinos do not meet the goal of 5 or more servings per day. We used CBPR, implementing a promotora de salud intervention among low-income Latinas designed to improve a number of health behaviors.

Method: Community sites were randomized to one of two theory-based interventions; Promotoras taught in groups or individually a 7-week course covering breast, cervical and colorectal cancer prevention and screening, emphasis on dietary change and physical activity.

Results: Of 1,035 women enrolled, 467 completed post-intervention questionnaires. Mean age: 38.5 years. 57% reported HH incomes < $15 K; 83% < $25 K. One-third (33.9%) reported education level of 6th grade or less, 71.3% not completing high school; 64.7% no health insurance; 67.0% speak only Spanish.

All participants combined showed a significant increase in F&V (5.16 mean servings at baseline; 7.26 post-intervention, t=10.396, df, 453; p=.000). The group intervention had slightly higher increases in F&V than one-on-one, but not significantly so. Logistic regression analyses examined effects of demographic characteristics (income, insurance, age), knowledge and psychosocial variables, with only significant effects indicated for three of the social support subscales. Instrumental, informational, and emotional support were all positively and significantly associated with increases in F&V from baseline to post-intervention (p=.046, .047, and 0.120 respectively).

Conclusions: Although differences were not significant between two, theory-based intervention groups, the very low-income population of Latinas in our study successfully increased their dietary intake of F&V. The strongest predictor of this increase was emotional support, followed by instrumental and informational support, indicating that this group of women were most influenced by friends and group members who could care for them through the dietary change while providing practical support and knowledge.

CORRESPONDING AUTHOR: Linda K. Larkey, PhD, University of Arizona, Scottsdale, AZ, 85258; larkeylite@msn.com

Paper Session #11 4:30 PM -4:45 PM 2097

A TAILORED SCHOOL HEALTH PROGRAM: CREATING A CULTURALLY-APPROPRIATE MODEL AND MATERIALS FOR THE JEWISH SCHOOL SYSTEM OF CHICAGO

Maureen R. Benjamins, PhD[1] and Dana Rhodes, MSW[2]

[1]Sinai Urban Health Institute, Chicago, IL and [2]Jewish Federation of Metropolitan Chicago, Chicago, IL.

An in-depth health survey was conducted in the most heavily concentrated Jewish community in Chicago through a collaborative effort of the local Jewish Federation and a research center. Following this, focus groups with local rabbis, social service and healthcare providers, educators, lay leadership, and community members revealed that childhood obesity was the issue of greatest concern and that a school-based prevention program was the best way to address this. Since the majority of individuals in this community are Orthodox Jews who have specific dietary rules, behavioral guidelines, and belief systems that differentiate them from other groups, interventions developed within public schools may not be appropriate or effective for them. Unfortunately, no previous studies that focused on obesity prevention for members of this group, or any other Jewish group, were found. Thus, there was a critical need for culturally appropriate health promotion materials and programs.

Continuing the collaboration, a school-based intervention was developed to initiate major changes in five pilot schools. Based on existing school health models, the schools were required to form a health committee, evaluate existing health-related strengths and weaknesses, develop a school wellness policy, and implement interventions in five defined areas from the Coordinated School Health model. Health education curriculum and other materials were adapted to fit the needs of the community.

A rigorous evaluation, including the School Health Index, and student, staff, and parent surveys, was conducted. After two years, significant improvements were seen in levels of student knowledge and in parent and staff attitudes toward health education and related school changes. It is believed that this initiative, which focused on changes at the individual, family, and societal level, can serve as a model for other ethnic communities across the country.

CORRESPONDING AUTHOR: Maureen R. Benjamins, PhD, Sinai Urban Health Institute, Chicago, IL, 60608; benmau@sinai.org

Paper Session #11 4:45 PM -5:00 PM 2098

DIFFERENT STRATEGIES ARE RELATED TO INCREASED PARTICIPATION RATES IN AN IDENTICAL PHYSICAL ACTIVITY PROGRAM OFFERED IN RURAL VERSUS METROPOLITAN AREAS

Joan G. Wages, MS,[1] Sharolyn Jackson, MS,[2] Michael Bradshaw, PhD,[2] Mido Chang, PhD[1] and Paul Estabrooks, PhD[1]

[1]Virginia Tech, Blacksburg, VA and [2]Kansas State, Manhattan, KS.

There is a dearth of research that examines the reach of community physical activity (PA) programs into the population. This study compares methods used by 94 different community leaders (100% women; average age between 40 & 50 years) across rural (n=43) and metro (n=57) areas to attract over 20,000 participants (across leaders) to a sustainable community physical activity program that has demonstrated short and longer term effectiveness and broad applicability. The types and number of marketing methods, the frequency and number of task-force meetings, and years of program delivery were assessed using a self-report implementation survey. Reach was assessed by dividing the number of participants, objectively verified through registration forms, by the intended population based on census data within a given county. Rural/metro comparisons on reach were completed using a Mann-Whitney test. Multiple linear regression models were used to determine the relationship between independent variables and participation rate for both rural and metro counties. Programs delivered in metro/urban counties had lower mean participation rates than rural counties (1.5 versus 3.0%, respectively, z=-4.5; p<0.001). The regression on participation rate for metro areas was significant (R2=.19; F=4.09, p=0.011), however only number of marketing methods used significantly contributed to the model (p= 0.003). The regression for rural areas was also significant (R2=.34; F=6.64, p= 0.001) and both the number of task-force meetings and years of program delivery were significant contributors (p=0.001 and p=0.017 respectively). Thus it appears that in rural and metro settings, respectively, more interpersonal methods versus increased marketing may be more important for participant recruitment.

CORRESPONDING AUTHOR: Joan G. Wages, MS, Virginia Cooperative Extension, Virginia Tech, Blacksburg, VA, VA, 24061; jwages@vt.edu

Paper Session #11 5:00 PM -5:15 PM 2099

PREDICTORS OF SUSTAINABILITY FOR COMMUNITY-BASED ADOLESCENT SMOKING CESSATION PROGRAMS

Robin Mermelstein, PhD,[1] Amy Sporer, MS,[1] Sherry Emery, PhD,[1] Oksana Pugach, MS[1] and Sue Curry, PhD[2]

[1]Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, IL and [2]College of Public Health, University of Iowa, Iowa City, IA.

The continuation or sustainability of health promotion programs in the community is vital to efforts to improve population health. This study examined predictors of program sustainability over a 3-year period. The Helping Young Smokers Quit initiative attempted to recontact community-based youth smoking cessation programs 3 years after they completed a baseline survey. Factors considered for predicting sustainability included community and organizational support for the program; source of funding; program demand and recruitment; and characteristics of program content and delivery. Program status (sustained or discontinued) and baseline data were available for 360 programs. Of the 360, 216 (60%) were sustained over the 3 years. At baseline, program representatives from programs that would be discontinued were more likely to report that youth cessation was “not a priority at all” among community leaders compared to programs that sustained (26.2% vs 11.2%, p<.002). Discontinued programs were also significantly more likely to rely on local or state government funding (70%) than were sustained programs (60%), who received funding from a more diverse set of sources. Changes to program content and type of program enrollment mattered as well. Discontinued programs were significantly more likely to modify the format of the program from its original source (41.5% modified vs 21.2% modified for sustained programs; p<.0001), including modifications to content and other factors. Sustained programs were more likely to include participants who were a mix of voluntary participants and those mandated to attend (49% of sustained programs had both enrollments vs 34% of discontinued programs who had slightly more voluntary only enrollments). Thus, multiple levels of influence, from community support to local level program content and recruitment, are important in predicting program sustainability.

CORRESPONDING AUTHOR: Robin Mermelstein, PhD, Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, IL, 60608; robinm@uic.edu

Paper Session #11 5:15 PM -5:30 PM 2100

LESSONS LEARNED IN ADAPTING THE DIABETES PREVENTION PROGRAM FOR 10–14 YEAR OLD NORTHERN PLAINS INDIAN YOUTH

Blakely Brown, PhD, RD,[1] Kari Harris, PhD,[1] Christiana Ricci, BS,[1] Martin Parker, BA,[2] Jeri Lyn Harris, AA,[3] Whitney TopSky, BA,[1] Todd Wilson, BS,[3] Priscilla J. Friede, BS, RN[2] and Curtis Noonan, PhD[1]

[1]Health and Human Performance, The University of Montana, Missoula, MT; [2]Rocky Boy Tribal Health, Rocky Boy, MT and [3]Crow Tribal Health, Crow Agency, MT.

Type 2 diabetes (T2DM) is reaching epidemic proportions in American Indian (AI) populations. While lifestyle programs such as the Diabetes Prevention Program (DPP) have been shown to reduce the incidence of T2DM in adults, the efficacy of such programs among AI youth has not been established. The goal of this study is to adapt the DPP to be age- and culturally-specific for Northern Plains Indian youth and pilot-test the curriculum on two Montana Indian reservations. The project used community-based participatory research (CBPR) methods to adapt the program. The reservation sites conducted 5 community focus groups (n=28) and 11 key informant interviews to identify areas requiring adaptation and culturally acceptable educational strategies. Common themes and feedback were incorporated into the lessons by a multidisciplinary team and a pilot study of the curriculum was initiated with 9 youth. Community members hoped to decrease T2DM in their communities and were aware that childhood inactivity, obesity, and poor nutrition contribute to T2DM risk. Curriculum adaptations included consolidating 16 lessons into 9 and changing the mode of delivery from individual to group. The lessons were modified to encompass learning styles of AI youth and incorporate native foods, games, story-telling, local resources like fitness centers and walking trails and having elders in the community teach youth about traditional ways of life. The process strengthened relationships between the research team and local tribal councils, cultural committees, and community leaders and members. These partnerships are inherent to CBPR methodology and build capacity for the larger planned trial. The next steps are to fine-tune the curriculum and continue testing the lessons and assessing project outcomes in a total of 32 AI youth for the purpose of preparing for a full-scale trial of the intervention.

CORRESPONDING AUTHOR: Blakely Brown, PhD, RD, Health and Human Performance, The University of Montana, Missoula, MT, 59812; blakely.brown@mso.umt.edu

Paper Session #12 4:00 PM -4:15 PM 2101

INTERACTION OF SELF-EFFICACY AND NEIGHBORHOOD WALKABILITY ON PHYSICAL ACTIVITY

Andrew Kaczynski, PhD[1] and Melissa Decloe, BA[2]

[1]Department of Kinesiology, Kansas State University, Manhattan, KS and [2]Department of Kinesiology, University of Calgary, Calgary, AB, Canada.

Social ecological physical activity (PA) research would be advanced by better understanding the interactive effects of personal and environmental factors (Sallis et al., 2008). Both self-efficacy (SE) and neighborhood walkability (NW) are established correlates of PA. This study examined how the interaction of these two variables was associated with PA undertaken within participants’ neighborhoods. 585 randomly-selected community residents (60.9% response) completed a questionnaire and 7-day PA log booklet. Three key dimensions of the Neighborhood Environment Walkability Survey (Saelens et al., 2003) - residential density, land use diversity, and street connectivity - were used to derive a walkability index (cf. Frank et al., 2005). Self-efficacy was measured using an 11-item scale (Sallis et al., 1987). The PA log booklet tracked the location of all episodes over one week, from which minutes of PA undertaken within the neighborhood was ascertained. The medians of the NW and SE variables were used to create four groups (e.g., high NW/low SE). Factorial ANOVA was used to examine the number of minutes of neighborhood-based PA across the four NW/SE groups, controlling for age, gender, and BMI. Participants in the high NW/high SE group reported a significantly higher level of neighborhood PA (M= 133.5 min) than the other three groups, while those in the low NW/low SE group had the lowest amount (M=81.1). The low NW/high SE group reported a statistically similar amount of neighborhood PA (M=112.8) to the high NW/low SE group (M= 115.2). In summary, high NW and high SE interacted to produce the group with the greatest PA. As well, adults with high SE appeared to overcome their perception of living in a low-walkable neighborhood, while having low SE was mitigated by living in a high walkable neighborhood. Efforts to promote PA should incoporate both environmental and individual strategies, and future research should explore the combined influence of other environmental (e.g., green space) and personal (e.g., attitudes toward PA) factors.

CORRESPONDING AUTHOR: Andrew Kaczynski, PhD, Kinesiology, Kansas State University, Manhattan, KS, 66506; atkaczyn@ksu.edu

Paper Session #12 4:15 PM -4:30 PM 2102

COLLECTIVE EFFICACY MODERATES AGE-RELATED DECLINES IN PARK VISITATION ACROSS MONTREAL NEIGHBOURHOODS

Spencer Moore, PhD, MPH,[1,2] U. Bockenholt, PhD,[3] M. Daniel, PhD,[4,2] L. Dubé, PhD,[3] L. Gauvin, PhD[2,5] and L. Richard, PhD[5]

[1]Queen's University, Kingston, ON, Canada; [2]Centre de recherche du Centre Hospitalier de l'Université de Montréal, Montreal, QC, Canada; [3]McGill University, Montreal, QC, Canada; [4]University of South Australia, Adelaide, SA, Australia and [5]Université de Montréal, Montreal, QC, Canada.

Background: Recent research has shown that neighbourhood collective efficacy (NCE) is associated with the built environment, including the presence of parks. We examined in Montreal if park visitation (PV) declined with age and if NCE moderated this association.

Methods: Data come from the 2008 Montreal Neighbourhood Social and Organizational Environments and Participation study (MoNSOEP). MoNSOEP used a stratified cluster sampling design with clusters consisting of Montreal census tracts (CTs) (n=862); these clusters were stratified into tertiles of high, medium, and low mean income. From each, 100 CTs were selected. Within each CT, we randomly selected 3 households with residents older than 25 years (n=902). Respondents who reported having a park within walking distance of their home (n=782) were asked if they visited their park 1) frequently, 2) occasionally, or 3) not at all. We dichotomized PV responses into "not at all" and "frequently or occasionally." Age was continuous. We adapted Sampson's collective efficacy scale to operationalize NCE. Using multilevel logistic regression, we examined the association of age with PV and moderation of this association by NCE, adjusting for individual and other neighbourhood factors. We evaluate NCE using the median odds ratio (MOR) and proportional change in variance (PCV).

Results: Park visitation had, in the null model, a MOR of 1.81. In the individual-level model, age (Odds Ratio=0.96, 95%Confidence Intervals=0.94–0.97) had an inverse association with PV (MOR=1.75, PCV=-11.3%). NCE moderated decreases in age-related park visitation whereby no decline was found among older adults in areas of higher NCE (MOR=1.67; PCV=-15.0%).

Conclusion: For older adults residing in areas with higher NCE there is no age-related decline in park visitation as seen among older adults in areas with lower NCE.

CORRESPONDING AUTHOR: Spencer Moore, PhD, MPH, Queen's University, Kingston, ON, K7K 3N6; mooresp@queensu.ca

Paper Session #12 4:30 PM -4:45 PM 2103

DOES REGION AFFECT GENERALIZABILITY?: PRELIMINARY EXAMINATION OF THE COLORADO STRIDE EXERCISE INTERVENTION

Renea Nilsson, BA,[1] Laura Carpenter, BA,[1] Sara Anne Tompkins, PhD,[1] Bess Marcus, PhD,[2] Joe Ciccolo, PhD[2] and Angela Bryan, PhD[3]

[1]Psychology, U of Colorado, Boulder, CO; [2]Psychology, Brown U, Providence, RI and [3]Psychology, U of New Mexico, Alburquerque, NM.

As more effective physical activity interventions are developed, studies examining their generalizability to other populations and settings are necessary (Singh, 2002). The present study examines changes in voluntary physical activity from baseline to a 6 month follow-up in Colorado STRIDE participants. CO STRIDE replicates a previously validated and successful intervention (i.e., Project STRIDE (Marcus et al., 2003)) tested in the Northeastern region of the U.S. 143 non-active participants were recruited for a year-long randomized control trial. The sample is predominately white (68.5%) and female (82.5%) with a mean age of 29.3, SD=7.8. Half of the sample is randomized into the CO STRIDE exercise intervention and half into a health and wellness contact control. The current analysis examines changes in minutes per week of voluntary physical activity (i.e., PAR) from baseline to 6 months. A repeated-measures ANOVA shows both exercise and health and wellness groups reporting a significant increase in voluntary physical activity minutes over time (F (1, 141)=46.91, p=.05, η2=.25) with no significant groupXtime interaction (p>.05). Our findings show that regardless of whether participants receive individually tailored information on exercise or information about general health topics, they are increasing voluntary physical activity over a 6 month period. This is inconsistent with previous STRIDE intervention findings (Marcus et al., 2003). We speculate that perhaps varying environmental factors between the northeastern and the western region may prove to be important. Further analyses will be conducted to test this hypothesis by comparing neighborhood environment data collected in both regions. The findings will encourage further research on regional factors that may influence physical activity behavior and responsivity to physical activity interventions and ultimately assist in developing more cost-effective and suitable physical activity interventions based on region.

CORRESPONDING AUTHOR: Renea Nilsson, BA, Psychology, University of Colorado at Boulder, Boulder, CO, 80303; renea.nilsson@gmail.com

Paper Session #12 4:45 PM -5:00 PM 2104

FACTORS DIFFERENTIATING ACTIVE VS. NON-ACTIVE COMMUTERS TO CAMPUS

Andrew Kaczynski, PhD, Pamela Wittman, BSc and Melissa Bopp, PhD

Kinesiology, Kansas State University, Manhattan, KS.

Active commuting (AC) offers a promising means to integrate physical activity (PA) into daily life routines, but little research has examined differences between active and non-active commuters, especially among adults. This study examined correlates of AC to campus at a large university with a goal of better understanding and fostering increased transportation PA. A campus-wide email recruited 726 useable responses from students (345), faculty (226), and staff (155) to an online survey. Logistic regression was used to predict (separately) if a participant walked or biked to campus at least once/week according to gender, age group (+/- 25 years), overall PA level, distance to campus, and several factors that might impact the decision to actively commute. 347 participants (47.8%) walked and 130 (17.9%) biked to campus at least once/week. Gender did not predict walking, but females were less likely to bike to campus (OR=.50). Participants older than 25 years were less likely to walk (OR=.09) and bike (OR=.58). Faculty were less likely than students to walk (OR=.10), but not bike (OR=.96). Living more than a 20 minute walk or bike ride from campus was associated with decreased odds of walking (OR=.03) and biking (OR=.15), respectively. Participants who met current recommendations for PA were more likely to both walk (OR=1.83) and bike (OR=2.67) to campus. Finally, people rating time constraints as an important factor affecting their commute mode choice were less likely to walk (OR=.31) and bike (OR=.61). Walking and biking were higher among people concerned about the environment (walk OR=1.84, bike OR=4.45) and health benefits (walk OR=1.71, bike OR=2.80). Parking concerns were related to increased walking (OR=1.94) and economic concerns to increased biking (OR=2.91). These findings shed light on demographic, attitudinal, and behavioral differences between active and non-active commuters that may be targeted in public health promotion efforts, although the cross-sectional data prevent causality inferences and these findings should be generalized with caution beyond the present well-educated, relatively active sample.

CORRESPONDING AUTHOR: Andrew Kaczynski, PhD, Kinesiology, Kansas State University, Manhattan, KS, 66506; atkaczyn@ksu.edu

Paper Session #12 5:00 PM -5:15 PM 2105

THE MODERATING ROLE OF SENSITIVITY TO REWARD IN THE ASSOCIATION BETWEEN DENSITY OF FAST-FOOD OUTLETS AND FAST-FOOD CONSUMPTION

Catherine Paquet, PhD,[1,2] Laurette Dubé, PhD,[3] Bärbel Knäuper, PhD,[3] Lise Gauvin, PhD[2] and Mark Daniel, PhD[1,2]

[1]University of South Australia, Adelaide, SA, Australia; [2]Université de Montréal, Montréal, QC, Canada and [3]McGill University, Montreal, QC, Canada.

BACKGROUND: Some studies have shown that the local fast-food environment is associated with poor diets and obesity. However, these associations have not been consistently demonstrated. Mixed results could be explained by moderating influences that impact one's responsiveness to the environment. Because fast-food offerings are typically high in fat and sugar, which have high reward value, individual differences in sensitivity to reward could explain differences in the association between the density of fast-food cues in the environment and behaviour. This study aimed to establish the moderating role of sensitivity to reward on the relationship between residential fast-food exposure and fast-food consumption. METHODS: Four hundred fifteen participants (49.7% men, age: 18–57 (M=34.7, SD=8.7)) from 7 census tracts of Montreal were asked to complete a health survey. Fast-food consumption was assessed by asking participants if they had visited a fast-food restaurant at least once in the previous week. Sensitivity to reward was measured using the Behavioral Activation System (BAS) scale. Residential fast-food exposure was assessed as the number of restaurants within 500 m of participant's residence, measured using a Geographic Information System. Logistic regression with Generalized Estimating Equations was used to account for clustered observations. RESULTS: A significant interaction was found between BAS and fast-food density, with the positive association between fast-food density and consumption being strongest among persons with higher BAS scores. Stratified analyses by tertiles of BAS indicated that the association between fast-food density and consumption was positive for the highest (OR=1.27; 95%CI: 1.13, 1.45), null for the intermediate (OR=0.97, 95%CI: 0.83, 1.15), and negative for the lowest (OR=0.90, 95%CI: 0.82, 0.98) tertiles. CONCLUSION: Individuals who are more sensitive to reward may be more responsive to the unhealthful cues in their immediate environment.

CORRESPONDING AUTHOR: Catherine Paquet, PhD, School of Health Sciences, University of South Australia, Adelaide, SA, 5001; catherine.paquet@unisa.edu.au

Paper Session #12 5:15 PM -5:30 PM 2106

HOME FOOD AVAILABILITY MAY BE A MARKER FOR A LESS-OBESOGENIC HOME ENVIRONMENT

Dori E. Rosenberg, MPH, MS,[1,2] James Sallis, PhD,[1] Jaqueline Kerr, PhD,[1,2] Greg Norman, PhD,[2] Nefertiti Durant, MD,[3] Sion Harris, PhD[4] and Brian Saelens, PhD[5]

[1]San Diego State, San Diego, CA; [2]Univ California San Diego, San Diego, CA; [3]Univ Alabama, Birmingham, AL; [4]Children's Hospital, Boston, MA and [5]Univ Washington, Seattle, WA.

Background: Home food availability may be a marker of parental attempts to create less obesogenic home environments; if so, it may be related to child weight status and related behaviors.

Purpose: To examine relationships between availability of healthy and unhealthy foods in the home and sedentary behaviors, BMI, and eating related rules.

Participants: Three groups of participants from 3 US cities completed surveys: 176 adolescents (ADOL; 48% male, 61% white, M age=14.6), 171 parents of adolescents (PADOL; 80% female, 62% white, M age=45.0), and 116 parents of children (PCHILD; parents were 85% female, 78% white, M age=39.6; children were 52% female, M age=8.3). Healthy and unhealthy foods in the home (16 items), sedentary behaviors (11 items), BMI, rules for TV related behaviors (8 items), and rules for eating (12 items) were parent or self-reported. Associations were examined with partial correlations adjusted for race, age, and gender of the child/adolescent, and household income.

Results: Healthy food availability was positively related to fruit intake (ADOL r=.19; PADOL=.30; PCHILD r=.24), vegetable intake (PADOL r=.17), and TV rules (PCHILD r=.21) and negatively related to computer time (PCHILD r=-.20) and TV time (PADOL r=-.17; all p's<.05). Unhealthy food availability was negatively related to TV eating rules (ADOL r=-.19; PADOL r=-.26; PCHILD=-.28), general eating rules (ADOLS r=-.30, PADOL=-.39; PCHILD=-.48), TV rules (PADOL r=-.21), computer rules (PADOL=-.18), vegetable intake (ADOL r=-.19; PADOL=-.17), and fruit intake (PCHILD r=-.24), but positively related to playing video games (PADOL r=.22) and TV time (PCHILD r=.38; all p's<.05). BMI z-score was not related to food availability.

Conclusions: Healthy versus unhealthy food availability distinguished households on a variety of health-oriented rules and children's dietary and sedentary behaviors.

CORRESPONDING AUTHOR: Dori E. Rosenberg, MPH, MS, Clinical Psychology, UCSD/SDSU, San Diego, CA, 92103; drosenberg@paceproject.org

Paper Session #13 4:00 PM -4:15 PM 2107

OBESITY REDUCTION BLACK INTERVENTION TRIAL (ORBIT)

Marian L. Fitzgibbon, PhD,[1,2] Melinda R. Stolley, PhD,[1,2] Linda Schiffer, MS, MPH,[1] Lisa K. Sharp, PhD,[1] Vicky Singh, PhD[1] and Alan Dyer, PhD[3]

[1]University of Illinois at Chicago, Department of Medicine, Chicago, IL; [2]Jesse Brown Veterans Affairs Medical Center, Chicago, IL and [3]Northwestern University, Feinberg School of Medicine, Chicago, IL.

The Obesity Reduction Black Intervention Trial (ORBIT) is a randomized controlled trial designed to assess the efficacy of a 6-month weight loss intervention followed by a 1-year maintenance intervention for Black women (CA 105051). This presentation describes the final results at 18 months. Two hundred thirteen obese Black women aged 30 - 65 years were randomized to the intervention group or a general health control group. The intervention encouraged participants to change their diet and physical activity patterns and to maintain the changes over the course of the study. One hundred and ninety-eight women completed the 6-month assessment (93%) and 193 completed the 18-month assessment (91%). At baseline, mean (SD) age was 46(8) years, and mean body mass index (BMI) was 39.2 (5.7) kg/m^2. At 6 months, women in the intervention group had lost significantly more weight than women in the control group (P<.001). They also showed improvement in overall dietary intake as measured by the Healthy Eating Index (P<0.001) and an increase in both moderate (P=0.05) and vigorous activity (P<0.001). At 18 months, women in the intervention group maintained significantly more weight loss than women in the control group (difference between adjusted means for BMI=-1.13 kg/m^2 [-1.83 to -0.43], P=002). They also continued to show positive changes on the Healthy Eating Index (P=.001), but there were no significantly differences in self-reported physical activity between groups. Black women have lost less weight than white women in most trials, to date, suggesting that social and cultural barriers may make weight loss and maintenance more difficult. This study demonstrates that a culturally adapted program can successfully promote weight loss and maintenance in obese Black women. Although mean weight loss in the ORBIT trial was relatively modest, even modest weight loss can have substantial health benefits, if maintained. Findings are discussed.

CORRESPONDING AUTHOR: Marian L. Fitzgibbon, PhD, Medicine, University of Illinois at Chicago, Chicago, IL, 60608; mlf@uic.edu

Paper Session #13 4:15 PM -4:30 PM 2108

BEHAVIORAL AND PHYSIOLOGICAL FACTORS RELATED TO PHYSICAL INACTIVITY OVER TIME IN BLACK WOMEN WITH TYPE 2 DIABETES

Nancy A. Allen, PhD,[1] Gail D. Melkus, PhD,[1] Kris Fennie, PhD[1] and Deborah A. Chyun, PhD[2]

[1]Nursing, Yale University, New Haven, CT and [2]Nursing, New York University, New York City, NY.

Purpose: Black women have reported lower levels of total habitual physical activity (PA) and a higher prevalence of sedentary behavior than White women. Limited information is available about factors associated with a decline in PA over time. Methods: This study examined the difference between physiological and behavioral factors associated with active and inactive Black Women with Type 2 diabetes (T2D) over time. Cross-sectional, baseline and 12 month data of Black women (n=62) enrolled in an intervention study and who met inclusion criteria of a diagnosis of T2D, aged 21–65, non-insulin using, and BMI<36 kg/m2 were analyzed. The following measures were completed: Modifiable Physical Activity Questionnaire, SF-36 (physical function and vitality), Problem Areas in Diabetes, Modifiable Health Care Climate Questionnaire, and Crown-Crisp Index. Results: Subjects were 49±10 years old and obese (35±6.29 kg/m2). Walking was the preferred form of PA (78%), with 85% participating in some type of PA at baseline. At 12 months, 79% remained active and 21% were inactive. Physiological, behavioral, and self-report measures were analyzed at baseline and 12 months. Inactive women had a greater BMI (p=0.01), waist circumference (p=0.005) and lower vitality scores (p=0.02) than active women at baseline and 12 months. There was no difference between active and inactive women at baseline on HbA1c levels or BP, but at 12 months systolic BP (p=0.02) was significantly different. The following were independent predictors of inactivity in logistic model over time: total vitality score (OR=.045, 95% CI 0.99–1.10) and fasting blood glucose level (OR -.015, CI 0.97- 1.00) when controlling for baseline activity. Conclusions: These results suggest that PA interventions for Black women with T2D should promote walking and address vitality in the development, implementation and evaluation of PA interventions. Further research is needed to explore the level of FBG at which vitality is affected.

CORRESPONDING AUTHOR: Nancy A. Allen, PhD, Nursing, Yale University, New Haven, CT, 06536; nancy.a.allen@yale.edu

Paper Session #13 4:30 PM -4:45 PM 2109

HEALTH HABITS IN BLACK ADOLESCENTS: ETHNICITY MATTERS

Judith R. McCalla, PhD, Amanda J. Countryman, BS, Patrice G. Saab, PhD, Stephanie L. Fitzpatrick, MS and Katie Chipungu, BS

Psychology, University of Miami, Coral Gables, FL.

African Americans are at high risk for cardiovascular disease and often have poor health habits. To date, Black ethnic groups, such as Hispanic Blacks and Caribbean Blacks, have not been studied as extensively. This study examined adolescents from three Black ethnic groups to determine if they differed in blood pressure, body mass index (BMI) and health habits. Tenth grade public school students (N=3,735: 51.3% African American, 25.1% Caribbean Black, 23.6% Hispanic Black; 48.3% boys, 51.7% girls) self-reported ethnicity and completed BMI, blood pressure and health habit assessments.

While all three groups reported high levels of stress both in and outside of school, African Americans were less likely to report experiencing stress either in school (p<.01) or outside of school (p<.001) when compared with Caribbean Blacks and Hispanic Blacks. Reported rates (54–58%) of vigorous exercise (at least three times/week for at least 20 min) were similar across groups. African Americans (56%) also reported the lowest rates of sedentary behavior/day when compared with Hispanic Blacks (69%) and Caribbean Blacks (62%) (p<.0001). Across all groups, poor nutritional choices were prevalent. More African Americans (92%) endorsed making poor nutritional choices than Hispanic Blacks (87%) or Caribbean Blacks (86%) (p<.0001). Despite differences in the prevalence of negative health habits, there were no ethnic group differences in blood pressure and BMI (ps>.05).

Within Black youth, ethnicity appears to be associated with differences in the prevalence of negative health habits. This may be attributable to the impact of culture or other social factors on health behaviors. The findings suggest that addressing ethnic differences within racial groups may be the key to creating effective, targeted interventions to improve health habits.

CORRESPONDING AUTHOR: Judith R. McCalla, PhD, Psychology, University of Miami, Coral Gables, FL, 33124-0751; jmccalla@miami.edu

Paper Session #13 4:45 PM -5:00 PM 2110

FAMILY ENVIRONMENTAL MEDIATORS OF AN OBESITY PREVENTION INTERVENTION FOR AFRICAN AMERICAN GIRLS: THE MEMPHIS GEMS

Lisa M. Klesges, PhD,[1,2] Jennifer Lanctot, PhD,[2] George Relyea, MS,[1] Deborah Sherrill-Mittleman, PhD,[2] Michelle Stockton, PhD,[3] Barbara McClanahan, PhD,[3] Robert Klesges, PhD[4,2] and Shiriki Kumanyika, PhD[5]

[1]School of Public Health, University of Memphis, Memphis, TN; [2]Epidemiology and Cancer Control, St. Jude Children's Research Hospital, Memphis, TN; [3]Health and Sport Sciences, University of Memphis, Memphis, TN; [4]Preventive Medicine, University of Tennessee Health Science Center, Memphis, TN and [5]Biostatistics and Epidemiology, University of Pennsylvania, Philadelphia, PA.

Background: Memphis Girls health Enrichment Multi-site Studies (GEMS) was a 2-yr obesity prevention program testing a family-based intervention to reduce excess weight gain in 8–10 yr old African American girls at-risk for overweight, by targeting improvements in diet and physical activity. Girls (n=303) were randomly assigned with one caregiver to active intervention or a comparison group promoting general self-esteem. Purpose: Analyze family environmental mediators of intervention effects on change in behavioral outcomes. Methods: Outcomes included dietary intake (3 24-hr recalls), physical activity (3 days with accelerometer) and family environmental mediators related to eating (e.g., low-fat preparation) and physical activity (e.g., family support). Results: Favorable changes in intake associated with the intervention were observed: reduced intake of total kilocalories (p<.01) and sweetened beverages (p<.01), and increased intake of water (p<.01) and vegetables (p=.03). No significant physical activity differenceswere observed. In latent growth curve models, positive growth effects (all p<.05) for the prevention intervention were seen in family mediation of fruit, juice, and vegetable (FJV)availability, low-fat food preparation, and social support of healthy eating. Though not statistically significant, positive treatment growth effects on girls' dietary intake were mediated through family environment, including FJV intake with availability of fruit, water intake with family support of healthy eating, and total kilocalories with low-fat food preparation. Conclusions: Family-based behavioral interventions hold promise in reducing excessive weight gain in African American girls.

CORRESPONDING AUTHOR: Lisa M. Klesges, PhD, School of Public Health, The University of Memphis, Memphis, TN, 38152; lklesges@memphis.edu

Paper Session #13 5:00 PM -5:15 PM 2111

INTEGRATING MOTIVATIONAL AND FAMILY VARIABLES TO IMPROVE WEIGHT LOSS OUTCOMES IN UNDERSERVED ADOLESCENTS

Heather Kitzman-Ulrich, PhD, Dawn K. Wilson, PhD, Michelle Segal, MA, Amanda Fairchild, PhD, Elizabeth Schneider, BA, Sara Mijares, BA and Steven Blair, PED

University of South Carolina, Columbia, SC.

Effective weight loss programs for adolescents are needed, especially for underserved youth (low-income, ethnic minorities). This preliminary study used a novel approach of integrating motivational and family variables into a family-based weight loss program for overweight adolescents (70% African American, 70% female, BMI=33.7±5.3, age=13±1.4 yrs). Twenty families were randomized to an 8-week motivational + family weight loss (M+FWL) or a basic weight loss education (BWL) intervention consisting of 6 weekly group meetings and a 2-week online internet component. The M+FWL intervention targeted Self-Determination (Motivational) Theory constructs (autonomy, belongingness, competence) and Family Systems Theory constructs (nurturance, social support). The primary hypothesis was that adolescents in the M+FWL group would show greater improvements in body mass index (BMI) z-score, motivation, social support, and nurturance, as compared to the BWL group. BMI z-score was calculated from objective height and weight data. Motivation and social support for diet and physical activity (PA), and family variables were collected with reliable and valid measures. Overall retention rates were high with slightly higher rates in the M+FWL (91%) as compared to the BWL (82%) group. Planned comparisons demonstrated a trend toward greater reduction in adolescent BMI z-score change from baseline to post-intervention in the M+FWL as compared to the BWL group (M=-0.01±0.04 vs. M=0.02±0.08,p=.08). Adolescents in the M+FWL as compared to the BWL group also had greater change in motivation to improve their diet (M=0.49±0.51 vs. M=-0.05±0.48,p<.01) and PA (M=0.39±0.44 vs. M=0.09±0.36,p<.05). Parent social support for eating habits (r=-0.50,p<.03) and nurturance (r=-0.50,p<.03) at post-intervention were correlated with reductions in adolescent BMI in the entire sample equally. These findings provide preliminary support for integrating motivational and family variables into weight loss interventions for adolescents from underserved families.

CORRESPONDING AUTHOR: Heather Kitzman-Ulrich, PhD, Psychology, University of South Carolina, Columbia, SC, 29205; kitzman@mailbox.sc.edu

Paper Session #13 5:15 PM -5:30 PM 2112

SEAMOS ACTIVAS: A CULTURALLY AND LINGUISTICALLY ADAPTED PHYSICAL ACTIVITY (PA) INTERVENTION FOR LATINAS

Dori Pekmezi, PhD,[1] Charles Neighbors, PhD,[2] Kim Gans, PhD,[3] Kathleen Morrow, PhD,[1] Beth Bock, PhD,[1] Christina Lee, PhD,[3] Becky Marquez, PhD[1] and Bess Marcus, PhD[1,3]

[1]The Miriam Hospital and Brown Medical School, Providence, RI; [2]Columbia University, New York, NY and [3]Brown University, Providence, RI.

In the U.S., Latinos report higher rates of inactivity and related conditions (e.g., hypertension, obesity, heart disease, stroke, diabetes) than non-Hispanic whites. Effective PA interventions are needed to address this public health crisis. In the current study, we culturally and linguistically adapted our empirically-supported tailored print PA intervention for Latinas and then began a pilot randomized trial of the modified program (N=94 sedentary Latinas). The sample is mostly overweight/obese (76%), with low levels of income, education, and acculturation. 57% reported an annual household income under $20,000. 48% reported attending 12 or less years of school. Most participants reported being born outside of the U.S. (95%) and speaking only Spanish or more Spanish than English at home (83%). Intervention participants (n=45) receive 6 monthly mailings of motivation-matched PA manuals, tip sheets, and individually-tailored computer expert system feedback reports. Control participants (n=49) receive health information on topics other than PA (e.g., Spanish-language NHLBI pamphlets on heart-healthy behaviors). The main dependent variable is self-reported PA, as measured by the 7-Day PAR at baseline, 3 months, and 6 months. Intent-to-treat analyses indicated that intervention participants increased their moderate intensity PA from a mean of 17 minutes/week (SD=25.8) at baseline to 92 minutes (SD=69.8) at 3 months, whereas control participants increased from 12 minutes/week (SD=21.8) at baseline to 64 minutes (SD=84.3) at 3 months. Results at 3 months lend preliminary support for the efficacy of our intervention and high retention rates (93%) bode well for its feasibility and acceptability. Six month results will be presented. We will also discuss the public health implications of using high-reach, low-cost strategies for promoting physical activity among Latinas and thereby helping reduce health disparities in the U.S.

CORRESPONDING AUTHOR: Dori Pekmezi, PhD, Centers for Behavioral and Preventive Medicine, The Miriam Hospital and Brown Medical School, Providence, RI, 02903; Dorothy_Pekmezi@brown.edu

Paper Session #14 4:00 PM -4:15 PM 2113

SEXUAL ADJUSTMENT AND DEPRESSION FOLLOWING BREAST CANCER IN LOW-INCOME LATINA AND WHITE WOMEN

Kysa M. Christie, MA,[1] Beth E. Meyerowitz, PhD[1] and Rose C. Maly, MD[2]

[1]University of Southern California, Los Angeles, CA and [2]University of California, Los Angeles, Los Angeles, CA.

Much of the psychosocial breast cancer literature focuses on middle to upper-middle class white women, leaving low-income and ethnic minorities underrepresented. In those studies that have addressed the concerns of underserved populations, low-income and ethnicity often co-vary, making it difficult to interpret findings. We address this confusion with data from a longitudinal study of 677 women (425 Latina, 252 White) enrolled in the Medi-Cal Breast and Cervical Cancer Treatment Program. Here we report findings gathered through phone interviews conducted in English or Spanish 18 months following breast cancer diagnosis. Our focus is on two variables that the literature suggests remain salient for breast cancer survivors, sexual adjustment and depression. Results of an ANCOVA that controlled for age, type of surgery, chemotherapy, breast reconstruction, and depression symptoms (10 item CES-D) indicated that Latinas reported more problems with sexual adjustment (Medical Outcomes Scale) than White women (F(1,561)=25.48, p<0.001). Specifically, Latinas reported significantly less sexual desire, greater difficulty relaxing and enjoying sex, greater difficulty becoming sexually aroused or lubricated, and greater difficulty having orgasms than White women. Both Latina and White women endorsed a lack of sexual desire more frequently than problems with sexual function. Seventy-one percent of Latina and 58% of White women said they were uninterested in sex, whereas 43% of Latina and 35% of White women reported difficulty becoming lubricated. In addition, 38% of Latina and 48% of White women scored above clinical cut-off levels for depression. Regression analyses indicated that depression scores significantly predicted worse sexual adjustment for both White and Latina women. Findings suggest that sexual dysfunction may be particularly salient for low-income Latinas, and that low-income Latina and White breast cancer survivors may experience symptoms of depression more than a year following diagnosis.

CORRESPONDING AUTHOR: Kysa M. Christie, MA, Psychology, University of Southern California, Los Angeles, CA, 90089; kchristi@usc.edu

Paper Session #14 4:15 PM -4:30 PM 2114

SEXUAL DYSFUNCTION AND SPOUSAL COMMUNICATION IN COUPLES COPING WITH PROSTATE CANCER

Hoda Badr, PhD and Cindy Carmack Taylor, PhD

Behavioral Science, University of Texas M. D. Anderson Cancer Center, Houston, TX.

Sexual dysfunction, which affects 33–98% of men diagnosed with prostate cancer, is a frequently compromised aspect of patient and partner quality of life. Because sexual dysfunction is a sensitive topic, couples may not discuss it. However, not discussing the sexual relationship may exacerbate patient and partner distress. Research has demonstrated significant associations between couples' adaptation and three strategies used when discussing cancer-related concerns (mutual constructive communication, mutual avoidance, and demand-withdraw communication). In this cross-sectional study, we evaluated whether associations between patient and partner sexual dysfunction and psychosocial adjustment vary depending on spousal communication patterns. Prostate cancer patients and their partners ($N=116$ couples) completed psychosocial questionnaires. Within couples, patients' and their partners' sexual function was moderately to highly correlated ($r=.30$ to .74). Patients and partners who reported high levels (+1SD) of mutual constructive communication reported greater marital adjustment, regardless of their own sexual satisfaction. In contrast, greater sexual dissatisfaction was associated with poorer marital adjustment in patients and partners who reported low levels (-1SD) of mutual constructive communication ($p < .05$). Interestingly, when patients had poor erectile function, their partners were more likely to report that the couple avoided open spousal discussions; this in turn was associated with partners' marital distress (Sobel's $Z=12.47$, $p=.001$). This study highlights the importance of viewing sexual dysfunction after prostate cancer as a couples' issue. Although some couples may be reluctant to discuss sexual issues and concerns, such discussions may help to alleviate the negative impact that sexual problems can have on both partners' marital adjustment. Future psychosocial interventions that target spousal communication patterns and address both partners' sexual rehabilitation needs may thus help to facilitate couples' psychosocial adaptation after prostate cancer treatment.

CORRESPONDING AUTHOR: Hoda Badr, PhD, behavioral science, m d anderson cancer center, Houston, TX, 77494; hodab01@gmail.com

Paper Session #14 4:30 PM -4:45 PM 2115

EFFECT OF PAROXETINE HYDROCHLORIDE ON CHEMOTHERAPY-RELATED MEMORY PROBLEMS (CRMP): A URCC CCOP STUDY

Pascal Jean-Pierre, PhD,[1] Supriya Mohile, MD, MS,[1] GAry Morrow, PhD, MS,[1] Joseph Roscoe, PhD,[1] Nanette Nier, RN,[2] Devinder Singh, MD[3] and Andrew Jacobs, MD[4]

[1]Radiation Oncology, University of Rochester Medical Center, Rochester, NY; [2]North Shore CCOP, Lake Success, NY; [3]Western Regional CCOP, Phoenix, AZ and [4]Virginia Mason CCOP, Seattle, WA.

BACKGROUND: Cancer treatment can impact memory, a central component of psychological, cognitive, and socio-relational functioning. Incidence rates of CRMP range between 17% to 75%. CRMP could impact psychosocial functioning and quality of life. Few studies, however, have examined the use of pharmacotherapy to control CRMP. The present study examines the effect of paroxetine hydrochloride (Paxil) on CRMP.

METHODS: The sample included 574 female and 207 male between 22 and 87 years. Five items from the Fatigue Symptom Checklist related to memory problems were aggregated into a brief measure of Self-Reported Memory Problems (SRMP). Reliability assessment (Cronbach α) and principal components analysis (PCA) were conducted on the SRMP. Repeated-measure-ANOVA (r-ANOVA) was perform to assess changes in mean scores on the SRMP. T-tests were used to assess differences between Paxil and placebo across time.

RESULTS: Reliability assessment showed a Cronbach $\alpha=.90$, supporting the reliability of this measure for the present sample. The PCA revealed a one-component structure that explained 72% of the variance. The r-ANOVA revealed a significant difference between scores on the SRMP at baseline (after first chemotherapy cycle, and before Paxil) and follow-up (after four cycles of chemotherapy, after Paxil) (Wilks' Lambda=.99, $F(1, 583)=5.52$, $p=0.02$). T-tests also showed a significant effect of Paxil on CRMP ($p<0.05$).

CONCLUSION: CRMP is a serious cancer-related side effect. The present study showed that Paxil helped alleviate CRMP. Future studies should examine the usefulness of other psychotropic agents for CRMP, as well as the added benefit of combined behavioral and pharmacologic interventions to control CRMP.

Keywords: Chemotherapy, memory problems, paroxetine hydrochloride, and Paxil.

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CORRESPONDING AUTHOR: Pascal Jean-Pierre, PhD, Radiation Oncology, University of Rochester Medical Center, Rochester, NY, 14450; Pascal_Jean-Pierre@urmc.rochester.edu

Paper Session #14 4:45 PM -5:00 PM 2116

PERCEIVED COGNITIVE FUNCTIONING OF LONGER-TERM BREAST CANCER SURVIVORS: CHARACTERISTICS AND CORRELATES

Heather L. McGinty, BS,[1,2] Yasmin Asvat, MA,[1,2] Andrea Gallagher, BA,[2] Michael Andrykowski, PhD[3] and Paul B. Jacobsen, PhD[1,2]

[1]Clinical Psychology, University of South Florida, Tampa, FL; [2]Moffitt Cancer Center, Tampa, FL and [3]University of Kentucky, Lexington, KY.

This study describes perceived cognitive functioning of cancer survivors in relation to demographic, clinical and psychosocial characteristics. The aim was to determine which variables were related to lingering cognitive complaints following treatment completion. The sample consisted of 216 stage 0-II breast cancer survivors 3 years after active treatment (radiation, chemotherapy, or both). Participants completed measures of perceived cognitive functioning (Multiple Abilities Questionnaire), depression (Center for Epidemiologic Studies Depression Scale), fatigue (Fatigue Symptom Inventory & MOS SF-36 fatigue subscale), and perceived health (MOS SF-36 general health item). Demographic & clinical information was also collected. For psychosocial characteristics, better perceived cognitive functioning was related to better subjective health ($r=0.39$, $p<.0001$), less depressive symptomatology ($r=-0.52$, $p<.0001$), less fatigue ($r=-0.45$, $p<.0001$), and less reported fatigue disruptiveness ($r=-0.50$, $p<.0001$). For demographic and clinical factors, better perceived cognitive functioning was related to higher education ($r=0.18$, $p<.05$), pre-menopausal status ($r=-0.15$, $p<.05$) and having received radiotherapy alone versus chemotherapy ($r=-0.19$, $p<.01$). There were no reported cognitive differences by age, race, ethnicity, disease stage, tamoxifen use, or surgery type. These findings demonstrate significant contributions of psychosocial, demographic, and clinical variables to perceived cognition in cancer survivors at long-term follow-up. Results suggest that interventions for fatigue and depression may have beneficial effects on perceived cognitive functioning in this patient population. Future research should investigate possible mechanisms underlying these relationships. Results also encourage study of mechanisms by which chemotherapy administration may adversely affect cognitive functioning.

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CORRESPONDING AUTHOR: Heather L. McGinty, BS, Clinical Psychology, University of South Florida, Tampa, FL, 33620; heather.mcginty@moffitt.org

Paper Session #14 5:00 PM -5:15 PM 2117

LONGITUDINAL CHANGE IN FATIGUE, DEPRESSION, SLEEP, AND DAILY ACTIVITY IN PATIENTS UNDERGOING CHEMOTHERAPY FOR GYNECOLOGIC CANCER

Heather Jim, PhD, Leigh Anne Faul, PhD, Marcela Peres, BA, Sachin Apte, MD and Paul B. Jacobsen, PhD

Moffitt Cancer Center, Tampa, FL.

PURPOSE: Chemotherapy is associated with significant side effects and symptoms. Of these, fatigue, depression, and changes in daily patterns of sleep and activity are common, yet few studies have investigated these side effects longitudinally. The aim of this study was to examine change in fatigue, depression, sleep, and daily activity over the course of chemotherapy in women with gynecologic cancer.

METHODS: Participants were 40 women (mean age=64, range 38–86) diagnosed with gynecologic cancer and scheduled to receive intravenous platinum-based chemotherapy. Participants were assessed the week before and the week after the first three cycles of chemotherapy for a total of six weeks of assessment. They were administered the Fatigue Symptom Inventory (FSI) and Center for Epidemiological Studies - Depression Scale (CESD) at the end of each week. Sleep and activity were assessed with continuous actigraphic monitoring (MiniMitter, Bend, OR). Actigraphy data was normalized using natural log transformations and data were analyzed with repeated measures ANOVAS.

RESULTS: Fatigue, depression, sleep, and daily activity changed significantly over time ($ps<.05$). A cyclical pattern was observed in which fatigue and depression were lowest in the weeks before chemotherapy and highest in the weeks after. A similar cyclical pattern was observed in sleep and daily activity in which patients slept more during the day and displayed more disrupted sleep at night in the weeks after infusions compared to the weeks before. CONCLUSIONS: Findings suggest that fatigue, depression, disrupted sleep, and reduced activity occur in a cyclical pattern over time in women receiving treatment with platinum-based chemotherapy for gynecologic cancer. Future studies should test interventions to prevent or reduce these side effects in this population.

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CORRESPONDING AUTHOR: Heather Jim, Ph.D., Moffitt Cancer Center, 12902 Magnolia Drive MRC-PSY, Tampa, FL, 33612, phone: 813-745-6369, fax: 813-7453906, email: heather.jim@moffitt.org

Paper Session #14 5:15 PM -5:30 PM 2118

CONGRUENCE BETWEEN DAILY DIARIES AND RETROSPECTIVE RATINGS OF FATIGUE AND DEPRESSION AMONG WOMEN WITH GYNECOLOGIC CANCER UNDERGOING CHEMOTHERAPY

Leigh Anne Faul, PhD, Pam Reiersen, BA, Paul Jacobsen, PhD, William Roberts, MD and Heather Jim, PhD

Moffitt Cancer Center, Tampa, FL.

PURPOSE: Symptoms and side effects of cancer treatment are commonly evaluated with measures that ask patients to recall how they have been feeling in the past week. Research suggests that patients have difficulty accurately recalling side effects such as pain. However, little research has examined patients' recall of depression and fatigue, commonly experienced during treatment. This study sought to compare weekly retrospective ratings to daily diary ratings of fatigue and depression in women receiving chemotherapy for gynecologic cancer.

METHODS: Participants were 35 women [mean age=65 years (range 38–86 yrs, SD=10.58),69% married, 17% graduated college, 57% retired, and 91% Caucasian] diagnosed with primary gynecologic cancer and scheduled to begin platinum-based chemotherapy. Patients were assessed the week before and the week after the first 3 cycles of chemotherapy (total of 6 weeks). Patients provided weekly ratings of most, least, and average fatigue(FSI) and depressive symptoms (CES-D). During the same six weeks, a small alarm (at 10 AM, 2 PM, & 6 PM daily) prompted patients to rate fatigue and depression. Pearson correlations were used to compare weekly to daily ratings.

RESULTS: Across the 6 weeks, correlations between average daily ratings and weekly retrospective ratings for depression ranged between .51 and .77 (all ps<.01). Correlations between daily and weekly ratings for most fatigue ranged between .70 and .88, for least fatigue ranged between .41 and .92, and average fatigue ranged between .69 and .86 for (all ps<.05).

CONCLUSIONS: Overall, there was moderate to high congruence between daily and weekly retrospective ratings of fatigue and depression for participants. Congruence was highest for retrospective and daily reports of Most and Average side effects. These findings suggest that weekly retrospective self-report symptom measures are generally comparable to daily diaries. Additional research is needed to determine under which conditions recall is most accurate.

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CORRESPONDING AUTHOR: Leigh Anne Faul, PhD, Moffitt Cancer Center, Tampa, FL, 33612; leigh.faul@moffitt.org

Paper Session #15 4:00 PM -4:15 PM 2119

GAY MEN'S KNOWLEDGE AND ATTITUDES ABOUT THE PROSTATE AND PROSTATE CANCER

Thomas Blank, PhD,[1] Marysol Asencio, DrPH[1] and Lara Descartes, PhD[2]

[1]Human Development, University of Connecticut, Storrs, CT and [2]Brescia University College, London, ON, Canada.

Because of its commonness for all middle-aged and older men, a sizable percentage of gay men will deal with prostate cancer and other prostate issues. Yet, this group's understanding of and attitudes toward prostate health knowledge, screening, treatments, and potential treatment effects are unknown. This research included a total of 36 men in five focus groups, with an average age of 50. The sample was very diverse, with 8 African-Americans and 11 Latinos; about a third of the sample was HIV seropositive, and over a third were low income. Half were in partnered relationships. Focus group discussions indicated significant lack of clear knowledge of where the prostate was, what its purpose was, and the nature of testing (even though most had had both digital rectal examinations and PSA tests). Most did not know the details of prostate cancer treatments and, especially, their relatively common side effects having to do with erectile function and incontinence and how those might specifically affect their preferred sexual activities. Many were leery of the health care system and biases inherent in it, although most had come out to their current doctors and felt they would in the case of treatment for prostate cancer. There were sharp disagreements as to whether it would be better to be partnered or not in the event of dealing with prostate cancer. Importantly, many men expressed that dealing with prostate cancer would not be different for a gay man, because "everyone's prostate is the same." These results indicate that it is especially important to pay attention to both the commonality of the experience across sexual orientations and also the specific issues that are different for gay men. Also, in a manner similar to racial and ethnic minorities, specific efforts must be made in prevention, screening, and support to tailor messages and insure availability of full access to sensitive health care.

CORRESPONDING AUTHOR: Thomas Blank, PhD, Human Development, University of Connecticut, Storrs, CT, 06269; thomas.blank@uconn.edu

Paper Session #15 4:15 PM -4:30 PM 2120

DIFFERENCES BETWEEN AFRICAN AMERICAN AND WHITE MEN IN WORRIES AND EXPECTATIONS ABOUT PROSTATE CANCER TREATMENT, NEED FOR INFORMATION, AND DECISIONAL REGRET

Nihal E. Mohamed, PhD and Michael A. Diefenbach, PhD

Department Of Urology, Mount Sinai Medical Center, New York, NY.

Background: Research indicated that African American men have the highest incidence rate for prostate cancer in the US, are more likely to die of the disease, and less likely to undergo radical prostatectomy than White men. The present study examined differences between African America and White patients in worries and expectations about prostate cancer treatment, depressive symptoms, and decisional regret over six months following diagnosis and treatment.

Materials and Methods: Participants (N=185) were African American (n=87, Mean age=61.7 years; SD=9.6) and White men (n=98, Mean age=65.3 years; SD=7.8) diagnosed with localized prostate cancer. The majority was married (76.8%), retired (51.4%), and has educational level≤12 Grade (54%). Patients completed questionnaires at diagnosis and six months later. Prostate cancer treatment-related beliefs, worries, and expectations, and depressive symptoms (CES-D) were measured at baseline. Regret of treatment decision and worries about prostate cancer recurrence were measured at six months following treatment.

Results. About 53% of patients had external radiation therapy, 21% prostatectomy, 19% brachytherapy, 7% opted for watchful waiting. No significant impact of race on prostate cancer treatment emerged (X 2=.03; df=4; p=.99). At baseline African American men felt less informed about treatment , were more worried about surgery causing pain, impotence, and not curing cancer, and more worried about radiation treatment causing another cancer compared to White men (all ps<.05). At six months, African American men felt more regretful about treatment decisions (ps<.05).

Conclusions. The present study provides evidence for differential effects of race on need of information, expectations and worries about prostate cancer treatment, and decisional regret. Results emphasize the need for more culturally sensitive and community-based education to enhance African American men understanding of prostate cancer and treatment treatments.

CORRESPONDING AUTHOR: Nihal E. Mohamed, PhD, Department Of Urology, Mount Sinai Medical Center, New York, NY, 10029; Nihal.Mohamed@mountsinai.org

Paper Session #15 4:30 PM -4:45 PM 2121

THE CONTRIBUTION OF GENERAL AND SPECIFIC EXPECTATIONS TO PROSTATE-CANCER RELATED QUALITY OF LIFE AFTER ROBOTIC PROSTATECTOMY

Andrea A. Thornton, PhD,[1] Martin A. Perez, PhD[1,2] and Sindy Oh, PhD[1,3]

[1]Psychology, City of Hope, Duarte, CA; [2]Private Practice, Pasadena, CA and [3]Psychology, University of Southern California, Los Angeles, CA.

We examined the contribution of generalized positive expectations (optimism) versus specific expectations to prostate-cancer related quality of life (QoL) in a longitudinal sample of 74 men who underwent robotic prostatectomy for early-stage prostate cancer. Participants were a mean age of 61 years, predominately Caucasian (84%), partnered/married (81%), and highly educated (68% completed college). Optimism and specific expectations for each QoL outcome were measured presurgery; QoL was measured presurgery and 1 year postsurgery. Optimism correlated significantly with specific expectations for urinary problems (r=-.23), affection from partner (r=.29), and health worry (r=-.28), and the following postsurgery QoL components: Urinary Control, Sexual Intimacy, Masculine Self-Esteem, Cancer Control, and Health Worry (r range .23 - .45). Specific expectations correlated significantly with postsurgery Urinary Control, Sexual Intimacy, Sexual Confidence, Masculine Self-Esteem, Marital Affection, Health Worry, Life Outlook, and Cancer Control (r range .22 - .62). In multivariate models, presurgery QoL emerged as the strongest predictor of postsurgery QoL. However, specific expectations contributed unique variance to the models predicting Urinary Control, Cancer Control, and Health Worry; and optimism also contributed unique variance to Cancer Control. Expectations for health worry partially mediated the relationship between optimism and postsurgery Cancer Control (optimism standardized beta fell from .39 to .25; Sobel Z=2.28, p<.05). Findings suggest that optimism and specific expectations independently predict postsurgical adjustment to robotic prostatectomy across several QoL domains. In multivariate models, specific expectations may be more predictive of QoL than optimism. Presurgery QoL and specific expectations may be good targets for future intervention studies with this population.

CORRESPONDING AUTHOR: Andrea A. Thornton, PhD, Psychology, City of Hope, Duarte, CA, 91711; athornton@coh.org

Paper Session #15 4:45 PM -5:00 PM 2122

ASSOCIATIONS BETWEEN UNCERTAINTY, ANXIETY, AND QUALITY OF LIFE IN MEN WITH PROSTATE CANCER ON ACTIVE SURVEILLANCE

Patricia A. Parker, PhD,[1] David M. Latini, PhD,[2,3] John F. Ward, MD,[1] Curtis Pettaway, MD,[1] Louis L. Pisters, MD,[1] Surena Matin, MD,[1] Steven J. Frank, MD,[1] Victoria Brown, BS, RN,[1] Deborah Kuban, MD,[1] Christopher Logothetis, MD,[1] Jeri Kim, MD[1] and John W. Davis, MD[1]

[1]The University of Texas M. D. Anderson Cancer Center, Houston, TX; [2]Baylor College of Medicine, Houston, TX and [3]Houston VA HSR&D Center for Excellence, Houston, TX.

Active surveillance (AS) or watchful waiting has emerged as a viable option for select men with low stage, low-volume prostate cancer. While avoiding potential side effects of definitive local therapy, AS may create uncertainty and anxiety for men with prostate cancer. This study examined the associations between illness uncertainty and anxiety and quality of life (QOL) during the first 6 months on an AS protocol at a tertiary cancer center. Participants (n=96) were primarily (81%) Caucasian with an average age of 65.4 years (SD=8.2). Average baseline PSA was 4.09 (SD=2.4); 87% had T1 and 13% had T2 disease. Participants completed the Mishel Uncertainty in Illness Scale, Spielberger State-Trait Anxiety Inventory, and the SF-12 [Physical and Mental Health Summary Scales (PCS and MCS)] upon study entry and 6 months later. Controlling for demographic (age, ethnicity), medical [PSA at study entry, clinical stage, study arm (low risk, not low risk but refused early intervention, or precluded from local therapy due to comorbidities)], and baseline MCS, uncertainty at baseline was significantly associated with MCS scores 6 months later (beta=-.19, p=.05). There was no association between uncertainty and PCS scores (p>.10). A similar analysis was conducted to examine whether anxiety at baseline was associated with MCS and PCS scores 6 months later (controlling for demographic and medical variables and respective baseline QOL score). Results indicated that anxiety scores at baseline predicted lower MCS and PCS scores 6 months later (beta=-.31, p=.01 and beta=-.18, p=.05, respectively). Thus, greater illness uncertainty and anxiety were both associated with lower QOL 6 months later. Interventions that focus on reducing uncertainty and anxiety may enhance the QOL of men on AS for prostate cancer.

CORRESPONDING AUTHOR: Patricia A. Parker, PhD, Behavioral Science, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 77230-1439; pparker@mdanderson.org

Paper Session #15 5:00 PM -5:15 PM 2123

VALUES INSIGHT AND BALANCE EVALUATION SCALES (VIBES-PC): PSYCHOMETRIC CHARACTERISTICS IN THE PROSTATE CANCER CLINICAL SETTING

Gregory L. Green, MPH,[1] Laura P. Sands, PhD,[2] David M. Latini, PhD,[3] Peninah Kaniu, MPH,[1] Judith C. Barker, PhD,[4] Mary-Margaret Chren, MD[1,4] and Sara J. Knight, PhD[1,4]

[1]San Francisco VA Medical Center, San Francisco, CA; [2]Purdue Univ, Lafayette, IN; [3]Baylor Univ, Houston, TX and [4]Univ of California, San Francisco, CA.

Measures of patient preferences are needed that allow participants to easily judge the importance of treatment characteristics. We evaluated the psychometric characteristics of such a measure for decision making in localized prostate cancer care, the Values Insight and Balance Evaluation Scales-Prostate Cancer (VIBEs-PC).

250 men with localized prostate cancer recruited from urology clinics completed the VIBEs-PC and decision satisfaction and conflict scales. The VIBEs-PC was developed with extensive input from patients in 14 focus groups. Its hypothesized subscales include: Important Relationships, Urinary Function, Responsibilities, Survival, Treatment Characteristics, Self-Esteem, Sexual Function, and Other Side Effects. Item and subscale statistics were calculated and correlational analyses and t-tests were conducted to examine hypothesized relationships between the VIBEs and measures of similar (treatment choice) and dissimilar (decision satisfaction and conflict)constructs.

Participant mean age was 66 (range 40–87) and most self-identified as Caucasian (86%). Participants used the full range of each scale and there was reasonable variability in responses. Cronbach's alphas ranged from 0.70–0.90. As predicted, specific preferences for treatment were not highly related to decision satisfaction and conflict (range=-0.238 to 0.03), but were related to treatment choice in the expected directions. For men who selected no treatment (watchful waiting) compared to those choosing treatment, preference to avoid disruption of responsibilities was higher and to increase survival was lower (p=0.009 and 0.001, respectively).

The VIBEs-PC shows potential as a measure of patient preferences for use in decision making in the clinical prostate cancer setting. Internal consistency reliability is adequate to excellent, there is no evidence of ceiling or floor effects, and there is initial evidence for construct validity.

CORRESPONDING AUTHOR: Gregory L. Green, MPH, HSR&D REAP, San Francisco VA Medical Center, San Francisco, CA, 94121; Gregory.Green@va.gov

Paper Session #15 5:15 PM -5:30 PM 2124

INFORMED DECISION MAKING REGARDING PROSTATE CANCER SCREENING AMONG LATINO MEN

Roshan Bastani, PhD,[1] Beth Glenn, PhD,[1] Marina Alvarez, MPH,[1] Catherine Crespi, PhD,[1] Cindy Chang, MS,[1] Weng Kee Wong, PhD[1] and Ron Myers, PhD[2]

[1]School of Public Health, UCLA, Los Angeles, CA and [2]Medical Oncology, Thomas Jefferson University, Philadelphia, PA.

Given the controversy about the value of PSA screening, informed decision-making is rapidly becoming the standard of care in this area. However, there is a paucity of information regarding the best ways to promote an "informed decision" regarding PSA screening and this gap is especially acute for ethnic minority men. We report baseline data from a randomized trial to increase informed decision-making about PSA screening in a community sample of Latino men in the Los Angeles region.

We interviewed 849 never screened Latino men ages 50–70. We measured components/prerequisites of informed decision-making including: communication with doctors, family or friends about PSA testing (yes/no); prostate cancer knowledge (4-items); knowledge of pros/cons of screening (6-items); proficiency/literacy in health care settings (4-items).

Most men (96%) were immigrants, with very low income and education, and 49% no health insurance, public or private. Only 10% had discussed prostate cancer with a physician and 26% with family/friends. General prostate cancer knowledge was adequate, Mdn=3. But knowledge of pros/cons of screening was very low, Mdn=1. Most (73%) had some difficulty in proficiency/literacy in health care settings and this was associated with lower prostate cancer knowledge (bivariate p=.03; multivariate p=.06). Younger age (p=.04), higher education (p=.05), greater percent lifetime in US (p=.05) and communication (p=.03) were associated with higher knowledge of pros/cons bivariately; Communication with physician/family/friends was the only multivariate predictor of knowledge of pros/cons (p=.05).

Low income, immigrant Latinos have very low knowledge about pros/cons of prostate cancer screening. Interventions are needed to prepare men in this segment of the population to make informed decisions about screening. Such approaches will need to take into account their low levels of proficiency/literacy in health care settings and difficulties in access to providers for a discussion of these issues.

CORRESPONDING AUTHOR: Roshan Bastani, PhD, School of Public Health, UCLA, Los Angeles, CA, 90095 6900; bastani@ucla.edu

Paper Session #16 4:00 PM -4:15 PM 2125

TEXAS I-CAN! IS THE INCREASE IN STEP COUNT DURING PHYSICALLY ACTIVE ACADEMIC GAMES SIMILAR ACROSS ETHNICITY, GENDER, AND BMI?

John B. Bartholomew, PhD, Esbelle M. Jowers, PhD, Lauren A. Grieco, MA and Shanna Smith, PhD

Kinesiology and Health Ed., The University of Texas, Austin, TX.

The Texas I-CAN! Curriculum is similar to other active games that are designed to achieve regular education goals through 10–15 min of physical activity. Because these are teacher-mandated, children have less choice in their adherence. As such, one would not expect common predictors of activity (BMI, sex, race) to moderate the effects of these interventions. This study was designed to test this hypothesis. Eight schools were randomly assigned to condition. Within these, 52 3rd grade teachers and 720 students were recruited to participate. Experimental teachers were provided lesson plans, equipment, and 8 hrs of Texas I-CAN! training. These teachers were asked to implement lessons on at least 4 of 5 d/wk over 6 months. Four teachers did not attend the training. Their classrooms were eliminated.

Pedometers were affixed above the iliac crest of the hip with an elastic belt. Step counts were measured for 5 consecutive days prior to and post the 6-month intervention, with research staff placing and removing the pedometers. HT and WT were measured using a digital scale and portable stadiometer, and children were classified by BMI category for their age and sex. Ethnicity and sex were collected from school records.

Because this is a cluster-randomized experimental design, data were analyzed via a 4-level (pre-post, child, class/teacher, school) HLM. Overall, experimental students had a significant increase in steps, compared to a reduction in steps for controls. There were also significant main effects for sex and BMI. Females took fewer steps than males, and students with high BMI took fewer steps than others. There were no effects for ethnicity, nor were there significant interactions with demographic factors. Thus, although female and high BMI students took fewer steps at both time points, the increase in steps was similar for all demographic categories in the experimental group. These data suggest that active games may be an attractive intervention as they are equally effective across all children.

CORRESPONDING AUTHOR: John B. Bartholomew, PhD, Kinesiology and Health Ed., The University of Texas, Austin, TX, 78712-1204; john.bart@mail.utexas.edu

Paper Session #16 4:15 PM -4:30 PM 2126

CAN VIDEO GAMES IMPROVE HEALTH? A SYSTEMATIC REVIEW

Brian A. Primack, MD, EdM, MS,[1] Mary V. Carroll, BA,[1] Megan McNamara, MD,[2] Mary Lou Klem, PhD, MLS,[1] Brandy King, MLIS,[3] Michael Rich, MD, MPH[3] and Smita Nayak, MD[1]

[1]University of Pittsburgh, Pittsburgh, PA; [2]Case Western Reserve University, Cleveland, OH and [3]Center on Media and Child Health, Boston, MA.

Background: Video gaming has been associated with negative health consequences such as aggression and obesity. However, video games also may be useful for therapeutic purposes. The purpose of this study was to conduct a systematic review of randomized controlled trials to determine if video games can be used to improve health outcomes.
Search Strategy: Systematic literature searches were performed in April 2008 in six databases: MEDLINE, CINAHL, PsycINFO, EMBASE, the Cochrane Central Register of Controlled Trials, and the Center on Media and Child Health Database of Research. Reference lists of relevant articles were hand-searched to identify additional studies.
Study Selection: We included only studies that used a randomized controlled trial design to test the effect of video games on a positive, clinically relevant health consequence. Study selection criteria were applied independently by two researchers.
Data Extraction: Study logistic information (e.g. location, funding source), sample data (e.g., number of study participants, demographics), intervention and control details, outcomes data, and study quality measures were abstracted independently by two researchers.
Results: Of 1260 articles retrieved using our search strategy, 22 met all criteria for inclusion (inter-rater agreement=98%, kappa=0.53). Of the 22 selected studies, 8 used video games to improve knowledge or self-management of health conditions (such as asthma or diabetes), 5 involved distraction from pain, 7 involved physiologic training (e.g., after a stroke), and 2 aimed to improve physical fitness. Video games improved primary outcomes in 80% of studies related to pain, 38% related to knowledge/self-management, 71% related to training, and 50% related to physical activity.
Discussion: Few randomized controlled trials of the use of video games to improve health outcomes have been conducted to date, and results are mixed.

CORRESPONDING AUTHOR: Brian A. Primack, MD, EdM, MS, University of Pittsburgh, Pittsburgh, PA, 15213; bprimack@pitt.edu

Paper Session #16 4:30 PM -4:45 PM 2127

12-MONTH OUTCOMES OF A MULTI-MEDIA OBESITY PREVENTION PROGRAM FOR ADOLESCENTS

Leanne Mauriello, PhD, Karen Sherman, BA, Andrea Paiva, PhD, Mary Margaret Ciavatta, MPH, Patricia Castle, MA, Janet Johnson, PhD and Janice Prochaska, PhD

Pro-Change Behavior Systems, Inc., West Kingston, RI.

The 12-month outcomes of Health in Motion, a computer-delivered, population-based obesity prevention program for adolescents will be presented. The program administers tailored feedback based on the Transtheoretical Model for physical activity (PA), fruit and vegetable consumption (FV) and limiting TV viewing (TV). Students (N=1800) from eight high schools participated in a 14-month trial. The treatment group received three intervention sessions and two follow-up assessments. The control group received four assessment-only sessions. The majority of students were White(71.5%), female(50.8%), and on average 16 years old. Continuous measures of the behaviors and movement to action or maintenance stages (A/M) were included as outcomes of treatment success among those in pre-action stages at baseline. Random effects modeling while controlling for school as the unit of assignment and using multiple imputation was conducted. The treatment group reported exercising at least 60 minutes on more days than the control group at all time points with significant differences ($p<.001$) found at 2 months, t(384.65)=3.09, and eating more FV at all time points with significant group differences at 2 months, t(2627)=5.30, 6 months t(1159.8)=5.15, and 12 months t(562.44)=3.42. Significant group differences weren't found for hours of TV per day. The intervention also was effective at moving large percentages of the treatment group to A/M with 28.5% meeting criteria for PA, 35% for FV, and 43% for TV at 2 months. Significant group differences ($p<.01$) in movement to A/M were seen for PA at 2 months t(400.39)=3.52, OR=2.10, for FV at 2 months t(3262.5)=3.17, OR=2.53 and 6 months t(6274.9)=3.03, OR=2.44. In addition, differences were found on TV at 2 months t(6768.5)=2.39, $p<.05$, OR=1.94. Additional results for these outcomes and other secondary outcomes will be presented. Findings indicate the program effectiveness to initiate behavior change and enhance energy balance behaviors within a cost-effective, science-based, and easily deliverable platform.

CORRESPONDING AUTHOR: Leanne Mauriello, PhD, Pro-Change Behavior Systems, Inc., West Kingston, RI, 02892; lmauriello@prochange.com

Paper Session #16 4:45 PM -5:00 PM 2128

USING ELECTRONIC MEDIA TO MODEL APPROPRIATE DIABETES-RELATED HEALTH BEHAVIORS: A RANDOMIZED CONTROLLED TRIAL OF A DVD INTERVENTION

Leslie Hazel-Fernandez, PhD, MPH,[1] Vaughn Keller, EdD,[1] Qianli Ma, MS,[1] Jenny Spadola, MA,[1] Luigi Meneghini, MD[2] and Oddveig Sarmiento, MA[1]

[1]Health Services Research Center, University of Miami-Humana, Miami, FL and [2]Diabetes Research Institute, University of Miami, Miami, FL.

Background: Among patients with type 2 diabetes, interventions promoting improved self-management may enhance metabolic control and prevent complications. Current behavior change strategies have had mixed results and can be costly and time-intensive. This pilot study investigates the effects of vicarious learning via electronic media on diabetes-related attitudes and behaviors. The intervention was a brief, inexpensive DVD featuring a patient and her doctor modeling appropriate diabetes role-taking behavior and discussing their experiences with the disease. Method: Participants (N=126, 50% female, 31% White, 32% Hispanic, 21% Black, 14% Other, mean age=59.1, mean A1C=7.45, mean BMI=33), were recruited from an urban diabetes care clinic and randomly assigned to receive standard care plus DVD, or standard care alone. Self-management was assessed at baseline and at 6–12 months follow-up with the following measures: A1C level, BMI, responses to a questionnaire on attitudes toward diabetes, and whether patients returned for follow-up clinic visits. Generalized Estimating equation and logistic regression were used to investigate the effects of the intervention on the outcome measures. Results: Compared to the control group, the intervention group tended to spend more time learning about diabetes than baseline (OR: 15.1, 95% CI [1.49–152.96], $p<0.05$) and was 2.6 times more likely to return for follow-up visits (Adjusted OR: 2.60, 95% CI: [1.08–6.25], $p<0.05$). The change of A1C and BMI, and other diabetes-related attitudes were not significantly different between intervention and control groups. Conclusion: Inexpensive DVD interventions can be useful complements to diabetes care. Given this population's well-documented challenges with self-management, such interventions may influence patients to learn more about diabetes and attend follow-up visits.

CORRESPONDING AUTHOR: Leslie Hazel-Fernandez, PhD, MPH, University of Miami-Humana, Health Services Research Center, Miami, FL, 33136; lhazel-fernandez@humana.com

Paper Session #16 5:00 PM -5:15 PM 2129

THE ROLE OF HUMOR IN PROMOTING HEALTHY EATING BEHAVIORS: A WEB NUTRITION INTERVENTION

Aida Faber, BA and Laurette Dubé, PhD

Management, McGill University, Montreal, QC, Canada.

BACKGROUND: Nutritional information rarely reaches children effectively as proven by the ever rising childhood obesity rates. Humor with its intrinsic attention getting and persuasive qualities may add a positive valence to nutritional information, thus making kids more likely to learn nutritional information and adopt healthier eating behaviors. The aim of the present study was to investigate the effects of humor appeals in a nutrition intervention. We hypothesized that because humor is fun and playful and hence more in line with children's processing, it will appeal more to children than neutral information. We further hypothesized that humor will be more beneficial for boys since males have poorer eating habits than females and humor triggers affective pleasant states which render individuals more likely to make healthier choices.
METHOD: A 6-week web nutrition intervention was designed to promote fruit and vegetable (F&V) consumption in children and decrease high caloric alternatives consumption during meals and at snack times. 76 children (M age=10.98) recruited from 18 primary schools completed the intervention. F&V knowledge, high caloric food (HCF) and snacks (HCS) were measured. Multilevel regression analyses were performed on the difference between post- and pre- intervention scores.
RESULTS: Analyses showed significant main effects of humor for HCF and HCS consumption as well as for F&V knowledge, $p<.05$; children in the humor condition ate less HCF and HCS, and knew more F&V than those in the neutral condition. Results showed a significant type of appeal by gender interaction for F&V knowledge, $p<.05$. Split means showed that boys in the humor condition learned more about F&V (M humor=14.73 vs. M neutral=3.56) than their counterparts in the neutral condition.
CONCLUSION: Nutrition interventions using humor are more successful in decreasing less healthy alternatives choices and increasing nutritional knowledge in children. Moreover humor is particularly beneficial for the learning of boys, a population that is less likely to make healthy choices.

CORRESPONDING AUTHOR: Aida Faber, BA, Management, McGill University, Montreal, QC, H3A1G5; aida.faber@mcgill.ca

Paper Session #16 5:15 PM -5:30 PM 2130

POUNDS OFF DIGITALLY (POD) STUDY: USING PODCASTING TO PROMOTE WEIGHT LOSS

Gabrielle Turner-McGrievy, MS, RD and Marci Campbell, PhD, MPH, RD

Nutrition, UNC-Chapel Hill, Chapel Hill, NC.

Overweight and obese men and women (body mass index, 25–40 kg/m2) were recruited to participate in a weight loss study using podcasting (downloading electronic audio files to a portable music player or computer). Participants were randomly assigned to receive a currently available weight loss podcast (control podcast) considered to be accurate and popular or a theory-based weight loss podcast designed by the researchers (enhanced podcast). Participants received 2 podcasts per week for 12 weeks. The enhanced podcast was designed using Social Cognitive Theory (SCT) and consisted of a an introduction, an audio diary of a man and a woman who were also trying to lose weight, nutrition and exercise information, a continuing soap opera centered around weight loss, and goals to achieve for the week. Participants attended an introductory meeting where they were weighed in light clothing with a digital scale accurate to 0.1 kg, completed information on baseline demographics and other survey questions, and learned how to download podcasts. The same questionnaires were completed at the 12-week follow-up meeting along with additional questionnaires which assessed perceptions of the intervention including ease of use, perceived effectiveness, and likability, and place of use and number of downloads. Weight was also measured at this time. Of the 120 volunteers who inquired about the study, 78 were accepted. Between-subjects t-tests were calculated for all measures. Using intention-to-treat analysis, participants in the enhanced podcast group (n=42) had a greater decrease in weight (enhanced group 91.9±15.0 to 89.0±13.6 kg vs. control group 89.0±13.6 to 88.7±13.9 kg; P<0.001 between groups) and BMI (enhanced group 31.8±3.2 to 30.8±3.4 kg/m2 vs. control group 31.4±4.1 to 31.3±4.3 kg/m2; P<0.001 between groups) than the control group (n=36). The results of this study suggest that podcasting weight loss information may be an effective way to promote healthy weight.

CORRESPONDING AUTHOR: Gabrielle Turner-McGrievy, MS, RD, Nutrition, UNC-Chapel Hill, Chapel Hill, NC, 27599; brie@unc.edu

Paper Session #17 4:00 PM -4:15 PM 2131

PERCEPTION OF PREVALENCE AND APPROVAL OF SEXUAL BEHAVIORS BY HIV-INFECTED AND UNINFECTED INDIVIDUALS

Janice Y. Bunn, PhD, Carol T. Miller, PhD, Sondra E. Solomon, PhD and Kristin S. Weibust, MS

University of Vermont, Burlington, VT.

Studies suggest that perceived prevalence and peer approval for health behaviors, such as binge drinking among college students, can influence whether a person engages in such activities. The present study investigated perceived prevalence and peer approval of sexual behaviors among 200 seropositive residents of Vermont and rural New England who completed computer administered questionnaires in an experimental setting. We also surveyed (via telephone) 2,444 randomly selected residents of the same communities. All participants estimated the prevalence of HIV-risk related sexual behaviors in their community and the prevalence of approval for these behaviors.

Compared to community members, people with HIV gave significantly higher prevalence estimates for the majority of risky behaviors and lower estimates for risk-reducing behaviors. Those with HIV estimated higher levels of engaging in sexual behaviors that can spread the virus that causes AIDS (42.9%±27.7 vs. 28.3%±26.1; $\chi2$=48.83, p<0.01), having sex with more than one person (40.1%±24.9 vs. 30.1%±24.1; $\chi2$=30.70, p<0.01), and a trend towards higher estimates of engaging in extramarital sex (36.0%±24.6 vs. 33.2%±23.9; $\chi2$=3.12, p=0.08). Community member estimates were higher for condom use overall (36.4%±24.3 vs. 29.9%±24.8; $\chi2$=8.74, p<0.01) and condom use to protect against transmission of HIV/AIDS (60.8%±35.1 vs. 32.2%±28.8; $\chi2$=82.87, p<0.01).

Estimates of the *approval* of sex outside of marriage and sex with more than one person were similar in the two groups, but people with HIV perceived greater approval for the other risky behaviors. However, they perceived less approval for condom use overall and condom use to protect against transmission of HIV/AIDS than did community members.

The salience of a set of behaviors has been shown to be involved in the underlying perceptions leading to perceived prevalence of and approval for those behaviors. Those with HIV appear to overestimate the prevalence and approval of risky behaviors. Thus, consideration of these perceptions should be incorporated into risk-reduction programs.

CORRESPONDING AUTHOR: Janice Y. Bunn, PhD, Medical Biostatistics, University of Vermont, Burlington, VT, 05405-0082; janice.bunn@uvm.edu

Paper Session #17 4:15 PM -4:30 PM 2132

SEXUAL BARRIER ACCEPTABILITY AMONG MULTICULTURAL HIV+ AND HIGH RISK WOMEN

Deborah L. Jones, PhD, Maria Lopez, PhD, Olga Villar-Loubet, PsyD and Stephen M. Weiss, PhD, MPH

Psychiatry & Behavioral Sciences, University of Miami Miller School of Medicine, Miami, FL.

This study of multicultural HIV+ and high risk women living in Miami, Florida, examined cultural and serostatus influences on the response to a 3-session group cognitive behavioral sexual risk reduction intervention (CB) compared to the enhanced standard of care (SOC). Outcomes included sexual barrier acceptability and sexual behavior. Participants (n=538) were African American (61%), Hispanic (26%), White non-Hispanic (8%), and Haitian (4%) (HIV+ n=313, HIV- n=225, M age=40, education=11 yrs) and were randomized to CB or SOC interventions and assessed at baseline, 6, and 12 months.

At 6 and 12 months, among those women who reported product use in the last 6 months, participants did not differ between ethnic groups in reported acceptability of male condoms (p>.05), but HIV- Hispanic women in the CB group rated the acceptability of female condoms and gels higher than other ethnicities (F=5.38, p=.007) at 6 months. Acceptability of suppositories and creams did not differ at 6 months (p>.05) or 12 months (p>.05) post-baseline, though women in the group conditions were more likely to have tested the lubricant products. In addition, all ethnic groups displayed clear preferences for specific products, and most preferred an Astroglide gel product over a suppository or more viscous gel as a placebo for a vaginal microbicide product. Similarly, women differed in preferred condom colors, e.g., non-Hispanic whites preferred neutral tones, African Americans preferred black, Haitians and Hispanics preferred multicolored. Within all ethnic groups except Haitians, HIV+ women were more likely to use sexual barrier products at baseline and 6 months, but serostatus differences in use diminished at 12 months (p>.05).

This study illustrates the importance of consideration of the acceptability of sexual barrier products in their development for domestic and international social marketing. The association between acceptability and actual use by the consumer and the need for “variety” in sexual product development for HIV risk reduction are discussed.

CORRESPONDING AUTHOR: Deborah L. Jones, PhD, Psychiatry & Behavioral Sciences, University of Miami Miller School of Medicine, Miami, FL, 33136; djones@med.miami.edu

Paper Session #17 4:30 PM -4:45 PM 2133

A STRUCTURAL MODEL OF DRUG USE AND SEXUAL RISK AMONG GAY AND BISEXUAL MEN WHO ATTEND CIRCUIT PARTIES

Peter S. Theodore, PhD,[1] Ron E. Durán, PhD[1] and Michael H. Antoni, PhD[2]

[1]Alliant International Univeristy, Los Angeles, Alhambra, CA and [2]University of Miami, Coral Gables, FL.

Recreational drug use and risky sex are associated with increased reports of HIV and other STIs among gay and bisexual men (GBM) who attend circuit parties. The research is limited by discrepancies in sexual risk behavior (SRB) measures, lack of information on SRBs while under the influence of drugs, and statistical methods incapable of identifying relative risks of select party drugs on SRB. This study sought to contextualize the sequence of drug use and unprotected anal intercourse (UAI) among GBM who attend circuit parties and test a structural model to help explain this sex-drug link. We recruited a community sample of 197 GBM from South Florida, 20 to 49 years of age (M=34.31±6.4 years), who were largely White/Non-Hispanic (56%), Hispanic/Latino (31%), and HIV-negative (78%). Participants reported the number of days they attended circuit party events, as well as their drug use and sexual behaviors on those days. Among drugs assessed were alcohol, marijuana, cocaine, ecstacy, K, GHB, and methamphetamine (meth). SRB included type (anal insertive or receptive), condom use, partner (primary, casual), and drug use within three hours of sex. The data informed the development of latent factors and a proposed model linking circuit party attendance, likelihood of party drug use, and likelihood of risky sex under the influence of party drugs. Direct paths between circuit party attendance and drug use, and between drug use and sexual risk, were hypothesized. The final model indicated that greater circuit party attendance explained a greater likelihood of using meth, K, and G (β=.50, p<.01), which in turn explained a greater likelihood of engaging in UAI with a casual sex partner while under the influence of those drugs (β=.46, p<.05). Model fit indices were CFI=1.00; RMSEA=0.00; $\chi2$ (7, N=197)=6.54, p=.48. Given the controversy surrounding social use of party drugs, these findings have considerable implications for healthcare providers invested in the sexual health of GBM.

CORRESPONDING AUTHOR: Peter S. Theodore, PhD, California School of Professional Psychology, Alliant International Univeristy, Los Angeles, Alhambra, CA, 91803; ptheodore@alliant.edu

Paper Session #17 4:45 PM -5:00 PM 2134

HIV PREVENTION BEYOND ANAL SEX: PREDICTING HIV SEXUAL RISK REDUCTION PRACTICES IN A SAMPLE OF MASSACHUSETTS MSM

Sari L. Reisner, MA,[1] Matthew J. Mimiaga, ScD, MPH,[1,2] Margie Skeer, MSW, MPH[1,3] and Kenneth H. Mayer, MD[1,4]

[1]The Fenway Institute, Fenway Community Health, Boston, MA; [2]Harvard Medical School, Boston, MA; [3]Harvard University School of Public Health, Boston, MA and [4]Brown Medical School/Miriam Hospital, Providence, RI.

Objective: To examine the frequency and predictors of sexual risk reduction behaviors among men who have sex with men (MSM) who have increased rates of HIV and sexually transmitted infections (STI).

Methods: 189 Massachusetts MSM completed a one-time survey. Logistic regression procedures examined the association of demographic, psychosocial, and behavioral factors to risk reduction practices in the prior 12 months.

Results: Twenty percent of the sample reported having engaged in risk reduction practices, including rimming (oral-anal contact), mutual masturbation, digital penetration, sex toys, or 100% condom to reduce their risk of acquiring or transmitting HIV in the previous 12 months. In bivariate analyses, risk reducers were more likely to have disclosed MSM identity (i.e., be "out") (OR=3.64; p< 0.05) and to report oral sex with a condom (OR=4.85; p<0.01); they were less likely to be depressed (CESD score 16+; OR=0.48; p<0.05), report a STI history (OR=0.40; p<0.05), and have met sexual partners at public cruising areas (OR= 0.32; p<0.01). In a multivariable model adjusting for age, race, education, income, "outness", HIV status, STI history, and substance use, risk reducers were less likely to report: alcohol use during sex (AOR=0.33; p<0.05), depression (CESD score 16+; AOR=0.32; p<0.05), and having met sexual partners at public cruising areas (AOR=0.30; p<0.05) or via the Internet (AOR=0.12; p<0.05).

Conclusions: Identifying risk reduction behaviors may be important to consider in designing effective prevention interventions for MSM. Understanding alternative sexual practices may help reinvigorate HIV prevention efforts aimed at making sex not only safer, but also tailoring prevention messages so MSM feel that safer sex can remain exciting, gratifying, and intimate.

CORRESPONDING AUTHOR: Sari L. Reisner, MA, Research & Evaluation Department, Fenway Community Health, The Fenway Institute, Boston, MA, 02119; sreisner@fenwayhealth.org

Paper Session #17 5:00 PM -5:15 PM 2135

PREDICTORS OF IDENTIFYING AS A "BAREBACKER" AMONG HIGH RISK NEW ENGLAND HIV SERONEGATIVE MSM

Sari L. Reisner, MA,[1] Matthew J. Mimiaga, ScD, MPH,[1,2] Patricia Case, ScD, MPH,[1,3] Carey V. Johnson, ScM,[1] Steven A. Safren, PhD[1,2] and Kenneth H. Mayer, MD[1,4]

[1]The Fenway Institute, Fenway Community Health, Boston, MA; [2]Harvard Medical School, Boston, MA; [3]Boston University School of Public Health, Boston, MA and [4]Brown Medical School/Miriam Hospital, Providence, RI.

Background: Between 14–46% of U.S. men who have sex with men (MSM) consistently report "barebacking" behavior (i.e., intentional unprotected anal intercourse) with other men. This is of public health significance because MSM continue to constitute more than 50% of new HIV infections in the U.S.

Methods: 227 HIV-uninfected MSM recruited through modified respondent-driven sampling completed an interviewer-administered survey which assessed barebacker identity (i.e., personal identification as a barebacker), demographics, sexual risk behaviors, psychosocial variables, and drug/alcohol use. Bivariate and multivariable logistic regression procedures were used to examine predictors of barebacker identity in relation to HIV risk behavior.

Results: Overall, 31% of participants identified as a barebacker. In bivariate analyses, lower education (OR=1.76; p<0.05), a current drinking problem (OR= 2.34, p<0.01), higher levels of HIV treatment optimism (OR=1.06; p<0.05), meeting sexual partners at private sex parties (OR=2.47; p<0.01) or at bars/cubs (OR=1.97; p<0.05), and engaging in serodiscordant unprotected insertive anal sex (OR=3.42; p<0.01) significantly predicted barebacker identification compared to those with no barebacker identification. In a multivariable model, barebackers were more likely to screen in for alcohol abuse (AOR=2.16; p<0.05) and engage in serodiscordant unprotected insertive anal sex (AOR=3.17; p<0.05) compared to their non-barebacker counterparts.

Conclusion: These findings suggest that barebacker identity is related to intentional HIV sexual risk taking and alcohol abuse. Further studies are needed to assess whether barebackers are attempting to reduce their risk of becoming infected because of their perception that insertive anal sex is associated with lower HIV risk than receptive intercourse.

CORRESPONDING AUTHOR: Sari L. Reisner, MA, Research & Evaluation Department, Fenway Community Health, The Fenway Institute, Boston, MA, 02119; sreisner@fenwayhealth.org

Paper Session #17 5:15 PM -5:30 PM 2136

METHAMPHETAMINE, SEXUAL FUNCTIONING, AND SEXUAL RISK-TAKING: THE SELF-REGULATORY MOTIVATIONS OF MEN WHO HAVE SEX WITH MEN

John L. Christensen, MA,[1] Paul Robert Appleby, PhD,[1] Lynn Carol Miller, PhD,[1] Erik D. Storholm, BA[2] and Armida Ayala, PhD[1]

[1]University of Southern California, Los Angeles, CA and [2]CA State Univ - Long Beach, Long Beach, CA.

The link between Methamphetamine (MA) use and sexual risk has been well documented among men who have sex with men (MSM). Some research suggests that MSM actively use MA to regulate their affective state. But, might MSM be actively attempting to self-regulate their physiological state as well as their mood? Serotonin (which inhibits erectile response) plays a key role in sexual functioning. Too great an inhibitory response can adversely impact men's ability to have and maintain erections. But, insufficient inhibitory activity may lead to pre-mature ejaculation. For some, MA may serve to facilitate erectile response or deter premature ejaculation. MSM may be placing themselves at risk for HIV by using MA to improve sexual functioning.

This study explores the physiological motivations for MA use during sex among a sample of 72 MSM in Los Angeles. Participants were male, used MA at least 3 times in the past 90 days, had unprotected anal intercourse (UAI) with a man on at least one of those occasions, and never injected non-prescription drugs. Participants reported an average of 19 instances of MA use and 4 instances of UAI while on MA during the prior 90 days.

Sixty-one percent of the sample reported that MA inhibits their ability to achieve an erection, and 51% reported using MA prevents them from maintaining an erection; 25% of the overall sample reported having difficulty with premature ejaculation, and of this subgroup, 39% reported using MA as a means to prevent it. Of those reporting having trouble achieving an erection at some point in their life (67% of the full sample), 25% reported using MA as a means to alleviate this difficulty.

These findings suggest a need to consider MA use in the context of sexual functioning and sexual risk-taking. MSM's motivated use of MA to self-regulate physiological effects must be further studied and then addressed in the design of comprehensive HIV-relevant risk-reduction interventions and persuasive health communications.

CORRESPONDING AUTHOR: John L. Christensen, MA, Psychology, University of Southern California, Los Angeles, CA, 90089; jlchrist@usc.edu

Paper Session #18 4:00 PM -4:15 PM 2137

AN EXAMINATION OF THE 3-FACTOR MODEL AND STRUCTURAL INVARIANCE IN THE FACIT-SP ACROSS RACIAL/ETHNIC GROUPS: A REPORT FROM THE AMERICAN CANCER SOCIETY'S (ACS) STUDY OF CANCER SURVIVORS-II (SCS-II)

Patricia E. Murphy, PhD,[1] Andrea L. Canada, PhD,[1] George Fitchett, PhD,[1] Amy H. Peterman, PhD,[2] Kenneth Portier, PhD[3] and Kevin Stein, PhD[3]

[1]Rush University Medical Center, Chicago, IL; [2]University of North Carolina at Charlotte, Charlotte, NC and [3]American Cancer Society, Atlanta, GA.

Recent confirmatory factor analysis (CFA) of the Functional Assessment of Chronic Illness Inventory Spiritual Well-Being scale (FACIT-Sp) in a sample of predominantly White women supported a 3-factor model. The factors were Meaning, a cognitive component of spiritual well-being, Peace, an affective dimension, and Faith, a measure of the role of spiritual beliefs. The 3-factor model provided more information and helped clarify the mechanisms by which spirituality contributes to quality of life than the original 2-factor model, in which Meaning and Peace formed one factor and Faith the other. The aims of this study were to examine the 3-factor structure in a diverse sample and to assess stability of the model across racial/ethnic (R/E) groups. Analyses involved 8,805 cancer survivors who completed the SCS-II questionnaire that included the FACIT-Sp and SF-36. CFA validated the 3-factor model in the whole sample as well as within R/E subgroups ($\Delta\chi 2$, p<.001). The value of separating Meaning from Peace was demonstrated by comparing correlations with outcomes. Peace was more strongly correlated with SF-36 Mental Component Summary than was Meaning. Although the 3-factor model was validated within each R/E group, it is possible that variances, correlations of factors, and item loadings on each factor, differed between the groups. Therefore, a test for stability compared a model with equal parameters across the R/E groups to a model that allowed parameters to vary. The model with equal parameters was a poorer fit to the data ($\Delta\chi 2(81)=2440.54$, p<.001), suggesting that items and their associated constructs might be understood differently between R/E groups. With growing sensitivity to R/E differences, greater attention to the interpretation of items is needed in the construction of scales for use with diverse samples.

CORRESPONDING AUTHOR: Patricia E. Murphy, PhD, Religion, Health and Human Values and Dept. of Psychiatry, Rush University Medical Center, Chicago, IL, 60660; Patricia_Murphy@rush.edu

Meritorious Paper
Paper Session #18 4:15 PM -4:30 PM 2138

SPIRITUALITY AS A PREDICTOR OF DISTRESS, SYMPTOMS AND SLEEP IN A SAMPLE OF ADULT INPATIENTS UNDERGOING TREATMENT FOR ACUTE LEUKEMIA

Tanya Vishnevsky, BA,[1] Michelle T. Jesse, MA,[1,2] Suzanne C. Danhauer, PhD,[2] Greg Russell, MS,[2] Kristin Daley, MA,[1] Richard G. Tedeschi, PhD,[1] Lawrence G. Calhoun, PhD[1] and Amy Peterman, PhD[1]

[1]Psychology, UNC Charlotte, Charlotte, NC and [2]School of Medicine, Wake Forest University, Winston-Salem, NC.

PURPOSE: In recent years, there has been a growing interest in the relationship between spirituality and health. However, there appear to be no longitudinal studies that have investigated the relationship between spirituality and adjustment in an inpatient cancer setting. The aim of the current study is to examine spirituality and its relationship to psychosocial and physical health measures in a sample of hospitalized adult patients undergoing chemotherapy for acute leukemia (AL).

METHODS: Patients diagnosed with AL completed questionnaires at baseline (Week 0, ≤7 days of admission), prior to discharge (Weeks 5–6) and upon readmission for consolidation chemotherapy (~Weeks 9–13). Linear repeated measures mixed effects models were used to assess whether spirituality (FACIT-Sp) at baseline was related to symptom severity/interference (MDASI), perceived cancer threat, psychological distress (POMS-SF) and sleep difficulty (WHIIRS) over time, while controlling for the effects of demographic and medical variables (age, education, race, marital status, religious attendance, new diagnosis vs. relapse, type of leukemia).

RESULTS: Participants were 81 newly diagnosed (82%) and relapsed (17%) AL patients (mean age=51, SD=15; acute myelogenous 82%, acute lymphocytic 18%); white (90%), married/partnered (77%), and almost evenly divided by sex (52% female). Greater spirituality at baseline was associated with lower symptom severity ($p=.02$) and symptom interference ($p=.005$), less perceived cancer threat ($p<.001$), less distress ($p<.0001$) and better sleep ($p=.001$) across the study's time frame.

CONCLUSIONS: Spirituality at baseline was an important predictor of patients' physical and psychological well-being over the course of chemotherapy. These findings highlight the meaningful role spirituality plays in helping cancer patients cope, both physically and emotionally, with an intense inpatient treatment regimen such as chemotherapy for AL.

CORRESPONDING AUTHOR: Tanya Vishnevsky, BA, Psychology, UNC Charlotte, Charlotte, NC, 28269; tvishnev@uncc.edu

Paper Session #18 4:30 PM -4:45 PM 2139

SPIRITUALITY AND CHURCH ATTENDANCE BUFFER AGAINST THE NEGATIVE EFFECTS ACCULTURATION IN A SAMPLE OF MEXICAN IMMIGRANTS

Patrick Steffen, PhD
Psychology, Brigham Young University, Provo, UT.

Spirituality and religiosity have been related to better health outcomes. Mexican immigrants have been found to be healthier and more religious than European Americans. The purpose of the present study was to examine if spirituality and church attendance buffer against acculturative stress in a sample of Mexican immigrants. Spirituality was measured using the FACIT-SP which assesses areas such as meaning, being at peace, gratitude, and compassion. Physical health was measured using C-reactive protein (hs-CRP), ambulatory blood pressure, fasting glucose and insulin, and a self-report of overall physical health. A sample of 300 Mexican immigrants (average age 36, 56% female, average of 8 years living in the United States) was studied. It was found that spirituality was related to decreased hs-CRP ($F=17.28$, $p<.0001$), lower fasting glucose ($F=3.08$, p=.0[illegible]) and better self-reported health ($F=9.08$, $p<.003$). When examining the interaction between spirituality and church attendance, it was found that those highest in spirituality and attendance had more favorable outcomes. Spirituality and church attendance were not related to ambulatory blood pressure. These findings suggest that spirituality and church attendance buffer against some of the negative effects of acculturative stress in Mexican immigrants.

CORRESPONDING AUTHOR: Patrick Steffen, PhD, Psychology, Brigham Young University, Provo, UT, 84602; steffen@byu.edu

Paper Session #18 4:45 PM -5:00 PM 2140

EFFICACY-MEDIATED EFFECTS OF SPIRITUALITY AND PHYSICAL ACTIVITY ON QUALITY OF LIFE

James F. Konopack, PhD[1,2] and Edward McAuley, PhD[1]

[1]Kinesiology, University of Illinois, Urbana, IL and [2]Nursing & Health Studies, Monmouth University, West Long Branch, NJ.

Spirituality has been suggested to benefit health and well-being, yet there is a paucity of research examining factors underlying this relationship. Several potential mechanisms have been suggested, including self-efficacy. In recent research, a model in which self-efficacy mediates physical activity's (PA) effects on quality of life (QOL) has found support (McAuley et al., 2006). The present study replicates McAuley and colleagues' work, with an extension to address the spirituality-QOL relationship. Data were collected from a sample of middle-aged to older (mean age= 66.55 yrs) adults (N=215). Participants completed psychosocial questionnaires and wore accelerometers for 7 days as a measure of free-living PA. A model in which religiosity, social support, and PA influenced hierarchical QOL in a parallel fashion was specified in a panel analysis using Mplus covariance modeling software. This model fit the data well according to traditional structural equation modeling fit indices (chi-square=41.02, df=17, $p<.01$; RMSEA=.08; SRMR=.06; CFI=.92), accounting for significant variance in global PA (R-square=.35). PA, social support, and spirituality each accounted for significant variance in related efficacy constructs, with standardized path coefficients of .34, .48, and .16, respectively. These efficacy constructs, in turn, accounted for significant variance in proximal QOL determinants. These results support the work of McAuley and colleagues (2006), with the exception that efficacy for PA was moderately associated with physical health status (.38) but not mental health status. The data further suggest that spirituality may influence health and well-being via a similar efficacy-mediated path, with strongest effects on mental health status. Moreover, a direct path between social support and global QOL was observed (standardized path coefficient=.44). Those who are more spiritual, maintain a strong social network, and perform regular PA report greater QOL, and these relationships may be partially mediated by self-efficacy.

CORRESPONDING AUTHOR: James F. Konopack, PhD, Nursing & Health Studies, Monmouth University, West Long Branch, NJ, 07764; jkonopac@monmouth.edu

Paper Session #18 5:00 PM -5:15 PM 2141

RELIGIOUS AND NON-RELIGIOUS PATHWAYS TO STRESS-RELATED GROWTH IN YOUNGER ADULT CANCER SURVIVORS

Crystal L. Park, PhD, Donald Edmondson, MA and Thomas O. Blank, PhD
University of Connecticut, Storrs, CT.

While religion and spirituality are important to many cancer survivors, their influence on the stress-related growth that survivors commonly report has not been well-documented. In the present study, we examined the linkages between religiousness, religious attributions, and religious coping with subsequent stress-related growth, and compared them with a parallel secular pathway, hope, self-attributions, and active coping. 172 young to middle-aged adult survivors (113 women, 59 men, mean age= 45 years) of a variety of types of cancer who had been diagnosed approximately 2.5 years prior were assessed twice across a one year period. Results of structural equation modeling indicated that while both pathways were predictive of stress-related growth, the religious pathway was a much stronger predictor of subsequent stress-related growth. We suggest that more attention to the role of various dimensions of spirituality and religiousness in the experience of growth is needed to fully understand the transformative processes reported by many survivors.

CORRESPONDING AUTHOR: Crystal L. Park, PhD, UConn, Storrs, CT, 06269; crystal.park@uconn.edu

Paper Session #18 5:15 PM -5:30 PM 2142

RACIAL/ETHNIC DIFFERENCES IN SPIRITUAL WELL-BEING AMONG CANCER SURVIVORS

George Fitchett, PhD,[1] Patricia E. Murphy, PhD,[1] Andrea L. Canada, PhD,[1] Kevin Stein, PhD[2] and Amy H. Peterman, PhD[3]

[1]Rush University Medical Center, Chicago, IL; [2]American Cancer Society, Atlanta, GA and [3]University of North Carolina at Charlotte, Charlotte, NC.

It is well-established, from research with community samples, that Blacks have higher levels of religious involvement than Whites. Where comparisons have been made, religious involvement among Hispanics appears to be similar to that of African-Americans. Similar patterns have been reported among patients with cancer but the majority of these studies had small samples and weak measures of religion/spirituality (R/S). The present study examined racial/ethnic differences in spiritual well-being (SWB) among 6,827 White, 914 Black, and 664 Hispanic participants in the American Cancer Society's Survey of Cancer Survivors II. We used ANCOVA to examine racial/ethnic differences in the subscales of the recently reported 3-factor model of the FACIT-Sp: Meaning, Peace, and Faith. Models were adjusted for demographic, socioeconomic, and medical factors (cancer type, length of survival, number of co-morbid conditions, and Physical Component Summary from the SF-36). For Meaning, Blacks (mean=14.1) had higher scores than Hispanics (mean=13.7, $p<0.01$) or Whites (mean=13.5, $p<0.001$). There was a similar pattern for Peace (for all, $p<0.001$). For Faith, Blacks (mean=14.0) had the highest scores, followed by Hispanics (mean=12.7), whose scores were also significantly higher than Whites (mean=11.5, for all, $p<0.001$). Among this large, diverse sample of cancer survivors we found a pattern, similar to that in community samples, of higher levels of SWB among Blacks as compared to Whites. The lower scores for Hispanics, compared to Blacks, differs from the limited evidence available from community samples. Further research is needed to determine if these differences in SWB contribute to racial/ethnic differences in the relationship between R/S and outcomes such as health-related quality of life.

CORRESPONDING AUTHOR: George Fitchett, PhD, Rush University Medical Center, Chicago, IL, 60612; george_fitchett@rush.edu

Thursday
April 23, 2009
7:00 PM -8:30 PM

Poster Session B B-01

LIFESTYLE INTERVENTIONS IN CANCER SURVIVORS. WHO SIGNS UP? WHO STICKS WITH IT? AND WHEN IS THE BEST TIME TO INTERVENE?

R. J. Paxton, PhD,[1] R. Sloane, MPH,[2] B. L. Peterson, PhD,[2] M. C. Morey, PhD,[2] I. M. Lipkus, PhD,[2] D. C. Snyder, LDN,[2] H. J. Cohen, MD[2] and W. Demark-Wahnefried, PhD[1]

[1]UT - MD Anderson Cancer Ctr, Houston, TX and [2]Duke Univ. Med. Ctr, Durham, NC.

Cancer diagnoses may prompt teachable moments for lifestyle interventions, yet little is known about characteristics of individuals who are apt to enroll, complete and adhere to such interventions. We compiled data from three NIH-funded randomized controlled trials among breast and prostate cancer survivors that used similar home-based interventions but targeted survivors at differing ages and points-in-time post-diagnosis [FRESH START (no age limit, 0–9 mths); Project LEAD (age 65+, 0–18 mths) and RENEW (age 65+, 5+yrs)]. A total of 23,841 survivors received letters of invitation. Individual and pooled analyses explored differences in accrual, retention and adherence by age, gender, race, and time elapsed since diagnosis. Numbers related to eventual sample size, cases screened, cases approached, and overall yield for each of the studies were as follows: FRESH START: 543/762/1803/30%; Project LEAD: 182/688/2023/9%, and RENEW: 641/1208/20,015/3%. In all studies and in pooled analyses, respondents were more likely to be white, younger and more proximal to diagnosis ($p<.01$). Overall, males were more likely to respond ($p<.05$), though higher response rates were noted in older men and younger women. Those excluded due to active lifestyles or medical exclusions precluding exercise were more likely to be men ($p<.01$) and older ($p<.05$). No overall differences were observed in attrition over the intervention period, though females ($p<.01$) and younger survivors ($p<.05$) were more likely to complete study contacts. These data on cancer survivors suggest that gender, age, race and time since diagnosis are strongly associated with interest, enrollment and adherence to behavioral interventions. Findings can help inform future trials that target cancer survivors and also point to the self-selection which needs to be considered in interpreting results. Future research is needed to identify for whom and when lifestyle interventions are best received and most effective.

CORRESPONDING AUTHOR: Raheem J. Paxton, PhD, Behavioral Science, University of Texas - MD Anderson Cancer Center, Houston, TX, 77230-1439; rjpaxton@mdanderson.org

B-02

WHAT IS A CANCER SURVIVOR?

Kimberly M. Kelly, PhD,[1,2] Raquel Tobian, NA,[2] Randi Shedlosky-Shoemaker, MS,[2,3] Kyle Porter, MAS[4] and Doreen Agnese, MD[5]

[1]MVIMG, The Ohio State University, Columbus, OH; [2]Comprehensive Cancer Center, OSU, Columbus, OH; [3]Department of Psychology, OSU, Columbus, OH; [4]Center for Biostatistics, OSU, Columbus, OH and [5]Department of Surgery, OSU, Columbus, OH.

Introduction: Numerous definitions exist for the terms “cancer survivor”, with perhaps the broadest definitions including family and friends of an individual with a prior cancer. However, little research has examined how individuals with a prior cancer define “cancer survivor.” The purpose of this mixed methods study was to ask individuals with a prior cancer if they consider themselves survivors and how they define cancer survivor.
Methods: Women (N=141) at a breast oncology clinic with a prior breast cancer consented to participate and had medical record reviews. Of these, 113 returned surveys (Within 1 year of diagnosis: n=62, 2–5 years from diagnosis: n=51).
Results: Over 23% were Appalachian, 37% were rural, 1% were Hispanic, and 3% were African American. Most had completed high school/GED (96%), had incomes <$25,000 (82%), and considered themselves to be cancer survivors (68%). Those considering themselves survivors were more likely to be 2–5 years from diagnosis (p<.001) and had higher comparative risk of breast cancer recurrence (p<.01); demographics and cancer characteristics did not play a role. Ninety-four women gave their definitions of “cancer survivor.” The most common themes were that a survivor had completed treatment (71%) and that a survivor no longer had cancer (31%). Time was also important, with the 5-year mark being significant. Some defined survivor as a frame of mind, “…the cancer survivor focuses chiefly upon the business of living (not dying), while attempting to be as optimistic as possible,” while others simply preferred to identify as a survivor because “patient has a negative meaning.”
Conclusions: These descriptions are significant because individuals with a prior cancer did not include family and friends in their definitions of survivors. Additional study is needed to determine if those with a prior cancer support the inclusion of family and friends in definitions of survivorship.

CORRESPONDING AUTHOR: Kimberly M. Kelly, PhD, MVIMG, The Ohio State University, Columbus, OH, 43210; kimberly.kelly@osumc.edu

B-03

INCREASE IN EMOTIONAL APPROACH COPING PREDICTS CHANGE IN POSTTRAUMATIC GROWTH IN LUNG CANCER PATIENTS

Andrea A. Thornton, PhD,[1] Helena Stanbridge, BS,[1] Annette L. Stanton, PhD[2] and Jason E. Owen, PhD, MPH[3]

[1]Psychology, City of Hope, Duarte, CA; [2]Psychology, University of California, Los Angeles, Los Angeles, CA and [3]Psychology, Loma Linda University, Los Angeles, CA.

We tested the hypothesis that a decrease in cancer-related stress symptoms and an increase in the use of emotional approach coping would predict higher levels of posttraumatic growth in a longitudinal sample of recently diagnosed (i.e. within six months of diagnosis) lung cancer patients. Eligible patients were recruited from two medical centers in Southern California to complete self-report questionnaires assessing study constructs including Emotional Approach Coping (EAC; emotional processing and expression), cancer-related stress (IES), and posttraumatic growth (PTG). Fifty patients completed study questionnaires at both baseline (T1) and follow-up 3 months later (T2). The mean age of participants was 66 years, and the mean time since diagnosis was 15 weeks. Most of the patients were women (60%), Caucasian (86%), and married (68%). Fifty percent of patients were diagnosed with stage III or IV disease, and 58% had non small cell cancer (26% of patients were unsure of their disease stage, and 22% did not know the type of cancer). Baseline and T2 PTG scores were moderate (means=52.03 and 53.32, respectively), as was use of EAC (means=2.52 and 2.42), and IES scores (means=20.32 and 20.66). We regressed T2 PTG on T2 IES and EAC after controlling for T1 PTG, IES, and EAC. The full model was significant, and explained 63% of the variance in T2 PTG scores, F(5, 39)=13.36, p<.001. In the final model, an increase in EAC predicted T2 PTG (Standardized Beta=.38, p<0.05), over and above the contribution of T1 PTG (Standardized Beta=.58, p<0.001), whereas IES was not a unique, significant predictor of PTG. Findings suggest that increased use of emotional expression and processing regarding cancer may facilitate changes in PTG over time.

CORRESPONDING AUTHOR: Andrea A. Thornton, PhD, Psychology, City of Hope, Duarte, CA, 91711; athornton@coh.org

B-04

PREDICTORS OF CAREGIVER STRESS

Jennifer L. Steel, PhD,[1,2] Maureen Carney, MD,[3] Brian I. Carr, MD, PhD, FRCP,[1] Schulz Richard, PhD,[2] Michael Antoni, PhD,[4] Mary Amanda Dew, PhD,[2] David A. Geller, MD[1] and T.Clark Gamblin, MD[1]

[1]Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA; [2]Psychiatry, University of Pittsburgh School of Medicine, Pittsburgh, PA; [3]Kaiser Permente, Portland, OR and [4]Psychology, University of Miami, Pittsburgh, PA.

Background: Caregiver stress results in significant morbidity and mortality to persons caring for others with chronic illness. The aims of the present study were to identify predictors of caregiver stress in an understudied population of cancer patients and their caregivers.
Methods: One hundred and twenty patients diagnosed with hepatobiliary carcinoma and their family caregivers were administered a battery of questionnaires that included the Functional Assessment of Cancer Therapy-Hepatobiliary, Caregiver Quality of Life Index, the Primary Caregiver Questionnaire, and the FAMCare. Data analyses included one-way random interclass correlations, Analysis of Variance (ANOVA), and multiple linear regression.
Results: Using ANOVA, patient quality of life and caregiver stress were not significantly associated. With the use of interclass correlations (ICC) to test agreement between the patient and caregiver, agreement between the patient and caregiver on ratings of patient quality of life was high on all but one domain (ICC=0.28–0.63;p=0.005–0.001). Using ANOVA, no significant differences were observed on caregiver stress when comparing patients and caregivers who had clinically meaningful differences versus those patients and caregivers who had high levels of agreement. Using multiple linear regression, poor functional status (p=0.02) and poor patient-caregiver relationships (p=0.05) were predictive of caregiver stress. Spousal or cohabitating caregivers reported the highest level of stress. Caregiver stress was not associated with decreased satisfaction with health care as reported by the caregiver.
Conclusion: Preliminary evidence suggests that interventions to reduce caregiver stress should focus on facilitating the caregivers’ ability to care for patients with declining functional status as well as improve the quality of the patient-caregiver relationship.

CORRESPONDING AUTHOR: Jennifer L. Steel, PhD, Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA, 15213; steeljl@msx.upmc.edu

B-05

ANNUAL HOUSEHOLD INCOME AND PATIENT KNOWLEDGE OF METASTASIS: WHAT MEDICAL TREATMENT TEAMS NEED TO KNOW

S. Fink, MA,[1,2] K. Foran, MA,[1,2] C. McMahon, PsyD,[1,2] R. Sposato, MA,[2] D. Marks, MA[2] and E. L. O’Hea, PhD[1,2]

[1]Cooper Cancer Institute, Voorhees, NJ and [2]LaSalle U., Phila, PA.

Cancer patients’ disease knowledge can vary greatly. Socioeconomic status(SES); the interplay between race, income and education, has been found to be related to knowledge of disease status and treatment. Few researchers have dissected SES to investigate the impact of specific variables, i.e. income level, on patient understanding of cancer diagnosis. It is important to identify patients who may lack the knowledge about their cancer diagnosis. Treatment teams can use this information to tailor delivery of medical information to individual patients. The goal of the present study was to examine the relationship between patients’ reported income level and knowledge of cancer metastasis, controlling for potentially confounding variables. Participants included 120 (95 female, 25 male) adult oncology patients at a cancer institute in southern NJ. Participants completed a series of health psychology questionnaires as part of a larger study examining psychosocial factors related to cancer diagnoses. Patients were diagnosed with a wide range of cancers including: breast, gynecological, lung, colon, lymphoma, and prostate. A wide range of educational levels were represented. Highest degree obtained included: 15% completed graduate school, 52.4% completed some/all of college, 29.2% completed high school or trade school, and 3.3% of the participants did not complete high school. Participants ranged in age from 19 to 81(Mean=55) and were predominately Caucasian(76.7%). Income ranged from less than $20,000(10%), $20,000-29,999(13.3%), $30,000-39,999(18.3%), $50,000-99,9999(30.8%), and more than $100,000(23.3%). To analyze the relationship between income and knowledge about cancer metastasis, while controlling for age, race, education and stage of cancer, a binary logistical regression was performed. Results indicated that annual household income significantly predicted cancer knowledge(omnibus chi square=4.306, df=1, p <.05). Specifically, as income levels increased, patients were more likely to know whether their cancer had metastasized.

CORRESPONDING AUTHOR: Cori E. McMahon, PsyD, Behavioral Medicine, Cooper Cancer Institute, Cooper University Hospital, Voorhees, NJ, 08043; mcmahon-cori@cooperhealth.edu

B-06

PREDICTORS OF NON-ADHERENCE TO FOLLOW UP RECOMMENDATIONS IN WOMEN ATTENDING A FREE BREAST CANCER SCREENING PROGRAM

E. O'Hea, PhD,[1,2] C. McMahon, PsyD,[1,2] V. Barry, MA,[1,2] S. Patel, MA,[1,2] T. Booth, BA[2] and G. Grana, MD[1]

[1]Cooper Cancer Institute, Voorhees, NJ and [2]LaSalle U., Phila, PA.

The purpose of the present study was to examine psychosocial predictors of non-adherence behaviors in women using a free breast cancer screening program. It was designed to determine which psychosocial variables are related to lack of follow-up in women who have been referred for further testing/treatment upon receiving a breast-cancer screening, and lack of follow up for annual mammograms. Variables chosen either demonstrated empirical support that they may be related to non-adherence behaviors or were identified as potentially important variables through focus groups with outreach workers at the screening program. A total of 561 women were enrolled; 395 were eligible for chart review data collection. The sample consisted of economically and socially disadvantaged women from African American(39%), Caucasian(24%), and Latino/Hispanic(35%) backgrounds. Results showed that of the 395 women who had follow up chart reviews, 86 women(22%) were recommended for further testing/treatment. Of these 86 women, 15(17.4%) did not follow up and would be considered lost to follow up. Women who followed up with recommendations and those who did not differed in level of education, ratings of distrust in traditional medicine, belief/use of complimentary medicines, perceived risk for getting breast cancer, and migrant worker status. Approximately 316 of the subjects were due for their annual mammogram and 32% of them returned to the screening program. Women who had completed their annual mammogram and those who did not differed significantly in their marital status, alcohol use, health care provider locus of control, and chance locus of control. Results could be used to identify women who may be at high risk for not following up with positive breast cancer screening results. Tailored interventions may be implemented to decrease the chance that women will be lost to follow up in the future. Future research will examine if racial/ethnic differences exist in predictors of lost to follow up behaviors and non-adherence for annual mammogram recommendations.

CORRESPONDING AUTHOR: Cori E. McMahon, PsyD, Behavioral Medicine, Cooper Cancer Institute, Cooper University Hospital, Voorhees, NJ, 08043; mcmahon-cori@cooperhealth.edu

B-07

COMMUNICATING CANCER INFORMATION TO BLACKS: THE TROUBLE WITH TALKING ABOUT DISPARITIES

Irma Corral, MS, MPH,[1] Hope Landrine, PhD,[2] Jenelle Mellerson, MPH,[2] Denise Adams-Simms, MPH[3] and Diane Ake, MPH[3]

[1]San Diego State University, San Diego, CA; [2]American Cancer Society, Atlanta, GA and [3]California Black Health Network, San Diego, CA.

Health information and interventions that are culturally-tailored for Blacks typically incorporate cultural values (e.g., spirituality, collectivism, respect for elders), personal stories, and data on Black-White disparities. Disparities information is included to raise awareness and potentially motivate behavior change. The effect of disparities information on Blacks remains unknown. Theoretically, Blacks might respond negatively to such information because it seems yet another example of their ostensible inferiority. We explored this possibility with a random sample of N=400 Black adults using community-based, participatory research methods. Mostly Black census tracts in San Francisco and Oakland were selected, and Blacks sampled from random block-groups within these, door-to-door, on weekends, by the staff of the California Black Health Network. Participants received a culturally-tailored, mock newspaper article on colorectal cancer (CRC), and a brief survey of their responses to it. For half of the sample, the article emphasized that Black CRC mortality rates have exceeded those of Whites for the past 20 years (Disparities), whereas for the remainder, the article did not mention Whites, but instead emphasized the decrease in Black CRC mortality rates over the past 20 years (Improvement). The articles were identical in length, style, and information, and were equally factual. Results revealed that Blacks who received the Disparities article were significantly more likely to suspect that the information in it was false, and felt significantly more insulted by the way the article presented Blacks. Those who received the Improvement article were significantly more likely to believe its contents, and reported feeling significantly more encouraged and proud after reading the article. These preliminary results suggest that including disparities information in culturally-tailored materials may not raise awareness, but instead, may lead Blacks to reject the information and materials.

CORRESPONDING AUTHOR: Jenelle Mellerson, MPH, American Cancer Society, Atlanta, GA, 30303; jmellerson@cancer.org

Citation Poster
B-08

INDIVIDUAL- VS. AREA-LEVEL PREDICTORS OF CANCER SCREENING AMONG A NATIONAL SAMPLE OF HISPANIC WOMEN

Dexter L. Cooper, MPH, Jenelle Mellerson, MPH, Luhua Zhao, MS, Hope Landrine, PhD and Yongping Hao, PhD

Behavioral Research, American Cancer Society, Atlanta, GA.

Rates of breast- and cervical-cancer screening among Hispanic women are significantly lower than those of White women. Demographic variables and lack of health insurance contribute to Latinas' low levels of screening but do not explain them. Neighborhood variables such as Segregation and Poverty also might contribute via the poor quality of medical care in segregated Hispanic and low-SES communities. We explored the role of these area-level variables in cancer screening among Hispanic women for the first time. Data on cancer screening among the 5,177 adult Hispanic women in the 2000 Behavioral Risk Factor Surveillance Survey (BRFSS) were linked to 2000 Census data for all 322 cities in the BRFSS. Segregation was measured by the Segregation Index (SI). SI indicates the distribution of Hispanics vs. Whites across the neighborhoods of a city, and ranges from 0 (totally integrated city) to 100 (totally segregated city), with SI>45=High and SI≤45=Low Segregation. Poverty was measured as the percentage of people below the poverty line in each city, with < 9.5%=Low, 9.5% - 12%= Moderate, and >12%= High city-poverty levels. Multilevel modeling was used to predict Ever-PAP (yes/no; women ≥ age 18) and Ever-Mammogram (yes/no; women ≥ age 40) from individual-level (age, education, health insurance) and area-level (City Segregation and Poverty) variables. Results revealed that each individual-level variable contributed significantly to both Ever-PAP and Ever-Mammogram, whereas the two area-level variables did not. Significant area-level variation in cancer-screening was found however; Hispanic women would be significantly more likely to engage in cancer screening if they moved to a city where PAP and Mammography use are higher, but these cities do not differ from others in Segregation or Poverty levels. Findings are discussed in terms of the need for multi-level analyses using smaller (e.g., census tracts) areas and additional area-based measures.

CORRESPONDING AUTHOR: Dexter L. Cooper, MPH, Behavioral Research, American Cancer Society, Atlanta, GA, 30303; dcooper@cancer.org

B-09

ACCESS TO CARE: INSURANCE STATUS, KNOWLEDGE AND CERVICAL CANCER SCREENING OF AFRICAN AMERICAN WOMEN IN FEDERALLY QUALIFIED HEALTH CLINICS

Lokie A. Harmond, MPH, Barbara Powe, PhD, RN and Dexter Cooper, MPH

Behavioral Research Center, American Cancer Society, Atlanta, GA.

Uninsured women are less likely than privately insured women to have had a Pap test in the past three years. Barriers include cost issues which lead to delays in entering care, delayed treatment, and inability to obtain prescription drugs. Federally Qualified Health Centers (FQHC) are vital community based organizations that offer quality, affordable health care regardless of the ability to pay. This study compares cervical cancer knowledge and Pap testing rates among African American (AA) women at FQHCs who are uninsured with those who have private insurance or Medicaid/Medicare. This comparative study was guided by the Patient, Provider, System Model for Cancer Screening. Data were collected during the woman's regular office visit using Cervical Cancer Knowledge Survey, Patient Demographic Data Questionnaire, and Medical Record Review form. The women (N=125) were high school graduates, annual income < $20,000, and mean age 35 years. Majority were uninsured (48%) or insured with Medicaid / Medicare (42%), the remaining had private insurance (10%). The mean cervical cancer knowledge score was 10.1. Knowledge scores were similar for uninsured (9.95), those insured by Medicaid / Medicare (10.0), and privately insured (10.4). Self-reported screening was similar for uninsured (35%) and insured Medicaid / Medicare (36%). Although not statistically significant due to small cell size, women (43%) with private insurance participated in Pap testing <1 year. Contrary to literature, in this study, AA women who attend FQHC are screening at similar rates with similar knowledge regardless of insurance status. FQHCs play a vital role in communities and can be a solution for uninsured AA women. A larger study is needed that compares health care clinics' services to FQHCs. Effective strategies used at FQHCs should be identified and incorporated into broader interventions to study the effects of these additional services on patients. Provider knowledge, federal funding, and patient referrals need be in place in order to increase services.

CORRESPONDING AUTHOR: Lokie A. Harmond, MPH, Behavioral Research Center, American Cancer Society, Atlanta, GA, 30067; lokie.harmond@cancer.org

B-10

INFLUENCE OF COMPANIONS, RACE, AND THE DOCTOR-PATIENT RELATIONSHIP ON PATIENTS' INFORMATION-SEEKING DURING CLINICAL ONCOLOGY INTERACTIONS

Felicity Harper, PhD, Susan Eggly, PhD, Louis Penner, PhD, Tanina Foster, MS and Terrance Albrecht, PhD

Karmanos Cancer Institute, Detroit, MI.

Background: Research shows oncologists provide more information to patients who ask more questions during clinical interactions. Building on our previous research, we explored whether bringing a companion, race, and the quality of doctor-patient relationships influence patient question asking at an urban cancer center.

Method: Trained coders observed 140 video recorded outpatient interactions. They coded all patient and companion questions using the Karmanos Information Seeking Analysis System (K-ISAS) and rated the quality of doctor-patient (MD-PT) and doctor-companion (MD-CP) relationships using the Karmanos Accrual Analysis System (KAAS). Patients completed demographic questionnaires.

Results: Patient sample was: 32% non-White; 47% female; mean age=59.8 (SD=13.5); median income=$40 K-$59.9 K; and 84% high school education. Most patients (76%) brought ≥1 companion. Patients asked on average 10.59 questions (SD=8.55) and companions (if present) 12.38 questions (SD=10.89). The number of patient and companion questions was not significantly different, t(106)=-1.4, ns, and patients asked the same number of questions whether or not a companion was present, β=-.19, ns. However, whites were more likely to bring a companion than blacks, t(127)=-5.16, p=.000, and whites with companions asked more questions than blacks with companions, t(95)=1.77, p<.05. The quality of the MD-PT relationship also had a significant impact on question asking; more positive MD-PT relationships were associated with more patient questions, r=.21. Further, more positive MD-CP relationships were associated with more patient questions, r=.20, and more companion questions, r=.22 (all p<.05).

Conclusion: Findings show the presence of companions and the quality of MD-PT and MD-CP relationships positively influence patient question asking during cancer interactions. However, blacks were less likely to bring companions, and blacks with companions asked fewer questions than whites with companions, potentially leading to disparities in patient informed decision-making processes.

CORRESPONDING AUTHOR: Felicity Harper, PhD, Karmanos Cancer Institute, Detroit, MI, 48201; harperf@karmanos.org

B-11

INTEREST AND PREFERENCES FOR PARTICIPATING IN A SMOKING CESSATION PROGRAM AMONG SMOKERS WITH CANCER

Mary E. Cooley, PhD, Robert Haddad, MD, Hailun Li, MA, Karen Emmons, PhD, Marshall Posner, MD, Tiffiny Jen Cohen, BS and Bruce E. Johnson, MD

Dana Farber Cancer Institute, Boston, MA.

Although effective smoking cessation treatments are available,only one-third to one-half of smokers with cancer report receiving treatment.Identification of patient interest and preference for the type of smoking cessation program is the first step in developing tailored interventions.The purposes of this study were to describe the type of smoking cessation interventions that patients with cancer receive after their diagnosis,identify interest and preferences for participating in a smoking cessation program,and examine factors associated with interest in participating in a smoking cessation program. Standardized questionnaires were used to collect data.Descriptive statistics and logistic regression were used in the analyses. Complete data were collected from 160 smokers or recent quitters with lung or head and neck cancer. The median age of participants was 57 years(range:25–81),101(63%)were male,149(93%)were white,91(57%)had lung cancer,and 75(47%)had stage IV disease.Results of the study revealed 51(32%)participants were smoking at entry to the study.Among smokers,44(86%)reported that a health care provider advised them to quit smoking,33(65%)reported that their health care provider recommended a smoking cessation treatment with pharmacotherapy alone(n=14,42%) as the most common suggestion.Forty-eight(30%)participants were interested in a smoking cessation program;twenty-six(51%)smokers and 22(20%)recent quitters. An individualized smoking cessation program alone or in combination with behavioral methods was the preferred type of program.Among smokers,earlier stage patients were significantly more interested in programs(odds ratio 13.2,95% CI:2–88), younger age and presence of a smoking partner were marginally significant.In conclusion, although the majority of smokers with cancer receive advice and suggestions to quit smoking, only 51% are interested in participating in a smoking cessation program.The development of smoking cessation programs that are tailored toward smokers' preferences may assist in increased utilization of these programs.

CORRESPONDING AUTHOR: Mary E. Cooley, PhD, Dana Farber Cancer Institute, Boston, MA, 02025; mary_cooley@dfci.harvard.edu

B-12

CANCHANGE: AN INNOVATIVE TELE-BASED SUPPORTIVE CARE PROGRAM FOR COLORECTAL CANCER SURVIVORS

Anna L. Hawkes, BSc(Hons), MPH, PhD, Sara Gollschewski, PhD, Brigid M. Lynch, PhD and Suzanne Chambers, PhD

Viertel Centre for Research in Cancer Control, Psycho-oncology Research Unit, Brisbane, QLD, Australia.

Introduction: This study aimed to pilot the acceptability and short-term effectiveness of a psychosocial and lifestyle supportive care program to improve health behaviours and quality of life for colorectal cancer (CRC) survivors.

Methods: 20 CRC survivors completed CanChange, a theory-based supportive care program telephone-delivered by health coaches over six weeks, and supported by an interactive participant handbook and state-of-the-art computer application. Program acceptability, lifestyle variables (physical activity, dietary intake, alcohol intake, smoking, body mass index) and quality of life were recorded at baseline (Time 1) and at completion of the program (six weeks follow-up, Time 2).

Results: Overall 76% of participants rated CanChange as "excellent"; 100% stated their health coach was excellent and easy to talk to, the handbook was easy to read, and they would recommend CanChange to other CRC survivors. 80% said CanChange addressed their issues of concern, and 72% said it helped them deal more effectively with their problems. 100% said CanChange made them more motivated to make positive changes in their life, and more positive/hopeful about their future. From Time 1 to Time 2 we observed a significant decrease in median (IQR) processed meat intake [1.0(3.0) vs 0.0 (1.0), p=0.01]. We observed non-significant improvements in sedentary behaviour [21.0 (25.8) vs 15.8(18.3); p=0.06], and the proportion of non-drinkers (15.0% to 27.8%) and participants meeting the national dietary guidelines for fruit and vegetable intake (15.0% vs 36.8%). There was also a non-significant reduction in CRC specific symptoms including fatigue (75% vs 50%, p=0.06), nausea (25% vs 20%, p=1.00), and unintentional release of stools (40% vs 20%, p=0.13).

Conclusions: CanChange is a highly acceptable and potentially effective psychosocial and lifestyle intervention to improve health behaviours for colorectal cancer survivors. A large randomised controlled trial will follow and be described in detail in the presentation

CORRESPONDING AUTHOR: Anna L. Hawkes, BSc(Hons), MPH, PhD, Viertel Centre for Research in Cancer Control, Psycho-oncology Research Unit, Brisbane, QLD, 4051; annahawkes@cancerqld.org.au

B-13

PREDICTING REPORTED LIKELIHOOD TO VACCINATE DAUGHTERS AGAINST HPV: A SURVEY OF MOTHERS RESIDING IN PUBLIC HOUSING

Rachel F. Steffens, BA,[1] Katharine A. Atwood, ScD,[2] Rick S. Zimmerman, PhD,[2] Jennifer L. Kilkus, BA,[1] Jamie L. Studts, PhD[1] and Pamela K. Cupp, PhD[2]

[1]Department of Behavioral Science, University of Kentucky College of Medicine, Lexington, KY and [2]Department of Communication, University of Kentucky, Lexington, KY.

Effective HPV vaccines have created a unique opportunity to prevent cervical cancer. Vaccination has the greatest impact if administered prior to sexual debut, raising sensitive issues regarding adolescent sexual activity that could decrease vaccine uptake. This study explored Health Belief Model (HBM) predictors of reported likelihood to vaccinate daughters against HPV. Participants (N=134) were mothers of 9–14 year old females residing in public housing in Louisville, KY. A survey assessed demographic characteristics, HBM constructs (i.e., perceived risk, severity, benefits and barriers, self-efficacy), and likelihood to vaccinate. Among mothers of unvaccinated daughters (n=101), the mean likelihood of HPV vaccination within the next year was 5.4 (±3.58) on a scale from 0 ('not at all') to 10 ('extremely likely'). Correlations indicated all HBM constructs were significantly associated with likelihood to vaccinate (r's of.28 to .49, p's<.01). Hierarchical multiple regression indicated demographic variables on step one (i.e., parent age, education, and household income) did not predict vaccination likelihood F(3,88)=0.37, p=.78; HBM constructs on step two explained significant variance beyond step one ΔF(5,83)=8.57, p<.001; the perceived risk by perceived severity interaction term on step three did not explain additional variance ΔF(1,82)=0.01, p=.92. The overall model was statistically significant F(9, 82)=4.88, p<.001, R-squared=.35, and self-efficacy alone predicted likelihood to vaccinate t(91)=2.17, p=.03. Likelihood ratings varied widely within this sample, but average reported likelihood slightly favored vaccination. Self-efficacy was the only independent predictor, with none of the original HBM variables contributing to the prediction of likelihood to vaccinate. Interventions emphasizing self-efficacy may increase vaccination intentions among mothers and improve HPV vaccination rates in adolescent females.

CORRESPONDING AUTHOR: Rachel F. Steffens, BA, Behavioral Science, University of Kentucky, Lexington, KY, 40636; Rachel.Steffens@uky.edu

B-14

LAY REPRESENTATIONS OF CANCER PREVENTION AND EARLY DETECTION: ASSOCIATIONS WITH PREVENTION BEHAVIORS

Helen W. Sullivan, PhD, MPH,[1] Lila J. Finney Rutten, PhD, MPH,[1] Bradford W. Hesse, PhD,[1] Richard P. Moser, PhD,[1] Alexander J. Rothman, PhD[2] and Kevin D. McCaul, PhD[3]

[1]National Cancer Institute, Bethesda, MD; [2]University of Minnesota, Twin Cities, Minneapolis, MN and [3]North Dakota State University, Fargo, ND.

Background. A substantial proportion of cancer deaths could be prevented through early detection and changes to health behaviors. The Common Sense Model of illness representations posits that how people think about (i.e., represent) an illness has important implications for how they try to prevent and detect the illness. The purpose of the current study was to determine whether prevention representations vary by cancer type (colon, lung, and skin cancer) and whether representations are associated with cancer-relevant behaviors.

Methods. Data were analyzed from the Health Information National Trends Survey (HINTS 2005), a nationally representative survey of American adults (N=5,586) conducted by telephone interview.

Results. Respondents reported that all three types of cancer can be prevented through healthy behaviors; however, fewer did so for colon cancer. More respondents spontaneously reported screening as a prevention strategy for colon cancer than did so for lung or skin cancer. Recent colon cancer screeners listed more primary colon cancer prevention behaviors than never screeners. Compared to current smokers, never and former smokers listed more lung cancer primary prevention behaviors. Respondents who used sunscreen often reported more skin cancer primary prevention behaviors than never sunscreen users.

Conclusions. Lay representations of cancer were associated with related health behaviors, and represent a ready target for health messages and interventions.

CORRESPONDING AUTHOR: Helen W. Sullivan, PhD, MPH, National Cancer Institute, Bethesda, MD, 20852; helen@aya.yale.edu

B-15

ANTICIPATED SHAME AND WORRY FOLLOWING AN ABNORMAL PAP TEST RESULT: THE IMPACT OF INFORMATION ABOUT HPV

Jo Waller, PhD, Laura A. Marlow, MSc and Jane Wardle, PhD

Health Behaviour Research Centre, Epidemiology & Public Health, UCL, London, United Kingdom.

Objectives: To evaluate the impact of HPV and cervical cancer information on women's anticipated feelings of worry and shame if they received an abnormal cervical screening result.

Measures: Data were obtained from a British population-based survey of 1081 women aged 25–64 years, carried out in 2006–7. Women were given 'phased' information about HPV and asked whether it would make them feel more or less worried and ashamed if they had an abnormal Pap result.

Results: At baseline, 5.5% women anticipated shame if they had an abnormal Pap test but 88.8% anticipated worry. General and prevalence information about HPV led 4.6% and 5.8% of women to say they would feel more ashamed, while 14.2% said they would feel more ashamed following sexual transmission information. About a third of women also said they would feel more worried having read the information. These responses were more common in women with little education and from non-white ethnic groups.

Conclusions: HPV information could make women feel more worried about getting an abnormal Pap result, and may make some women feel more ashamed. Worryingly, this may particularly be true for women in groups with low screening uptake rates. Care needs to be taken to ensure HPV information is clear and does not raise unnecessary anxiety.

CORRESPONDING AUTHOR: Jo Waller, PhD, Epidemiology & Public Health, UCL, London, WC1E 6BT; j.waller@ucl.ac.uk

B-16

BREAST, COLORECTAL AND PROSTATE CANCER SCREENING FOR ADULT CANCER SURVIVORS AND NON-CANCER PATIENTS IN PRIMARY CARE

Shawna Hudson, PhD,[1,2] Karissa Hahn, MPH,[2] Pamela Ohman-Strickland, PhD,[3,1] Regina Cunningham, PhD,[1,2] Suzanne Miller, PhD[4] and Benjamin Crabtree, PhD[2,1]

[1]The Cancer Institute of New Jersey, New Brunswick, NJ; [2]Family Medicine, UMDNJ-Robert Wood Johnson Medical School, New Brunswick, NJ; [3]UMDNJ-School of Public Health, Piscataway, NJ and [4]Fox Chase Cancer Center, Philadelphia, PA.

BACKGROUND: NCCN and the USPSTF and have established evidence-based cancer screening guidelines for cancer survivors and the general population. Few data available compare cancer screening experiences of these groups in community primary care settings where most patient care occurs.

METHOD: Secondary analyses were conducted of 742 baseline patient surveys and medical records for patients in 25 practices participating in a cancer screening intervention study.

RESULTS: Survivors of one or more types of cancer comprised 14% of the sample. The most common cancers were breast (28%), prostate (21%) and colorectal (12%). Patient reported screening rates for breast, colorectal and prostate cancers were high, 73% to 81% for cancer survivors compared to 56% to 69% for non-survivors. Cancer survivors were more likely than patients without cancer to be screened for colorectal cancer ($p<.0001$) even after removing colorectal cancer survivors from the analysis ($p=0.0081$). Male cancer survivors of any type were more likely to be screened for prostate cancer than patients without cancer ($p=.0011$). Breast cancer screening rates were similar regardless of survivor status. Data from the chart audits found similar trends; however, rates of screening were much lower for both groups, 43% to 56% for survivors compared to 35% to 49% for non-survivors.

CONCLUSION: Though self-reported screening rates were high, practice documented screening rates should be improved especially for survivors with increased cancer risk. These data suggest that patients and providers may have different understandings of cancer screening or different mechanisms for documenting receipt for which interventions are necessary.

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CORRESPONDING AUTHOR: Shawna Hudson, Ph.D., The Cancer Institute of New Jersey, New Brunswick, NJ 08903, hudsonsh@umdnj.edu

B-17

SOCIAL INFLUENCES AND NORMS ON ANTICIPATED HPV VACCINE UPTAKE

Jennifer L. Kilkus, BA,[1] Katharine A. Atwood, ScD,[2] Rick S. Zimmerman, PhD,[2] Pamela K. Cupp, PhD,[2] Rachel F. Steffens, BA[1] and Jamie L. Studts, PhD[1]

[1]University of Kentucky College of Medicine, Lexington, KY and [2]Department of Communication, University of Kentucky, Lexington, KY.

Human papillomavirus (HPV) vaccines have the potential to prevent the majority of cervical cancer if vaccine uptake is sufficient. However, numerous factors are likely to influence HPV vaccine acceptability and uptake, including attitudes among parents. This study examined the association of social influences and perceived social norms on a mother's intention to vaccinate her daughter against HPV in the next year. A sample of mothers residing in public housing completed questionnaires addressing HPV vaccine knowledge, attitudes and intentions. Participants (N=134) were an average age of 33 years (±7) and were predominately African American (89%), single (77%), and unemployed (65%). Participants rated degree of social influence on a three-point scale (1=not at all, 2=somewhat, and 3=very influential). Perceived social norms regarding HPV vaccination were also rated on a three-point scale (1=opposed, 2=neutral, and 3=favorable), and likelihood of vaccination was rated on a 0–10 scale. Results showed that several sources of social influence were associated with greater reported likelihood to vaccinate a daughter against HPV in the next year, including relatives ($p<.05$), doctors ($p<.001$), health departments ($p<.01$), schools ($p\leq.01$), news organizations ($p<.05$), advertisements ($p<.05$), and religious organizations ($p<.05$). Additionally, those that reported their mother ($p<.01$), close relatives ($p<.01$) and other people close to them ($p<.05$) would want them to vaccinate their daughter report significantly greater likelihood to vaccinate. Interestingly, intention to vaccinate was not associated with demographic factors. Data suggest that participants' social environments and perceived social norms about HPV vaccination may play a role in the likelihood that parents will vaccinate their daughters. This study can inform future research to develop interventions which acknowledge these powerful social factors while simultaneously helping parents make informed and autonomous health decisions regarding HPV vaccines.

CORRESPONDING AUTHOR: Jennifer L. Kilkus, BA, University of Kentucky, Lexington, KY, 40503; jennifer.kilkus@uky.edu

B-18

HEALTH BELIEFS PREDICT CANCER SCREENING BEHAVIORS IN A COMMUNITY SAMPLE OF TRADITIONALLY UNDERSERVED APPALACHIAN ADULTS

Travis I. Lovejoy, MS[1] and Jennette P. Lovejoy, MS[2]

[1]Psychology, Ohio University, Athens, OH and [2]Journalism and Mass Communication, Ohio University, Athens, OH.

Background: Appalachian regional cancer mortality rates exceed the national average, and these disparities may be due, in part, to high rates of advanced-stage cancer at initial diagnosis due to non-engagement in recommended cancer screening. Previous studies have identified health beliefs as salient factors that influence individuals' decisions to engage in health screening behaviors. The purpose of the current study was to test the Health Belief Model for cancer screening in a traditionally underserved rural population.
Methods: Random digits dialing procedures were used to survey a community sample of Appalachian Ohio adults. Respondents provided information on current screening behaviors for breast, cervical, prostate, and colorectal cancers, as well as family histories of cancer. Nine health belief questions assessed respondents' perceived susceptibility to cancer as well as perceived benefits of, and barriers to, being screened. We used confirmatory factor analysis to corroborate the hypothesized constructs and path analysis to model the relationship between health beliefs and cancer screening adherence.
Results: The current analytic sample consisted of 405 adults who had never been diagnosed with cancer. As hypothesized, greater perceived susceptibility (p<.05) and benefits (p<.05) and fewer perceived barriers (p<.01) were significantly related to screening adherence and accounted for seven percent of the variance in screening behavior. The overall model fit the data well, $\chi 2(10)=12.40$, p=.26 (GFI=.99, IFI=.97, RMSEA=.02).
Conclusion: Positive health beliefs may be necessary but insufficient determinants of cancer screening adherence. In a community sample of adults living in a region rife with poverty and numerous healthcare access barriers including a shortage of medical facilities and personnel, health beliefs accounted for a small amount of variance in screening behavior. Policy interventions that help to mitigate financial and structural barriers to care may have the greatest population impact.

CORRESPONDING AUTHOR: Travis Lovejoy, MS, Psychology, Ohio University, Athens, OH, 45701; tl399805@ohio.edu

B-19

CLUSTER SUBTYPES WITHIN THE PRECONTEMPLATION STAGE OF CHANGE FOR SUN PROTECTION BEHAVIOR

Marimer Santiago-Rivas, M A,[1] Wayne F. Velicer, PhD[1,2] and Colleen A. Redding, PhD[2]

[1]Psychology, University of Rhode Island, Kingston, RI and [2]Cancer Prevention Research Center, Kingston, RI.

Objective: The Transtheoretical Model has been used in the development of effective tailored interventions for smoking cessation and other behaviors. Recent studies have suggested the existence of clusters subtypes within each stage of change, based on measures of the Pros, Cons and the Situational Temptations. The goal of this study is to determine if replicable cluster subtypes exist within the Precontemplation stage of change for UV protection.
Method: A secondary data analysis of baseline data from a sample of participants in a home-based expert system intervention was performed. Three random samples of approximately 190 participants were selected from subjects in the Precontemplation stage (N=570). The cluster analyses were performed using Ward's Method on the standard scores from the three scales. Interpretability of the pattern, pseudo F test, and dendograms were used to determine the number of clusters.
Results: A four-cluster solution replicated well across subsamples, and was retained for the analysis of the general sample. Significant differences (p<.05) among clusters on the nine Processes of Change, and on behavioral measures were found.
Discussion: The cluster solution was robust, easily interpretable and demonstrated good initial external validity. It also replicated patterns found for other behaviors that have demonstrated long term predictability.

CORRESPONDING AUTHOR: Marimer Santiago-Rivas, M A, Psychology, University of Rhode Island, Ciales, PR, 00638; smarimer@mail.uri.edu

B-20

INSOMNIA AND COGNITIVE FUNCTIONING IN WOMEN TREATED FOR BREAST CANCER

Aude Caplette-Gingras, Doctorate student,[1,2] Marie-Hélène Savard, MPs, PhD(c),[1,2] Hans Ivers, MPs, PhD (c)[2] and Josée Savard, PhD[1,2]

[1]Psychology, Laval University, Québec, QC, Canada and [2]Psycho-Oncology Research Group, Laval University Cancer Research Center, Québec, QC, Canada.

Prospective studies have shown cognitive impairments associated with systemic cancer treatment, but there is a need to evaluating the role of additional factors.
PURPOSE: This study aimed at assessing the relationship between insomnia and cognitive functioning, measured objectively and subjectively, in breast cancer patients.
METHODS: Sixty-six women treated for breast cancer by surgery, chemotherapy, radiation therapy and currently receiving hormone therapy, completed a neuropsychological battery and self-report scales of cognitive functioning (i.e., Cognitive Failures Questionnaire, Actual State Scale, Performance Rating Scale). Sleep difficulties was assessed using the Insomnia Severity Index and a sleep and medication diary.
RESULTS: A significant difference between good sleepers and patients with insomnia was found on the episodic memory domain, F (1, 64)=7.68, p<.01. Specifically, patients with insomnia symptoms performed significantly worse on three subtests of Logical Memory and on five subtests of Rey Auditory-Verbal Learning Test. Moreover, participants with insomnia symptoms reported significantly lower scores on Actual State Scale, assessing among other things the performance expectancy of patients, F (1, 64)= 6.84, p<.05. Furthermore, a marginally significant difference was found between groups on the executive functioning domain, F (1, 64)=2.88, p=.09. More precisely, a significant between-groups difference was found on the inhibition condition of the Color-Word Interference Test while the difference on Digit Span Backward was marginally significant. No significant difference was found between patients with insomnia and good sleepers on attention and speed processing measures.
CONCLUSION: This study's findings suggest that insomnia is associated with objective and subjective cognitive impairment in women treated for breast cancer.
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CORRESPONDING AUTHOR: Aude Caplette-Gingras, Doctorate student, Psychology, Laval University Cancer Research Center, Québec, QC, G1R 2J6; aude.caplette-gingras.1@ulaval.ca

B-21

PARENT AND CHILD CORRELATES OF PARENT NEGATIVE AFFECT DURING PEDIATRIC ONCOLOGY TREATMENT

Felicity Harper, PhD, Louis Penner, PhD, Amy Peterson, MS, Jeffrey Taub, MD and Terrance Albrecht, PhD

Karmanos Cancer Institute, Detroit, MI.

Background: Pediatric patients often consider treatment (TX) more traumatic and painful than cancer itself. Previous studies show parent affect just before or during TX procedures influences child adjustment. We hypothesize that pre-existing parent and child attributes are associated with parent negative affect immediately before TX and child quality of life (QOL) after TX. We explored the relationship of parent negative affect before TX to parent trait affect; child personality, temperament, social/emotional functioning; and child QOL.
Methods: Participants were 41 pediatric oncology patients (49% female; ages 2–12; 27% non-white) receiving TX at a Midwestern children's hospital. "Parents" (30 mothers, 4 fathers, 7 others) completed questionnaires of (a) demographics, (b) parent trait affect (anxiety, enduring negative emotions, depression), and (c) child personality, temperament, social/emotional functioning. Parents also completed measures of parent state negative affect (NA) (state anxiety, personal distress, negative emotions) just before TX and measures of child QOL 2 weeks post-TX.
Results: Parent trait affect was positively related to parent state NA before TX (all p<.05). Child emotional functioning (anxiety/depression, aggression) was positively related to parent state anxiety (p<.05) and negative emotions (p=.06) just before TX. Child personality (pain sensitivity) was positively related to parent personal distress (p=.07) before TX. Interestingly, adaptive aspects of child temperament were unrelated to parent state NA. Parent state NA before TX was significantly related to problems with child QOL (social, emotional, school, appearance) post-TX.
Conclusion: Parent trait affect and child attributes (emotional functioning, personality) significantly impact parent state NA just before pediatric oncology TX procedures. Further, this parent NA on the day of TX is related to child QOL post-TX. Results point to the importance of considering the role of parent state NA associated with pediatric oncology TX in designing interventions to improve longer-term adjustment of patients.

CORRESPONDING AUTHOR: Felicity Harper, PhD, Karmanos Cancer Institute, Detroit, MI, 48201; harperf@karmanos.org

B-22

ADDICTION TO INDOOR TANNING: RELATIONS TO ANXIETY, DEPRESSION, AND SUBSTANCE USE

Catherine E. Mosher, PhD[1,2] and Sharon Danoff-Burg, PhD[1]

[1]Department of Psychology, University at Albany, SUNY, Albany, NY and [2]Department of Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY.

This study investigated the prevalence of addiction to indoor tanning among undergraduates and its association with anxiety, depression, and substance use. A significant proportion of college students and sunbathers have met criteria for having a substance-related disorder (SRD) with respect to UV light tanning behavior (Poorsattar & Hornung, 2007; Warthan et al., 2005). However, this research did not focus on addiction to indoor tanning and its relation to other psychopathology. We hypothesized that a minority of college students would meet the criteria for a SRD with regard to indoor tanning and that endorsement of this disorder would be positively related to anxiety, depression, and substance use.

The sample consisted of 421 undergraduates (67.5% female) in the northeastern U. S. Most participants were 18 to 21 years of age (92.9%) and Caucasian (75.8%). Participants anonymously completed questionnaires on one occasion.

Among college students who had used indoor tanning facilities ($n=237$), 12.7% met DSM-IV-TR criteria for a SRD with regard to indoor tanning and 30.8% endorsed addiction to indoor tanning on a modified version of the CAGE screening instrument. Logistic regression analyses indicated that predictors of meeting DSM or CAGE criteria for addiction to indoor tanning included greater symptoms of anxiety ($OR=1.0$; 95% CI, 1.0 to 1.1) and depression ($OR=1.1$; 95% CI, 1.0 to 1.1) on the Beck Anxiety and Depression Inventories, respectively, and greater use of cocaine, amphetamines, inhalants, and other illegal drugs during the past month ($ORs=1.9$ to 6.7). However, gender, skin type, and alcohol and tobacco use during the past month did not predict addiction to indoor tanning. Findings suggest that interventions to reduce skin cancer risk should address the addictive qualities of tanning for a minority of individuals as well as the relationship of this behavior to mood and other addictions.

CORRESPONDING AUTHOR: Catherine E. Mosher, PhD, Department of Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY, 10022; mosherc@mskcc.org

B-23

ARE LIFESTYLE BEHAVIORS ASSOCIATED WITH PSYCHOLOGICAL DISTRESS IN CANCER: RESULTS FROM A LONGITUDINAL STUDY

Sophie Ruel, BScInf,[1,2] Claudia Trudel-Fitzgerald, BA,[1,2] Caroline Desautels, BA,[1,2] Hans Ivers, MPs[1] and Josée Savard, PhD[1,2]

[1]School of Psychology, Laval University, Quebec, QC, Canada and [2]Laval University Cancer Research Center, Quebec, QC, Canada.

Lifestyle behaviors, such as regular physical activity and the use of tobacco, alcohol and caffeine, have been found to be associated with psychological distress in the general population. In the context of cancer, increased physical activity appears to be associated with reduced psychological distress. However, much less is known about the relationship with other health behaviors. Patients scheduled to undergo surgery for cancer ($N=967$) completed a health behavior questionnaire and the Hospital Anxiety and Depression Scale at four time points: at baseline (T1) and 2 (T2), 6 (T3) and 10 (T4) months later. Results showed significant associations ($r=-.09$ to $-.16$, $ps<.01$) between increased physical activity and decreased psychological distress at each assessment. Increased tobacco use was significantly associated with higher psychological distress at each assessment ($r=.11$ to $.15$, $p<.01$), except at T3. There was no significant association between alcohol and caffeine use with psychological distress. Standard linear regression analyses completed at each time point revealed that increased physical activity was a significant predictor of lower levels of anxiety at T2 ($\beta=-.09$, $p<.05$) and depression at all time points ($\beta=-.13$ to $-.18$, $ps<.05$). Greater use of tobacco significantly predicted increased anxiety ($\beta=.09$ to $.12$, $p<.05$) and depression scores ($\beta=.08$ to $.14$, $p<.05$), except at T3. Finally, increased alcohol consumption was a significant predictor of lower depression scores, but only at T2 ($\beta=-.07$, $p<.05$) while increased caffeine consumption significantly predicted lower depression, but only at T1 ($\beta=-.07$, $p<.05$). In conclusion, increased physical activity appears to be the most consistent predictor of decreased depressive symptoms, whereas increased tobacco consumption appears to be the best predictor of greater anxiety scores in cancer patients throughout their treatment trajectory. Further studies are needed to replicate the present results.

CORRESPONDING AUTHOR: Claudia Trudel-Fitzgerald, BA, Ã‰cole de psychologie, Université Laval, Quebec, QC, G1R 2J6; claudia.trudel-fitzgerald.1@ulaval.ca

B-24

MARITAL SATISFACTION, ADJUSTMENT AND DISSOLUTION AMONG CANCER PATIENTS AND SPOUSES: A PROSPECTIVE, FIVE-YEAR LONGITUDINAL INVESTIGATION

Shelby Langer, PhD,[1,2] Jean Yi, PhD,[2] Barry Storer, PhD[2] and Karen Syrjala, PhD[2]

[1]\School of Social Work, University of Washington, Seattle, WA and [2]Fred Hutchinson Cancer Research Center, Seattle, WA.

Little is known about the long-term interpersonal trajectory of hematopoietic stem cell transplantation (HSCT). This study sought to examine the course of marital satisfaction, adjustment and dissolution among 121 HSCT couples - as a function of role (patient, spouse) and gender. The study design was prospective and longitudinal. Participants reported on marital status and completed the Dyadic Adjustment Scale at six time points: prior to the transplant, 6 months post-transplant and 1, 2, 3 and 5 years post-transplant. Sample demographics were: M (SD) age= 43.7 (9.0) for patients and 43.5 (9.8) for spouses; 52% female patients and male spouses; 7% non-Caucasian patients and 10% non-Caucasian spouses. Marital dissolution was uncommon: 4 divorces since the transplant among 55 participating 5-year survivors (7%). Results from linear mixed models indicated that dyadic satisfaction was stable over time for both male and female patients and male spouses, but not for female spouses who reported reductions in satisfaction at all time points ($p<.05$). Within-couple differences in satisfaction occurred for couples comprised of male patients and female caregivers, with the latter more dissatisfied ($p<.01$). Overall, the longitudinal picture of HSCT is positive in that most marriages survive transplantation and the recovery process despite shifts in the relationship to one of intensive caregiving by the spouse. However, female spouses are vulnerable to decreases in relationship satisfaction. We do not yet fully understand the consequences of such decreases. Investigations designed to examine the psychological, physiological and interpersonal effects of dissatisfaction are warranted.

CORRESPONDING AUTHOR: Shelby Langer, PhD, School of Social Work, University of Washington, Seattle, WA, 98105; shelby11@u.washington.edu

B-25

EXPECTANCY AND PERCEIVED SUSCEPTIBILITY TO NAUSEA AS RISK FACTORS FOR CHEMOTHERAPY-RELATED NAUSEA

Joseph A. Roscoe, PhD, Charles E. Heckler, PhD and Gary R. Morrow, PhD

James P. Wilmot Cancer Center, University of Rochester, Rochester, NY.

Background: There is great variation in the frequency and severity of nausea which cannot be explained by the pharmacological properties of the chemotherapeutic agents alone.

Methods: We examined nausea expectancy and susceptibility to nausea as risk factors for nausea in 1176 chemotherapy-naïve, female breast cancer patients. All received doxorubicin-base chemotherapy and a 5-HT3 receptor antagonist prior to treatment. Nausea was measured on a 1–7 scale over four days by diary. Expectancy was assessed by asking "What do you think your level of nausea will be at its worst after this treatment?" The six possible responses ranged from "very mild or none at all" to "intolerable" and were coded 1 - 6, respectively. Susceptibility was assessed by asking, “In general, do you think you are more susceptible to nausea than your friends and family are?” Possible responses were “more,” “about the same,” and “less," scored as 3, 2, and 1, respectively.

Results: Regression analysis showed both nausea expectancy and susceptibility were significant predictors of average nausea after controlling for age and other relevant variables. An increase of one point in expectancy corresponded to a .124 increase in average nausea ($P<0.001$). A one point increase on susceptibility corresponded to a .289 increase in average nausea ($P=0.002$). This meant that an increase in average nausea over the full range of expected nausea (1–6) was .62 points on average which was comparable to the .58 increase in average nausea across the full range of perceived susceptibility. There was no significant interaction between expectancy and susceptibility indicating that these two variables are additive in their effect on average nausea.

Conclusion: Understanding these risk factors could be very helpful in determining the appropriate antiemetic for patients beginning chemotherapy and in developing interventions to reduce chemotherapy-induced nausea.

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CORRESPONDING AUTHOR: Joseph A. Roscoe, PhD, Cancer Center, University of Rochester, Rochester, NY, 14642; joseph_roscoe@urmc.rochester.edu

B-26

THE IMPACT OF AN INTOLERANCE OF UNCERTAINTY ON ANXIETY AFTER RECEIVING AN INFORMATIONAL INTERVENTION ABOUT HPV: A RANDOMIZED CONTROLLED STUDY

Natalie O. Rosen, BA,[1] Bärbel Knäuper, D phil,[1] Pasqualina Di Dio, PhD,[1] Eleshia Morrison, BA,[1] Andrea Feldstain, BSc,[1,2] Marie-Helene Mayrand, Dr,[1] Eduardo Franco, Dr[1] and Zeev Rosberger, PhD[1,2]

[1]McGill University, Montreal, QC, Canada and [2]Jewish General Hospital, Montreal, QC, Canada.

When faced with a potential health threat, individuals with a higher intolerance of uncertainty (IU) rather than lower IU seek more information and experience higher anxiety. It remains to be seen whether meeting the information needs of individuals with higher IU will alleviate their anxiety. This study examined the impact of IU and an informational intervention about the human papillomavirus (HPV) on perceived uncertainty about one's HPV status (referred to as "HPV uncertainty") and anxiety. We hypothesized that (i) providing a long HPV-specific information pamphlet will increase HPV uncertainty more than providing a short HPV pamphlet and more than providing control pamphlets (long or short) and (ii) among women who receive a long HPV or a short control pamphlet, those with higher IU will be more anxious than those with lower IU. IU, HPV uncertainty, and other pre-intervention measures were assessed through questionnaires mailed to participants of the Canadian Cervical Cancer Screening Trial (CCCaST). Participants were randomly assigned to receive either a long (N=125) or short (N=124) HPV information pamphlet, or a long (N=131) or short (N=115) control pamphlet about cancer prevention. Participants subsequently completed measures of HPV uncertainty and anxiety. Both our hypotheses were supported. Providing a long HPV pamphlet (M=3.39, SD=2.09) increased HPV uncertainty more than providing a short HPV (M=2.98, SD=2.07), a long control (M=2.82, SD=2.05) or a short control pamphlet (M=2.86 SD=2.09), F(1, 464)=3.23, p=.03. Among women who received a long HPV or a short control pamphlet, those with higher IU were more anxious than those with lower IU, F(3, 461)=9.27, p<.01, presumably because uncertainties about HPV cannot be resolved through more information. Health providers communicating HPV information to women with higher IU should accompany it with instrumental and emotional support to help them manage their uncertainty.

CORRESPONDING AUTHOR: Natalie O. Rosen, BA, Psychology, McGill University, Halifax, NS, B3H2Y6; natalie.rosen@mcgill.ca

B-27

GENETIC VS. NON-GENETIC CAUSAL ATTRIBUTIONS FOR BREAST CANCER AND THEIR ASSOCIATION WITH HEALTH BEHAVIORS

Catharine Wang, PhD, Suzanne M. Miller, PhD, Brian Egleston, PhD and David Weinberg, MD, MSc

Fox Chase Cancer Center, Philadelphia, PA.

Beliefs about the cause of breast cancer may play a role in women's health behaviors. The extent to which these beliefs or attributions might be associated with health behaviors remains to be determined. The purpose of this research is threefold: 1) to describe genetic vs. non-genetic causal attributions for breast cancer 2) to examine the association between these attributions and health behaviors, and 3) to identify potential mechanisms to explain the association. Possible mediators include perceived risk, perceived control, and response efficacy. A total of 211 women took part in this study. None of the women had a prior diagnosis of breast cancer. All women completed a web-based survey assessing causal attributions and other study variables. Overall, 84% of women endorsed heredity as a cause of breast cancer, compared to 46% for diet. Causal attributions for both heredity (r=-.14, p<.05) and diet (r=.14, p<.05) were significantly associated with actual dietary behaviors (i.e., fruit and vegetable intake), albeit in opposite directions. Dietary causal attributions were associated with diet response efficacy (r=.41, p<.001) and perceived control over colorectal cancer (r=.41, p<.001), but not perceived risk (r=.02, n.s.). Mediation analyses suggest that the relationship between dietary casual attributions and behavior may be indirect via response efficacy. Heredity attributions were not associated with any potential mediators. Future intervention studies communicating gene-environment risk information may need to take into consideration the importance of causal attributions in efforts to motivate health behaviors.

CORRESPONDING AUTHOR: Catharine Wang, PhD, Division of Population Science, Fox Chase Cancer Center, Cheltenham, PA, 19012; Catharine.Wang@fccc.edu

B-28

PSYCHIATRIC HISTORY AND EMPLOYMENT OUTCOMES AFTER CANCER

Catherine M. Alfano, PhD,[1] Xin He, PhD[2] and Janet S. deMoor, MPH, PhD[3]

[1]Office of Cancer Survivorship, National Cancer Institute, Bethesda, MD; [2]Biostatistics, The Ohio State University College of Public Health, Columbus, OH and [3]Health Behavior & Health Promotion, The Ohio State University College of Public Health, Columbus, OH.

INTRODUCTION: A cancer diagnosis and treatment may have lasting negative effects on employment. Survivors with a pre-existing psychiatric diagnosis (PPD) show poorer adjustment to cancer and may be at risk for poor employment outcomes. This study investigated whether cancer survivors who had a PPD reported different employment outcomes after diagnosis compared to those with no PPD.

METHODS: Data from 7 waves of the Health & Retirement Study were analyzed for 1,207 participants with no history of cancer in the initial wave (1992) who reported a cancer diagnosis in a later wave (1994–2004). Survivors completed biennial surveys assessing demographics; health status including cancer, other diseases and psychiatric disorders diagnosed by a doctor; current depression symptoms (CES-D); and employment. Employment outcomes and covariates below were measured in the wave of the first-reported cancer diagnosis.

RESULTS: Overall, 119 survivors (10%) reported a PPD prior to their cancer diagnoses. Logistic regression analyses (in STATA to account for the sampling design) adjusted for demographics and chronic diseases. After cancer, the odds of working for pay were 0.5 times lower for survivors with a PPD than for those without a PPD; the odds of reporting health problems that limited their capacity to work were 2.0 times higher for those with a PPD (all p<.05). Moreover, the odds of reporting a CES-D score suggesting significant current depression symptoms were 3.4 times higher for survivors with vs. without a PPD (p<.001).

CONCLUSIONS: Long known as a risk factor for poor adjustment to cancer, a PPD also places survivors at risk for poorer employment outcomes perhaps due to lingering depression symptoms or greater physical comorbid conditions. Future efforts should identify employment barriers and intervene to overcome them through effective referral for symptom management or through workplace policy change.

CORRESPONDING AUTHOR: Catherine M. Alfano, PhD, Office of Cancer Survivorship, National Cancer Institute, Bethesda, MD, 20892; Alfanoc@mail.nih.gov

B-29

A META-ANALYSIS OF THE RELATIONSHIP BETWEEN RESPONSE EXPECTANCIES AND CANCER-TREATMENT-RELATED SIDE EFFECTS

Stephanie J. Sohl, PhD, Julie B. Schnur, PhD and Guy H. Montgomery, PhD

Department of Oncological Sciences, Mount Sinai School of Medicine, New York, NY.

Understanding the precursors to the side effects of cancer and its treatment (e.g., pain, nausea fatigue) is of pertinent interest to improving the quality of life of cancer patients. One proposed psychological contributor to the experience of these side effects is the expectancy that they will occur, termed response expectancies. The body of research assessing the relationship between response expectancies and cancer-treatment-related side effects has yet to be empirically evaluated to determine the significance, strength, and moderators of this proposed effect. The current meta-analysis establishes that there is a significant medium effect of the relationship (r=.36) between cancer patients' expectancies that a side effect will occur and the experience of such side effects (Z=6.58, p<.001). Relationships between response expectancies and the experience of pain, nausea, vomiting, and fatigue varied, with the predictive contribution of response expectancies being stronger for pain than for vomiting (p<.05). In accordance with theory, response expectancies assessed with specific reference to the time the side effect would occur resulted in stronger effect sizes than assessments of expectancies that asked about the expectancy of the symptom during treatment in general Q (1)=10.27, p<.01. Finally, previous experience with cancer treatment did not influence this effect, inconsistent with our hypothesis. However, the small number of studies available for this comparison may have limited the power to detect a significant difference. Overall, these results support the contribution of response expectancies to cancer treatment side effects. The results also encourage further intervention research to alter response expectancies with the goal of reducing such side effects and improving patient quality of life.

CORRESPONDING AUTHOR: Stephanie J. Sohl, PhD, Department of Oncological Sciences, Mount Sinai School of Medicine, New York, NY, 10129-6574; Stephanie.Sohl@mssm.edu

B-30

ADHERENCE TO EXERCISE DIARY COMPLETION AMONG ADULTS WITH CANCER PARTICIPATING IN A HOME-BASED EXERCISE INTERVENTION

Leigh Anne Faul, PhD, Amber Isley, BA, Mallory Hussin, BA, Heather Jim, PhD and Paul Jacobsen, PhD

Moffitt Cancer Center, Tampa, FL.

Exercise has been associated with improvements in quality of life. Most studies typically deliver exercise interventions to cancer patients under supervised conditions. Secondary to the recent focus on dissemination and feasibility, home-based exercise programs, which rely heavily on completion of diaries, are growing. However, factors associated with adherence to exercise diary completion among adults with cancer are unknown. 66 adults (mean=57 years; 39% breast and 26% lung cancer diagnoses) beginning chemotherapy were randomized to the home-based exercise arms of a randomized trial. Recommended exercise comprised: walking at least 20 minutes 3–5 times weekly at a specified pace and completing a diary, logging exercise frequency, duration, and intensity for up to 16 weeks. Before randomization, exercise activity (LSI) and quality of life (SF-36, BAI, and CES-D)were measured. 71% (n=47)completed/returned 1 or < exercise diaries; 29% of participants did not return any (n=19). Exercise diary completion was related to less anxiety (r=.30), better mental health (r=.27), better social functioning(r=.25), and greater vitality (r=.36). Those who reported higher rates of pre-treatment exercise (on LSI) were more likely to complete diaries (r=.46). Participants who were sicker were less likely to complete diaries (ECOG status, r=-.29; comorbid medical conditions, r=-.28). Conversely, greater diary completion was related to better physical functioning (r=.29) and general health (r=.25). All r's are significant (p<.05). Exercise diary completion was not related to age, gender, diagnosis, or stage. Findings suggest that exercise diary completion is positively associated with pre-treatment exercise, and mental and physical functioning. However, the causal direction of these relationships cannot be established from these cross-sectional data. As home-based interventions proliferate, identification of predictors of exercise diary completion is necessary. Increased completion/return of exercise diaries will yield more accurate assessment of adherence to exercise recommendations.

CORRESPONDING AUTHOR: Leigh Anne Faul, PhD, Moffitt Cancer Center, Tampa, FL, 33612; leigh.faul@moffitt.org

B-31

OLD DOGS AND NEW TRICKS: INDUCING A NOVEL TEMPORAL FOCUS INCREASES FRUIT AND VEGETABLE CONSUMPTION

David B. Portnoy, PhD

[1]Cancer Prevention Fellowship Program, National Cancer Institute, Bethesda, MD and [2]Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

Many health behavior change theories and interventions fail to distinguish between outcomes in the short and long-term. However, some evidence suggests that taking an individual's temporal perspective into account may improve outcomes of health behavior interventions as in seen in tailoring of health messages (Resnicow et al., 2008). The present study was an intervention to increase fruit/vegetable (FV) consumption (N= 66) among overweight adults. The information in the intervention, using materials adapted from two well-established FV interventions, was the same for all participants. However, the motivational messages were manipulated: half the participants focused on the long-term goal of cancer risk reduction as the primary reason for eating FV while the other half were given short-term goals as the primary reason for eating FV. At the hour-long group intervention, baseline measures of FV consumption, Consideration of Future Consequences (Strathman et al., 1994), a measure of preference for considering short versus long-term outcomes when making a decision, were taken. At the baseline session, after the intervention was completed, open-ended goal and intention measures were completed. Participants received one tailored e-mail per week; follow-up measures of FV consumption were taken two weeks after the intervention. Participants in the long-term focused condition reported eating FV as more important, reported more long-term goals, reported using more skills taught in the intervention. However FV consumption results were moderated by the site from which participants were recruited. One (younger) sub-sample increased FV consumption in the short-term focused condition whereas the other (older) participants increased FV consumption only in the long-term focused condition. As CFC is inversely related to age, this may suggest that when the focus of the goal compensates for the individual's tendency to focus on one and neglect the other temporal information, greater behavior change may result.

CORRESPONDING AUTHOR: David B. Portnoy, PhD, Cancer Prevention Fellowship Program, National Cancer Institute, N. Bethesda, MD, 20852; dbportnoy@gmail.com

B-32

SCREENING AND COMORBIDITY OF CLINICAL FEAR OF CANCER RECURRENCE

Sébastien Simard, PhD[1,3] and Josée Savard, PhD[1,2]

[1]Laval University Cancer Research Center, Québec, QC, Canada; [2]School of psychology, Université Laval, Québec, QC, Canada and [3]Hôpital Laval, Quebec, QC, Canada.

Prevalence rates of the Fear of Cancer Recurrence (FCR) have varied widely across studies, which may be partly explained by the lack of a standardized assessment method that would make it possible to evaluate and to distinguish between normal and clinical levels of FCR. Besides, despite the overlap between FCR and manifestations of anxiety disorders, it is surprising that no study has evaluated the comorbidity of clinical FCR. The goals of this study were to assess the Fear of Cancer Recurrence Inventory (FCRI)'s capacity to screen for clinical levels of FCR, and to assess the psychiatric comorbidity of clinical FCR. Sixty French-Canadian patients who had been treated, within the past four years, for localized breast, prostate, lung or colon cancer were randomly selected by cancer site. A clinical interview was undertaken with each patient individually, during which the Structured Clinical Interview for DSM-IV and an FCR interview developed by our research team were administered by a licensed psychologist. Participants were also asked to complete the FCRI Severity Subscale. An ROC analysis revealed that a cut-off score of 13 on the FCRI Severity Subscale (AUC=.88) was associated with optimal sensitivity (88%) and specificity (75%) rates for the detection of clinical levels of FCR as assessed by the clinician. Furthermore, results showed that patients with clinical levels of FCR were significantly more likely to meet the diagnostic criteria for a psychiatric disorder (60%) than patients with lower FCR (29%; χ2(2, 60)=5.93, p=.02). Psychiatric disorders that were the most commonly associated with clinical levels of FCR were generalized anxiety disorder and panic disorder. This study shows that the FCRI Severity Subscale allows rapid and effective screening of clinical FCR and that patients with clinical FCR display a variety of comorbid conditions, particularly anxiety disorders.

CORRESPONDING AUTHOR: Sébastien Simard, PhD, Hôpital Laval, oncology, 2725, chemin Ste-Foy, Québec, Qc, Canada, G1V 4G5; sebastien.simard@psy.ulaval.ca

B-33

TIME OR TEMPERAMENT? THE ROLE OF POSITIVE AFFECT, EXTRAVERSION, AND TIME SINCE DIAGNOSIS IN POSTTRAUMATIC GROWTH AFTER BREAST CANCER

Marilyn D. Ishler, MA, Mary J. Naus, PhD and Linda K. Acitelli, PhD

Psychology, University of Houston, Houston, TX.

There is substantial evidence of the negative psychological and physical effects that can result from a traumatic life event. Yet such an event can also provide an opportunity for growth (Linley & Joseph, 2004). Today an increased focus on positive psychology (Simonton & Baumeister, 2005) has stimulated interest in the phenomenon of posttraumatic growth (PTG). The current study aimed to address growth from adversity by examining extraversion, positive affect, and time since diagnosis (TSD) in breast cancer survivors. It was hypothesized that each factor would have a direct relationship with PTG and that extraversion would account for a greater proportion of the variance of growth than TSD. PTG was predicted by positive affect (β=.19, t (182)=2.59, p<.05), extraversion (β=.22, t (182)=3.09, p=.05), and TSD (β=.21, t (182)=2.84, p<.05). Extraversion and TSD accounted for 10% (R square) of the variance in PTG (F (2, 181)=9.6, p=<.001), with extraversion (β=.231, t (181)=3.26, p=.001) demonstrating a slightly larger contribution to PTG than TSD (β=.214, t (181)=3.02, p=.003), as predicted. In addition the three-way interaction of positive affect, extraversion, and TSD was examined and found to be of interest at β=.047, t (176)=1.92, p=.057. The slope representing low positive affect with low extraversion demonstrated significance (β=1.10, t (176)=2.18, p<.0) indicating that relationship between PTG and TSD appears to be stronger for those individuals who are both low in positive affect and extraversion. Existing research and the present study indicate that many breast cancer survivors are coping well and perceiving growth from the cancer experience. These findings indicate that for many breast cancer survivors the experience has not lead to long-term negative effects once thought likely. Perhaps the changing view of cancer from acute to chronic illness assists cancer survivors in integrating both the positive and negative aspects of the experience into to their daily lives.

CORRESPONDING AUTHOR: Marilyn D. Ishler, MA, Psychology, University of Houston, Houston, TX, 77204-5022; mdishler@sbcglobal.net

B-34

A MODEL OF PERSONALITY AND HUMOR AS PREDICTORS OF PSYCHOLOGICAL DISTRESS IN BREAST CANCER SURVIVORS AND THEIR PEERS: A PRELIMINARY INVESTIGATION

Laura M. Philipp, MA and Mary J. Naus, PhD

Department of Psychology, University of Houston, Houston, TX.

The purpose of this study was to determine the degree to which humor coping predicts decreased distress, and which other factors, such as optimism and neuroticism, also contribute to humor's predictive ability over distress in breast cancer survivors. This study also examined whether humor, optimism, and neuroticism continue to be predictive of distress when examining both breast cancer survivors and women who have not been diagnosed with cancer. Although humor has been found to be predictive of lower psychological distress in breast cancer survivors undergoing surgery (Carver et al., 1993; Roussi, Krikeli, Hatzidimitriou, & Koutri, 2007), only one study has attempted to examine the relationship between humor coping, distress, and optimism (David, Montgomery, & Bovjberg, 2006), while no known investigations have attempted to study humor coping, distress, optimism, and neuroticism together. The current study examined the interrelationship among humor coping, optimism, neuroticism, and distress in a sample drawn from a larger study incorporating 206 ethnically diverse breast cancer survivors and 206 age- and ethnicity-matched control participants who have never received a cancer diagnosis. Breast cancer survivors reported marginally lower levels of distress than the controls. Results indicated that humor coping was not related to distress, but distress was correlated with both optimism and neuroticism in both groups. Mediational effects of humor mediating the relationship between optimism and neuroticism on distress or optimism and neuroticism mediating the effects of humor on distress were not supported in either group. Exploratory models found a different interactional model between optimism, neuroticism, and distress in the breast cancer survivors than the controls. Study limitations will be presented and findings will be discussed in terms of their implications for future research on the use of humor coping.

CORRESPONDING AUTHOR: Laura M. Philipp, MA, Department of Psychology, University of Houston, Palo Alto, CA, 94306; lmykell@yahoo.com

B-35

SEXUAL PROBLEMS AND PSYCHOSOCIAL OUTCOMES: A COMPARISON OF GI AND BREAST CANCER PATIENTS

Jennifer Barsky Reese, PhD,[1] Rebecca Shelby, PhD,[1] Francis J. Keefe, PhD,[1] Jennifer Marcello, MS,[2] April Coan, MS,[2] James E. Herndon II, PhD,[2] Jane L. Wheeler, MSPH[3] and Amy P. Abernethy, MD PhD[3]

[1]Psychiatry and Behavioral Sciences, DUMC, Durham, NC; [2]Cancer Center Biostatistics, DUMC, Durham, NC and [3]Medicine/Division of Medical Oncology, DUMC, Durham, NC.

We previously found sexual problems to be common and distressing in gastrointestinal (GIC) and breast (BC) cancer patients. Prior studies have not compared sexual problems in GIC and BC patients or examined associations between sexual problems and patient-reported outcomes. Data were collected from GIC and BC patients during 4 outpatient clinic visits over 6 months. Measures included sexual problems (reduced sexual enjoyment, interest or performance) rated on a 0–10 scale, quality of life (FACT-G), MD Anderson Symptom Inventory (MDASI), NCCN Distress Scale. Linear mixed model analyses were conducted. Mean sexual problems were similar in 113 GIC patients (mean age 58 [SD 11]; 67% male; 80% white) and 65 BC patients (mean age 55 [SD 12]; 79% white) at baseline (p=.49) and over time (coded as length of time since diagnosis; p=.90). For GIC patients, gender was not significantly associated with sexual problems (p=.17). In both samples, sexual problems were significantly associated with FACT-G (p's<.002) and MDASI Interference (p's<.02). For GIC patients, there was a significant effect of sexual problems on MDASI Severity (p=.001) and NCCN Distress (p=.01). The relationship between sexual problems and outcomes did not differ by cancer type (GIC/BC; p's>.15) or over time (p's>.34). In sum, reports of sexual problems were similar and remained stable in GI and BC samples. Sexual problems were significantly associated with poorer quality of life and disease interference irrespective of length of time since diagnosis for both samples. Sexual problems were associated with a slightly greater number of negative outcomes in GIC than BC patients, but these differences may be due to the smaller BC sample. Addressing sexual problems may have beneficial outcomes for overall function and quality of life in GIC and BC patients.

CORRESPONDING AUTHOR: Jennifer Barsky Reese, PhD, Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC, 27705; jennifer.reese@duke.edu

B-36

CANCER-RELATED FATIGUE AND HEALTH RELATED QUALITY OF LIFE IN PATIENTS DIAGNOSED WITH HEPATOBILIARY CARCINOMA

Jennifer L. Steel, PhD,[1,2] Kevin Kim, PhD,[3] Schulz Richard, PhD,[2] Michael Antoni, PhD,[4] Mary Amanda Dew, PhD,[2] Mark Unruh, MD,[5] David A. Geller, MD[1] and T. Clark Gamblin, MD[1]

[1]Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA; [2]Psychiatry, University of Pittsburgh School of Medicine, Pittsburgh, PA; [3]Education, University of Pittsburgh, Pittsburgh, PA; [4]Psychology, University of Miami, Miami, FL and [5]Medicine, University of Pittsburgh School of Medicine, Pittsburgh, PA.

Background: Fatigue is one of the most prevalent, debilitating, and difficult to treat symptoms in cancer. The aims of the present study were to test the association of fatigue with psychosocial and biological outcomes.

Method: Two hundred and nine patients diagnosed with hepatobiliary carcinoma undergoing region chemotherapy or radiation were administered the Functional Assessment of Cancer Therapy (FACT)-Hepatobiliary at baseline and every 3-months until death. A subsample of patients were also administered the FACT-Fatigue scale (n=40), the Center for Epidemiological-Depression scale (n=103), and the Brief Pain Inventory (n=40). Biomarkers collected included liver function tests, lymphocyte subsets, and natural killer (NK) cell number. Data analyses included Analysis of Variance (ANOVA) and cross-lagged path analytic modeling.

Results: The FACT-Hepatobiliary fatigue item and FACT-Fatigue total score (n=40) were significantly correlated (p=0.004). Using ANOVA, the FACT-Hepatobiliary fatigue item was associated with depression at baseline (p=0.02) and a trend was found using the FACT-Fatigue scale (p=0.06). Fatigue was not associated with pain or any of the biomarkers examined. A cross-lagged panel model was tested and fatigue at baseline, 3-, and 6-months significant predicted poor quality of life at 3- and 6-months.

Conclusions: Further research exploring the possible common underlying biological mechanisms of depression and fatigue are warranted. Fatigue predicted poorer quality of life in patients diagnosed with hepatobiliary carcinoma at 3- and 6-months follow-up. Novel treatments are needed to treat fatigue and as a result improve quality of life in patients undergoing treatment for hepatobiliary cancer.

CORRESPONDING AUTHOR: Jennifer L. Steel, PhD, Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA, 15213; steeljl@msx.upmc.edu

B-37

ILLNESS UNCERTAINTY, SENSE OF COHERENCE, AND PSYCHOSOCIAL ADJUSTMENT IN PATIENTS WITH PANCREATIC CANCER

Patricia A. Parker, PhD, Walter Baile, MD, Lorenzo Cohen, PhD, James Abbruzzese, MD, Gauri Varadhachary, MD, Linus Ho, MD, Talia LaPushin, BA, Patricia Dayao, MA and Renato Lenzi, MD

The University of Texas M. D. Anderson Cancer Center, Houston, TX.

Little previous research has comprehensively examined the psychosocial adjustment and quality of life of individuals with pancreatic cancer. The goal of this study was to describe the psychosocial characteristics of patients with pancreatic cancer and to examine the associations between illness uncertainty, sense of coherence (finding meaning in the illness experience) and psychosocial adjustment and quality of life (QOL). Seventy-six newly diagnosed patients with pancreatic cancer completed measures of sense of coherence (SOC), illness uncertainty (MUIS), depressive symptoms (CESD), anxiety (STAI), and QOL (FACT-G). Patients were 69% male, 91% white, an average of 59.8 years of age (range 19.4–80.2 years) and 87% were married or living with a partner. Patients' MUIS scores were slightly higher than other cancer populations (mean=90.5, SD=12.5). Patients were able to find meaning in their illness (SOC comprehensibility mean=49.3, SD=11.2; SOC manageability mean=56.2, SD=8.4; and SOC meaningfulness mean=46.0, SD=8.0). Patients mean CESD scores were 14.1 (SD=9.0) and 32% scored above the clinical cut-off of 16, which indicates that further assessment of depression is warranted. STAI scores ranged from 20 to 68 (mean=40.1, SD=12.3). Mean FACT-G scores were 76.7 (SD=17.5). There was a significant negative association between the three SOC subscales and the CESD (rs between -0.55 to -0.67, ps<.001) and STAI scores (rs between -0.49 to -0.47, ps<.001) and a significant positive association between the three SOC subscales and the FACT-G scores (rs between 0.59 to 0.68, ps<.001). Illness uncertainty was not associated with psychosocial adjustment or QOL. These results suggest that newly diagnosed pancreatic cancer patients have poor psychosocial adjustment in several areas. However, the ability to find meaning in one's illness experience was associated with lower symptoms of depression and anxiety and better QOL.

CORRESPONDING AUTHOR: Patricia A. Parker, PhD, Behavioral Science, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 77230-1439; pparker@mdanderson.org

B-38

IMPACT OF DEPRESSIVE SYMPTOMS AT DIAGNOSIS ON POST-TREATMENT HEALTH-RELATED QUALITY OF LIFE IN PATIENTS WITH HEAD AND NECK CANCER

M. Bryant Howren, MA,[1] Alan J. Christensen, PhD,[1] Lucy Hynds Karnell, PhD[2] and Gerry F. Funk, MD[2]

[1]Psychology, The University of Iowa, Iowa City, IA and [2]Otolaryngology, University of Iowa Hospitals and Clinics, Iowa City, IA.

Background: Depression is prevalent among patients with cancer and occurs throughout the course of illness, often persisting months beyond the conclusion of treatment. Much evidence suggests that depression in those with cancer may be related to poor health-related quality of life (HRQOL). We sought to determine the effect of depressive symptoms present at the time of diagnosis (i.e., prior to the initiation of treatment) on HRQOL in patients with head and neck cancer (HNC) at two specific post-treatment time points.

Methods: As part of a large, longitudinal study of HNC outcomes, 355 patients were assessed on several clinical and psychosocial characteristics at diagnosis and then at three and twelve months post-treatment. Depressive symptomatology was assessed using the Beck Depression Inventory and HNC-specific HRQOL was assessed using the Head and Neck Cancer Inventory.

Results: Controlling for age, sex, alcohol and tobacco use, stage of disease, and baseline HRQOL, multiple regression analyses revealed that depressive symptoms present at diagnosis significantly predicted lower HRQOL (p's≤.01) at 3- and 12-month follow-up assessments across the 4 specific domains of speech, eating, aesthetics, and social disruption.

Conclusion: These results suggest that low-level depressive symptomatology present at the time of diagnosis can have a significant, deleterious impact on HRQOL over time in patients with head and neck cancer. Thus, it may be useful to assess depression at diagnosis to identify individuals at greater risk for poor HRQOL outcomes.

CORRESPONDING AUTHOR: M. Bryant Howren, MA, Psychology, The University of Iowa, Iowa City, IA, 52240; matthew-howren@uiowa.edu

B-39

SOCIAL SUPPORT AND COGNITIVE PROCESSING IN MEN TREATED FOR LOCALIZED PROSTATE CANCER

Eric S. Zhou, MS,[1] Lara Traeger, MS,[1] Frank J. Penedo, PhD,[1,2] Mikal Rasheed, MS,[1] Catherine V. Benedict, BS,[1] Neil Schneiderman, PhD[1] and Michael H. Antoni, PhD[1,2]

[1]Psychology, University of Miami, Coral Gables, FL and [2]Sylvester Comprehensive Cancer Center, Miami, FL.

Research has shown that men treated for localized prostate cancer (PC) experience physical side effects of treatment that can compromise emotional well being (EWB). Psychosocial factors such as social support can buffer decrements in EWB associated with cancer treatment. The Social Cognitive Processing (SCP) model posits that communication between the patient and their social support network results in greater processing of cancer adjustment related information and that such processing may mediate the relationship between social support and better EWB. Few studies have investigated this relationship in PC populations. The current study sought to test the SCP model in a sample of men who have undergone treatment for localized PC. The study (N=260) was conducted in an ethnically (41% Caucasian, 42% Hispanic, 18% African American) and demographically diverse sample using a cross-sectional design. After controlling for factors significantly associated with EWB (ethnicity, medical co-morbidities and number of years of education), results indicated that higher levels of social support were significantly related with higher levels of EWB (β=.30, p<.01). Results also showed that two measures of cognitive processing (illness coherence and cognitive processing as a coping strategy) partially mediated the relationship between social support and EWB (illness coherence: Sobel statistic=2.28, p<.05; COPE cognitive processing: Sobel statistic=2.00, p<.05). Furthermore, perceived stress appeared to moderate the overall mediation model (β=.91, p<.01) such that cognitive processing mediated the relationship between social support and EWB for individuals perceiving low levels of stress (Sobel statistic=1.90, p<.05), but not for individuals perceiving high levels of stress (Sobel statistic=.09, p>.05). Results suggest the importance of cognitive processing and perceived stress as potential targets for future intervention work designed to improve the psychosocial adjustment of PC patients following treatment.

CORRESPONDING AUTHOR: Eric S. Zhou, MS, Psychology, University of Miami, Coral Gables, FL, 33146; e.zhou@miami.edu

B-40

FEAR OF RECURRENCE AND ATTACHMENT STYLE PREDICT DISTRESS IN MEN SELECTING ACTIVE SURVEILLANCE

Justin Hersom, BS,[1] Stacey Hart, PhD,[2] Ryan Teague, MS,[1] Sara Knight, PhD[3] and David M. Latini, PhD[1]

[1]Urology, Baylor College of Medicine, Houston, TX; [2]Ryerson University, Toronto, ON, Canada and [3]University of California, San Francisco, CA.

Adult attachment style (feelings of security, anxiety, or avoidance in close relationships) is related to a number of psychosocial outcomes for patients and caregivers. Among diabetics, greater attachment anxiety is related to greater depression and poorer adherence to lifestyle recommendations. Greater attachment anxiety is related to poorer marital functioning in lung cancer couples and to lower benefit finding, higher stress, greater depression, and lower life satisfaction in colorectal cancer caregivers. Men with localized prostate cancer selecting active surveillance (AS) are a unique population because AS requires repeated screening tests that have been shown to produce higher levels of distress in some men. However, which men are more distressed during AS and how attachment anxiety may relate to their distress is unclear. We report preliminary analyses (N=30) from an ongoing telephone survey of AS patients. We used stepwise multiple regression to examine relationships between distress (Mental Health Index-5 [MHI5] and Impact of Events Scale [IES]) and validated psychosocial measures including attachment anxiety, fear of recurrence (FOR), PSA anxiety, marital functioning, belonging, and social constraint. The models also included education, ethnicity, relationship status, and employment status. FOR (beta=3.6, p<.01) and attachment anxiety (beta=1.22, p<.05) significantly predicted 31% of the variance in IES scores. FOR (beta=-1.79, p<.05), attachment anxiety (beta=-0.83, p<.05), and employment status (beta=-5.57, p<.07) predicted 47% of the variance in MHI5 scores. Men with greater concern about the unpredictability of their disease and fear that it will worsen (FOR) reported more stress-related symptoms on the IES and greater anxiety and depression on the MHI5. Men with more anxiety about their relationships (attachment anxiety) also reported more distress. Men choosing AS need interventions to reduce disease-specific anxiety and improve couple functioning.

CORRESPONDING AUTHOR: David M. Latini, PhD, Urology, Baylor College of Medicine, Houston, TX, 77030; latini@bcm.tmc.edu

B-41

FACTORS ASSOCIATED WITH DISTRESS AFTER A BENIGN BREAST BIOPSY(BBB)

Rachel F. Steffens, BA, Lili Graue, MA, Emily Lykins, MS, Molly Hester, MD, Heather Wright, MD and Michael Andrykowski, PhD

Behavioral Science, University of Kentucky, Lexington, KY.

The literature clearly indicates BBB can be a stressful experience for many women. However, research has not attempted to identify demographic or clinical factors associated with distress in response to specific aspects of the BBB experience. Our study provides a foundation for managing BBB distress by identifying clinical (family hx of breast cancer (BC), personal hx of BBB, biopsy type) and demographic (age, education) variables linked to the distress of the entire BBB experience beginning with being told of needing a 2nd mammogram to waiting for the test results of the biopsy. Women (n=51) who had undergone a BBB within the previous 12 months were surveyed regarding demographic and clinical information and distress associated with specific aspects of the BBB: follow-up mammography, being told of needing a biopsy, the biopsy procedure, waiting for test results, etc. Participants' mean age was 48.2 yrs. (±14.5), 48% had at least a college education, 39% had a prior BBB, and 27% had a family hx of BC. Correlations indicated age was inversely related to the distress of being told of needing a 2nd mammogram, waiting to undergo the 2nd mammogram, and undergoing the biopsy procedure (p's<.05). Education was inversely related to the distress of waiting to undergo the biopsy (p<.05). T-test's indicated a hx of BBB was inversely associated to distress experienced when informed of needing a 2nd mammogram (p<.05). Contrary to hypotheses, women without a family hx of BC reported more global distress associated with the BBB than women with such a hx (p<.05). Similarly, women with a prior hx of BBB reported less distress than women experiencing a BBB for the first time. Perhaps experience with BC in a family member or hx of BBB is protective due to past experience and knowledge of what to expect. Even when cancer is not detected, women report high levels of distress associated with the BBB experience. Clinical efforts to manage distress in this setting should focus on women who are most at risk for distress: younger, less educated, without a family hx of BC, or a personal hx of BBB.

CORRESPONDING AUTHOR: Rachel F. Steffens, BA, Behavioral Science, University of Kentucky, Lexington, KY, 40636; Rachel.Steffens@uky.edu

B-42

IMPLEMENTATION OF AN EFFECTIVE SKIN CANCER PREVENTION PROGRAM BY LIFEGUARDS

Borsika Rabin, PhD, MPH, MS,[1] Eric Nehl, MS,[2] Tom Elliott, MPH,[2] Anjali Deshpande, PhD, MPH,[3] Ross Brownson, PhD[4] and Karen Glanz, PhD, MPH[2]

[1]School of Public Health Saint Louis University, St. Louis, MO; [2]Rollins School of Public Health, Emory University, Atlanta, GA; [3]Division of Health Behavior Research, Washington University, St. Louis, MO and [4]George Warren Brown School of Social Work, Washington University, St. Louis, MO.

The purpose of this study was to assess the relative contributions of individual and setting level characteristics to lifeguards' implementation of a widely disseminated skin cancer prevention program (Pool Cool).

A multilevel analysis was conducted using data from the Pool Cool Diffusion Trial from 2004 than replicated with data from 2005. Implementation of Pool Cool by lifeguards (dependent variable) was measured using a composite score that assessed whether the lifeguard implemented different components of the intervention. Predictors included lifeguard background characteristics, lifeguard sun protection-related attitudes, lifeguard sun protection-related behaviors, sun safety environments and policies, pool characteristics, and enhanced versus basic treatment group.

In 2004, all four lifeguard-level predictor domains significantly contributed to the model ($p<0.05$). Lifeguard background characteristics (gender, education) and variables from all other lifeguard-level domains were significantly associated with implementation of Pool Cool. At the pool level, enhanced treatment group, urban location, and more sun-safe environments and policies were positively associated and weekly pool visitors were inversely associated with the implementation of Pool Cool ($p<0.05$). Standardized coefficient estimates suggested that number of weekly pool visitors ($b=-0.191$) had the strongest inverse relationship and treatment group ($b=0.139$) the strongest direct association with program implementation. The results from the replicate analysis using data from 2005 were comparable to the 2004 results.

The most noteworthy finding from our analysis indicates that more intense and multiple intervention strategies led to higher levels of implementation of effective skin cancer programs.

CORRESPONDING AUTHOR: Borsika Rabin, PhD, MPH, MS, Community Health, Saint Louis University School of Public Health, Denver, CO, 80220; borsika@tenshido.net

B-43

FEASIBILITY OF SCREENING FOR DISTRESS VIA A COMMUNITY-BASED CANCER HELPLINE

Anna L. Hawkes, BSc(Hons), MPH, PhD, Karen Hughes, MSc, Sandy Hutchison, Psychologist and Suzanne Chambers, PhD

Viertel Centre for Research in Cancer Control, Psycho-oncology Research Unit, Brisbane, QLD, Australia.

Introduction: Up to one third of people affected by cancer experience psychological distress and may benefit from screening followed by an appropriate level of psychological intervention, although this rarely occurs in routine clinical practice. This study: (i) describes the profile and psychosocial adjustment of callers to an Australian community-based Cancer Helpline; (ii) investigates the feasibility of Cancer Helpline operators screening callers for their level of distress using a brief screening tool (Distress Thermometer, DT); and (iii) examines the association between caller characteristics and distress.

Methods: Consecutive cancer patients and carers who contacted the Cancer Council Queensland Cancer Helpline from September to December 2006 ($n=341$) were invited to participate. Psychosocial screening was recorded at the time of contacting Helpline (Time 1). Additional socio-demographic and psychosocial adjustment data were collected by telephone interview within 1–4 weeks of the initial Helpline call (Time 2 data).

Results: The majority of callers were: cancer patients (65%); female (76%); aged $\geq$40 years (88%); well-educated (62%); and married (61%). Callers generally sought assistance for a new cancer diagnosis (71%), which was most commonly breast (31%) or prostate cancer (18%). Most callers were moderately-severely distressed (63%). The DT (11-point scale 0–10) had good overall accuracy (Area Under the Curve=0.72) with a cut-off of 4 yielding optimal sensitivity and specificity in detecting general psychosocial morbidity. Type of caller (carer vs. cancer patient) was the strongest predictor of distress with carers approximately 4 times more likely to report a DT score $\geq$4 (OR=3.9; 95% CI: 1.8–8.6).

Conclusions: Our data suggest that it is feasible for a community-based Cancer Helpline to screen callers for distress using the DT, and a cut-off of 4 indicates psychosocial distress.

CORRESPONDING AUTHOR: Anna L. Hawkes, BSc(Hons), MPH, PhD, Viertel Centre for Research in Cancer Control, Psycho-oncology Research Unit, Brisbane, QLD, 4051; annahawkes@cancerqld.org.au

B-45

MOTIVATIONAL DETERMINANTS OF LONG-TERM ADHERENCE IN ADULTS WITH CHRONIC ILLNESS

Yeong Mi Seo, PhD in Nursing science[1] and Soon Lim Suh, PhD in Nursing Science[2]

[1]Jinju Health College, Jinju, Korea, South and [2]Kyungpook National University, Daegu, Korea, South.

Objective: Adherence to prescribed health care regimens could be increased to improve health outcomes, lessen patient suffering, and decrease health care costs. Using Self-Determination Theory (Deci & Ryan, 1985, 2000), this study examined the motivational determinats of long-term adherence to health care regimens.

Method: 238 adults with hypertensive or diabetes (female 56%) completed measures of autonomy support, autonomous motivation, competence, and adherence which take for 6 months. Adherence measure included medication, diet, and exercise.

Result: AMOS analyses supported the self-determination model for long-term adherence and the variables of the self-determination model explained 77% of long-term adherence. Variables that have a direct effect on long-term adherence were autonomous motivation ($\beta=.44$, $p<.01$) and competence ($\beta=.62$, $p<.01$). Health care providers' autonomy support ($\gamma=.25$, $p<.01$) had only indirect effect on long- term adherence.

Conclusion: Findings from this study suggest that autonomous motivation and competence were very important to improve long-term adherence in adults with chronic illness. Health care providers must encourage the autonomous motivation and the competence of their clients.

Key words: Adherence, Autonomous motivation, Competence, Autonomy support, Self-determination theory

CORRESPONDING AUTHOR: Yeong Mi Seo, PhD in Nursing science, Nursing, JINJU HEALTH COLLEGE, Jinju, 660–757; asfirstim@hanmail.net

B-46

UTILITY OF THE MMPI-2 IN PREDICTING ADHERENCE TO A CARDIAC LIFESTYLE PROGRAM

Douglas Cort, PhD,[1] Tissa Kappagoda, MBBS, PhD[1] and Roger Greene, PhD[2]

[1]Internal Medicine, UC Davis Medical Center, Sacramento, CA and [2]Pacific Graduate School, Palo Alto, CA.

Background: Previous studies demonstrated higher adherence to lifestyle modification prescriptions is associated with better outcomes.

Hypothesis: This paper is a retrospective analysis to determine if compliers and non-compliers significantly differ on the basis of their scores on the Minnesota Multiphasic Personality Inventory (MMPI-2). The MMPI-2 is a widely used instrument to assess a wide variety of aspects of personality.

Methods: Patients with confirmed coronary artery disease (CAD) were administered the MMPI-2 when beginning a 2-year preventive cardiology program. The results of those who completed the program were compared to those who dropped out.

Results: Of the 89 consecutive subjects enrolled in the Heart Disease Reversal Program 45 stayed two years and completed 60% or more of the requirements.. Patients who dropped out of the program had consistently higher elevations on 15 of the 18 validity and clinical scales (the exceptions are not typically associated with distress) and 14 of the 15 content scales (the exception being Social Discomfort).

Conclusions: The MMPI-2 may be useful in identifying patients who are likely to be at risk for non-adherence and subsequent increase in morbidity and mortality. It is noteworthy that these patients' validity scale scores suggested they were not by in large defensive or hiding symptoms. Their openness makes the results stronger. The connection seems to be that any level of distress in these patients is problematic and that any combination of 3 or more elevations of $T>60$ from the MMPI-2 Clinical and Content Scales is cause for concern. The levels and interpretations of MMPI-2 profiles are somewhat different in the context of a chronic heart disease management program than in typical mental health settings.

CORRESPONDING AUTHOR: Douglas Cort, PhD, Internal Medicine, UC Davis Medical Center, Sacramento, CA, 95817; dacort@ucdavis.edu

B-47

ANXIETY, DEPRESSION, ANGER, HOSTILITY AND HEART DISEASE IN TYPE 2 DIABETES

Deborah A. Chyun, PhD, RN,[1] Deborah Katten, MPH,[3] Wendie J. Price, BSN,[4] Janice A. Davey, MSN[2] and Frans J. Wackers, MD, PhD[2]

[1]College of Nursing, New York University, New York, NY; [2]School of Medicine, Yale University, New Haven, CT; [3]Hartford Hospital, Hartford, CT and [4]University of Virginia Health System, Charlottesville, VA.

Although higher levels of anxiety (ANX), depressive symptoms (DS), anger (ANG), and hostility (HOS) have been linked to coronary artery disease (CAD), these factors have not been widely studied in the high-risk population with type 2 diabetes (T2DM). The co-occurrence of these factors and their relationship to development of CAD was assessed in a convenience sample of 106 subjects in the Detection of Ischemia in Asymptomatic Diabetics study. None had symptoms or clinical evidence of CAD at baseline. Mean age was 61±6 years, with a T2DM duration of 8±7 years and HbA1c of 7.0±1.6%; 48% were male. Using standard cutpoints, elevated scores were found in: 14% for DS (Center for Epidemiological Studies -Depression [CES-D]); 34% for ANG (Anger Content Scale); 28% for HOS (Cook-Medley); and 42–81% for ANX (6 subscales on Crown-Crisp Index). Elevated levels of ANX were commonly associated with ANG (34–48%), but less so with DS (14–30%) or HOS (26–35%). Many with DS also had high levels of ANX (47–93%), ANG (73%), and HOS (47%). High levels of ANG were also associated with ANX (44-81%), but less so with DS (31%) or HOS (50%). High ANX (40-83%) and ANG (60%) scores were likely in those with increased HOS, as compared to DS (23%). Over 5 years of follow-up, 20 (18%) subjects were diagnosed with CAD. Cox proportional hazards regression revealed that the following were significantly associated with CAD: male gender (HR 2.96; p=.05); T2DM duration (HR 1.18 per year increase; p<.0001); use of antihypertensive medication (HR 0.11; p=.0002); albuminuria (HR 4.32; p=.01); lower levels of somatic ANX (HR=0.31; p=.04); higher levels of HOS (HR 2.78; p=.05); and higher ANG scores (HR 5.47; p=.11). DS were not associated with CAD. Although these data require confirmation, along with surveillance for known CAD predictors, a comprehensive psychosocial evaluation may help identify those individuals with T2DM at increased cardiac risk.

CORRESPONDING AUTHOR: Deborah A. Chyun, PhD, RN, College of Nursing, New York University, New York, NY, 10003; dc116@nyu.edu

B-48

PSYCHOSOCIAL FACTORS ASSOCIATED WITH DEPRESSION AND QUALITY OF LIFE AMONG ETHNICALLY DIVERSE PATIENTS WITH HEART FAILURE

Melanie K. Bean, PhD, Douglas Gibson, PsyD, MPH, Maureen Flattery, RN, MS, MP, Angela Duncan, MDiv, MS and Michael Hess, MD

Virginia Commonwealth University, Richmond, VA.

Congestive heart failure (CHF) is a major health concern in the United States, with significant physical and psychological consequences. Advances in treatment have prolonged life in CHF patients, leading to increased attention to quality of life (QOL) and psychological functioning. To better serve our diverse patient population, we examined psychosocial factors associated with depression and QOL in 100 CHF patients at a large, urban health care system. Medical records were reviewed and patients (M age 52, range 18–82, 51% African American) completed surveys to examine social support, coping, and spirituality for their association with depression and QOL. About 15% reported clinically significant depression (13% borderline); mean QOL=49.2 (SD=28.5). Notably, 67% of patients reporting depression were not being treated pharmacologically, speaking to the need for better psychological screening. Controlling for demographic and medical variables, two multiple regression analyses suggested that coping style, social support and spirituality were significantly associated with depression (R2=.66) and QOL (R2=.62, ps<.001). Specifically, patients with lower spiritual well-being (β=-.22), lower social support (β=-.33) and more negative/avoidant coping strategies (β=.36) reported greater depression; in model 2, positive coping (β=.19) and higher depression (β=.39) were associated with lower QOL (all ps<.05). Because depression is associated with poorer outcomes in CHF patients, these psychosocial factors are important to address to improve patient outcomes. Understanding how these factors interact in diverse patient populations will help in the development of appropriate clinical interventions.

CORRESPONDING AUTHOR: Melanie K. Bean, PhD, Virginia Commonwealth University, Richmond, VA, 23298-0268; mkbean@vcu.edu

B-49

CHILDHOOD MALTREATMENT & CHRONIC ADULTHOOD STRESS: ASSOCIATIONS BETWEEN THE SEROTONIN TRANSPORTER GENE AND DEPRESSIVE SYMPTOMS IN WOMEN

Liisa Hantsoo, MLA,[1,2] Daniel Birmingham, PhD,[2] Ronald Glaser, PhD,[2] David Beversdorf, MD,[2] William Malarkey, MD[2] and Janice Kiecolt-Glaser, PhD[2]

[1]Psychology, Ohio State University, Columbus, OH and [2]Institute for Behavioral Medicine Research, Ohio State University College of Medicine, Columbus, OH.

Chronic stress can have detrimental effects on adults' physical and psychological health. Further, childhood maltreatment may have lingering effects on psychological health in adulthood that can impact physical health. Gene-environment interaction data suggest the short (s) allele of the 5HT transporter gene may be associated with depression when combined with stressful life events. Recent evidence suggests childhood maltreatment, as opposed to recent stressors, may be more potent in development of depressive symptoms in s allele carriers. We examined childhood (sexual abuse) and adulthood (dementia caregiving) stress in 136 women, n=67 dementia family caregivers, n=69 controls. Subjects were genotyped as s/s, s/l, or l/l; s carriers were combined into one group for analysis. Genotype alone was not associated with CES-D depressive symptoms (p=0.858). Among sexually abused women (Childhood Trauma Questionnaire), s carriers exhibited higher CES-D symptoms than l/l genotype individuals (p=0.034). Caregiving was associated with depression (p<0.001), but this did not vary by genotype; among caregivers, l homozygotes and s carriers had similar CES-D scores (p=0.535). There were no significant interactions among sexual abuse, caregiving, and genotype (p=0.317), controlling for age, race, and SES. Childhood adversity appears to influence the relationship between 5HT transporter genotype and adult depression, with l/l genotype protecting against depressogenic effects of childhood sexual abuse. While the association between childhood stress and depression in s carriers held regardless of chronic stress, the relationship between chronic stress and depression held regardless of genotype. Depression is associated with myriad maladaptive health outcomes, particularly cardiovascular disease; thus, identifying at-risk individuals via a gene-environment model is an important research target. Supported by NIH AG025732.

CORRESPONDING AUTHOR: Liisa Hantsoo, MLA, Psychology, Ohio State University, Columbus, OH, 43210; hantsoo.1@osu.edu

B-50

SEX DIFFERENCES IN THE RELATIONSHIP BETWEEN METABOLIC SYNDROME AND ENDOTHELIAL DYSFUNCTION

Sandra Favret, Postdoctoral,[1,2] Catherine Laurin, PhD,[2,1] Kim L. Lavoie, PhD,[3] André Arsenault, MD[1] and Simon L. Bacon, PhD[2,1]

[1]Montreal Heart Institut, Montréal, QC, Canada; [2]Concordia University, Montreal, QC, Canada and [3]UQAM, Montreal, QC, Canada.

Poor health behaviors are associated with an increased risk of cardiovascular disease (CVD). There are suggestions that there might be sex differences in how these health behaviors are related to CVD. Endothelial dysfunction (EDys) may a surrogate measure of CVD and metabolic syndrome is a significant predictor of CVD. The components of the metabolic syndrome, obesity, high blood pressure (BP), high triglycerides (trig), low HDL cholesterol (HDL), and high glucose (gluc), are heavily influenced by poor health behaviors. The current study assessed if metabolic syndrome factors predicted EDys and if this differed by sex.

307 patients (25% female, mean (SD) age=60 (10) yrs) who were undergoing exercise stress testing were recruited. During their clinical visit they completed questionnaires, including medical history, and a forearm hyperemic reactivity (FHR) test to assess endothelial function. This test uses a radio-tracer to map the response of the brachial artery following 5 min of cuff-induced hyperemia, generating the relative-uptake-ratio (RUR). Prior to the FHR test, patients had their BP and waist circumference (WC) measured and a blood sample taken to determine lipid and gluc levels. AHA guidelines were used to define the presence of each metabolic syndrome factor (yes/no) and EDys was defined as a RUR>3.55 (as previously published).

Logistic regression analyses for the whole sample revealed that only WC (OR [95%CI]= 1.9 [1.2–3.0]), and not trig (OR=1.0 [0.6–1.6]), HDL (OR=1.1 [0.6–2.1]), BP (OR=1.1 [0.7–1.8]), nor gluc (OR=1.1 [0.7-1.8]) were associated with EDys. When men were analyzed separately only WC predicted EDys (OR=1.9 [1.1-3.3]). When only women were assessed no factors predicted EDys, including WC (OR=1.9 [0.7–5.1]).

These analyses suggest that WC, which is a function of poor diet and a lack of exercise, was related to EDys, a surrogate of CVD. It would also seem that this relationship is stronger in men than in women, though issues of sample size should be noted.

CORRESPONDING AUTHOR: Sandra Favret, Postdoctoral, Heart Institut of Montreal, Montréal, QC, H1T 1C8; sandra.favret@umontreal.ca

B-51

FACTOR ANALYSIS OF THE METABOLIC SYNDROME AND ASSOCIATIONS WITH ACCULTURATIVE STRESS IN A YOUNG ASIAN INDIAN POPULATION

Mayer Bellehsen, MA,[1] Sonia Suchday, PhD[1,2] and Maureen Almeida, PhD, M Phil[3]

[1]Yeshiva University: Ferkauf Graduate School of Psychology, Bronx, NY; [2]Albert Einstein College of Medicine, Bronx, NY and [3]St. Xaviers College, Mumbai, India.

Given the important role of the metabolic syndrome (MetS) in the development of cardiovascular disease, it is necessary to understand how the syndrome differs across ethnicities and age groups. Additionally, although there is evidence regarding the association between MetS and psychosocial variables, there is no research regarding the relationship between these variables and acculturative stress. In our study, factor analyses and correlations were run on MetS variables from 112 college age, Asian Indian participants (male:27; female:85). A 4-factor solution was found for the overall population (hemodynamic, adiposity/insulin, lipid/triglyceride, blood glucose). Subgroup analyses yielded a different 4-factor solution for females (adiposity/insulin, hemodynamic, lipid/triglyceride, blood glucose) and a 3-factor solution for males (hemodynamic, adiposity/insulin/triglyceride, lipid/blood glucose/triglyceride). Overall, waist hip ratio was negatively correlated with Dissatisfaction with Norms (-.191, $p<.05$), while cholesterol was negatively correlated with Cultural Identity Confusion (-.189, $p<.05$). In the male group, there was a negative correlation between the adiposity/insulin/triglyceride factor and Personal Distress Resulting from Acculturation (-.445, $p<.05$), Resisting cultural Transition (-.402, $p<.05$), and Accepting Cultural Transition (-.410; $p<.05$). There were no associations with perceived stress. Results from the factor analyses replicate previous findings among Asian Indians and suggest that more than one mechanism underlies the MetS. The gender differences in factor structure may belie a differential influence of the various pathophysiologic mechanisms. The lack of association between the MetS and perceived stress is surprising and requires further study. The negative associations with acculturative stress is contrary to expectations and may suggest a pattern in which individuals who experience less stress adopt more western dietary habits.

CORRESPONDING AUTHOR: Mayer Bellehsen, MA, Yeshiva University: Ferkauf Graduate School of Psychology, Bronx, NY, 10461; mhb101@hotmail.com

B-52

THE SOCIAL ECOLOGICAL CORRELATES OF EXERCISE AMONG CARDIAC PATIENTS: A BRIEF REVIEW

Mark Petter, BA,[1] Blanchard Chris, PhD[2,3] and Kyle Kemp, BSc[4]

[1]Clinical Psychology, Dalhousie University, Halifax, NS, Canada; [2]Medicine, Dalhousie University, Halifax, NS, Canada; [3]Cardiology, QEII Health Sciences Centre, Halifax, NS, Canada and [4]Health and Human Performance, Dalhousie University, Halifax, NS, Canada.

Aims: To document the correlates of exercise in a coronary heart disease (CHD) population from a social ecological perspective that addresses multiple levels (i.e., intrapersonal, interpersonal, institutional, community, and policy) of influence across 4 cardiac rehabilitation (CR) contexts (centre-based CR, home-based CR, post-CR, no CR).
Methods and Results: The search strategy included PubMed, PsychINFO, and Web of Science databases. In all, 123 studies, examining 33 different correlates of exercise, with a total of 25,500 participants were included. 74 of the studies examined patients during centre-based CR, 18 took place during home-based CR, 27 took place following CR completion and 32 took place without the use of a CR program. Across the four CR contexts, six variables were consistently related to exercise (self-regulatory self-efficacy, health status, intention, perceived control, beliefs/benefits and previous physical activity). Context-specific correlates were also identified. For example, being male was consistently related to exercise in individuals attending centre-based CR, following CR, and not attending CR, but was not related to exercise levels for individuals in home-based CR programs. While social support was consistently related to exercise levels in centre-based CR and following CR, but not in individuals not attending CR.
Conclusion: Common and context-specific correlates of exercise were identified that could be targets for intervention development in heart disease patients. However, the majority of exercise correlates examined (24 of 33) were at the intrapersonal level and many broader correlates (e.g., at the institutional, community, and policy levels) have been ignored across the four exercise contexts that need attention.

CORRESPONDING AUTHOR: Mark Petter, BA, Clinical Psychology, Dalhousie University, Halifax, NS, B3H 4J1; mark.petter@dal.ca

B-53

SUBJECTIVE REACTIONS TO BLOOD DONATION IN DONORS WITH AND WITHOUT SOCIAL SUPPORT

Sarah A. Hanson, PhD and Christopher R. France, PhD

Psychology, Ohio University, Athens, OH.

The experience of unpleasant blood donation reactions (e.g., dizziness, nausea, and fainting) has been linked to negative attitudes about donation and consequently decreased likelihood of repeat donation. For that reason, interventions designed to reduce the adverse effects of blood donation are important and likely to increase donor retention. Based on laboratory studies suggesting that social support attenuates both physical and psychological responses to stress, the present study hypothesized that the presence of a supportive person during the donation process may help reduce donors' perceptions of stress and consequent pre-faint reactions. To test this hypothesis, 31 male and 34 female volunteers from university blood drives were randomly assigned to donate blood as usual or to donate with a supportive confederate. Donors in the social support condition donated blood as usual but were accompanied throughout the entire donation process by a female confederate providing supportive behaviors (e.g., encouraging and reassuring remarks, small talk, physical touch, etc.). Immediately following donation, all participants completed the Blood Donation Reactions Inventory to assess subjective experience of negative reactions. A 2 Group x 2 Sex ANOVA of Blood Donation Reactions Inventory scores revealed a significant main effect of group ($F[1, 61]=9.15, p=.004$), indicating that social support was associated with a reduction of total donation-related reactions. There was no significant main effect of sex ($F[1, 61]=.00, p=.96$) or group by sex interaction ($F[1, 61]=1.62, p=.21$). Results of the present study suggest that social support may be a simple and cost-effective strategy to enhance the donation experience and possibly increase donor retention.

CORRESPONDING AUTHOR: Sarah A. Hanson, PhD, Aurora Health Care, Oak Creek, WI, 53154; Sarah.Hanson@aurora.org

B-54

EFFECT OF A SELF-MANAGEMENT-BASED INTERVENTION ON PATIENT ACTIVATION: A RANDOMIZED STUDY

Linda M. Gerber, PhD,[1] Yolanda Barrón, MS,[1] Jennifer Mongoven, MPH,[2] Margaret McDonald, MSW,[2] Ernesto Henriquez, BA,[2] Evie Andreopoulos, MS[2] and Penny H. Feldman, PhD[2,1]

[1]Public Health, Weill Cornell Medical College, New York, NY and [2]Center for Home Care Policy and Research, Visiting Nurse Service of New York, New York, NY.

The ability of patients to self manage their chronic conditions is an essential component to quality health care. Previous studies have found that higher activation levels, as measured by the Patient Activation Measure (PAM), are related to better self-management behaviors. Little is known about the ability and willingness of chronically-ill older adults to self-manage their health. This study assesses the impact of a stage-specific PAM-driven intervention on patients' knowledge, skill, and confidence for self-management and on hypertensive patients' systolic and diastolic blood pressure (BP). The shortened 13-item version of the PAM was used. Twenty-one teams of nurse care managers were randomly assigned to the intervention and control groups. Baseline and six-month follow-up data were collected on 207 patients. Data collection included patient-level clinical and functional assessment data and an in-home patient survey. The sample was primarily female (87%) with a mean age of 79. The intervention had a modest effect on change in patient activation levels: participants in the PAM intervention group showed an increase in PAM scores of 2.4 points (95% CI=-0.3, 5.1, p-value=0.097) on average compared to those in the control group. In general, the intervention did not impact diastolic BP or levels of BP control. Contrary to expectation, systolic BP was somewhat higher in the intervention group at follow-up (at a marginally significant level) than among patients in the control group. Additional research is currently underway to better understand the factors influencing patient and provider attitudes and behaviors and to identify effective strategies for increasing patient activation.

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CORRESPONDING AUTHOR: Linda M. Gerber, PhD, Weill Cornell Medical College, NY, NY, 10021, lig2002@med.cornell.edu

B-55

THE EFFECT OF GENDER, AND EMOTIONAL AND INSTRUMENTAL SUPPORT ON CARDIOVASCULAR REACTIVITY TO STRESS AMONG CHINESE IMMIGRANTS

Christine Lee, BA,[1] Sonia Suchday, PhD,[1] Judith Wylie-Rosett, EdD[1] and William Wang, MEd[2]

[1]Yeshiva University, Bronx, NY and [2]New York Downtown Hospital, New York, NY.

Background: Lack of support and prolonged exposure to stress may affect immigrants' cardiovascular health by exaggerating cardiovascular reactivity (CVR) to stress. Purpose: The current study assessed the effect of gender and two types of social support - instrumental and emotional on CVR to stress among Chinese immigrants in the New York City area as no prior studies have focused on this population. Methods: One hundred twenty Chinese immigrants were recruited from the New York Downtown Hospital in Chinatown. Following a study description and informed consent procedures, participants completed questionnaires assessing their social support seeking. After an 8-minute period of adaptation, participants were videotaped as they recalled a stress provoking event related to their immigration experience in a semi-structured interview format. Recovery was then monitored for 20 minutes and participants were debriefed. Blood pressure and heart rate were monitored at 2 minute intervals during baseline and recovery, and one minute intervals throughout the interview. Results: Participants' (age range: 21–87 years; mean age=57 years; 63% Female) average length of stay in the U.S. was 22 years, and 25% reported having hypertension. Hierarchical multiple regression analyses revealed that a high-level of emotional support predicted a lower systolic blood pressure (SBP) during baseline among females, β=-.25, t=-2.11, p<.05, and a high-level of informational support predicted a smaller SBP during baseline β=-.53, t=-2.56, p<.02, and recovery, β=-.51, t=-2.47, p=.02, among males. Conclusion: The study suggested that instrumental and emotional support differentially affected cardiovascular reactivity to stress among Chinese male and female immigrants.

CORRESPONDING AUTHOR: Christine Lee, BA, Yeshiva University, New York, NY, NY; ysclee@gmail.com

B-56

DIFFERENTIAL IMPACT OF COPING STYLES VS. COPING FLEXIBILITY ON PSYCHOPHYSIOLOGICAL RECOVERY FOLLOWING A LABORATORY STRESSOR

Jessica K. Gerfen, MS,[1] Sandra Zakowski, PhD,[2] Sara Barrett, PhD[1] and Brian Schmaus, MS[1]

[1]Rosalind Franklin University of Medicine and Science, North Chicago, IL and [2]Argosy University, Chicago Campus, Chicago, IL.

The way that an individual copes with (coping style) and adjusts their coping strategies (coping flexibility) is thought to directly affect the response to stressful situations, however the differential effects of the constructs are currently unknown. The purpose of the current study was to examine whether coping flexibility (measured with the Flex) and coping style have distinct psychophysiological effects (i.e., distress, heart rate (HR), systolic (SBP), and diastolic blood pressure (DBP)) during the recovery period following a stressor. 125 healthy participants underwent a 4-min speech task. Distress ratings were taken at baseline and every 90-sec after the task. Physiological data was recorded every 60-sec. Psychophysiological reactivity correlated significantly with psychophysiological recovery data (r's >.21). Low avoidant copers had significantly greater HR reactivity to the stressor than did high avoidant copers (r=-.24, p<.01). General Linear Modeling covarying for reactivity demonstrated no significant main effects of coping flexibility or flexibility by time interactions for post-stressor recovery of any of the dependent variables (p's>.60). There were no significant main effects of coping style on HR, SBP, DBP, or distress (p's>.18). A significant avoidant coping style x time interaction was revealed for HR, F(2.75, 330.53)=5.61, p<.005. Although high and low avoidant copers displayed similar HR during the first 2-min of the recovery period, high avoidant copers' HR dropped during minute 3 and 4 of recovery, while the low avoidant copers' HR remained elevated. Twice as many high avoidant copers (41.9%) exhibited a return to baseline during minutes 3 and 4 of the recovery period as compared to low avoidant copers (19.0%). Thus, evidence is provided that coping flexibility and coping style do indeed have distinct effects. Avoidant coping style impacted both physiological reactivity to the stressor as well as recovery from the stressor.

CORRESPONDING AUTHOR: Jessica K. Gerfen, MS, Psychology, Rosalind Franklin University, Gurnee, IL, 60031; Jessica.gerfen@my.rfums.org

Meritorious Student Poster

B-57

EFFECTS OF TRAIT RUMINATION AND DISTRACTION ON CARDIOVASCULAR RECOVERY FROM ANGER RECALL IN WOMEN

Meghan McLain, BS,[1] Serina A. Neumann, PhD,[1] John J. Sollers III, PhD,[2] Julian F. Thayer, PhD[2] and Shari R. Waldstein, PhD[3]

[1]Psychiatry, Eastern Virginia Medical School, Nofolk, VA; [2]Psychology, Ohio State University, Columbus, OH and [3]Psychology, University of Maryland, Baltimore County, MD.

Cardiovascular reactivity and recovery following an emotional stressor may play a crucial role in mediating the relation between psychosocial factors (e.g. hostility and anger) and cardiovascular disease (CVD). Hostility has been associated with trait rumination (TR). TR is a tendency to focus attention on negative thoughts and emotions and be prone to feelings of revenge which is not adequately captured in current measures of hostility. Hence, we posited that TR, indexed by the Dissipation-Rumination Scale, may have an independent effect of prolonging cardiovascular recovery from angry events above and beyond hostility as measured by the Cook-Medley Hostility Scale. We also hypothesized that distraction may be beneficial to cardiovascular recovery from anger, particularly for ruminators. Diastolic and systolic blood pressure (DBP; SBP), heart rate (HR), high and low frequency heart rate variability (HF; LF), preejection period (PEP), stroke index (SI), cardiac index (CI) and total peripheral resistance index (TPRI) were collected from 80 healthy women (ages 18–30) during a 15-min baseline, a 3-min anger recall, and a 10-min recovery. Half of the participants were randomly assigned to a distraction condition (i.e. reading a neutral article) during recovery. Hierarchical regressions, controlling for hostility scores, revealed TR predicted slower post-task recovery for HR (p<.007) and SI (p<.001). As expected, an interaction between TR and distraction was found for SI (p<.01) and CI (p<.04), such that those with high TR experienced a greater benefit from distraction than individuals low in TR and those high in TR in the control condition. Thus, TR appears to prolong cardiac recovery from anger, independent of hostility, which may partly explain interrelations among anger, stress responses, and CVD risk. These findings also suggest that distraction may be a useful intervention to reduce the physiological impact of TR.

CORRESPONDING AUTHOR: Meghan McLain, BS, EVMS, Norfolk, VA, 23518; Sialagouge@yahoo.com

B-58

AGONISTIC AND TRANSCENDENT GOALS PREDICT ANGER AROUSAL AND SELF-REGULATION IN URBAN YOUTH

Marta J. Kadziolka, Masters, Nina Stoeckel, Diplom, Gavin Elder, BA, Mindi M. Ditmar, BA, Michelle Payeur, BA, Randall S. Jorgensen, PhD and Craig K. Ewart, PhD

Psychology, Syracuse University, Syracuse, NY.

Our research with the Social Competence Interview (SCI) has linked two patterns of goal-oriented social behavior with stress or resilience in low-income urban youth. Agonistic Striving (AS), a preoccupation with managing, controlling, or dominating others, predicts higher blood pressure (BP) during normal activities, whereas Transcendence Striving (TS), a preoccupation with self-improvement goals, predicts lower BP levels. The present study asked if AS and TS predict how adolescents perceive the events of a typical day and regulate angry emotions.

Participants were 206 students (Age=14.6 yrs; 53% female, 41% Black, 40% White; 19% Other) in a large urban high school in New York State; they completed the SCI (yielding observational measures of AS and TS) and, 2 months later, completed an interview in which they: (1) described events of their day; (2) recalled an anger-provoking incident; and (3) performed a self-disclosure task that involved regulating anger.

Results revealed that (all values of p<.05): (1) AS assessed by SCI predicted higher AS focus on events of one's day during the second interview (r=.24); in boys, AS focus was accompanied by increased BP reactivity (r=.20); (2) High AS focus on the day's events predicted greater anger intensity (r=.38) and resentment during anger recall(r=.33); (3) TS assessed by SCI predicted higher TS focus on the day's events (r=.23)and more positive affect during anger recovery (r=.29).

Findings suggest that AS and TS goals measured by the SCI identify patterns of social perception and emotion regulation that may affect cardiovascular health in low-income youth.

CORRESPONDING AUTHOR: Marta J. Kadziolka, Masters, Psychology, Syracuse University, Syracuse, NY, 13210; mkadziol@syr.edu

B-59

GENDER ROLE AND CARDIOVASCULAR REACTIVITY IN HEALTHY YOUNG MEN

Layne Goble, PhD[1] and Shari Waldstein, PhD[2]

[1]Anesthesiology, Ralph H. Johnson VA Healthcare System, Charleston, SC and [2]Psychology, University of Maryland, Baltimore County, Baltimore, MD.

Gender role has been shown to affect cardiovascular reactivity such that men usually display greater responses to stressors that are attributed to masculine traits, although findings across several studies have been mixed. The present study improved upon prior research by providing a continuous measure of gender role and utilizing tasks with better real-world relevance. Here we examined the cardiovascular reactivity in 93 healthy young men who completed a self-report measure of gender role, thus providing continuous measures of agentic and communal traits. Participants recalled two stressful life events designed to engage agentic versus communal gender-role traits while their cardiovascular responses were measured. Results indicated that individuals with greater agentic traits had smaller systolic and diastolic responses during both the agentic and communal interviews ($p<.05$), with a trend toward decreased stroke index. Yet, participants with higher agentic traits reported being highly engaged during the agentic interview ($p<.05$). Communal participants displayed a lengthening of the pre-ejection period during the agentic interview ($p<.05$), although no other significant cardiovascular responses were found. Thus, results suggest a possible buffering effect for agentic traits with respect to cardiovascular reactivity whereas there was a relative absence of relation for communal traits. The findings of this study suggest that agentic traits may be adaptive in helping healthy young men cope with stressful situations thereby attenuating cardiovascular reactivity. Further research may explore the specific components of agency that may be adaptive across gender and gender-role, and to identify associated coping strategies.

CORRESPONDING AUTHOR: Layne Goble, PhD, Anesthesiology, Ralph H. Johnson VA Healthcare System, Charleston, SC, 29466; layne.goble@va.gov

B-61

PATIENT PREFERENCE FOR AND PERCEPTIONS OF PROVIDER BEHAVIOR: IMPACT OF SYMMETRY ON PATIENT ADHERENCE AND SATISFACTION

Jamie A. Cvengros, PhD,[1] Alan J. Christensen, PhD,[2,4] Steven J. Hillis, PhD[3] and Peter Kaboli, MD[3,4]

[1]Sleep Disorders Center, Rush University Medical Center, Chicago, IL; [2]Psychology, University of Iowa, Iowa City, IA; [3]Internal Medicine, University of Iowa, Iowa City, IA and [4]Center for Research in the Implementation of Innovative Strategies in Practice, VA Iowa City Healthcare System, Iowa City, IA.

BACKGROUND: Research has suggested that the congruence between patient and contextual characteristics is a more robust predictor of outcomes than either patient or contextual characteristics alone. HYPOTHESIS: The goal of the present study was to examine the degree of congruence between patient attitudes and preferences for the clinical encounter and reports of analogous dimensions of provider behavior and the effects of this congruence on patient adherence and satisfaction. METHODS: 218 patients with diabetes completed measures of preference for and ratings of provider behavior in three domains (1) information sharing, (2) behavioral involvement, and (3) socioemotional support. Patient satisfaction, self-reported adherence, and a clinical marker of diabetic control (HgA1c) were the outcomes of interest.

RESULTS: Congruence in information sharing and congruence in behavioral involvement were predictive of glycemic control and self-reported adherence. Congruence in all three domains was predictive of greater patient satisfaction.

CONCLUSIONS: These findings provide further support for the importance of congruence between patient and contextual characteristics in predicting patient outcomes. Additional research is needed to further explore these relationships and to address ways of improving congruence between patient preferences and provision of care.

CORRESPONDING AUTHOR: Jamie A. Cvengros, PhD, Sleep Disorders Center, Rush University Medical Center, Chicago, IL, 60612; jamie_cvengros@rush.edu

B-62

SELF-MONITORING PREDICTS CHANGE IN DIETARY FIBER INTAKE AND WEIGHT LOSS IN ADULTS WITH DIABETES

Carla Miller, PhD[1] and Christopher Holloman, PhD[2]

[1]Human Nutrition, Ohio State University, Columbus, OH and [2]Statistics, Ohio State University, Columbus, OH.

Self-monitoring can facilitate behavioral change by providing feedback regarding goal attainment. Glycemic index (GI) quantifies the glycemic response to carbohydrate-containing foods. Low GI diets may improve weight and glycemic control in adults with diabetes. The purpose of this study was to examine the relation between self-monitoring and changes in diet and body weight following an intervention which encouraged consumption of low GI, high fiber foods among adults aged 40–70 years with type 2 diabetes ($n=101$). A 9-week group-based intervention based on Social Cognitive Theory was implemented and participants were encouraged to self-monitor diet, activity and glucose readings 4 days/week. Dietary intake was assessed with 24-hour dietary recalls and weight was obtained pre/post-intervention. Mean (±SD) number of days participants kept self-monitoring records was determined (3.7 ± 1.3 days/wk). The impact of self-monitoring on the change in dietary GI, fiber intake, weight and body mass index (BMI) was evaluated using regression analyses. There was no significant difference in the mean change in energy or nutrient intake for men compared to women (all $P>.05$) and no significant effects of self-monitoring on the change in dietary GI. Each additional day of self-monitoring was associated with a mean reduction in weight and BMI of -0.94 kg and -0.34 kg/m2, respectively, in men and women. The impact of self-monitoring on total, soluble and insoluble fiber intake differed significantly by gender and marital status. The mean change in fiber intake increased in unmarried men ($P<.01$), decreased in married women ($P<.05$), but did not significantly change in married men or unmarried women for each additional day of monitoring. Unmarried men should be encouraged to self-monitor to lose weight and increase fiber intake. Women, however, may need more tailored strategies than self-monitoring alone provides to promote change in specific food choices.

CORRESPONDING AUTHOR: Carla Miller, PhD, Human Nutrition, Ohio State University, Columbus, OH, 43210; cmiller@ehe.osu.edu

B-63

DIABETES EDUCATORS' SELF-EFFICACY AND OTHER-EFFICACY FOR PHYSICAL ACTIVITY: DOES EXPERIENCE OR TRAINING MATTER?

Chris Shields, PhD,[1] Carrie Dillman, BKin,[1] Jonathon Fowles, PhD,[1] Rene Murphy, PhD,[1] Peggy Dunbar, PDt,[2] Arlene Perry, BKin[1] and Shane Fryia, BKin[1]

[1]Acadia University, Wolfville, NS, Canada and [2]Diabetes Care Program of Nova Scotia, Halifax, NS, Canada.

Physical activity (PA) and exercise have been acknowledged as primary means to manage type 2 diabetes. Diabetes educators (DEs) are often seen as a key resource for those living with diabetes and are in a position to promote PA. Recent work suggests that while DEs are attempting to address PA with their clients, the majority do not feel comfortable with doing so. However, it has been shown that DEs' level of training and work experience may impact DEs' knowledge of, and abilities in, PA prescription. While DEs' self-efficacy may be a key determinant of their personal behaviour, their beliefs in their clients' abilities (other efficacy) may have an important impact on their clients' subsequent behavior. Therefore, the present paper examined (a) relationships between efficacy for PA prescription and other personal and client centred PA-related social-cognitions and (b) the associations between practice variables (e.g., time as a DE, PA training) and self and other efficacies. Diabetes educators ($N=105$) completed measures of prescription, referral and other efficacies, attitudes, perceived difficulty, perceived client attitudes as well as PA-related practice variables. Significant bivariate correlations showed that prescription efficacy was positively related to referral efficacy, DE attitudes, and other efficacy while DE attitudes were positively associated with perceived client attitudes, other efficacy and negatively associated with perceived difficulty. MANOVAs examining possible differences in self and other efficacies showed overall main effects for time spent working as a DE ($p=.04$), inclusion of PA counselling in client sessions ($p=.02$) and PA training ($p=.08$). Unexpectedly, there was a trend for more experienced DEs to have lower prescription and other efficacies. Results support previous work on the importance of training to improve DEs' capacity to counsel on PA and provide insight into how DEs see both their own capabilities as well as those of their clients.

CORRESPONDING AUTHOR: Chris Shields, PhD, Acadia University, Wolfville, NS, B4P 2R6; chris.shields@acadiau.ca

B-64

PATIENT PERCEPTIONS OF MOTIVATIONAL INTERVIEWING

Robert Gabbay, MD, PhD and Cheryl Dellasega, RN, CRNP

Penn State College of Medicine`, Hershey, PA.

For persons with Type 2 Diabetes Mellitus (DM), managing self care behaviors (medications, monitoring, exercise, nutrition, stress management, and others) is often frustrating for both clinicians and patients. For complex reasons, many diabetic patients find it hard to follow prescribed self management plans and resent being “nagged” to do so by family and professionals.

Motivational interviewing (MI) is a directive patient-centered counseling style historically used to treat addictions. The clinician’s patient-focused dynamic increases intrinsic motivation toward health and reduces ambivalence about behavior change. MI has been used successfully, but to date, how patients perceive and respond to it has not been explored.

This NIH funded RCT delivers an MI intervention to high-risk DM patients. To assess one outcome variable, their response to an MI clinician style, three focus groups (n=19, 7% of treatment group) were conducted after completion of year 1 of the study.

Analysis revealed seven themes specific to MI:: mutual rather than unilateral goal setting, being “heard” in a nonjudgmental way, feeling safe and secure in the clinical relationship, an attitude of encouragement rather than discouragement, a greater sense of self efficacy, and flexibility in the course of the sessions.

Participants said their relationships with the study clinicians (RNs trained in MI whose fidelity to the intervention was closely monitored) acted as advocates and improved continuity of care, problem solving, and insight to Type 2 DM. They also felt a greater sense of acceptance, trust, empowerment, and emotional support. Self reported behavior changes identified to do date include diet, exercise, medication, and monitoring.

This study suggests high risk patients with DM respond well to an MI approach. Our results suggest that the intent of MI (patients being motivated and empowered to take charge of their health) was indeed accomplished within this study. Further empirical analysis is underway to compare quantitative outcomes such as A1C, quality of life, self care behaviors, and cost effectiveness.

CORRESPONDING AUTHOR: Robert Gabbay, MD, PhD, Medicine, Penn State College of Medicine, Hershey, PA, 17033; rgabbay@psu.edu

Meritorious Student Poster
B-65

PATIENT VIEWS OF DEPRESSION AND DIABETES IN AMERICAN SAMOA

Rachel F. Held, MS,[1] Rochelle Rosen, PhD,[2] Nicole Bereolos, PhD,[1,2] Michael Goldstein, MD,[1,2] Megan House, MPH,[1] Ofeira Nu’usolia, MEd,[3] Stephen McGarvey, PhD[1] and Judith DePue, EdD[1,2]

[1]Alpert Medical School at Brown University, Providence, RI; [2]Miriam Hospital, Providence, RI and [3]Tafuna Family Health Center, Pago Pago, AS.

Background: High type 2 diabetes prevalence, about 20% of adults, characterizes the U.S. territory of American Samoa. Increases in obesity and diabetes have been attributed to changes in diet and physical activity with modernization. Comorbid diabetes and depression rates are high in the U.S. and contribute to negative diabetes outcomes; these rates have not been assessed in American Samoa. Method: Six focus groups (FGs) were conducted with 39 American Samoan adults with diabetes; questions on perceptions of diabetes, stress and depression were included. 14 individual provider interviews (IPIs) were conducted to gain further insight into diabetes care in American Samoa. FGs and IPIs were translated, transcribed, and entered into NVivo 7 to facilitate analysis. Results: Thematic analysis from FGs and IPIs show that diabetes patients believed depression and stress directly contribute to high blood sugar. However, depression was rarely mentioned spontaneously, and providers reported they seldom assess it in patients. Many patients believed the best ways to respond to feelings of depression involved relaxing, leaving difficult situations, eating or drinking alcohol. Providers believed that rapport is crucial for discussing depression. Conclusion: Patients had difficulty distinguishing between depression and stress, due to similar cultural conceptions of the two states and to linguistic similarities in translating them. Diabetes providers need training to increase their awareness of depression’s negative impact on diabetes management, and to address this in patients who screen positive for depression. All providers must approach the subject in a supportive context after establishing rapport. This information will be used for cultural translation of a community health worker and primary care-coordinated intervention for adults with diabetes in American Samoa, with the goal of creating an effective intervention that is sustainable within the public health infrastructure.

CORRESPONDING AUTHOR: Rachel F. Held, MS, Alpert Medical School at Brown University, Providence, RI, 02903; Rachel_Held@Brown.edu

B-66

EFFECTIVENESS OF TELEPHONE-DELIVERED DIABETES EDUCATION

Susan Caulder, MS, RN,[2,1] Leonard E. Egede, MD, MS[1,2] and Martina Mueller, PhD[1,2]

[1]Medicine, Medical University of South Carolina, Charleston, SC and [2]Medicine, Ralph H. Johnson VAMC, Charleston, SC.

Objective: To determine feasibility, acceptability, and effectiveness of a newly developed telephone-delivered diabetes education intervention in adults with type 2 diabetes.

Methods: 22 subjects were randomized to: 1) Telephone education and follow-up mailing (n=7). This group received 10 sessions of telephone-delivered diabetes education delivered weekly for 6 weeks and monthly for 4 months. In addition, the content covered during the phone call was mailed to each participant. 2) Telephone diabetes education only (n=7). This group received same intervention as group 1 without follow-up mailing. 3) Usual care (n=8). This group did not receive telephone education or mailing but received the standard education offered to all patients at the study clinic. The intervention was delivered by a certified diabetes educator. Subjects were assessed at two time points - baseline and 6 months post randomization. Primary effectiveness outcomes were change from baseline in HbA1c, SBP, DBP, and BMI at 6 months post randomization. For the primary analysis, the combined intervention group was compared to the usual care group using t-test with significance set at two-sided α of 0.05.

Results: There was a trend toward significance in favor of the intervention for change in HbA1c (-0.95±1.2 vs.+ 0.3±1.5, p=0.061), SBP (-6.6±18.7 vs. +13.3± 28.9, p=0.071), and DBP (-5.6±11.2 vs. +5.4±15.3, p=0.073). There were no significant difference in change in BMI (+0.1±1.9 vs. +0.2±1.0, p=0.853) or treatment satisfaction (4.9±0.6 vs. 4.5±0.8, p=0.296) between the groups. All intervention subjects completed the 10 modules except for 4 patients that did not complete 1 of the 10 modules. Average number of minutes per session was 15 minutes. Two patients (1 intervention and 1 control) did not complete the 6 month assessment.

Conclusions: This 10 session telephone-delivered diabetes education intervention was feasible and acceptable to individuals with type 2 diabetes and showed a trend toward significance for HbA1c, SBP, and DBP at 6 months post randomization.

CORRESPONDING AUTHOR: Leonard E. Egede, MD, MS, Medicine, Medical University of South Carolina, Charleston, SC, 29425; egedel@musc.edu

B-67

SLEEP DURATION AND BODY MASS INDEX IN PERSONS WITH TYPE II DIABETES

Faith Luyster, PhD and Jacqueline Dunbar-Jacob, PhD, RN

University of Pittsburgh, Pittsburgh, PA.

Introduction: Existing evidence has linked sleep loss with increased body weight. In those with Type II diabetes, obesity can complicate control of blood glucose and increase the risk of cardiovascular disease. This study sought to examine the association between sleep duration and body mass index (BMI) in adults with Type II diabetes.

Methods: Participants were 305 adults with Type II diabetes who were enrolled in an intervention study. The current analyses examined data from the baseline assessment (mean age=64±11 years, 57% women). BMI was calculated as weight in pounds divided by height in inches multiplied by 703. Sleep duration was obtained from the following question on the Pittsburgh Sleep Quality Index: “How many hours of actual sleep do you get at night?”

Results: The mean BMI of the sample was 33.8 which is within the class I obesity range (BMI=30–34.9). The largest percentage of participants (30.5%) reported 6 hours of sleep. BMI was highest for those with the shortest sleep duration (< 6 hours) and lowest for those with 7 hours of sleep. Multivariate analyses were performed to examine whether sleep duration predicted BMI controlling for age, sex, education, employment status, household income, marital status, depression, alcohol consumption, and whether participants were trying to lose weight. Sleep duration was associated with BMI such that those with shorter sleep duration had higher BMI ($\beta=-.54$, $p<.05$).

Conclusions: Sustained changes in sleep duration may improve glycemic control and reduce cardiovascular disease risk by promoting weight loss among adults with Type II diabetes.

CORRESPONDING AUTHOR: Faith Luyster, PhD, University of Pittsburgh, Pittsburgh, PA, 15261; luysterfs@upmc.edu

B-68

THE ASSOCIATION BETWEEN FUNCTIONAL HEALTH STATUS AND PERFORMANCE MEASUREMENT IN DIABETES

Nilay D. Shah, PhD,[1] Serguei V. Pakhomov, PhD,[2] Saranya Balasubramaniam, BS,[1] Holly K. Van Houten, MS,[1] Penny L. Hanson, BA[1] and Steven A. Smith, MD[1,3]

[1]Health Care Policy & Research, Mayo Clinic Rochester, Rochester, MN; [2]Institute for Inter-professional Health Informatics, University of Minnesota, MInneapolis, MN and [3]Endocrinology, Diabetes, Nutrition, and Metabolism, Mayo Clinic Rochester, Rochester, MN.

While patient important treatment goals for chronic disease include well being, little is known about the association between processes of care and functional health status (FS). To examine this relationship in patients with type-2 diabetes, we evaluated the association between compliance with commonly used diabetes performance measures (A1C<7%, LDL<100 mgm%, BP<130/80, Tobacco use, Aspirin use) and FS for 635 primary care patients with type 2 diabetes. FS domains were assessed using the EuroQol 5D and SF36/SF6D; validated generic measures of FS that have also been used in valuation to derive preference-based health utilities. Logistic regression determined the association between health utility, individual FS domains and compliance with performance measures. Regression models controlled for patient age, sex, body mass index and duration of diabetes. Dichotomized FS domains reflected no problem or any problem with that domain. Results; expressed as Odds Ratio (OR), did not find a consistent association between individual outcomes and FS domains. A decrease in health utility index ($p<0.005$), the presence of pain (OR 2.63 $p<0.01$)and difficulties with self care (OR 3.67 $p<0.01$)were associated with a greater likelihood of compliance with performance measures. In a primary care cohort of patients with type 2 diabetes, we do not observe a consistent relationship between intermediate outcome measures and FS. The apparent paradox of better measures of performance and worse FS could reflect actions taken by providers/patients to improve apparent problems in well being, limitations in cross-sectional evaluation, and/or the fact that these performance measures are unable to assess important patient-centric outcomes. Standards for accountability need to consider these limitations and include longitudinal patient centric measures to assess FS.

CORRESPONDING AUTHOR: Steven A. Smith, MD, Endocrinology Mayo Clinic, Mayo Clinic Rochester, Rochester, MN, 55905; smith.steven@mayo.edu

B-70

INTEGRATED PRIMARY CARE TRAINING: A CALL FOR SYSTEMATIC CLARIFICATION OF MODELS

Kevin Alschuler, MS,[1] Flora Hoodin, PhD,[1] Melanie Bierenbaum, MS[2] and Abbie Beacham, PhD[3]

[1]Eastern Michigan University, Ypsilanti, MI; [2]Spalding University, Louisville, KY and [3]University of Colorado Denver, Denver, CO.

As the utility of Integrated Primary Care (IPC) models increases, a crucial need to systematically identify and categorize training opportunities has emerged. Faculty and trainees report considerable difficulty locating training in IPC settings and systems. The complexity of identifying models and training foci is increased by the multiple existing IPC models and inconsistent nomenclature (e.g., Integrated, Collaborative, Co-located). We used electronic survey methodology to poll training sites offering IPC practicum, pre-doctoral internship, and post-doctoral fellowship training. Survey questions addressed level of integration, medical setting type, reimbursement system, therapeutic approaches, medical specializations (e.g., pain, transplant), primary care problems treated (e.g., chronic disease management), model specific training, and trainee role in health care teams. Survey results ($n=53$) provided revealing responses about training models. First, while all sites self-identified as offering training in IPC, definitions of integrated IPC varied greatly: ranging from fully-integrated ($n=31$), to co-located with brief sessions ($n=6$) or full length sessions ($n=14$). Second, fundamental differences exemplified variations in services provided and therapeutic approaches employed. Third, each level of integration was characterized by highly diverse profiles of treatment approaches, reimbursement systems and types of presenting problems. Results suggest that despite increased interest in IPC models of service delivery, the field is in need of advancements in policy: (1) common nomenclature to decrease confusion caused by differences in language describing IPC models; (2) training guidelines that operationalize what constitutes appropriate training models of service delivery in IPC settings; and (3) the development and adoption of uniform criteria to assist in program model identification and evaluation. These developments would promote growth and standardization of IPC training and inform health care policy.

CORRESPONDING AUTHOR: Kevin Alschuler, MS, Eastern Michigan University, Ypsilanti, MI, 48197; kalschul@emich.edu

B-71

THE MOM PROGRAM: A COST-EFFECTIVE RANDOMIZED CONTROLLED INTERVENTION TO ADDRESS THE DEVELOPMENTAL NEEDS OF CHILDREN LIVING IN POVERTY

Donald F. Schwarz, MD,[4] Jerilynn Radcliffe, PhD[1,2] and Ann O'Sullivan, PhD[3]

[1]The Children's Hospital of Philadelphia, Philadelphia, PA; [2]University of Pennsylvania School of Medicine, Philadelphia, PA; [3]University of Pennsylvania School of Nursing, Philadelphia, PA and [4]Office of the Mayor, Philadelphia, PA.

Growing up in poverty is devastating to children's health. Although empirically supported programs have delivered effective services to families living in poverty by home visiting nurses, many communities find the costs - about $5000 per child, per year - to be prohibitive. A recently-developed alternative is The MOM Program, a home visiting program with a model that includes mixed professional support of both nurse practitioners and lay community members, who provide home visits during the child's first 5 years of life. The purpose of the visits is to promote optimal child development by encouraging well child visits to health care providers as well as early education.

This randomized controlled trial of 302 mothers living in high urban poverty areas in an Eastern city included, for the intervention group, regular home visits timed to well child visits. The control group received standard care. By 3 years of age, children in the intervention group had received their immunizations earlier than the children in the control group, and had received early intervention services significantly more often than those in the control group ($p<.01$) and by 5 years of age, twice as many attended Head Start ($p<.01$).

Program costs were calculated. To serve the 145 children in the intervention group, yearly salary costs for those conducting the visits (excluding research and administrative costs) were $141,386, with an average cost of $978 per year, per child. Even adding 10% administrative costs, these costs are 33% of other programs known to be effective. The mixed professional/lay home visiting model of The MOM Program is shown to be both cost-favorable as well as effective in promoting important early childhood outcomes.

CORRESPONDING AUTHOR: Jerilynn Radcliffe, PhD, The Children's Hospital of Philadelphia, Philadelphia, PA, 19104; radcliffe@ email.chop.edu

B-72

PHARMACISTS AND EMERGENCY CONTRACEPTION: DO KNOWLEDGE AND ATTITUDES PREDICT DISPENSING PRACTICES?

Alice R. Richman, MPH, BA and Ellen Daley, PhD

Community and Family Health, University of South Florida, Tampa, FL.

Background: Although emergency contraception (EC) is safe and effective, many pharmacists and pharmacies throughout the U.S. have refused to dispense or carry and stock EC. Pharmacists' professional conduct, ethical practice, and training have implications for public health and access to care for women, children, and families.

Objective: To determine if pharmacists' EC knowledge, attitudes, subjective norms, and perceived behavioral control are predictive of their dispensing practices.

Methods: Using the Dillman method, a randomized sample of Florida pharmacists ($N=1,234$) were mailed a survey querying them about EC knowledge, attitudes, subjective norms, perceived behavior control, intention to dispense, actual dispensing practices, as well as a whole host of demographic variables. Univariate and multivariate analyses were performed.

Findings: High levels of knowledge, positive attitudes, an increased perception of important people thinking they should dispense (subjective norms), perceived ease of dispensing (perceived behavioral control), as well as an increased likelihood to dispense all increase the odds that a pharmacist has ever dispensed EC. Specifically, for every one increase in knowledge score, the odds of a pharmacist dispensing were increased by a factor of 1.7 (95% CI=1.2–2.0). For every one increase in more positive attitudes about EC, the odds of dispensing increased by 1.2 (95% CI=1.1–1.3). For every one increment increase in subjective norms, the odds of dispensing increased by 1.3 (95% CI=1.1–1.5). For every one increment increase in perceived behavioral control, the odds of dispensing increased by 1.1 (95% CI=1.0–1.3). For every one increment increase in intention to dispense or likelihood to dispense, the odds of dispensing increased by 1.2 (95% CI=1.1-1.4).

Conclusion: Pharmacists' EC knowledge, attitudes, subjective norms, perceived behavioral control, and intention to dispense are all predictive of dispensing EC among Florida pharmacists. These findings have important implications for future research, education, and policy.

CORRESPONDING AUTHOR: Alice R. Richman, MPH, BA, University of North Carolina, Chapel Hill, NC, 27516; arichman@email.unc.edu

B-74

CULTURAL ADAPTATION OF A SEXUAL BARRIER INTERVENTION IN NORTHERN INDIA

Deborah L. Jones, PhD,[1] Stephen M. Weiss, PhD, MPH,[1] Rashmi Bagga, MD[2] and Ritu Nehra, PhD[2]

[1]P & BSci, University of Miami Miller School of Medicine, Miami, FL and [2]OB GYN, Post Graduate Institute of Medical Education & Research, Chandigarh, India.

Background. India's size necessitates consideration of regional differences in the culture and belief systems, literacy, and languages spoken in the designing HIV interventions. This study addresses the cultural acceptability of sexual barrier products and the formative adaptation, implementation and preliminary outcomes of a culturally relevant intervention for "at-risk" couples in Northern India. It also explored the influence of culture-specific beliefs and practices on acceptability and use of sexual barrier products within the Indian context.

Method. At-risk couples, key informants and health care providers participated in focus group discussions and in-depth interviews addressing health care practices, gender roles, sexual behavior and barrier products. Themes were identified for adaptation of assessment and intervention materials to the Indian context. Couples (n=60) were recruited and participated in the 3-session intervention.

Results. Indian themes included, Communication and Sexual negotiation, Religion, In-laws and Social Support, Domestic Violence and Alcohol and Drug Use and Ayurveda. Health care providers and couples expressed enthusiasm for an intervention to increase communication. Male participants were more educated and employed and reported higher levels of self efficacy and male condom use (p=.025); domestic violence was associated with alcohol use. Participants initially reported low enthusiasm for male condoms and no experience with female condoms; women were hesitant to negotiate male condom use or handle male condoms. Most couples tried female condoms and lubricants. Retention was high and participants reported improved condom attitudes and self efficacy at follow up.

Conclusion. This study highlights the importance of adaptation for interventions in resource limited settings, and the potential for successful use of a couples group intervention in the Indian context.

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CORRESPONDING AUTHOR: Deborah L. Jones, PhD, Psychiatry & Behavioral Sciences, University of Miami Miller School of Medicine, Miami, FL, 33136; djones@med.miami.edu

B-75

CORRELATES OF WILLINGNESS TO PARTICIPATE IN HIV VACCINE TRIALS AMONG AFRICAN AMERICANS: EXAMINING REGIONAL DIFFERENCES IN THE U.S

Mindy Ma, PhD,[1] Ashley Vigil, PsyD,[1] Jeffrey Kibler, PhD,[1] Craig Marker, PhD[1] and Shakira Washington, MS[2]

[1]Nova Southeastern University, Fort Lauderdale, FL and [2]University of Maryland, College Park, MD.

Objective: The literature has identified multiple covariates for willingness to participate (WTP) in HIV vaccine trials among African Americans. The facilitators/barriers for WTP in vaccine research may vary for African Americans living in different regions of the U.S. The objective of the present study was to examine geographical differences in covariates of WTP in HIV vaccine trials among African Americans.

Method: A convenience sample of African Americans were recruited from Washington DC (n=583), Jackson, MS (n=595), and Oakland, CA (n=357). WTP was rated as definitely, probably, might be, or not at all. Facilitators/barriers assessed were mistrust, HIV-related stigma, religious beliefs, facilitative factors (altruism, perceived personal incentives/community impact, and engagement in multiple social/occupational roles), HIV trial information (knowledge of clinical trials, knowledge of HIV vaccine trials, behavioral risk disinhibition, tolerance for ambiguity, and health beliefs), and perception of HIV risk (likelihood of being infected, risk of sexual partner, and high risk behaviors).

Results: Significant covariates of WTP for DC included higher scores for facilitative factors (p<.05), greater HIV trial information (p<.05), and less mistrust (p<.05). For Jackson, greater facilitative factors (p<.05), greater HIV trial information (p<.05), and greater perception of HIV risk (p<.05) were associated with WTP. Greater facilitative factors were the only significant covariate to WTP for Oakland (p<.05).

Conclusions: Facilitative factors emerged as the only significant covariate for WTP across all three geographical regions. In addition to promoting facilitative factors, these results suggest researchers conducting vaccine trials in the Southern and Eastern U.S. may enhance African American participation by providing education about vaccine trails.

CORRESPONDING AUTHOR: Mindy Ma, PhD, Nova Southeastern University, Fort Lauderdale, FL, 33314; mma800@yahoo.com

B-76

ETHNICITY MODERATES THE ASSOCIATION BETWEEN HIV-RELATED UNSUPPORTIVE SOCIAL INTERACTIONS AND SUBJECTIVE HEALTH IN MEN LIVING WITH HIV

Nathan T. Deichert, PhD[1] and Erin M. Fekete, PhD[2]

[1]Psychology, Mount Olive College, Mount Olive, NC and [2]Psychology, University of Miami, Coral Gables, FL.

Compared to Whites, Blacks are disproportionately and more severely affected by HIV/AIDS. One reason for this disparity may be due to the possibility that Blacks are more negatively affected than Whites by unsupportive social interactions regarding their HIV (USSI). We hypothesized that ethnicity would moderate the associations between HIV-related USSI and subjective health in White (n=39) and Black (n=51) men living with HIV (MLWH), such that a stronger negative association would emerge between USSI and health for Blacks than for Whites. Men were on average 39.4 years of age and had been living with HIV for 8.2 years. All men reported their perception of three types of HIV-related USSI (i.e., blaming, disconnecting, and insensitivity), as well as their health behaviors and self-rated health. Covariates included HIV symptoms, sexual orientation, and depressive symptoms. Hierarchical regression analyses revealed significant interactions between ethnicity and disconnecting in explaining both health behaviors (β=-.86, p<.01) and self-rated health (β=-.87, p<.01). Simple slope analysis revealed that Blacks engaged in fewer health behaviors (β=-.34, p<.05) while Whites showed a trend toward healthier behaviors (β=.24, p<.10) when experiencing more disconnecting. Similarly, Whites reported higher self-rated health (β=.32, p<.01) when experiencing more disconnecting whereas no association emerged for Blacks (β=-.15, p>.10). Results suggest that White MLWH may be motivated to become healthier when their social network is distancing themselves, whereas Black MLWH who feel disconnect from their social networks may feel stigmatized and thus engage in poorer health behaviors. Psychosocial interventions designed to enhance social functioning in MLWH should take into account ethnic differences in social network processes.

CORRESPONDING AUTHOR: Nathan T. Deichert, PhD, Psychology, Mount Olive College, Mount Olive, NC, 28365; ndeichert@moc.edu

B-77

COMPARING TWO MEASURES OF PSYCHOMOTOR PERFORMANCE IN PATIENTS WITH HIV

Kyle S. Minor, BA,[1,2] Glenn N. Jones, PhD,[1,2] Diana W. Stewart, BA,[1,2] Benjamin D. Hill, PhD,[3] Claire Adams, MS,[2] Gina Najolia, BA[1,2] and Julia Vigna, MA[1,2]

[1]EKL Hospital, LSUHSC, Baton Rouge, LA; [2]Psychology, Louisiana State University, Baton Rouge, LA and [3]Psychiatry, Alpert Medical School at Brown University, Providence, RI.

Psychomotor slowing is a cardinal symptom of HIV Dementia. Screening for HIV-D is important as HAART may slow progression. A popular screen is the Modified HIV Dementia Scale (MHDS). However, the psychomotor task (PT-HDS) of the MHDS involves writing the alphabet and may be significantly influenced by education. The Coin Rotation Test (CRT) may be a more appropriate measure of psychomotor functioning. The CRT is a simple measure of psychomotor speed using a quarter. Scores are the number of 180° rotations in ten seconds for the dominant and nondominant hands. Initial work supports its validity as a measure of psychomotor speed, but it has not been validated for HIV+ patients. The goals of this study were to: validate the CRT among HIV+ patients, investigate the influence of demographics on the measures, and explore cutoff scores for the CRT. Participants were 130 HIV+ clients attending an HIV clinic. The clinic serves primarily minority un- and underinsured patients. In addition to the CRT and MHDS, age, ethnicity gender, education level (n=93), and CD4 count (n=98) were obtained.

The CRT was highly correlated with the PT-HDS (r=.46, .47, p<.01) and MHDS (r=.46, .51, p<.01). Both had similar associations with the MHDS subtests, age and CD4 counts. The CRT was less correlated with education (r=.28, .33) than the PT-HDS (r=.44). Unlike the CRT, the PT-HDS exhibited a strong Gender Effect (F=54, p<.01). Logistic regression yielded cutoff scores for the CRT of 9 (dominant) and 7.5 (nondominant) that strongly predicted screening positive on the MHDS (p<.001).

The CRT compared favorably to the PT-HDS, supporting its validity as a measure of psychomotor speed among HIV+ patients. The CRT is promising as a simple, fast measure of psychomotor speed requiring minimal equipment that may be less influenced by confounding factors such as educational attainment. Further work exploring the utility of these screens among the poorly educated, disadvantaged is needed.

CORRESPONDING AUTHOR: Glenn N. Jones, PhD, EKL Hospital, LSU Healthcare Sciences Center, Baton Rouge, LA, 70805-2498; gjones@lsuhsc.edu

B-78

MALE SEX WORKERS' IDEAS ABOUT POTENTIAL INTERVENTIONS TO IMPROVE SEXUAL HEALTH AND DECREASE HIV RISK TAKING

Sari L. Reisner, MA,[1] Matthew J. Mimiaga, ScD, MPH,[1,2] Kenneth H. Mayer, MD,[1,3] Jake P. Tinsley, BS[1] and Steven A. Safren, PhD[1,2]

[1]The Fenway Institute, Fenway Community Health, Boston, MA; [2]Harvard Medical School, Boston, MA and [3]Brown Medical School, Boston, MA.

Background: Men who engage in sex work with other men (MSM) have been shown to be at increased risk for HIV transmission or acquisition. However, there is a dearth of research exploring potential behavioral intervention strategies to reduce HIV/STI risk in this group.

Methods: Male sex workers (N=32) completed a semi-structured qualitative interview and quantitative psychosocial assessment. Interviews were conducted between January and March 2008 until redundancy in responses was achieved.

Results: Participants reported an average of 32 male sex partners in the prior 12 months; 31% of participants were HIV-infected. Male sex workers frequently reported substance use (50% had an alcohol problem by CAGE) and had elevated levels of distress (44% had depressive symptoms by CESD). Sex work was associated with feelings of loneliness, loss of trust, concerns about HIV risk, occupational violence, persistent negative thoughts, difficulty coping with feelings, and changes to intimacy with non-transactional partners. In discussing HIV prevention strategies, participants thought that interventions should integrate: (1) informational materials about diseases and safer sex, (2) mental health triage, (3) substance abuse treatment, (4) support groups, (5) HIV/ STI testing, and (6) condom dissemination. Men commonly reported that interventions should: (1) be incentivized, (2) focus on youth, (3) provide legal information, (4) provide resources such as housing information, (5) target communication skills, (6) emphasize potential consequences of sex work, and (7) involve peers.

Conclusion: These findings suggest that interventions that engage at-risk individuals with mental health counseling, substance abuse treatment, HIV/STI testing, and include group-based skill-building sessions, may be particularly useful in decreasing sexual risk taking among MSM sex workers.

CORRESPONDING AUTHOR: Sari L. Reisner, MA, Research & Evaluation Department, Fenway Community Health, The Fenway Institute, Boston, MA, 02119; sreisner@fenwayhealth.org

B-79

HIV RISK FACTORS AMONG YOUNG MEN WHO HAVE SEX WITH MEN: A PILOT STUDY OF SOCIAL STIGMA, SEX COMMUNICATION, AND PEER BELIEFS

Hector L. Torres, PsyD,[1] Kathryn DeLonga, BA,[2] Ken Gladstone, BA,[2] Alex Barrad, BA,[2] Scott Huckaby, MS,[2] Cheryl Gore-Felton, PhD[3] and Cheryl Koopman, PhD[3]

[1]The Chicago School of Professional Psychology, Chicago, IL; [2]Pacific Graduate School of Psychology - Stanford Psy.D. Consortium, Redwood City, CA and [3]Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, Stanford, CA.

This preliminary study investigates the relationship between social stigma, sex communication, peer beliefs, and unprotected anal intercourse (UAI) among a diverse sample of 53 young men who have sex with men (YMSM), 14- to 19-years-old, from metropolitan Milwaukee. Based on questionnaire data, logistic regression suggests that, more than stigma or communication, participants' beliefs regarding peer sex norms predict participants' own sexual behaviors, including the choice to engage in anal sex without a condom. HIV intervention strategies and models for understanding sexual risk behaviors in YMSM are discussed.

CORRESPONDING AUTHOR: Kathryn DeLonga, BA, Pacific Graduate School of Psychology-Stanford Psy.D. Consortium, Menlo Park, CA, 94025; kdelonga@stanford.edu

B-80

THE SINGULAR AND INTERACTIVE EFFECTS OF MINDFUL-BASED ATTENTION AND AWARENESS AND DISENGAGEMENT COPING WITH HIV/AIDS-RELATED STIGMA IN REGARD TO CONCURRENT DEPRESSION AND ANXIETY SYMPTOMS AMONG PEOPLE WITH HIV/AIDS

Adam Gonzalez, BA, Sondra Solomon, PhD, Michael Zvolensky, PhD and Carol Miller, PhD

Psychology, University of Vermont, Burlington, VT.

The recognition of HIV and its progression to acquired immunodeficiency syndrome (AIDS) is now widely recognized as a pandemic problem (United Nations Programme on HIV/AIDS [UNAIDS] & World Health Organization [WHO], 2007). Although significant clinical progress has been made in regard to the treatment and disease management of HIV/AIDS in recent years (e.g., Lima et al., 2007), efforts to understand the psychosocial consequences of this disease are only beginning to emerge. The present investigation examined the singular and interactive effects of disengagement coping with HIV/AIDS-related stigma and mindful-based attention and awareness in regard to levels of depressive and anxiety symptoms among people with HIV/AIDS. Participants included 98 (31 women; Mage=44.97 years, SD=7.70) adults with HIV/AIDS who completed a packet of self-report measures. As predicted, there was a significant interaction for disengagement coping with HIV/AIDS-related stigma and mindful-based attention and awareness in regard to depressive and anxiety symptoms. Individuals who endorsed both higher levels of disengagement coping with HIV/AIDS-related stigma and lower levels of mindful-based attention and awareness reported the greatest degrees of depressive and anxiety symptoms, while those endorsing both lower levels of disengagement coping with HIV/AIDS-related stigma and higher levels of mindful-based attention and awareness reported the lowest levels of depressive and anxiety symptoms. Also consistent with prediction, the main effects of disengagement coping with HIV/AIDS-related stigma and mindful-based attention and awareness were significantly positively and negatively associated with depressive and anxiety symptoms, respectively. Findings suggest that certain self-regulatory styles may be important factors to consider in better understanding emotional vulnerability among persons living with HIV/AIDS.

CORRESPONDING AUTHOR: Adam Gonzalez, BA, Psychology, University of Vermont, Burlington, VT, 05405; agonzal1@uvm.edu

B-81

A PRELIMINARY EXAMINATION OF SEXUAL ORIENTATION AS A SOCIAL VULNERABILITY FOR EXPERIENCING HIV/AIDS-RELATED STIGMA

Adam Gonzalez, BA, Carol Miller, PhD, Kristin Weibust, MA and Sondra Solomon, PhD

Psychology, University of Vermont, Burlington, VT.

Although in the United States HIV once affected primarily gay and bisexual men it is now increasingly common among heterosexual men (CDC, 2007). Even with its growing prevalence among heterosexual men, people continue to associate HIV/AIDS with being gay (Herek & Capitanio, 1999; Pryor, Reeder, Landau, 1999). As a result, heterosexual men with HIV/AIDS may be especially vulnerable to experiencing HIV/AIDS-related stigma because they may be suspected of being gay, in addition to other stigmatizing aspects of the disease.

The present investigation is a preliminary examination of sexual orientation as a social vulnerability for experiencing HIV/AIDS-related stigma, specifically, concerns about disclosure and concerns about public attitudes. Participants were 36 exclusively heterosexual and 82 exclusively gay men with HIV/AIDS (age M=44.30 years, SD=8.09). Consistent with prediction, a heterosexual sexual orientation was significantly associated with HIV/AIDS disclosure concerns. This effect was evident after controlling for age and time since HIV diagnosis. Also in line with prediction, men with HIV/AIDS experienced similar levels of enacted stigma and negative self-image regardless of their sexual orientation. This presentation will discuss and highlight the importance of further examining the process of HIV/AIDS disclosure for heterosexual men living with this illness and the need for future research to differentiate the experience of HIV/AIDS-related stigma among gay and straight men with HIV/AIDS.

CORRESPONDING AUTHOR: Adam Gonzalez, BA, Psychology, University of Vermont, Burlington, VT, 05405; agonzal1@uvm.edu

B-82

HIV-RELATED STIGMA: DENIAL, ANGER, & SELF-ESTEEM

Anthony S. Renwick, none, Mark Vosvick, Psychology and Chwee-Lye Chng, Kinesiology, Health Promotion, and Recreation

Center for Psychosocial Health, University of North Texas, Denton, TX.

According to UNAIDS, about 1.2 million people in North America are living with HIV. In addition to coping with the disease, the person living with HIV (PLWH) can fall victim to HIV-related stigma and discrimination from others, which could profoundly impact their quality of life (Devine, Plant, & Harrison, 1999). Using denial to cope with HIV can trigger psychological distress in PLWH (Burns et. al, 2008) and act as a barrier for intervention (Foster, 2007). Unresolved anger can increase participation in HIV-risky sexual behaviors (Crepaz & Marks, 2001), whereas low self-esteem, among other variables, has been linked to reported higher levels of stigma (Preston, 2007) that can affect coping in HIV+ individuals (Nicholson & Long, 1990). Using a cross-sectional correlational design, we hypothesized that higher levels of denial and anger and lower levels of self-esteem will be associated with, and account for, higher levels of HIV-related stigma. Data for this exploratory study were collected using the HIV-related stigma scale, Brief COPE, STAXI, and Rosenberg Self-Esteem Scale. Participants (N=61) self-identified as European-American (29.5%), African-American (67.2%), Latino (1.6%), & Other (1.6%) and reported an average age of 47.49 years (SD=7.55). Entering the data simultaneously in a hierarchical regression model, we found that anger (β=.27, t=.2.30, p=.025) and self-esteem (β=-.37, t=-2.89, p=.006) were significantly associated with HIV-related stigma. While our model confirmed two of our hypotheses, denial (β=.081, t=.65, p=.516) was not significantly linked to stigma as hypothesized. Our regression analysis explained 19.1% of the variance in our dependent variable, HIV-related stigma (Adj. R2=.191, F (6, 54), p=.007). Causal relationships cannot be inferred because of our cross-sectional correlational design and the bias of self-report. Clinicians may want to consider implementing programs for PLWH that reduce anger and increase self-esteem since these factors may be important in the management of HIV-related stigma and its associated health sequelae.

CORRESPONDING AUTHOR: Anthony S. Renwick, none, Psychology, University of North Texas, Denton, TX, 76209; renwickman@verizon.net

B-83

DEPRESSIVE SYMPTOMS, UTILIZATION OF MENTAL HEALTH CARE, SUBSTANCE USE AND SEXUAL RISK AMONG YOUNG MSM IN EXPLORE: IMPLICATIONS FOR AGE-SPECIFIC INTERVENTIONS

Matthew J. Mimiaga, ScD, MPH,[1,2] Liz Salomon, EdM,[1,2] Marla J. Husnik, PhD,[3] Seth L. Welles, PhD, ScD,[4] Marc W. Manseau, MD,[5] Arnel Montenegro, MPH,[6] Yijian Huang, PhD,[6] Steven A. Safren, PhD,[1,2] Beryl A. Koblin, PhD,[7,5] Margaret A. Chesney, PhD[8] and Kenneth H. Mayer, MD[9,2]

[1]Harvard Medical School/Massachusetts General Hospital, Boston, MA; [2]The Fenway Institute, Boston, MA; [3]Statistical Center for HIV/AIDS Research and Prevention, Seattle, WA; [4]Drexel University, Philadelphia, PA; [5]Columbia University, New York, NY; [6]Emory University, Atlanta, GA; [7]New York Blood Center, New York, NY; [8]UCSF, San Francisco, CA and [9]Brown Medical School, Providence, RI.

Background: Recent studies suggest that increasing numbers of new HIV infections are being detected in young men who have sex with men (YMSM) compared to older age MSM.

Methods: The EXPLORE Study was a longitudinal behavioral intervention trial conducted in six US cities with HIV infection as the primary outcome for measuring efficacy (N=4,295). From these data, we examined depressive symptoms, utilization of mental health care, substance use and HIV risk taking behaviors in YMSM aged 16–25 years compared with their older MSM counterparts.

Findings: YMSM were more likely to report depressive symptoms (OR=1.55) and less likely to report use of counseling (OR=0.39) or medication (OR=0.20) for psychiatric conditions compared to their older MSM counterparts. YMSM were more likely to report heavy alcohol and drug use. YMSM more often reported engaging in unprotected insertive (OR=1.60) and receptive (OR=2.07) anal intercourse with presumed HIV-uninfected partners, and unprotected receptive (OR=1.72) anal intercourse with partners of unknown-HIV status (all p's<0.05).

Interpretation: The present findings point to important gaps in the support systems available to and used by YMSM, which suggests the need for culturally-appropriate and accessible mental health care and substance use services for this MSM subpopulation. HIV prevention work with young MSM should provide comprehensive education about HIV testing and risk reduction counseling that focuses on communication about serostatus and safety in sexual situations.

CORRESPONDING AUTHOR: Matthew J. Mimiaga, ScD, MPH, Harvard Medical School / The Fenway Institute, Boston, MA, 02199; mmimiaga@partners.org

B-84

IDENTIFYING THE STRESSORS AND COPING STRATEGIES OF HIV-POSITIVE WOMEN: FINDINGS FROM A QUALITATIVE STUDY

Jennifer L. Brown, MS, Peter A. Vanable, PhD, Michael P. Carey, PhD and Jessie D. Heath, MS

Department of Psychology, Syracuse University, Syracuse, NY.

Few interventions to promote coping among HIV-positive women have been developed or evaluated despite the fact that women have been increasingly affected by the HIV epidemic. To inform the development of a tailored stress management program for HIV-positive women, five focus groups were conducted with 29 women (72% African-American) recruited through an outpatient infectious disease clinic. An interview guide was used to elicit input regarding psychosocial stressors and coping strategies used to manage these stressors. Sessions were audio-recorded, transcribed, and coded by two independent raters; core themes were identified using AnSWR qualitative software. HIV-specific stressors that were most frequently noted included difficulties with serostatus disclosure, HIV medication adherence, and HIV-related discrimination. Contrary to expectations, stressors not directly linked to HIV were often described as more salient than HIV-specific stressors. Common general stressors included caretaking for children or grandchildren, financial difficulties, challenges related to a pre-existing mental illness, relationship difficulties, and other health concerns. Prominent coping strategies identified by participants included religious coping, engaging in other health behaviors (e.g., exercise), utilization of social support, and receiving mental health treatment. However, women also reported engaging in a number of less adaptive coping approaches including drug and alcohol abuse, physical aggression directed towards others, purposeful skipping of HIV medication to avoid thinking about HIV and medication side effects, and engagement in other health risk behaviors (e.g., tobacco use). Findings highlight the importance of tailoring the content of stress management programs to address the expressed needs of HIV+ women.

CORRESPONDING AUTHOR: Jennifer L. Brown, MS, Syracuse University, Syracuse, NY, 13244; jlbrow03@syr.edu

B-85

EMOTIONAL WELL-BEING, QUALITY OF LIFE, AND REASONS FOR LIVING IN AIDS PATIENTS

Abby Marquart, MA, Eden Silverman, PhD and James Overholser, PhD

Psycholog, Case Western Reserve University, Cleveland, OH.

Aim: Prior studies examining the will to live in AIDS patients commonly focused on risk factors. By only examining areas of risk, researchers may have overlooked potentially valuable information regarding factors that prolong the will to live in AIDS patients. Understanding factors associated with Reasons for Living may add to a more comprehensive treatment. The present study examined factors (healthy physical functioning, little emotional distress, a high sense of quality of life) that may give AIDS patients Reasons for Living. Method: Sixty-eight AIDS patients being treated at a general medical hospital were evaluated using the Medical-Based Emotional Distress Scale (Overholser, 1993), the Short Form-36 health survey (Ware & Sherbourne, 1992), the Quality of Life Inventory (Frisch et al., 1992), and the Reasons for Living Inventory (Linehan et al., 1983). Results: Higher levels of emotional distress were significantly associated with more physical pain (r(58)=-0.27, p<.05) and greater negative health perceptions (r(58)=-0.31, p<.05). Emotional distress was not significantly related to physical functioning or role limitations. Emotional distress was significantly related to fewer Reasons for Living (r(58)=-0.28, p<.05). Quality of life accounted for a significant amount of the variance in Reasons For Living (ΔR2=.35, p<.01) even after controlling for emotional distress and physical health. Quality of life subscales (achievement, self-expression, environment, and interpersonal relationships) were positively and significantly related to Reasons for Living. Conclusions: Emotional distress in AIDS patients may be more closely related to beliefs about the progression of illness than to objective measures of physical health. AIDS patients with poor physical functioning may maintain important reasons for living if a high sense of quality of life is achieved. The treatment of AIDS patients should include strategies designed to foster a sense of achievement, strengthen interpersonal relationships, and increase self-expression of emotions.

CORRESPONDING AUTHOR: Abby L. Marquart, MA, Psycholog, Case Western Reserve University, Cleveland, OH, 44106-7123; abby.marquart@gmail.com

B-87

PSYCHOLOGICAL STATUS, DIETARY INTAKE, AND PLACENTAL STATUS IN THE 1ST TRIMESTER: A PILOT STUDY

Eileen R. Fowles, PhD, RNC,[1] Christia Murphey, MSN, RN[1] and Roberta J. Ruiz, PhD, RN[2]

[1]School of Nursing, UT- Austin, Austin, TX and [2]Nursing, UTMB, Galveston, TX.

A pregnant woman's dietary quality during the 1st trimester of pregnancy has a profound effect on placental development, which can result in diminished supply of nutrients to the fetus, thus inhibiting proper fetal growth. However, little is known about low-income women's dietary quality during the 1st trimester when placental development is vulnerable to changes in maternal nutrition. The aims of this study were to explore the relationships between psychosocial factors and dietary quality; and among dietary quality, selected nutrition and placental biomarkers using a descriptive design in a small sample of low-income women (N=18). Women were, on average, 26 years old and 8 weeks pregnant. Most were unmarried, uninsured, and Hispanic. Using non-parametric statistics, partner support partner was related positively to vegetable intake and negatively to intake of iron and grains. Emotional eating in response to anger had a significantly negative relationship to intake of iron-rich and folate-rich foods and emotional eating in response to anxiety was negatively related to intake of folate-rich foods. Depressed women had less partner support but an increased intake of calcium-rich foods. Intake of calcium-rich foods was positively related to intake of iron-rich foods. Levels of a placental biomarker (VEGF) was related negatively to intake of calcium- (r=-.53) and iron-rich (r=-.34) foods and positively to serum calcium levels (r=.60). Placental growth factor was negatively related to maternal serum levels of albumin (r=-.61) and calcium (r=-.65). Although results should be interpreted with cautioun, the findings suggest that low-income pregnant women who engage in emotional eating are likely to have inadequate intake of nutrients that contribute to positive pregnancy outcomes. Placental development in the early weeks of pregnancy may be influenced by maternal psychosocial and nutritional status. More research is needed to explore the relationships among psychosocial status, dietary intake and placental development in the first trimester of pregnancy.

CORRESPONDING AUTHOR: Eileen R. Fowles, PhD, RNC, School of Nursing, University of Texas at Austin, Austin, TX, 78701-1499; efowles@mail.nur.utexas.edu

B-88

UNDERSTANDING CHALLENGES TO IMPLEMENTING IMPROVED SNACK QUALITY IN AFTER-SCHOOL PROGRAMS

Tanis J. Hastmann, MPH, Karly S. Geller, M Ed and David A. Dzewaltowski, PhD

Community Health Institute, Kansas State University, Manhattan, KS.

After-school program (ASP) sites were examined to identify the factors that influence providing a snack that includes a serving of fruit and vegetables (FV). Elementary ASP sites were observed six times across a baseline academic year. Sites were then randomized to intervention (n=4) or control (n=3) and intervention sites received the Healthy Opportunities for Physical Activity and Nutrition (HOP'N) after-school obesity prevention program. The HOP'N program aimed to improve snack quality by employing county Cooperative Extension staff to work with the school district organizational leaders and to deliver a three time yearly training to ASP staff. During the intervention year, program sites were again observed six times and at the conclusion of the year qualitative interviews were conducted with HOP'N site organizational leaders (n=5), ASP managers (n=4), and staff (n=13). Interviews were recorded, transcribed, and analyzed using QSR Nvivo. Interview results were matched with the snack observation data to understand factors that impacted snack changes. Organizational leaders reported that all sites had the same snack menu. However, observations revealed wide variability in snack offerings at the sites. Over baseline and the first intervention year, there was no change in FV snack offerings. However, caloric content of snacks decreased in three HOP'N sites and two control sites. In the three HOP'N sites with snack improvements, ASP managers reported that because of a positive relationship with site food service staff their requests for removal of unhealthy items led to snack changes. In the HOP'N site with no improvements, the ASP manager did not establish a relationship with food service until late in the academic year. School district organizational leaders reported that barriers to improving quality were cost of FV and cost of staff time to prepare FV. In addition to district level changes, ASP site staff members must build relationships with cafeteria personnel to improve snack quality (Funded by USDA NRI 2005-35215-15418).

CORRESPONDING AUTHOR: Tanis J. Hastmann, MPH, Kansas State University, Manhattan, KS, 66502; tanis@ksu.edu

B-89

EFFECTIVENESS OF A BRIEF EDUCATIONAL INTERVENTION ON CONSUMER BELIEFS ABOUT DIETARY SUPPLEMENTS

Tonya Dodge, PhD

Psychology, Skidmore College, Saratoga Springs, NY.

About 73% of US adults report having used a dietary supplement within the past 12 months (Timbo, Ross, McCarthy, & Lin, 2006). Although a majority of US adults report using dietary supplements, they are not particularly knowledgeable of how the supplements are regulated (Dodge & Kaufman, 2007). This is problematic because many adults make erroneous assumptions about the safety and effectiveness of dietary supplements based on deficient knowledge.

Thus, it is important to know whether correcting deficits in knowledge about regulation will affect beliefs about the safety and effectiveness of dietary supplements. In the only educational intervention to date, Ashar, Rice and Sisson (2007) showed that providing educational information to physicians improved their deficits in knowledge. However, it remains unclear whether having accurate knowledge will affect beliefs about dietary supplements. The purpose of the present study was to test whether an educational intervention will affect consumer beliefs about the safety and effectiveness of dietary supplements.

Participants: Eighty-eight (males=35) adults were recruited from a newspaper advertisement and were randomly assigned to an education or control condition. About 47% were White and 42% African American.

Procedures: Those in the education condition were first presented with a brief description about the regulation of dietary supplements. Next, participants were presented with a description of two different dietary supplements: one designed to improve immune system functioning and one designed to improve weight loss. Participants were asked to rate the safety and effectiveness of each (1=not at all to 7=very.

Results: Participants in the education condition rated both dietary supplements as less safe than participants in the condition (*ts* (66)>2.4, *ps*<.05). A similar pattern emerged for ratings of effectiveness.

Conclusions: Results suggest that educating consumers about how dietary supplements are regulated makes them more skeptical about the safety and effectiveness of supplements. Implications for educational efforts are discussed.

CORRESPONDING AUTHOR: Tonya Dodge, PhD, Psychology, Skidmore College, Saratoga Springs, NY, 12866; tdodge@skidmore.edu

B-90

THE DIETARY QUALITY OF PERSONS WITH HEART FAILURE IN NHANES 1999–2006

Stephenie C. Lemon, PhD,[1] Barbara Olendzki, MPH, RD,[1] Robert Magner, BS,[1] Wenjun Li, PhD,[1] Annie Culver, BPharm,[2] Ira Ockene, MD[3] and Robert J. Goldberg, PhD[3]

[1]Division of Preventive and Behavioral Medicine, UMass Medical School, Worcester, MA; [2]Mayo Clinic, Rochester Methodist Hospital, Rochester, MN and [3]Division of Cardiology, UMass Medical School, Worcester, MA.

Dietary quality may impact heart failure outcomes. Proper changes in diet may improve prognosis. However, the current status of the dietary quality of persons with heart failure has not been reported in literature. The purpose of this study is to devise a model of dietary goals for persons with heart failure, describe the dietary quality and achievement of these goals, and assess correlates of goal achievement in a national sample of persons with heart failure. The study involved secondary analysis of repeated cross-sectional probability sample surveys using data from National Health Examination Surveys (NHANES) of 1999–2000, 2001–2002, 2003–2004 and 2005–2006. The study sample consisted of 574 persons with self-reported heart failure (mean age=70; 52% women). Diet of each survey participant was assessed using single 24 hour recall. Dietary nutrients of interest included sodium, calcium, magnesium, saturated fat, fiber, protein, and dietary cholesterol. Specific dietary goals were based on established guidelines. Adherence rates for individual dietary goals were 34% for sodium, 13% for calcium, 10% for magnesium, 13% for saturated fat, 4% for fiber, 68% for protein and 53% for cholesterol. The average number of dietary goals achieved was 1.9 (SE=.05), of a possible 7. A greater number of goals achieved was associated with higher education, non-smoking status and lower body mass index. Dietary quality of persons with self-reported heart failure was poor. Dietary interventions are needed for persons with heart failure, particularly tailored to those who less educated, smokers and overweight or obese individuals.

CORRESPONDING AUTHOR: Stephenie C. Lemon, PhD, UMass Medical School, Worcester, MA, 01606; Stephenie.Lemon@umassmed.edu

B-91

SUNLIGHT EXPOSURE, BONE DENSITY AND SERUM VITAMIN D: A PILOT INVESTIGATION

Yunsheng Ma, PhD, MD, Philip A. Merriam, MSPH, Sherry L. Pagoto, PhD, Barbara C. Olendzki, MPH and Ira S. Ockene, MD

Medicine, UMass Medical School, Worcester, MA.

Humans primarily obtain vitamin D through exposure to sunlight and to a lesser degree through diet and supplements. Maintaining serum 25-hydroxyvitamin D above 30 ng/ml is associated with reduced fracture rate, and postulated to be associated with better health outcomes. The aim of this study is to examine the associations of sunlight exposure with bone density and serum vitamin D. One hundred and five women who were less than 45 years of age were selected from 641 participants in an observational of study of seasonal variation of blood lipids in Central Massachusetts. Twenty-four hour recall light exposure data were collected at quarterly intervals over a one-year period. Total direct sunlight exposures was averaged during the spring (Apr, May, Jun) and summer (Jul, Aug, Sep). The average outdoor direct sunlight exposure was 0.5 hour/day for women in the lower quartile of the distribution; and 3.9 hours/day for women in the upper quartile of the distribution. Fifty-two women, separated into high and low quartiles of light exposure, were invited for bone density measurement using a dual energy X-ray absorptiometer. Only 13 women provided bone density measurement data (five from low and eight from high quartiles). Serum 25-hydroxy vitamin D was also measured, using radioimmunoassay from a blood sample collected at this visit. Bone densities of the lumbar spine (L2-L4) and left hip (neck, trochanter, inter-trochanter and Wards' triangle regions) were significantly higher in the high light exposure group compared to the low light exposure group ($p<0.05$). Despite lack of a significant difference in vitamin D between two groups (17.2 ng/ml versus 24.3 ng/ml in the low and high light exposure groups, respectively, $p=0.19$), it is striking that vitamin D levels were low. Questions remain concerning the relationship between sunlight exposure and serum vitamin D, as a majority of women had vitamin D deficiency, even women with high light exposure (>3.9 hours/day). Further studies are required to confirm these associations, prevalence of vitamin D deficiency, and their implications.

CORRESPONDING AUTHOR: Yunsheng Ma, PhD, MD, Medicine, UMass Medical School, Worcester, MA, 01655; Yunsheng.Ma@umassmed.edu

B-92

THE RELATIONSHIP BETWEEN DIET, SYMPTOMS, AND DISABILITY AMONG CHILDREN WITH CHRONIC ABDOMINAL PAIN

Rona L. Levy, MSW, PhD, MPH,[1] Melissa Lewis,[2] Shelby L. Langer, PhD,[1] Sheri A. Ballard, BA[1] and Melissa M. DuPen, BS[1]

[1]School of Social Work, University of Washington, Seattle, WA and [2]Psychology, Scripps College, Claremont, CA.

Introduction: Chronic abdominal pain of unknown etiology affects 10–15% of school-aged children; however, no study has focused on the relationship between levels of consumption of different food groups and gastrointestinal (GI) symptoms and disability among these children.

Method: Fifty-six children between the ages of seven and seventeen (M age=11.18, SD=2.64; 77% female) diagnosed with chronic abdominal pain were asked to complete food diaries for one week. Data were entered into an online food analysis program developed by the Center for Nutrition Policy and Promotion which yielded amounts of food groups consumed (milk, meat and beans, fruits, vegetables, and grains) and recommended averages specific to each child's BMI. Children reported their pain (Faces Pain Scale-Revised) and GI symptoms over the previous week. Parents reported children's school absences.

Results: Overall, failure to meet recommended values of different food groups resulted in more negative outcomes as listed below (p values for the following correlations <0.01). Children who did not meet recommended values of milk were more likely to complain of "food making them sick" ($r=0.39$) and "nausea or upset stomach" ($r=0.40$). Children who did not meet recommended values of vegetables were more likely to report higher levels of pain ($r=0.36$) and miss more days of school due to stomachaches ($r=0.43$). In contrast, overconsumption of meat and beans was associated with greater constipation ($r=.40$). Finally, if total caloric intake was not met, children complained of more pain, stomachaches or abdominal pain ($r=0.37$), nausea or upset stomach ($r=0.46$), loose bowel movements or diarrhea ($r=0.44$), and constipation ($r=0.43$); they also missed more days of school ($r=0.39$).

Conclusion: Diet appears to be related to symptoms and disability in children with chronic abdominal pain and should be included in a complete assessment of this condition.

CORRESPONDING AUTHOR: Melissa Lewis, Psychology, University of Washington, Seattle, WA, 98105; sballa@u.washington.edu

B-93

DO HUMOROUS PEOPLE LEAD HEALTHIER LIVES?

Kim Edwards, BAH and Rod A. Martin, PhD

University of Western Ontario, London, ON, Canada.

For centuries, philosophers, physicians, theorists, and more recently, members of the media have popularized the old adage that "laughter is the best medicine" (Martin, 2007). Despite the numerous arguments for the beneficial health effects of humour as a personality trait, the actual evidence relating humour and health is weak and inconsistent. One area of scant research is the examination of hypothesized mechanisms by which humour could relate to physical health (Martin). Therefore, this study's purpose was to examine one such pathway: the idea that sense of humour results in physical health by promoting positive lifestyle behaviours (e.g., exercise). In particular, the current study investigated several different components of sense of humour (including adaptive and detrimental humour styles, humour creation ability, and humour as an emotional temperament) in relation to a number of health habits. Two humour production activities and a variety of self-report questionnaires, including a modified version of the National College Health Assessment (American College Health Association, 2005) were completed from a sample of 212 university students. Correlation analyses provided support that temperament and humour styles (i.e., the ability to use humour in everyday life) are associated with some health behaviours. For example, using humour to maintain an optimistic outlook on life was positively related to exercise and dieting ($r=.26$, $p<.01$). However, results yielded no evidence that humour creation (i.e., the ability to actually be funny) is important for one's health. These findings suggest that the association between humour and physical health is a complex one. Depending on the dimension of humour being examined, researchers may find some positive associations with physical health measures, some negative, and some unrelated. These associations should be considered in designing future behavioural interventions.

CORRESPONDING AUTHOR: Kim Edwards, BAH, University of Western Ontario, London, ON, N6A5L8; kedward7@uwo.ca

B-95

INTERACTION BETWEEN STAGE OF CHANGE FOR WEIGHT LOSS AND PATIENT KNOWLEDGE OF BARIATRIC SURGERY

Kristin L. Somar, MA,[1] John Burns, PhD,[1] Carrie Donoho, MA[2] and Sumner Sydeman, PhD[2]

[1]Psychology, Rosalind Franklin University of Medicine and Science, North Chicago, IL and [2]Psychology, Northern Arizona University, Flagstaff, AZ.

Obesity is an increasing problem in the United States. The Stages of Change model has been used to treat various problematic health problems, including obesity. While one of the most popular methods to treat those with morbid obesity is bariatric surgery, it may still be important to consider the individual's stage of change for weight loss prior to surgery. It was expected the largest percentage of participants who attended a bariatric surgery information session would be in the Preparation Phase. We also expected those individuals who were in the Action or Maintenance stage of the Stages of Change model would have a significantly higher Total Knowledge scores before the information session started than those individuals who were in the other three stages. Participants attended a bariatric surgery information session and completed a questionnaire. It was found that majority of the participants were in the Preparation Phase of the stages of change for weight loss. The proportion of participants in the Preparation Phase was significantly greater than those in the Precontemplation Phase ($\chi2$ (1, N=23)=15.70, $p<0.01$), the Contemplation Phase ($\chi2$ (1, N=27)=8.33, $p<0.01$), and the Action Phase ($\chi2$(1, N=28)=7.00, $p<0.01$). However, the proportion of participants in the Preparation Phase was not significantly different from those in the Maintenance Phase, $\chi2$ (1, N=34)=1.88, $p=0.17$. Those individuals in the Action and Maintenance stages were combined to form one Group 1 while the individuals in the Precontemplation, Contemplation, and Preparation stages were combined to form Group 2. The mean Total Knowledge score for the Group 1 was 14.93 whereas the mean Total Knowledge score for Group 2 was 14.80. An independent samples t-test revealed that there were no significant differences between the mean knowledge scores for the two groups, t(47)=0.10, $p=0.92$.

CORRESPONDING AUTHOR: Kristin L. Somar, MA, Psychology, Rosalind Franklin University of Medicine and Science, North Chicago, IL, 60064; kristin.somar@my.rfums.org

B-96

WEIGHT-RELATED QUALITY OF LIFE AMONG THOSE WITH OBESITY AND OBSTRUCTIVE SLEEP APNEA

William J. Bryson, MA, MS,[1] Sofia H. Rydin-Gray, PhD,[1] Ashley E. Dorough, MS,[1] Ronette L. Kolotkin, PhD,[1,2] Ronald S. Sha, MD, PhD[1] and Martin Binks, PhD[1]

[1]Duke University Medical Center, Durham, NC and [2]Obesity and Quality of Life Consulting, Durham, NC.

Background: Few studies have examined the association of weight-related quality of life (WRQOL) with obstructive sleep apnea (OSA). The present study postulated that OSA would contribute to patients' poorer WRQOL specific to physical functioning and self-esteem given that OSA symptoms (e.g. fatigue) may limit physical performance and also give rise to feeling ineffective, thus impacting self-esteem.
Methods: Data from 1202 obese (BMI M=40.8 +10.38), adult (M=51.9 yrs+14.80) patients (60% women) entering residential weight loss treatment was examined via chart review. Those with complete baseline data (N=664) were available for analysis. At baseline, participants completed medical history questionnaires, the Impact of Weight on Quality of Life-Lite (IWQOL-Lite) and the Hospital Anxiety and Depression Scale. Patients were categorized as having OSA based on polysomnogram. Pain score was calculated from responses to questions in the medical history form. Measured weight and height were obtained and BMI calculated.
Results: MANCOVA compared those with and without OSA on IWQOL-Lite subscales and total score. Covariates included BMI, anxiety, depression, age, and pain score. Results indicated significant differences for the IWQOL-Lite Physical Functioning Scale, (p <.0001) and for IWQOL-Lite Self-Esteem Scale (p<.05). No significant differences were noted on Sexual Life, Public Distress, Work, and Total IWQOL scores.
Conclusions: The presence of OSA was related to decreased WRQOL in terms of physical functioning and self-esteem independent of BMI, age, pain, depression, and anxiety. One potential explanation for this finding is that the negative effects of OSA in these domains may be misattributed to one's weight when these detriments may be better accounted for by OSA. Further exploration of the effects of OSA on WRQOL is encouraged both to better understand how OSA influences WRQOL and to learn how to assist our obese OSA patients in improving QOL in the context of weight management programs.

CORRESPONDING AUTHOR: Sofia H. Rydin-Gray, PhD, Psychiatry, Duke Diet and Fitness Center/Duke Medical Center, Durham, NC, 27705; sofia.rydin-gray@duke.edu

B-97

EFFECTS OF ACUTE VAGUS NERVE STIMULATION ON CALORIC INTAKE

Jamie S. Bodenlos, PhD,[1] Sherry L. Pagoto, PhD,[1] Jessica Oleski, MA,[1] Kristin L. Schneider, PhD,[1] Yunsheng Ma, PhD, MD,[1] Judith K. Ockene, PhD, MEd[1] and Anthony J. Rothschild, MD[2]

[1]Preventive and Behavioral Medicine, University of Massachusetts Medical School, Worcester, MA and [2]Psychiatry, University of Massachusetts Medical School, Worcester, MA.

Vagus Nerve Stimulation (VNS) is an FDA approved treatment for treatment-resistant epilepsy and depression. Animal research has revealed decreased weight and appetite as a result of VNS. Research in humans is mixed, some studies show weight loss with VNS and others show no effect. One study with humans demonstrated that acute VNS was associated with change in food cravings for sweets, such that pts with longer device on-time, higher depression and obesity experienced decreased sweet cravings during activation. Little is known about the effects of acute VNS on eating in humans. The purpose of this study was to explore how acute VNS affects caloric intake in adults using VNS. Pts were 12 adults: 5 using VNS for epilepsy and 7 using VNS for depression. The majority of pts were Caucasian (92%) and female (58%), average age was 43 years, and 42% were married. Average body mass index (BMI) was 29.6 kg/m2 and half of the sample was obese. The study used a crossover design where pts were randomized to the order in which they attended two laboratory sessions: one with the VNS device turned off and one with the VNS device on. Pts were provided with 4 self-rated highly palatable foods and given ad libitum eating instructions. Repeated measures ANOVA demonstrated a significant effect for VNS condition on total caloric intake (F (1, 10)=20.14, p<.01) with pts consuming more calories during the VNS off condition (M=793.4; SD=300.5) compared to the VNS on condition (M=749.7; SD=381.6). The VNS condition by BMI interaction was also significant (F (1, 10)=19.22, p<.01), such that normal weight pts tended to consume fewer calories with VNS on (M=525.8; SD=163.5), while obese pts tended to consume more calories (M=807.9; SD=403.7). Although limited by a small sample, this initial investigation suggests that acute VNS might influence eating and this effect appears to be moderated by BMI. Future research is needed to determine how VNS influences appetite and consumption.

CORRESPONDING AUTHOR: Jamie S. Bodenlos, PhD, Preventive and Behavioral Medicine, University of Massachusetts Medical School, Worcester, MA, 01605; jamie.bodenlos@umassmed.edu

B-98

HPA AXIS REACTIVITY AND SHORT-TERM FOOD INTAKE IN LEAN AND OBESE WOMEN

Bradley Appelhans, PhD,[1,2] Sherry Pagoto, PhD,[3] Erica Peters, BA,[4,1] Susan Gapstur, PhD, MPH[2] and Bonnie Spring, PhD, ABPP[2]

[1]University of Arizona College of Medicine, Phoenix, AZ; [2]Northwestern University Feinberg School of Medicine, Chicago, IL; [3]University of Massachusetts Medical School, Worcester, MA and [4]University of Vermont, Burlington, VT.

Stress-induced cortisol secretion has been linked to central obesity and increased food intake. Little is known about the timing and potential mechanisms of cortisol's effect on food intake, and corticotrophin releasing hormone (CRH), an early player in the HPA axis, appears to suppress appetite with stress. This study examined associations between HPA axis reactivity and short-term food intake in 16 lean (BMI: 18.5–24.9) and 18 class I obese (BMI: 30–34.9) healthy, premenopausal, non-dieting women (age: M=33.5y, SD=6.0y). Participants completed a 30-min social stress task and a non-stressful control task at 12:00 PM on consecutive days in counterbalanced order. An identical set of several food items were offered following the task on both study days. Post-task cortisol was significantly higher on the stress day than the control day (t(33)=2.11, p=.04). As others have reported, obese women had slightly lower mean cortisol levels than obese women on both study days (control: F(1,33)=4.67,p=.04; stress: F(1,33)=4.49,p=.04), but groups did not differ in cortisol reactivity. There were no main effects of task or BMI group on food intake. However, general linear models revealed an interaction between BMI group and cortisol stress responses (F(1,29)=5.48,p=.03) such that cortisol predicted decreased short-term food intake in obese women (F(1,15)=9.81, p=.01) but was unrelated to food intake in lean women. Results were unchanged by controlling for dietary restraint, age, task order, life stress, or mental health symptoms. In conjunction with prior studies, findings suggest early inhibitory and later stimulatory effects of stress on food intake in obese women that are mediated by CRH and its suppression with cortisol feedback.

CORRESPONDING AUTHOR: Bradley Appelhans, PhD, Basic Medical Sciences, University of Arizona College of Medicine, Phoenix, AZ, 85004; b.appelhans@arizona.edu

B-99

RESULTS OF A MULTI-SITE ANALYSIS EXAMINING RELATIONSHIPS AMONG BODY MASS INDEX, MEDICAL UTILIZATION AND WORKER PRODUCTIVITY

Ron Z. Goetzel, PhD,[1,2] Teresa B. Gibson, PhD,[2] Meghan E. Short, MPH,[2] Bong-Chul Chu, PhD,[2] Ling Shi, PhD,[2] Jessica L. Waddell, MPH,[2] Jennie D. Bowen, MPH,[2] Stephenie C. Lemon, PhD,[4] Isabel Diana Fernandez, MD, MPH, PhD[5] and Simone French, PhD[3]

[1]Institute for Health and Productivity Studies, Emory University, Rollins School of Public Health, Washington, DC; [2]Thomson Reuters, Washington, DC; [3]Division of Epidemiology and Community Health, University of Minnesota, Minneapolis, MN; [4]Division of Preventive and Behavioral Medicine, University of Massachusetts Medical School, Worcester, MA and [5]University of Rochester School of Medicine, Rochester, NY.

Background:
Limited research exists that explores overweight and obesity related healthcare utilization and productivity across a large number of employers with a diverse employee population.
Methods:
Self-reported healthcare utilization, absenteeism and presenteeism data were collected from 10,043 employees in four organizations participating in a multi-site, multi-year NLHBI-funded initiative, which examines the impact of environmental interventions in the workplace on weight management. Multivariate models tested the effects of BMI on each of the outcomes, controlling for smoking status, education, race/ethnicity, age, gender and research site. Monetized values were derived from the predicted model results, illustrating BMI-associated costs.
Results:
The results showed that obese employees had significantly higher self-reported healthcare utilization and absenteeism and lower productivity compared to their normal weight counterparts (p<0.001). The greatest difference in costs between obese and normal-weight employees was observed for hospitalizations ($2,144 vs. $1,528, respectively). Overweight employees only had significantly lower productivity compared to healthy employees (p<0.001).
Conclusions:
Unlike obese employees, overweight employees have similar medical and productivity costs to normal-weight employees, suggesting that interventions targeted toward obese employees may produce greater cost savings.

CORRESPONDING AUTHOR: Ron Z. Goetzel, PhD, Institute for Health and Productivity Studies, Emory University, Rollins School of Public Health, Washington, DC, 20008; ron.goetzel@thomsonreuters.com

B-100

EXPERIMENTAL ANALYSIS OF THE EFFECT OF ADVERTISING AND FOOD PACKAGING ON WOMEN'S EATING BEHAVIOR

Amy S. Collings, MS and Karen Saules, PhD

Eastern Michigan University, Ypsilanti, MI.

Research supports biological contributions to obesity. Dramatic societal increases in obesity prevalence rates in recent decades (Flegal, et al., 2002), however, suggest that environmental influences may be paramount (Hill, et al., 2008). These recent escalations in obesity rates have led researchers to theorize about the impact of a purported "Toxic Environment (TE)," in which high-calorie, energy-dense foods are readily available for consumption (Wadden, et al., 2002). TE research thus far has been mostly correlational, limiting causal inference. Therefore, the present experimental study aimed to explore the influence of two elements of the TE on women's eating behavior - advertising and food packaging size. Participants (n=82) were randomly assigned to a 2 (toxic vs. healthy food ads) x 2 (large vs. small package-sizing) design. Participants, deceived about the true aims of the study, were asked to find dots in the ad stimuli and were given food by package-size condition to consume ad lib in session. Participants were recontacted to provide a 24-hour dietary recall. In session, participants assigned to the Toxic-Large condition consumed 508.66±267.03 calories, those in the Toxic-Small condition consumed 499.28±200.25 calories, those in the Healthy-Large condition consumed 643.47±182.59 calories, and those in the Healthy-Small condition consumed 487.57± 350.95 calories. Those assigned to the Healthy-Large condition consumed more calories in session than those in other conditions (p<.05). There were no caloric intake differences by condition during 24-hour follow-up. Despite randomization, however, those meeting criteria for Binge-Eating Symptom (BES) were not distributed equally across conditions. ANCOVA for calories consumed in session revealed BES was a significant covariate (p<.01). Analyses of in-session versus follow-up data support overall regulation of food intake. If further research supports the impact of this theoretical TE on eating behavior, it may yield important implications for developing public health policies to address the obesity epidemic.

CORRESPONDING AUTHOR: Amy S. Collings, MS, Eastern Michigan University, Ypsilanti, MI, 48197; aholdwic@emich.edu

B-101

ADULT TELEVISION VIEWING TIME BY SELF-REPORT AND AN OBJECTIVE MEASURE: DO THEY AGREE?

Jennifer Otten, MS, RD, Benjamin Littenberg, MD and Jean Harvey-Berino, PhD, RD

University of Vermont, Burlington, VT.

Background: TV time has been associated with obesity in adults. However, TV viewing data have been collected exclusively by self-report. No data are available to confirm the accuracy of self-reported TV time estimates by adults.

Objective: To compare adult's self-reported television viewing time with an objective measure obtained by an electronic TV monitor.

Methods: As part of a larger ongoing study, self-reports of "usual daily TV time" by overweight or obese adults were compared to daily TV time recorded by an electronic TV monitor (BOB TV Time Manager™) attached to all home televisions. Self-reported TV time was recorded at study entry as the response to the question, "How many hours do you watch TV per day, on average?" Objective TV time was measured in minutes per day over three weeks per subject.

Results: The 40 subjects had a BMI of 31.3±5.4 kg/m^2 (mean±standard deviation) and a mean age of 42 (range: 22–61); 50% were obese (BMI> 30), 68% female, and 95% non-Hispanic white. Self-reported viewing time was 4.3±1.3 hrs/day (mean± SD) (range: 3.0–8.0 hrs/day) vs. 4.9±2.5 hrs/day (range: 0.8–13.3 hrs/day) for the objective data recorded by the electronic TV monitor. Self-reports and objective measures were significantly correlated (Pearson's r=0.44, p<0.005) and showed high levels of agreement. Subjects underestimated their viewing time by 0.6±2.3 hr/ day (95% CI [-1.36, 0.11]), or 4.4 hours per week. 57.5% of subjects underestimated their viewing time. 47.5% of self-report estimates were within one hour of actual viewing time; 72.5% were within two hours.

Discussion: Adults tend to underestimate their TV viewing time by 4.4 hours per week. Large errors were rare in this group, suggesting that self-reports of TV time may be appropriate to use for both population and individual level analysis, although objective measurement adds precision and face validity that may be useful in certain settings. Future studies should evaluate the accuracy of self-reported TV time in larger and more diverse population groups.

CORRESPONDING AUTHOR: Jennifer Otten, MS, RD, Nutrition and Food Sciences, University of Vermont, Burlington, VT, 05405; jotten@uvm.edu

B-102

MODIFIABLE CONTRIBUTORS TO THE RURAL DISPARITY IN HEART DISEASE

Nate L. Ewigman, BA,[1,2] Michael G. Perri, PhD[1] and Jeffrey S. Harman, PhD[2]

[1]Clinical and Health Psychology, University of Florida, Gainesville, FL and [2]Health Services Research, Management and Policy, University of Florida, Gainesville, FL.

The prevalence of heart disease is greater in rural than urban areas. Contributors such as obesity, smoking and physical inactivity are known modifiable contributors to heart disease and are also more prevalent in rural areas. However, there has never been a nationally representative analysis of these factors controlling for non-modifiable contributors (sociodemographic, access to care, disability). Given the high prevalence of unhealthy modifiable contributors to heart disease in rural settings, we hypothesize that the relationship between rurality and heart disease is mediated by these modifiable contributors (obesity, smoking and physical inactivity). The current study utilized a nationally representative database, the Medical Expenditures Panel Survey (MEPS), to test the hypothesis that modifiable contributors mediate the relationship between rurality and heart disease. Controlling for non-modifiable contributors, we found that rurality was still a significant predictor of heart disease (p=.02). Adding modifiable contributors to the model weakened the relationship between rurality and heart disease at a significant level (p<.01). Additionally, the relationship between rurality and heart disease became non-significant (p=.268) when controlling for modifiable contributors and resulted in a 49% reduction in odds of having heart disease among rural populations. The results of these analyses support the hypothesis that the relationship between rurality and heart disease was mediated by modifiable contributors. Rural areas have traditionally been slower to adopt healthy behaviors. Taken together with the results of this study, the higher rates of obesity, smoking and physical inactivity seen in rural areas may be contributing to the rural disparity in heart disease. Intervening on modifiable contributors such as obesity, smoking and physical inactivity may help ameliorate the rural disparity in heart disease.

CORRESPONDING AUTHOR: Nate L. Ewigman, BA, Clinical and Health Psychology, University of Florida, Gainesville, FL, 32607; newigman@gmail.com

B-103

DIETARY AND PHYSICAL ACTIVITY PATTERNS AMONG 10TH GRADE STUDENTS IN DUBAI, UAE

Asma Al-Janahi, MPH,[1] Carolyn C. Johnson, PhD,[1] Larry S. Webber, PhD,[2] Neil W. Boris, MD[3] and Jeanette Magnus, MD, PhD[1]

[1]Community Health Sciences, Tulane University School of Public Health & Tropical Medicine, New Orleans, LA; [2]Biostatistics, Tulane School of Public Health & Tropical Medicine, New Orleans, LA and [3]Psychiatry-Neurology, Tulane University Department of Medicine, New Orleans, LA.

Background: Rapid socioeconomic transition, population-based lifestyle changes, and increasing adolescent obesity have been observed in the United Arab Emirates (UAE). Purpose: To describe health behaviors of public school 10th graders in Dubai UAE and compare behavior patterns between UAE national and non-national students. Method: A cross-sectional survey was school-administered with 2571 (~95%) responses. Study variables were fast food consumption, snacking, physical activity and sedentary behavior. Results: Age range was 14–18 yrs (mean= 15.7);82.2% were UAE nationals. Parents of nationals had lower educational attainment and more likely to be non-professionals. Most mothers (83.3%) did not work outside the home. Mean number of visits to fast food outlets was 23/month. Nationals, students with fathers of low education and in unskilled jobs reported more fast food visits. There was higher intake of sodas (14.6 cans/month) compared to diet sodas and male nationals reported higher intake of sodas than females and non-nationals. Males and students of self-employed mothers snacked more after dinner while students with fathers in unskilled jobs snacked more before and after dinner. Mean intake of unhealthy snacks was 70/month; males and non-nationals reported higher healthy snack consumption. About 17% reported <1/day of moderate/vigorous physical activity. Males and students of professional parents were more active than others. Males spent more time with video movies and electronic games while females watched more TV. Conclusions: Being a UAE national was associated with high intake of fast food, sodas and snacks and low physical activity. To curb increasing obesity among Dubai youth, educational strategies to promote healthier lifestyles should be the highest priority.

CORRESPONDING AUTHOR: Carolyn C. Johnson, PhD, Community Health Sciences, Tulane University School of Public Health & Tropical Medicine, New Orleans, LA, 70112; cjohnso5@tulane.edu

B-104

SELF-MONITORING FOR WEIGHT GAIN PREVENTION: A DESCRIPTIVE STUDY OF RECORD KEEPING FREQUENCY AND CONTENT

Susan D. Moore, PhD and Michaela Kiernan, PhD

Stanford Prevention Research Ctr., Dept. of Medicine, Stanford University, Stanford, CA.

Background: Self-monitoring is important for weight management, but the optimal pattern of record keeping is unknown. As part of a small randomized weight gain prevention trial examining two approaches to self-monitoring that varied in intensity (detailed record keeping vs. weighing without records), the current study describes whether women in the intensive 2-month record keeping intervention followed the Diabetes Prevention Program (DPP) recommendation to keep detailed records of diet (i.e., all foods consumed and caloric and fat content), physical activity, and weight for 1 week per month during a 4-month follow-up period.

Methods: In the intensive record keeping intervention, obese women (N=12, 58% White, age 47.4±10.5 years, BMI 32.2±3.8) were trained in weekly classes to keep detailed daily written records, and then advised to follow the DPP recommendation (1 week per month) to prevent weight gain during the 4-month follow-up period. Women were weighed and submitted records at 6 months.

Results: Retention at 6 months was high, 92% (n=11). Of the 10 women attending classes in the last 3 weeks of the intervention, 80% (n=8) recorded diet, activity, or weight for ≥75% of the days. However, during the 4-month follow-up period, none followed the DPP recommendation as prescribed (1 week per month). Women followed the recommendation for only 7.5±21.3 days, recorded diet alone for 17.5±31.2 days, activity alone for 15.6±33.1 days, and weight alone for 59.5±30.7 days. Half (n=5) completed 0 diet records and only 2 recorded ≥50% of the days. In contrast, all women recorded weight on some days, with 5 recording ≥50% of the days. All women maintained weight (i.e., ±3% of initial weight; n=7) or lost weight (≥3%; n=3).

Conclusions: Women preventing weight gain did not follow the DPP self-monitoring recommendation during follow-up, but recorded weight more frequently than other components. Despite the practical DPP recommendation, less intensive record keeping (e.g., weight only) may be a feasible and adequate alternative.

CORRESPONDING AUTHOR: Susan D. Moore, PhD, Stanford Prevention Research Ctr., Dept. of Medicine, Stanford University, Stanford, CA, 94305-5705; smoore1@stanford.edu

B-105

NEW PERSPECTIVES OF TAILORING: REGULATORY FOCUS AND DATA PRESENTATION AS PREDICTORS OF PERCEIVED SUCCESS AND FAILURE IN WEIGHT MANAGEMENT

Julia Braverman, PhD[1] and Jeana Frost, PhD[2]

[1]Medicine, Beth Israel Deaconess Medical Cener, Boston, MA and [2]Patientslikeme, Boston, MA.

The study proposes a new perspective for individual tailoring of health messages by individualizing the graphical representation of weight management data. The weight management progress data can be presented either referring to the baseline (start point) or referring to the goal (the desired weight). In two independent experiments we test the idea that the way the data is interpreted depends on individual characteristics, specifically on regulatory focus. Regulatory focus is a personal characteristic that distinguishes between individuals who are mainly motivated to achieve their goals and desirable outcomes (promotion focus) and those who are mainly driven by the desire to avoid troubles and undesirable outcomes (prevention focus) (Higgins, 1998). Regulatory focus is known to predict many behaviors, interpersonal relationships and risk perception (Shiloh & Ilan, 2005) etc. We are demonstrating that regulator focus can also predict the perception of overall success and failure for the given data, depending on how this data is presented: compared to a goal or compared to the baseline. In the first study it was demonstrated that recipients with chronic prevention focus predicted significantly greater future weight loss when the progress were presented referring to the baseline, whereas the recipients with the chronic promotive focus predicted significantly greater future success when the data was presented referring to the goal weight. The second study which is currently in progress is aimed to replicate the same findings and to rule out alternative explanations of the results.

CORRESPONDING AUTHOR: Julia Braverman, PhD, Medicine, Beth Israel Deaconess Medical Cener, Boston, MA, 02215; braverju@gmail.com

B-106

USING ECOLOGICAL MOMENTARY ASSESSMENT TO EXAMINE SELF-CONTROL STRENGTH AND DIETARY LAPSES IN DIETERS

Kathleen M. Young, MA and Robert A. Carels, PhD

Bowling Green State University, Bowling Green, OH.

Self-control is used by individuals to override immediate impulses, emotions and behaviors while pursuing long-term goals (Schmeichel & Baumeister, 2000), and its failure may result in negative consequences such as weight gain and addiction (Baumeister, Heatherton, & Tice, 1994). Empirical research indicates that self-control strength is a limited resource comparable to a muscle, in that it fatigues after use, replenishes after rest, and increases capacity through practice/exercise (Muraven & Baumeister, 2000). The present study examined the relationship between self-control strength and dietary lapses using ecological momentary assessment over a two-week period. Participants were 40 undergraduate dieters (Age: M=19.0, SD=1.2; BMI: M=25.9, SD=4.3; 77% female; 90% Caucasian). Results suggest that higher daily self-control demands are related to greater likelihood of lapsing ($p<.03$), but plan to restrict moderated the relationship between daily self-control demands and likelihood of lapsing between-person ($p<.05$). Likelihood of lapsing was only weakly associated with self-control demands in individuals with stronger plans to restrict intake, but likelihood of lapsing became greater as self-control demands increased among individuals with a weaker plan to restrict. Also, plan to restrict moderated the relationship between daily self-control demands and likelihood of lapsing within-person ($p<.05$). The participant's likelihood of lapsing increased on days s/he had higher self-control demands and a weaker plan to restrict and decreased on days s/he had higher self-control demands and a stronger plan to restrict. Finally, individuals lower in trait self-control reported greater likelihood of lapsing ($p<.05$) and greater caloric intake during lapses ($p<.03$) than individuals higher in trait self-control. The findings indicate that it may be important for dieters to determine ways to decrease daily self-control demands and develop a firm plan for restriction. Understanding the role of self-control strength in dieting behavior is important in the current toxic food environment.

CORRESPONDING AUTHOR: Kathleen M. Young, MA, Bowling Green State University, Bowling Green, OH, 43403; youngkm@bgsu.edu

B-107

ASSOCIATIONS BETWEEN BODY DISSATISFACTION, WEIGHT GOALS, AND WEIGHT-RELATED BEHAVIORS AMONG A POPULATION-BASED SAMPLE OF ADOLESCENTS

Mathieu Roy, MSc[1] and Lise Gauvin, PhD[1,2]

[1]Social & Preventive Medicine, Interdisciplinary Research Group on Health, Léa-Roback Research Center of Social Inequalities in Health of Montreal, Université de Montréal, Montreal, QC, Canada and [2]Centre de recherche du centre hospitalier de l'Université de Montréal, Université de Montréal, Montreal, QC, Canada.

Body dissatisfaction refers to feelings of dislike about one's body shape or appearance and is a central feature of eating and weight-related disorders. This study examined associations between body dissatisfaction and the presence of weight goals that matched or mismatched one's weight status as well as the frequency of use of healthy, moderately unhealthy, and extremely unhealthy behaviors among a representative population-based sample of Quebec adolescents. A sample of 1051 boys and 1121 girls aged either 13 or 16 years self-reported a weight goal, weight-related behaviors, and body dissatisfaction. Height and weight were measured with a standardized procedure by a research assistant. Logistic regression analyses showed that having a weight goal that mismatched one's current weight status (e.g., wishing to lose weight despite normal weight) was associated with body dissatisfaction among boys (OR=2.19; 95%CI: 1.61, 2.97) and girls (OR=2.39; 95%CI: 1.76, 3.26). Body dissatisfaction was also more likely among boys in the middle (OR=3.14, 95%CI: 2.14, 4.63) and highest tertiles (OR=2.04, 95%CI: 1.41, 2.95) and among girls in the middle (OR=2.55, 95%CI: 1.87, 3.48) and highest tertiles (OR=4.08; 95%CI: 2.88, 5.79) of use of moderately unhealthy behaviors (e.g., skipping meals). Being in the lowest (OR=1.82; 95%CI: 1.32, 2.51) or middle tertiles (OR=1.82; 95%CI: 1.32, 2.51) of healthy behavior use was associated with greater likelihood of body dissatisfaction among boys. Use of extremely unhealthy behaviors (e.g. purging) was not associated with the outcome. We conclude that body dissatisfaction is predicted by the presence of a weight goal that mismatches weight status, more frequent use of unhealthy behaviors, and for boys less frequent use of healthy behaviors.

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CORRESPONDING AUTHOR: Mathieu Roy, MSc, Social & Preventive Medicine, University of Montreal, Montreal, QC, P.O. Box 6128; mathieu.roy.3@umontreal.ca

Meritorious Student Poster

B-108

EATING TO COPE: DO OVERWEIGHT WOMEN EAT MORE ON DAYS WHEN THEY SUPPRESS EMOTION?

Valerie Young, MS, Brigid Maloney, current undergrad student, Hilary Greenspan, current undergrad student, Melissa Curran, PhD and Emily Butler, PhD

University of Arizona, Tucson, AZ.

Caloric intake in excess of physical and metabolic demands contributes to obesity. It has long been theorized that emotions play a critical role in this sort of excessive eating, especially for women (Kaplan, 1957). For example, overweight women may be prone to emotion suppression (Benjamin, 2004) and may resort to eating as a substitute for the emotional catharsis and social support that can accompany openly expressing emotions (Ganley, 1989). Unfortunately very little empirical work has investigated this issue. To address this gap, we recruited a community sample of heterosexual couples (N=91 couples; Age=18 to 68) and had them complete an online daily diary (M days=6) assessing eating and emotion regulation. Body mass index (BMI) was calculated from self-reports of height and weight provided on the first day. We predicted that women with higher BMI would report eating more on days when they suppressed emotion, but there would be no association for men or lower BMI women. To test this hypothesis we used an Actor-Partner Interdependence model that deals appropriately with nested data (Kenny, 2006). Daily reports of "I kept my emotions to myself" assessed emotion suppression. For eating, we focused on within-person variability. Specifically, participants reported each day whether they had eaten more, less, or about the same amount as they usually do. As predicted, we found a significant interaction effect of women's BMI and suppression on amount eaten [F (1,861)=8.06, p<.005]. An analysis of simple slopes revealed a significant effect for high BMI women (BMI at the 75th percentile of the sample=27.3). On days when these women suppressed more they also ate more, compared to days when they suppressed less [b=.07; t (861)=3.37, p<.001]. In contrast, for normal weight women (BMI at the 25th percentile of the sample=24.9), variations in suppression did not predict eating behaviors [b=.01; t (861)=.04, p>.68]. No effects were present for men. These results indicate that for women who are already overweight, emotional coping may contribute to unhealthy eating habits.

CORRESPONDING AUTHOR: Valerie Young, MS, University of Arizona, Tucson, AZ, 85721-0025; valyoung@email.arizona.edu

B-109

PSYCHOSOCIAL FUNCTIONING AND BODY IMAGE IN ADOLESCENTS ENROLLED IN A WEIGHT MANAGEMENT PROGRAM

Jerlym Porter, PhD[1] and Marilyn Stern, PhD[2]

[1]Institute for Healthcare Studies, Northwestern University, Chicago, IL and [2]Departments of Psychology and Pediatrics, Virginia Commonwealth University, Richmond, VA.

Along with health problems, pediatric obesity can lead to the development of psychosocial problems, such as low self-esteem, which also may be associated with increased depressive symptoms. One factor that may have particular relevance to psychosocial functioning, and that is often experienced by obese adolescents, is weight-related teasing. The present study examined the associations among teasing, self-esteem and depression among a sample of obese adolescents in a weight management program. Body image was examined as a potential mediator of the association between teasing, self-esteem and depression. Ninety-three adolescents (M age=13.35 years) enrolled in a multidisciplinary weight management program completed questionnaires evaluating perceptions of teasing, self-esteem, depression, and body image. Eighty-five percent were African American and 68% were female. The overall mean baseline Body Mass Index (BMI) was ≥ 95th percentile for age and gender which is in the obese range (M=38.50 kg/m2). As hypothesized, increased teasing was significantly associated with lower self-esteem, higher ratings of depressive symptoms, and lower body image. The results indicated gender differences. Males exhibited higher overall body image satisfaction (M=20.40) than females (M=17.21), t(90)=2.50, p=.014. Females indicated a larger body image discrepancy between their current body shape and ideal body shape (M=2.71) than males (M=2.15), t(90)=-2.51, p=.014. Body image was found to be a mediator between teasing and depression, suggesting that teasing may lower body image which in turn increases depressive symptoms. Results suggest that body image is an important factor in developing interventions geared toward increasing healthy lifestyle changes and psychosocial functioning for obese adolescents. Interventions that address enhancing body image while providing skills to combat teasing should be developed and tested to help reduce the risk for negative psychological effects.

CORRESPONDING AUTHOR: Jerlym Porter, PhD, Institute for Healthcare Studies, Northwestern University, Chicago, IL, 60611; j-porter@northwestern.edu

B-110

THE RELATIONSHIP BETWEEN BODY SIZE, GENDER, AND SUBJECTIVE WELL-BEING AMONG A SAMPLE OF COLLEGE STUDENTS

Stacy A. Ogbeide, MS,[1] Christopher Neumann, PhD[1] and C. Diane Rudebock, RN, EdD[2]

[1]The School of Professional Psychology at Forest Institute, Springfield, MO and [2]Kinesiology and Health Studies, University of Central Oklahoma, Edmond, OK.

This study investigated the relationship between body size, gender, and subjective well-being (SWB) among a sample of college students. One-hundred fifty-seven students between the ages of 18 to 25 years participated in the study. Sixty-five percent of the sample reported body mass indexes (BMI's) in the normal range (18.5–24.9 kg/m^2), 25% in the overweight range (25.0–29.9 kg/m^2), and 10% in the obese range (30.0–39.9 kg/m^2). The Satisfaction with Life Scale (SWLS) and the Psychological General Well-Being Index (PGWB) were used to assess subjective well-being levels. Among males, increases in BMI was associated with lower levels of life satisfaction (r^2=-.37, *p*=.03) and psychological well-being (r^2=-.33, *p*=.05). BMI was not correlated with life satisfaction or psychological well-being among females. Next, a MANOVA was conducted to determine the relationship between body weight, gender, life satisfaction, and psychological well being. Compared to participants in the "normal" weight range, participants classified as "overweight/obese" reported lower levels of life satisfaction ($F_{(1,\ 156)}$=4.68, *p*=.03). No other main or interaction effects were found. The results are discussed in relation to past research on the stigma theory and gender specific cultural norms regarding weight.

CORRESPONDING AUTHOR: Stacy A. Ogbeide, MS, The School of Professional Psychology at Forest Institute, Springfield, MO, 65807; sogbeide@forest.edu

B-111

ACCEPTABILITY OF A PILOT MOTHERS IN MOTION PROGRAM

Mei-Wei Chang, PhD,[1] Susan Nitzke, PhD,[2] Roger Brown, PhD,[2] Indira Arya, MS,[3] Bonnie Childs, BSN[4] and Judith Anderson, DrPH[5]

[1]College of Nursing, Michigan State University, East Lansing, MI; [2]University of Wisconsin-Madison, Madison, WI; [3]Detroit Department of Health and Wellness Promotion, Detroit, MI; [4]Genesee County Health Department, Genesee, MI and [5]Michigan Department of Community Health, Lansing, MI.

The pilot Mothers In Motion (P-MIM) program, a randomized control trial, was designed to help low income overweight and obese mothers aged 18 to 34 years prevent weight gain. The P-MIM utilized a theory-based culturally sensitive interactive DVD (IDVD) featuring peers from the target audience and a series of peer support group teleconferences (PSGT) that were led by educators at collaborating Women, Infants, and Children programs. Together, these intervention components delivered and reinforced intervention messages on healthy eating, physical activity, and stress management. We conducted 3 focus groups with12 intervention participants to evaluate the acceptability of P-MIM. IDVD. The main reason for watching the IDVD was seeing the actions and outcomes of their peers. Mothers said that IDVD was culturally appropriate to low-income overweight and obese mothers and did not find anything offensive. All participants said that they had watched all chapters in the IDVD but many failed to send in quizzes that were used to assess compliance, mainly because they had misplaced the quiz papers. Many said that they watched the IDVD with their children and used the information and examples to make positive lifestyle behavioral changes with their children. Suggestions to improve the IDVD included providing more content and more examples of goal setting. PSGT. Participants liked the PSGT environment because of anonymity, confidentiality, privacy, feelings of support and the enjoyment of talking to other mothers. The reason to call in for PSGTs was the desire to talk to their peers with similar life experiences. Reasons not to call included time conflict, concerns about cell phone cost, and forgetting. They suggested providing 2 different call-in times on different days. Results of this formative research have been used to refine the design of a full trial MIM.

CORRESPONDING AUTHOR: Mei-Wei Chang, PhD, College of Nursing, Michigan State University, East Lansing, MI, 48203; changme@msu.edu

B-113

INFLUENCES ON PATIENTS' ADHERENCE TO POST-SURGERY REHABILITATION PROGRAMS

Chris Lonsdale, PhD[1] and Derwin K. Chan, BSc[2]

[1]School of Physiotherapy and Performance Science, University College Dublin, Dublin, Ireland and [2]Loughborough University, Loughborough, United Kingdom.

Background: Grounded within the tenets of self-determination theory (Deci & Ryan, 1985), the purposes of this study were to examine the influences of autonomy support from healthcare professionals (social environmental factors) and pre-injury self-determined motivation towards sport (personal factors) on athletes' adherence to their rehabilitation programs following knee reconstruction surgery.

Method: Retrospective data were collected from 115 amateur athletes (M age=26.38 yrs; SD=4.23) who had undergone surgery to repair an ACL rupture (Mean post-operation time=1.77 yrs, SD=.80). Questionnaires designed to measure patients' pre-injury sport motivation (Behavioral Regulation in Sport Questionnaire, Lonsdale et al., 2008), perceptions of their healthcare providers' autonomy supportive behaviors (Health Care Climate Questionnaire, William et al, 1996) and their adherence to their rehabilitation programs (Sport Injury Rehabilitation Adherence Scale; Brewer et al., 1995) during the first 6-months post operation.

Results: Multiple regression analysis, F (3,11)=5.92, $p<.01$, R2=.14, revealed that pre-injury sport motivation ($\beta=.28$, $p<.01$) and perceptions of physiotherapists' autonomy support ($\beta=.24$, $p=.04$) were significant predictors of patients' adherence to their rehabilitation programs. Perceptions of physician's autonomy support did not predict adherence.

Conclusions: This study provides preliminary evidence that autonomy supportive behavior by physiotherapists (a social environmental factor) and pre-injury self-determined motivation towards sport (a personal factor) may influence athletes' adherence to their post-knee reconstruction rehabilitation programs. Further research is needed to determine if physiotherapists (and other healthcare professionals) can be taught to be more autonomy supportive and if this change in behavior leads to increased patient adherence to treatment of a variety of medical conditions (e.g., diabetes; Williams et al., 2004), in athletic and non-athletic populations.

CORRESPONDING AUTHOR: Chris Lonsdale, PhD, University College Dublin, Belfield Dublin 4, 4; chris.lonsdale@ucd.ie

B-114

EFFECTS OF INTOXICATION ON NEXT-DAY NEUROCOGNITIVE FUNCTION

Sarah K. Hunt, BS,[1] Alissa Almeida, MPH,[2] Jonathan Howland, PhD, MPH[1] and Damaris Rohsenow, PhD[3]

[1]Boston University School of Public Health, Boston, MA; [2]Boston Medical Center, Boston, MA and [3]Brown University, Providence, RI.

To examine the residual effects of intoxication on next-day neurocognitive performance, we used a double-blinded randomized crossover design. Participants were randomly assigned to a high congener (bourbon) or low-congener (vodka) alcoholic beverage. Each participant performed under alcohol and placebo conditions, one week apart, in counterbalanced order. Performance was assessed by selected tests from the Neurobehavioral Evaluation System (NES3) and the Psychomotor Vigilance Task (PVT), a measure of sustained attention/reaction time.

Participants were male and female college students, ages 21–30, who received enough of an alcoholic beverage in diet cola to raise BAC to 0.10 g% on one night, and a comparable amount of diet cola with alcohol sprinkled on the surface (placebo) on the other night. After an 8-hour opportunity to sleep, participants performed neurocognitive tests about nine hours after peak BAC when BAC had dropped to .01 g%.

NES3: Under alcohol condition, four of the 18 NES3 tests showed significant performance decrements relative to placebo condition: motor function (57.1 ± 6.7 vs. 58 ± 6.5 finger taps, respectively, $p<0.05$); reaction time (387.0 ± 42.2 vs. 379.5 ± 37.8 seconds, respectively, $p<0.05$); visuo-spatial function, (6.5 ± 1.0 vs. 6.2 ± 1.3 maximum span, respectively, $p<0.05$); and attention to visuo-spatial information, (4 ± 1.4 vs. 3.8 ± 1.2, $p<0.05$). Order effects were not significant. With few exceptions, beverage type effects and gender by alcohol interaction effects were not significant.

PVT: Median PVT scores were significantly longer under alcohol vs. placebo condition (229.0 ± 29.9 vs. 220.1 ± 23.8 ms, $p<0.001$). No significant order effects, beverage type, or gender by alcohol interactions were found.

These findings have implications for persons in highly skilled or safety sensitive occupations.

CORRESPONDING AUTHOR: Sarah Hunt, SB Dept., Boston University School of Public Health, 801 Massachusetts Ave, Boston, MA 02118; huntsk@bu.edu

B-115

TOXIC EMOTIONS AND SUBORDINATE MENTAL HEALTH AT WORK: A MODERATING ROLE OF SELF-EFFICACY

Juan Du, Master,[1] Hao-Yi Chen, PhD[2] and Shang-Ren H. Kao, PhD[1]

[1]Department of Psychology, Sun-Yat Sen University, Guangzhou, China and [2]Department of Business Administration, National ChengChi University, Taipei City, Taiwan.

Leadership research in the context of work-related stress and its effect on subordinates opens up a broader area of academic interests and increasing humanistic concerns at work. Peter J. Frost (2003; 2004) treated the harmful leadership behaviors as new stressors and defined them as 'toxic emotions' in the workplace. Ten behaviors are suggested as causes of this toxicity which are measured by 69-item Toxic Emotions Questionnaire (TEQ) in the present study. The purpose of this study is to explore the effects of the toxic emotions on subordinates' mental health conditions measured by the GHQ-28 and job satisfaction. Moreover, the moderating effects of subordinates' self-efficacy are investigated. We collected a valid sample of 282 working adults in China and results found that all the intercorrelations between all 10 toxic behaviors and the GHQ dimensions reached statistically positively significance ($p<.05$) and toxic emotions negatively correlated with the employees' job satisfaction ($\beta=-.19$, $p<.01$). Furthermore, individuals with higher levels of self-efficacy can weakened these negative effects of toxic leader behaviors on followers' metal health ($\beta=.24$, $p<.01$) and on job satisfaction ($\beta=.24$, $p<.01$). It is suggested that the practice of toxic leader's behaviors should be mortified to fit modern-day mainstream theories of leadership.

CORRESPONDING AUTHOR: Hao-Yi Chen, PhD, National ChengChi University, Taipei City, 11605; 94355510@nccu.edu.tw

B-116

EMPLOYER EXPERIENCE ANALYSIS OF A BENEFITS-INTEGRATED HEALTH PROMOTION PROGRAM ON HEALTH AND COST IMPACT

Nicolaas P. Pronk, PhD,[1,2] Jason M. Gallagher, MBA[3,1] and Marcus X. Thygeson, MD[3,1]

[1]JourneyWell, HealthPartners, Bloomington, MN; [2]Research Foundation, HealthPartners, Bloomington, MN and [3]HealthPartners, HealthPartners, Bloomington, MN.

The purpose of this experience analysis was to assess the health and cost impact of a four-year (2003–2006) comprehensive health management intervention that deployed benefits-integrated incentives. The study population included approximately 1,800 benefit-eligible employees and spouses. The program components included a benefit design requiring participants to complete an annual health assessment (HA) and health improvement program in order to receive a preferred benefit. The preferred benefit included a $35 co-pay or $250 deductable differential. Intervention options were made available to all participants at no cost and included 1) health promotion programs by phone, onsite, and in the community, 2) disease management programs for those with diagnosed conditions, and 3) changes in the company environment. Population health impact was measured using the HA data. The HA uses individual change scores by risk factor and also includes an overall scoring metric, the modifiable health potential score (MHPS), which reflects risk factors that are modifiable in nature. A cost-benefit analysis ratio (CBA) was also calculated using multiple regression analysis. Results of the program reflect changes between baseline in 2003 and follow-up in 2006. HA participation was 96%, 95.3%, 89%, and 90.2% in each study year, respectively. Relative improvements were shown for: tobacco use (37%), physical activity (58%), consumption of 5 fruits and vegetables (89%), eating breakfast behavior (15%), being in the obese category for weight (9%), and a population-based reduction in BMI of 0.3 kg/m2. All changes were statistically significant ($P<0.05$). A MHPS improvement of 25.3 points was measured. CBA calculations using parameter estimates were generated by multiple regression techniques (1 MHPS point increase corresponded with a $6.08 lowering of health care costs) and showed a ratio of 3:1.

CORRESPONDING AUTHOR: Nicolaas P. Pronk, PhD, Health Promotion, HealthPartners, Bloomington, MN, 55425; nico.p.pronk@healthpartners.com

B-118

USE OF A MODIFIED DAILY RECONSTRUCTION METHOD AND REPLICATED SINGLE-SUBJECT DESIGN TO PROXIMALLY EVALUATE THE VARIABLES INFLUENCING OBJECTIVELY MEASURED ADOLESCENT BRACE-WEAR

Teresa J. Lynch, MS,[1] Flora Hoodin, PhD,[1] Jennifer Rice, PhD,[1] Ron Lupo, CO, ACC,[2] Michelle Byrd, PhD[1] and Michael Mendelow, MD[3]

[1]Eastern Michigan University, Milford, MI; [2]Wright and Filippis, Rochester Hills, MI and [3]Providence Hospital - St. John Health, Novi, MI.

An important challenge physicians encounter when treating adolescents with moderate scoliotic curves is that the adolescents may not wear the braces as prescribed or long enough for them to be effective. The present investigation used electronic monitoring and temperature probes to investigate whether adolescents were wearing their brace during events identified using a modified Daily Reconstruction Method (DRM) on six randomly selected days over a 14 day period. It was hypothesized that environmental, interpersonal, and intrapersonal variables during the events would be predictive of objective brace-wear across and within participants. Participants were nine ethnically diverse adolescents (two male, seven female) with a mean age of 13.25 years, who provided 47 - 81 events each for a total of 567 observations. Logistic regression across participants indicates adolescents did not wear their braces during the events, 'participating in physical activities,' when with 'parents' and 'non-related adults,' during 'hygiene' activities, and when in a more 'negative mood.' As a group, the adolescents were more likely to wear their braces when they were 'studying at school' and when they felt 'competent.' For individuals, other variables such as 'riding in vehicles,' 'eating,' 'shopping,' and 'comfort' were associated with not wearing their brace. Importantly, this investigation successfully pioneered a replicated single-case design to assess both objectively measured brace-wearing and related environmental, interpersonal, and intrapersonal psychosocial variables within and across participants. This innovative use of DRM methodology is generalizable to research investigating a wide array of adherence behaviors and measuring their predictors proximally in time but without reactivity typically caused by interrupting ongoing activities.

CORRESPONDING AUTHOR: Teresa J. Lynch, MS, Eastern Michigan University, Milford, MI, 48380; tere.lynch@gmail.com

B-119

REVISITING "BEHAVIORAL MEDICINE": A CHANGE IN MEANING AMONG FAMILY PHYSICIANS

Oliver Oyama, PhD, PA-C,[1] Shae Graham Kosch, PhD,[2] Mary Ann Burg, LCSW, PhD,[2] Elizabeth Havens, LCSW, ACSW,[3] Heidi Pomm, PhD,[4] Kathryn Fraser, PhD,[5] Rikki Vidak, LCSW, ACSW,[6] Serena Gui, PhD,[7] Timothy E. Spruill, EdD[8] and Virginia Swartz, DSW, LCSW[9]

[1]University of South Florida/Morton Plant Mease Healthcare, Clearwater, FL; [2]University of Florida, Gainesville, FL; [3]Jacksonville Naval Hospital, Jacksonville, FL; [4]St. Vincent's Hospital, Jacksonville, FL; [5]Halifax Health, Daytona Beach, FL; [6]Pensacola Naval Hospital, Pensacola, FL; [7]Florida Hospital, Orlando, FL; [8]Florida Hospital East, Orlando, FL and [9]University of Florida, Jacksonville, FL.

Background: Family Medicine integrates psychosocial factors (behavioral, psychological, cognitive, social, and cultural) into the comprehensive medical care of patients. Behavioral Medicine as a discipline has represented the contribution of the behavioral sciences to medicine encompassing a broad field of knowledge and practice. This research explores the understanding of the scope and practice of Behavioral Medicine among family physicians.

Methods: Surveys were administered to physicians at nine family medicine residency programs in Florida.

Results: Study participants reported being trained in and using Behavioral Medicine techniques and consultants with their patients. Behavioral Medicine was valued as a useful discipline and collection of techniques for the prevention and treatment of physical and psychiatric illness. Behavioral Medicine techniques were associated with traditional psychotherapeutic interventions and often provided by non psychiatric physicians. Behavioral Medicine was less frequently viewed as a treatment for some common and important clinical conditions such as hypertension, diabetes and coronary artery disease. Some of the physicians included Behavioral Medicine as a type of "Complementary and Alternative Medicine."

Conclusions: Behavioral Medicine was not strongly identified as a distinct discipline, which could jeopardize its perceived value and use. Evidenced-based application of Behavioral Medicine interventions to both psychological and biomedical conditions should be emphasized in Family Medicine training.

CORRESPONDING AUTHOR: Oliver Oyama, PhD, PA-C, USF/MPM Family Medicine Residency Program, Clearwater, FL, 33755; oliver.oyama@baycare.org

B-120

SELF-EFFICACY, COGNITIVE COPING STRATEGIES, FEAR-AVOIDANCE COGNITIONS, AND ILLNESS BELIEFS: TOWARDS A PARSIMONIOUS THEORY OF COGNITIVE PROCESSES IN CHRONIC WIDESPREAD PAIN

Aleid de Rooij, PT,[2] Martijn Steultjens, PhD,[1,2] Petra Siemonsma, MSc,[2] Joke Vollebregt, MD,[2] Leo Roorda, MD,[2] Willemine Beuving, MD[2] and Joost Dekker, PhD[1,2]

[1]Rehabilitation Medicine, VU University Medical Centre, Amsterdam, Netherlands and [2]Jan van Breemen Institute, Amsterdam, Netherlands.

Background: Cognitive concepts, such as self-efficacy, cognitive coping strategies, fear-avoidance cognitions and illness beliefs, play an important role in chronic pain. Although generally considered to be distinct entities, these concepts might in fact be highly overlapping.

Aim: (1)To establish the interrelationships between self efficacy, cognitive coping strategies, fear-avoidance cognitions and illness beliefs in patients with chronic widespread pain (CWP) and (2) explore the possibility of a reduction of these cognitions into a more limited number of domains.

Methods: Baseline measurement data of a prospective cohort study of 138 patients with CWP were used. Explorative factor analysis was used to study the associations between cognitive concepts.

Results: Low to moderately strong correlations were observed. Factor analysis resulted in three main factors: 1) negative emotional cognitions, 2) active coping reactions, and 3) control beliefs and expectations of chronicity.

Conclusion: The wide variety of cognitive concepts in CWP can be reduced to a limited set of three main factors: negative emotional cognitions, active coping reactions, and control beliefs and expectations of chronicity. The results from this exploratory study may contribute to a more parsimonious theory of cognitive factors in CWP.

CORRESPONDING AUTHOR: Joost Dekker, PhD, Rehabilitation Medicine, VU University Medical Centre, Amsterdam, 1007 MB; j.dekker@vumc.nl

B-121

STRESS, DEPRESSION, CORTISOL, AND PERIODONTAL DISEASE

Amy E. Rosania, BA,[1] Kathryn G. Low, PhD,[2] Cheryl M. McCormick, PhD[3] and David A. Rosania, DMD[4]

[1]Psychology, Bates College, Lewiston, ME; [2]Psychology, Bates College, Lewiston, ME; [3]Department of Psychology, Brock University, Ontario, ON, Canada and [4]Periodontology, Private Practice, Dover, NH.

Stress and depression may affect the onset and progression of periodontal disease. No published studies, however, have established whether the mechanisms by which stress and depression influence periodontal disease are physiological, behavioral, or both. This cross-sectional pilot study explored the associations between psychological factors, markers of periodontal disease, psychoneuroimmunologic variables, and behavior. This study included 45 periodontal patients referred by three dentists. Participants completed composite health, chronic stress, depression, and demographic questions, and salivary cortisol was measured. A hygienist assessed the magnitude of periodontal disease. Stress, depression, and salivary cortisol (CORT) were correlated with measures of periodontal disease. In addition, oral care neglect during periods of stress and depression was associated with loss of attachment and missing teeth. After controlling for age, family history, and brushing frequency, depression and CORT were significant predictors of number of missing teeth. A similar model also predicted number of teeth with clinical attachment loss (CAL) > 5 mm. Stress and depression may be associated with periodontal destruction through both behavioral and physiological mechanisms. Addressing psychological factors such as depression may be an important part of periodontal preventive maintenance.

CORRESPONDING AUTHOR: Kathryn G. Low, PhD, Psychology, Bates College, Lewiston, ME, 04210; klow@bates.edu

B-122

THE HIPPOCAMPUS AND RISK FACTORS FOR DEPRESSION IN HEALTHY YOUNG ADULTS: PRELIMINARY FINDINGS

Katarina Dedovic, PhD Candidate,[1] Annie Duchesne, MSc,[1] Sonja Damika Lue, MSc Candidate,[1] Julie Andrews, PhD Candidate,[1] Simona Efanov, BSc,[1] Veronika Engert, PhD[1,2] and Jens C. Pruessner, PhD[1]

[1]Douglas Mental Health University Institute, Montreal, QC, Canada and [2]Montreal Neurological Institute, Montreal, QC, Canada.

The Hippocampus (HC) has been the focus of several studies on affective disorders. While some have suggested that reduced HC volume may represent a vulnerability for developing depression, the prevalent thought in the field is that HC volume decrease is a result of illness burden. In the present study, we aim to investigate whether there are differences in HC volume between individuals with subclinical levels of depression and control subjects.

Thirty (15 women) non-smoking healthy university students have been recruited to date. Subclinical levels of depression were assessed via standard depression inventories, for eg. Beck Depression Inventory (BDI) and Montgomery-Asberg Depression Rating Scale (MADRS). Additional psych questionnaires were given. All participants were scanned using 1.5 T MRI scanner.

While in women no significant associations between HC volume and depression scores were found (all $p>.068$), in men, we observed significant negative correlations between HC volume and depression scores on all depression measures (all $p<.03$). In men, similar negative associations emerged between HC volume and psychological stress variables (all $p<.023$). In women, significant positive correlations were found between left HC volume and the NEO extraversion facet as well as negative correlations between right HC volume and Psychological Stress Questionnaire (PSQ) scores (all $p<0.03$)

The results to date seem to indicate that hippocampal volume may be a vulnerability factor for men, and that this may be stress-related. It may be possible that in women, other brain regions such as PFC may be involved in vulnerability to develop depression, while HC abnormalities could be the result of the illness. In addition, perhaps, with respect to women, initial changes may be more evident on a functional level. To this end, these subjects have also undergone functional MRI scan to assess their attentional bias and stress reactivity. The results are to be analyzed and will be presented in future conferences.

CORRESPONDING AUTHOR: Katarina Dedovic, PhD Candidate, Douglas Mental Health University Institute, Verdun, QC, H4H 1R3; katarina.dedovic@mail.mcgill.ca

B-123

IMPACT OF RESVERATROL ON FUNCTIONAL OUTCOME AND NEURONAL DEGENERATION FOLLOWING CEREBRAL ISCHEMIA IN RATS: ANALYSIS OF DOSE-RELATED AND LONG-TERM POST-ISCHEMIC EFFECTS

Catrinel Girbovan, PhD Candidate, Lucie Morin, BA Psychology and Hélène Plamondon, PhD

Psychology, University of Ottawa, Ottawa, ON, Canada.

Recent findings have suggested that resveratrol, a natural polyphenolic compound present in grapes and red wine, can exert protective effects on neuronal damage induced following cerebral ischemia. At present, effects were observed using pharmacological doses and short reperfusion intervals following brain injury, and the impact of resveratrol on behavioral impairments remained largely unknown. Thus, the present study aims to determine dose-related effects of chronic administration of resveratrol prior to global ischemia on behavioral and cognitive impairments and hippocampal neuronal injury at long-term survival interval (90 days) following ischemia. Male Wistar rats were divided into five groups: sham (saline-treated), sham + resveratrol (10 mg/kg; i.p.), 10-min ischemia (saline), 10-min ischemia + resveratrol (1 and 10 mg/kg; i.p). Resveratrol was injected daily for 21 days prior to global cerebral ischemia induced by four vessel occlusion. Behavioral assessment was initiated three days following reperfusion and included open field activity and assessment of anxiety level in the elevated plus maze. Memory assessments include the object recognition test, while spatial memory was assessed using delayed matching and non-matching to sample tasks in the radial maze as well as a demanding version of the Morris water maze. Immediately following behavioral testing, rat brains are perfused and survival of CA1/CA3 pyramidal cells assessed. Testing is conducted using mixed animal groups. Two-way repeated measures ANOVAs on the behavioral and neuronal data are pending completion of testing for all groups.

CORRESPONDING AUTHOR: Catrinel Girbovan, PhD Candidate, Psychology, University of Ottawa, Ottawa, ON, K1R 7T1; catrinelg@gmail.com

B-124

PERCEIVED DISCRIMINATION AND PATIENTS' REACTIONS TO THEIR HEALTH CARE

Louis A. Penner, PhD,[1,2] Rhonda Dailey, MD,[2] Tsveti Markova, MD,[2] Terrance Albrecht, PhD[1,2] and John F. Dovidio, PhD[3]

[1]Communication and Behavioral Oncology, Karmanos Cancer Institute, Detroit, MI; [2]Family Medicine and Public Health Sciences, Wayne State University, Detroit, MI and [3]Psychology, Yale University, New Haven, CT.

The belief that one is a target of discrimination is associated with poor health. However, mechanisms linking perceived discrimination and health status are not well understood. This study examined how patient responses to medical interactions might mediate the relationship between discrimination and health.

Participants were 165 low-income (50% below $40,000 per year) African-Americans (74% females), who visited a primary-care clinic. They completed a self-report measure of past discrimination, interacted with a physician, and then reported satisfaction with the interaction and their commonality with their physician. Four and 16 weeks later patients completed self-report measures of adherence with physician recommendations and general health. Medical charts of a subset of patients were examined to determine actual incidence of chronic diseases.

Perceived discrimination was significantly negatively associated with patient satisfaction and commonality with their physicians ($p<.01$). Discrimination was also significantly negatively associated with self-reported adherence and health at the four week posttest, health at the 16 week posttest. There was a significant positive association between past discrimination and number of physician-diagnosed chronic diseases (p's$<.05$). Path analyses disclosed that patient adherence significantly mediated the relationship between discrimination and health at the four week posttest (Sobel test=2.01, $p<.05$).

Findings indicate that perceived discrimination has a significant impact on patient reactions to health care providers, adherence, and health status. Meditational analyses suggest that part of the reason for these relationships is that patients who perceive themselves as victims of discrimination are less likely to adhere to physician recommendations, with negative health consequences. Interventions intended to reduce health care disparities should consider patients' personal experiences prior to medical interactions.

CORRESPONDING AUTHOR: Louis A. Penner, PhD, Communication and Behavioral Oncology, Karmanos Cancer Institute, Detroit, MI, 48201; pennerl@karmanos.org

B-125

PEER SELF-INJURY AMONG EARLY ADOLESCENTS

Moya L. Aflonso, PhD, MSPH

Florida Prevention Research Center, University of South Florida, Tampa, FL.

Although the secret or private nature of self-injury has been emphasized, evidence of social contagion indicates self-injury during adolescence may not be as private as the literature would suggest. This paper presents the results of an exploration of peer self-injury (i.e., knowing a friend who had harmed themselves on purpose) within a community sample of adolescents. This study involved a secondary analysis of data gathered using the middle school Youth Risk Behavior Survey (YRBS) from sixth- and eighth-grade students in eight middle schools in a large, southeastern county in Florida (N=1748). This is the first study to empirically examine peer self-injury within a community sample of early adolescents with the goal of informing school-based prevention efforts. Almost one-half of students surveyed (46.8%) knew a friend who had harmed themselves on purpose. Knowing a friend who had self-injured was more common among females, eighth graders, and students in Schools 2 (~52%) and 5 (~61%). Further, compared to youth who were not exposed to peer self-injury, youth exposed were older at first alcohol use, more likely to have ever been cyberbullied, and were more likely to have ever tried self-injury ($p<.01$). CHAID (Answertree, SPSS) analyses revealed the segment at greatest risk of exposure to peer self-injury comprised youth with high levels of substance use and who have self-injured at least once during the past 30 days. Conversely, the segment at least risk of exposure to peer self-injury comprised youth with low levels of substance use, in sixth grade, and with no abnormal eating behaviors.

CORRESPONDING AUTHOR: Moya L. Aflonso, PhD, MSPH, Florida Prevention Research Center, University of South Florida, Tampa, FL, 33617; moyaa@hotmail.com

B-126

FUNCTIONAL HEALTH LITERACY IN A VETERAN POPULATION

Amy K. Silberbogen, PhD,[1,2] Erin Ulloa, PhD,[1,2] Kirstin Brown, BA,[1] Allison Collins, PhD[1,2] and DeAnna Mori, PhD[1,2]

[1]Psychology Service (116B), VA Boston Healthcare System, Boston, MA and [2]Boston University School of Medicine, Boston, MA.

Functional health literacy (FHL) is the ability to obtain, process, and understand health information. Inadequate FHL has been associated with greater use of medical services, less knowledge about medical conditions, poorer health status, and poor compliance with medical regimens. The prevalence rate of inadequate FHL in a general population is estimated to be over 30%; rates are as high as 80% in patients over the age of 60. Very little research has been done with FHL in a veteran population. Veterans represent a unique subsample of the population given the educational requirements for enlistment. Furthermore, the VA population has been found to have poorer health status than the general patient population. The combination of these two factors (health literacy in a medically complicated population) warrants further attention. The aim of the current study is to determine the prevalence of inadequate health literacy in a veteran population. A secondary aim is to explore demographic and psychological correlates of inadequate FHL.

Participants were 205 veterans (191 male) with a variety of chronic medical conditions (mean age=60.5). Each participant completed the Test of Functional Health Literacy for Adults (TOFHLA), Beck Depression Inventory (BDI), and demographics. Participants' scores on the TOFHLA ranged from 32 to 100 (M= 85.98). BDI scores ranged from 0 to 47 (M=12.31). Scores reflective of inadequate FHL were found in 12% of the sample. Age was significantly related to literacy level (inadequate vs. adequate) F(1, 202)=18.49, p=.000, such that older veterans were more likely to have inadequate FHL. Approximately 23% of those over the age of 65 demonstrated inadequate FHL. Results indicate that inadequate FHL is less prevalent in a veteran population than in the general population. Potential reasons for this discrepancy will be explored (e.g., demographic differences, measurement issues), and mood and demographic correlates of FHL will be presented. We will also identify alternative explanations for poor health outcomes among veterans.

CORRESPONDING AUTHOR: Amy K. Silberbogen, PhD, Psychology Service (116B), VA Boston Healthcare System, Boston, MA, MA; amy.silberbogen@va.gov

B-127

CHILDHOOD ASTHMA SEVERITY AND STRESS: THE EFFECTS OF FAMILY STRUCTURE AND QUALITY OF PARENT-CHILD RELATIONSHIPS

Gessica Di Stefano, BA,[1] Jennifer J. McGrath, PhD,[2] Marie Lambert, MD,[3] Jennifer O'Loughlin, PhD[4] and Gilles Paradis, MD[5]

[1]Psychology, Université de Montréal, Montreal, QC, Canada; [2]Psychology, Concordia University, Montreal, QC, Canada; [3]Department of Pediatrics, CHU Sainte-Justine and Université de Montréal, Montreal, QC, Canada; [4]Department of Social and Preventive Medicine, Université de Montréal, Montreal, QC, Canada and [5]Department of Epidemiology, Biostatistics and Occupational Health, McGill University, Montreal, QC, Canada.

Pediatric asthma is a respiratory illness that affects 13% of children. Stress has been found to exacerbate asthma symptoms. In children, a commonly reported stressor is related to family structure and parents' marital status. Previous research has found that children living with a single mother had a 50% greater risk of asthma than those living in a two-parent household. The aims of the current study were to evaluate whether family structure and the parent-child relationship are associated to asthma severity in children. As part of the Quebec Child and Adolescent Health and Social Survey, children aged 9, 13, and 16 years who reported having asthma (N=160) were included in this study. Family structure was categorized into three groups using previously defined criteria: 1)Children in intact families, living in the same household as both biological parents; 2)Children in single-parent families, living primarily with one biological parent; 3)Children in mixed families, living primarily with one biological parent and that parent's new partner. Parent-child relationship was based on nine self-report questions rating the quality of time spent with parents (e.g., compliment you, have good times together). Asthma severity was based on frequency and severity of wheezing symptoms as reported by parents. Children from intact families were found to have significantly fewer asthma severity symptoms compared to children from mixed families. Quality of the parent-child relationship was not related to asthma severity, nor did it buffer the effects of family structure. Future studies should consider how socioeconomic status, stress, and environmental conditions vary as a function of family structure, which in turn may affect asthma severity.

CORRESPONDING AUTHOR: Gessica Di Stefano, BA, Psychology, University of Montreal, Montreal, QC, H1r3k4; gessicadistefano@gmail.com

B-128

EATING DISORDERS & ORAL HEALTH: TRAINING FOR DENTAL PROFESSIONALS

Rita D. DeBate, PhD, MPH,[1] Herb Severson, PhD,[2] Tracy Shaw, MA,[2] Marissa Zwald, MS[1] and Steve Christiansen, MS[3]

[1]Community & Family Health, University of South Florida, Tampa, FL; [2]Deschutes Research, Inc, Eugene, OR and [3]Intervision Media, Eugene, OR.

Although oral health care providers are key health professionals in secondary-prevention of eating disorders (ED), the majority are not engaged in assessment, referral, and case management. The purpose of this innovative pilot project was to increase dental professionals' capacity to deliver ED specific secondary-prevention. A web-based training program was developed using Information-Motivation-Behavioral Skills model, Diffusions of Innovations, and Brief Motivational Interviewing frameworks. The intervention combined both didactic and skill-based objectives using video vignettes, graphics, and text to train oral health providers on types of eating disorders and oral health effects, the role of the oral health care provider, and skills in identification of oral findings of eating disorders, patient approach, delivering patient-specific oral treatment, and referral. Using a convenience sample of dental and dental hygiene students(n=66), a pre/post-test design was used to assess short-term outcomes and feasibility. Results revealed statistically significant improvements from pre- to post-intervention across all variables including: self-efficacy (p<.001); knowledge of oral manifestations from restrictive behaviors (p<.001) and purging behaviors (p<.001); knowledge of treatment options for patients suspected of engaging in disordered eating behaviors (p<.001); and attitudes towards secondary prevention of eating disorders (p<.001). Moreover, the majority of participants "strongly agreed" or "agreed" that the program provided more information (89%) and resources (89%) about secondary prevention of ED than is currently available, and 91% also "strongly agreed" or "agreed" that they would access this program for information regarding secondary prevention of ED. This pilot project addresses an important oral systemic link and is unique in clinical evaluation, patient approach, referral, and oral treatment that connect dentists and mental health professionals to address ED. Funded by NIH(1R43MH080474-01).

CORRESPONDING AUTHOR: Rita D. DeBate, PhD, MPH, Community & Family Health, University of South Florida, Tampa, FL, 33612; rdebate@health.usf.edu

Meritorious Student Poster
B-129

CHILD HEALTH, POVERTY, NEIGHBORHOOD CHARACTERISTICS AND TRAJECTORIES OF MATERNAL DEPRESSION

Mai Thanh Tu, PhD,[1,2] Mark Daniel, PhD[2,3] and Louise Seguin, MD[1,2]

[1]Med Sociale & Preventive, Univ. de Montreal, Montreal, QC, Canada; [2]Centre de recherche, Centre Hospitalier Univ. de Montreal, Montreal, QC, Canada and [3]School of Health Sciences, Univ. of South Australia, Adelaide, SA, Australia.

BACKGROUND: Having an asthmatic child can be stressful and may lead to depressive symptoms in caregivers and health consequences in both parent and child. Low income and neighborhood characteristics may contribute to depressive symptoms. To our knowledge, no longitudinal study has examined the joint influence of child health, income and neighborhood characteristics on maternal depression.

OBJECTIVE: To examine the influence of child asthma, income and neighborhood safety and social problems on trajectories of maternal depression from child age 2 to 8 years, in Quebec, Canada.

METHODS: 1611 mothers from the Quebec Longitudinal Study on Child Development, seen yearly since 1998 (child birth). Measures of maternal depressive symptoms (CES-D), presence of child asthma attacks, income, and perceived neighborhood safety and perceived social problems (drug, alcohol users; 5-pt Likert scale), were available for child ages 2, 4, 6 and 8 years. Analyses of the influence of child asthma, income and neighborhood characteristics on depression scores (overall trajectory and at each time point) were performed with PROCTRAJ in SAS.

RESULTS: Mothers showed a 6-year trajectory of low (67%), moderate (28%) or high depressive symptoms (5%). Prolonged low income was associated with a trajectory of moderate symptoms (p<0.01). Overall child asthma attacks did not affect the maternal depression trajectory, but attacks at age 4 and 6 years were associated with high (OR=5.8, CI=5.0–6.6) and moderate depressive symptoms (OR=3.3, CI= 2.5–4.1), respectively. Low neighborhood safety (lowest quartile) and presence of social problems (top quartile) were associated with moderate depressive symptoms (p<0.05).

IMPLICATIONS: These results implicate demographic-, child- and neighborhood-specific factors as influencing maternal depression. Follow-up work includes evaluating associations between these trajectories and cortisol as a stress biomarker in the development of metabolic disorders.

CORRESPONDING AUTHOR: Mai Thanh Tu, PhD, Universite de Montreal, Montreal, QC, H1W 1V1; mai.thanh.tu@umontreal.ca

B-130

ADOLESCENTS' SPIRITUAL COPING AND QUALITY OF LIFE: THE IMPACT OF A CHRONIC ILLNESS

Jacqueline Brown, PhD,[1] Alexis Suozzi, BS,[1] Sara Jordan, PhD[1] and Laura Stoppelbein, PhD[2]

[1]University of Southern Mississippi, Hattiesburg, MS and [2]University of Mississippi Medical Center, Jackson, MS.

Although 83 percent of Americans report that religion is an important part of their life (Gallup Poll, 2006), very little is known about how religious beliefs impact interpretation of stressful events. Even less is known about how adolescents' religious beliefs affect their interpretation of stressful events. It is expected adolescents with a chronic illness will experience greater distress and thus need to employ more coping strategies (including religious coping) than their healthy peers (Kazak et al., 2004; Landolt et al., 2003). This study aimed to explore spiritual coping and its impact on quality of life in both healthy and chronically ill adolescents.

Healthy adolescents (n=98) and those with chronic illnesses (n=81), including sickle cell disease, cancer, and diabetes, were recruited through undergraduate students at the University of Southern Mississippi, a pediatric clinic at the University of Mississippi Medical Center, and the Diabetes Foundation of Mississippi, respectively. Adolescents with cancer had been diagnosed for at least six months. All adolescents were between the ages of 13 and 17 (M=15.08, SD=1.41 years) and self-identified as 58% female, 62% African-American, 36% Caucasian, and 94% religious (97 percent of these stated they were Christian).

A series of moderated multiple regressions were performed to determine if health status moderated the relationship between general spiritual coping and both physical and psychosocial quality of life. Results for physical and psychosocial quality of life as the criterion yielded significant simple slopes for the healthy group, t=-2.401, p=.017 and t=2.31, p=.022; respectively. However, the simple slopes for the chronic illness group were not significant, t=-.009, p=.99 and t=-.62, p=.538; respectively. These results indicate that higher levels of spiritual coping were associated with higher levels of psychosocial and physical QOL, but only for the healthy group.

CORRESPONDING AUTHOR: Alexis Suozzi, BS, University of Southern Mississippi, Hattiesburg, MS, 39402; alexis.suozzi@usm.edu

B-131

YOUTHS' VISION CORRECTION & SELF-ESTEEM: GENDER DIFFERENCES IN A RANDOMIZED CLINICAL TRIAL EXAMINING SPECTACLE & CONTACT LENS WEARERS' SELF-CONCEPT

Mitchell J. Prinstein, PhD,[1] Jeffrey J. Walline, PhD[2] and Lisa A. Jones, PhD[2]

[1]Psychology, UNC Chapel Hill, Chapel Hill, NC and [2]Optomertry, Ohio State University, Columbus, OH.

Approximately 100 million Americans (33%) require vision correction for nearsightedness; the majority of individuals begin vision correction in youth. Investigators rarely have considered whether wearing spectacles may be associated with psychological consequences among youth; however, past theory and research suggests that youths' physical appearance is strongly associated with peer victimization and with self-concept, particularly among girls.

This research results from unique collaboration between psychology and optometry to examine associations between vision correction and youth's self-esteem in several domains (e.g., physical, social, global). Goals included 1)the examination of concurrent associations between children's spectacle attributions/satisfaction and their self-concept; and 2)a randomized clinical trial examining youths' assignment to spectacles vs. contact lens wearing conditions as a prospective predictor of self-concept trajectories.

Participants included 484 nearsighted youth (59% female; 53% ethnic minority) aged 8–12 years recruited from optometry clinics in Boston, Houston, Columbus, Memphis, and Forest Grove, OR. Children completed baseline measures of spectacle satisfaction and Harter's scale of self-concept, then were randomly assigned to wear contact lenses or spectacles for three years. Assessments were repeated every six months. Study retention was 97%.

Results revealed remarkably strong concurrent associations between youths' spectacle attributions/satisfaction and domains of self-concept (r=.19 to .44; all ps <.05). Results from multiple-group (by gender) latent curve analyses of self-concept trajectories revealed a significant three-way interaction. For girls with negative baseline attributions/dissatisfaction, assignment to the contact lens condition was associated with increasing trajectories of self-concept in the domains of physical appearance, social acceptance, and global self esteem. No significant associations were revealed for boys.

CORRESPONDING AUTHOR: Mitchell J. Prinstein, PhD, UNC Chapel Hill, Chapel Hill, NC, 27599-3270; mitch.prinstein@unc.edu

B-132

AUDIENCE SEGMENTATION: IDENTIFYING UNIQUE SEGMENTS OF YOUTH AT RISK FOR SELF-INJURY

Moya L. Aflonso, PhD, MSPH

Florida Prevention Research Center, University of South Florida, Tampa, FL.

Effective behavior change programs utilize some form of audience segmentation. Audience segmentation is, at its most basic level, a method for dividing a large group into subgroups based on specific criteria. There are many statistical tools that can assist the (ie.behavioral scientist in segmenting their audience, including, but not limited to, multiple regression, factor analysis, multidimensional scaling, cluster analysis, latent class analysis, and chi-squared automatic interaction detection (CHAID). CHAID represents a powerful statistical tool for segmenting audiences—one that is easy to use and results in interpretable output for the lay individual. CHAID is a predictive cluster analysis approach that groups participants based on responses to a categorical or polytomous dependent variable. CHAID has been used in the fields of marketing and public health. It can handle a large number of variables and is designed to identify potentially meaningful patterns in a dataset. CHAID represents an iterative, chi-square test of independence based analysis of the interactions among predictor variables. CHAID can and has been used within the context of multiple public health issues, including, for example, self-injury among adolescents. This presentation will demonstrate the power of CHAID using 2005 Youth Risk Behavior Survey Results from a sample of middle school youth residing in a Southeastern county in Florida. An indicator of peer self-injury (i.e., knowing a friend who had self-injured) will be used to demonstrate the ability of CHAID to identify significant interactions among predictors of peer self-injury. Unique segments of youth who have been exposed to this form of peer contagion will be identified.

CORRESPONDING AUTHOR: Moya L. Aflonso, PhD, MSPH, Florida Prevention Research Center, University of South Florida, Tampa, FL, 33617; moyaa@hotmail.com

B-133

THE EFFECT OF RELAXATION RESPONSE TRAINING ON STRESS AND ANXIETY IN HIGH SCHOOL STUDENTS

Marilyn Wilcher, PhD, Megan M. Foret, MA, Rana Chudnofsky, MEd, Laura M. Malloy, MSW, Mariola Milik, MS, MA and Elyse R. Park, PhD

Benson-Henry Institute for Mind Body Medicine at Massachusetts General Hospital, Boston, MA.

Objective: To examine the psychological and behavioral effects of an 8-session relaxation response curriculum on 10th and 11th grade students at Needham High School in Massachusetts. Methods: This is a non-randomized cohort study with a wait list control. All 11th (intervention) and 10th (control) graders at Needham High School were offered the relaxation response training. Eligibility criteria included: being able and willing to provide informed assent and having guardian informed consent. The intervention consisted of 8 twice weekly 45 minute relaxation response curriculum trainings. The following measures were given before the intervention and at 4-week follow-up: Perceived Stress Scale (PSS), State-Trait Anxiety Inventory (STAI), Health-Promoting Lifestyle Profile II: Stress Management subscale (HPLP-II: Stress) and the Rosenberg Self Esteem Scale (SES). Nonparametric statistics were conducted to examine 1) 10th and 11 graders' baseline profiles, 2) pre-post test scores with 11th graders, and 3) post tests scores between the intervention and control groups. Results: Forty-seven 10th graders and 60 11th graders enrolled in the study and completed the baseline survey. Forty-four 10th graders and 43 11th graders completed the 8-session follow-up survey. After the intervention 11th graders showed significant improvements on the PSS, STAI-S, STAI-T, and HPLP-II: Stress (all p<.01), compared to the 10th grade wait list control group. 11th graders reported significantly lower PSS scores (mean pre=20.4, mean post=17.1; p<.001), STAI-S (mean pre=44.8, mean post=39.4; p<.01), STAI-T (mean pre=45.5, mean post=42.2; p<.05) and increased stress management behaviors (HPLP-II: Stress) (mean pre=1.9, mean post=2.4; p<.001). Conclusion: Following an 8-session relaxation response curriculum 11th graders reported significantly lower levels of perceived stress and anxiety and increased stress management behaviors, compared to scores of 10th grade wait list control and to their own scores prior to the intervention.

CORRESPONDING AUTHOR: Megan M. Foret, MA, Benson-Henry Institute, Boston, MA, 02114; mforet@partners.org

B-134

EXAMINATION OF DIFFERENCES IN MENTAL HEALTH OF MEDICAL PATIENTS DIFFERING IN ATTITUDES TOWARDS MENTAL HEALTH CARE

Luz M. Garcini, MA, Tracey Ledoux, PhD, Michael D. Barnett, MS and Jeff Baker, PhD

Baker Rehabilitation and Disability Research, University of Texas Medical Branch, Galveston, TX.

Although depression and anxiety are prevalent conditions among the medically ill, studies suggest that medically ill patients often have negative attitudes towards mental health care (Katon, 2003; Kunik, et al., 2005). These negative attitudes not only interfere with patients' intentions to seek treatment (Roness, et. al., 2005; Van Voorhoees, et. al., 2003), but also increase their risk for experiencing distress. The present study investigated differences in mental health of 227 medical patients differing in attitudes towards mental health care. To assess these differences, a one-way between-groups MANOVA was conducted. Dependent variables included anxiety, depression, general mental health and perceived mental health. The independent variable was attitudes towards mental health care. Two groups (positive attitudes, n=122; negative attitudes, n=105) were formed based on a median split of scores on the Inventory of Attitudes towards Seeking Mental Health Services (IASMHS), which assesses three facets of mental health care attitudes (psychological openness, help seeking propensity, and indifference to stigma). Results indicated a significant difference between patients with positive attitudes and those with negative attitudes on the combined dependent variables, F=4.0, p=.004; Wilks' Lambda=.93; partial eta squared=.07. Univariate post hoc analyses showed the group differences were on anxiety, F=16.06, p=.000, partial eta squared = .07, depression, F=7.85, p=.006, partial eta squared =.03, and general mental health F= 7.84, p=.006, partial eta squared = .03. Mean scores indicated patients with negative attitudes reported higher levels of anxiety and depression, as well as lower levels of general and perceived mental health than those with more positive attitudes. Discussion includes consideration of findings in terms of relevance of patient's attitudes to mental health care, limitations of the study and directions for future research.

CORRESPONDING AUTHOR: Luz M. Garcini, MA, University of Houston Clear Lake, Sugar Land, TX, 77479; lgarcini@righttodream.org

B-135

A MODEL OF CAREGIVER BURDEN, COPING, AND ADJUSTMENT

Amy M. Goetzinger, PhD[1] and Tamera B. Murdock, PhD[2]

[1]Medical Psychology, Department of Psychiatry & Behavioral Sciences, Duke University Medical Center, Durham, NC and [2]Department of Psychology, University of Missouri-Kansas City, Kansas City, MO.

Caregiving tasks are often perceived as physically, emotionally, socially, and financially demanding, and the caregiving role is recognized as an activity associated with major strain. The purpose of this study was to examine relationships between sources of objective and subjective caregiving burden and caregivers' and recipients' physical and psychological wellbeing. Participants were 1,226 primary caregivers matched to recipients (age 65+) from the 1999 wave of the NIA National Long Term Care Survey. A comprehensive model was developed with half the data using an SEM approach, framed using Lazarus and Folkman's model of stress and coping. Caregiver demographic variables were included as control variables. Latent variables included caregiver burden, recipient health and functional status, caregiver coping, and caregiver and recipient physical and psychological wellbeing. Once developed, the model was confirmed using the second half of the data. Examination of fit statistics suggested adequate model fit, $\chi2(98)=258.78$, p<.001, CFI=.92, RMSEA=.05, with a significant portion of variance explained for caregiver subjective burden (R2=.61) and caregiver wellbeing (R2=.76). Results indicated that caregivers' appraisals of stress (i.e., subjective burden) fully mediated the relationship between objective burden and caregiver wellbeing (indirect effect: b=-.17). Objective burden was positively associated with subjective burden (b=.38), which was negatively associated with caregiver wellbeing (b=-.87). In addition, caregiver subjective burden fully mediated the relationship between recipient wellbeing and caregiver wellbeing (indirect effect: b=.33). These findings link sources of caregiver burden to caregivers' overall adjustment and provide a compelling rationale for developing targeted coping skills interventions (i.e., cognitive reappraising of stress, targeted behavioral coping) to better address caregivers' needs.

CORRESPONDING AUTHOR: Amy M. Goetzinger, PhD, Medical Psychology, Department of Psychiatry & Behavioral Sciences, Duke University Medical Center, Durham, NC, 27710; amy.goetzinger@duke.edu

B-136

THE ASSOCIATION OF THE WORKING ALLIANCE WITH PATIENTS' POST-CONSULTATION SATISFACTION AND ENABLEMENT IN PRIMARY CARE

Alan Chan, PhD and Leora Swartzman, PhD

Psychology, University of Western Ontario, London, ON, Canada.

Increasingly, the concept of patient-centredness is advocated as a key aspect of effective health care. However, theoretical and methodological heterogeneity have resulted in inconsistent findings between patient-centredness and patient outcomes. We developed a new measure, the Primary Care Working Alliance Inventory (PCWAI), to assess patient-centredness. The PCWAI is based on working alliance theory and integrates both cognitive and affective dimensions of the patient-provider relationship; specifically, the extent to which the patient and provider agree about: (1) treatment goals, (2) treatment tasks, and (3) the quality of the interpersonal bond. The validity of the PCWAI was examined using the theoretical framework proposed by Hall, Roter, and Katz (1988).

METHOD: A total of 293 adult primary care patients consulting with a family physician were recruited to complete a post-consultation survey that included a measure of the working alliance (PCWAI), patient satisfaction (Medical Interview Satisfaction Scale; MISS-21), and patient enablement (Patient Enablement Index; PEI).

RESULTS: Multivariate regressions found higher PCWAI scores associated with higher PEI ($\beta=0.19$, p<.05) and MISS-21 ($\beta=0.67$, p<.001) scores. The MISS-21 was associated with all three dimensions of the alliance (Goals ($\beta=0.23$, p<.001), Tasks ($\beta=0.30$, p<.001), and Bond ($\beta=0.33$, p<.001) while the PEI was only associated with the Tasks dimension ($\beta=0.16$, p<.05).

CONCLUSION: The strength of the working alliance was associated with greater patient satisfaction and enablement. Further, an unequal reciprocity was found with task-relevant aspects of the alliance (i.e., Tasks) related to both the instrumental (i.e., PEI) and affective (i.e., MISS-21) patient outcomes, while the interpersonal aspects of the alliance (i.e., Bond) was only related with affective outcomes. The pattern of results is consistent with Hall et al.'s theoretical framework. These results highlight the importance for patients and physicians to find common ground on how to best to treat the patient's illness.

CORRESPONDING AUTHOR: Alan Chan, PhD, University of Western Ontario, Toronto, ON, M5G 2K5; adfchan@gmail.com

Meritorious Student Poster
B-137

A STRESS MANAGEMENT INTERVENTION IMPROVES LUNG FUNCTION, PERCEIVED STRESS, AND MOOD IN CHILDREN WITH ASTHMA

Kristin A. Long, BA,[1] Megan A. Ganley, BS,[2] Linda J. Ewing, PhD, RN[2] and Anna L. Marsland, PhD, RN[1]

[1]Psychology, University of Pittsburgh, Pittsburgh, PA and [2]University of Pittsburgh Medical Center, Pittsburgh, PA.

Evidence supports a bidirectional relationship between stress and asthma exacerbations in children, raising the possibility that interventions designed to reduce stress may improve both psychosocial quality of life and disease course. To date, no studies have examined the benefits of a comprehensive stress management intervention on disease-related outcomes. Here, we present results of a pilot stress management intervention for 8–12 year olds with asthma. Data were obtained from 2 cohorts: Cohort 1 (n=11) was recruited from the community and attended intervention sessions at an urban university. Cohort 2 (n=7) was school based, recruiting from an African American charter school. The "I Can Cope" intervention included six individual 1-hr sessions, focusing on psychoeducation about asthma, stress, and emotions; problem-solving and coping skills training; and biofeedback-assisted relaxation training. Pre- and post-intervention measures included questionnaires (Perceived Stress Scale, Children's Depression Inventory (CDI), Profile of Mood States (POMS), and a satisfaction survey) and spirometry, a measure of lung function. Cohort 1 showed significant pre- to post-intervention improvements in lung function (p=.007), decreases in perceived stress (p=.001) and depressed mood (POMS, p=.006), and a tendency towards decreased anxious mood (POMS, p=.16). Similar results were observed in Cohort 2, with pre- to post-intervention decreases in perceived stress (p=.04), depression (CDI, p=.016), and anxious, depressed, and angry mood (POMS; p=.04, p=.05, p=.05, respectively). Cohort 2 participants showed a trend towards improved lung function (p=.10) and reported an improvement in perceived wellness (p=.02) following the intervention. For both cohorts, satisfaction surveys were uniformly positive. These findings provide initial evidence that stress management training may be of clinical benefit to children with asthma. A randomized controlled trial of the benefits of the "I Can Cope" intervention is warranted.

CORRESPONDING AUTHOR: Kristin A. Long, BA, University of Pittsburgh, Pittsburgh, PA, 15260; longka@upmc.edu

B-138

TESTING THE USEFULNESS OF PERFORMANCE PERFECTIONISM THEORY ACROSS CULTURES: DOES NEGATIVE SELF-ORIENTED PERFORMANCE PERFECTIONISM IN THE US AND JAPAN PREDICT DEPRESSIVE SYMPTOMS ACROSS TIME?

William Tsai, BA,[1] Edward C. Chang, PhD,[1] Katherine E. Hazlett, BA,[1] Rita Chang, BS,[1] Kavita Srivastava, BS,[1] Jean M. Kim, BS,[1] Ritika Singh, BBA[1] and Lawrence J. Sanna, PhD[2]

[1]Psychology, University of Michigan, Ann Arbor, MI and [2]Psychology, University of North Carolina, Chapel Hill, NC.

The present study examined cultural variations on perfectionism (Chang, 2006) in 168 European American and 151 Japanese college students. Results of between-groups analyses on perfectionism provided support for the general notion of self-enhancement in the West and self-criticism in the East. Perfectionism, especially negative self-oriented perfectionism, was found to be associated with concurrent and prospective (2 months later) depressive symptomatology in both cultural groups. Implications of these findings for future research are discussed.

CORRESPONDING AUTHOR: William Tsai, BA, University of Michigan, Ann Arbor, MI, 48104; willtsai@umich.edu

B-139

HOW DO I LOOK? THE MIRROR OF SELF-OBJECTIFICATION AND MINDFULNESS

Amber Zabinsky, BA Psychology and Lori Lange, PhD

University of North Florida, Jacksonville, FL.

Are people who are conscious of their physical appearance less in tune with their internal states and more likely to have poorer body satisfaction and health? Self-objectification theory suggests that focusing on observable body attributes from a third person's perspective (How do I look?), rather than focusing on nonobservable body attributes from a first person's point of view (How do I feel?), may lead to reduced awareness of internal states, poorer body satisfaction, and reduced physical and psychological health (Noll & Fredrickson, 1998; Mercurio & Landry, 2007). Mindfulness is the practice of ongoing internal state awareness that is openly perceived without distortion (Brown & Kasser, 2005) and excessive concern with physical appearance may be associated less mindfulness of internal states. A web survey of 677 college students (75% females, 75% Caucasian, M=21.86, SD=5.78) investigated the relationships between body appearance importance, body satisfaction, mindfulness, and health using the Body Image & Body Change Inventory, PHQ-15, HSCL, and the Frieburg Mindfulness Inventory. Results show that outward focus on appearance is related to poorer body satisfaction, lower mindfulness, and reduced health, even when controlling for participant characteristics and covariates. Results support the self-objectification theory and relate the effects of self-objectification to mindfulness, a novel finding that has promise for further research. Although a causal connection cannot be established with this correlational design, perhaps interventions that teach the practice of mindfulness will result in less preoccupation with appearance and overall improved body satisfaction and health.

CORRESPONDING AUTHOR: Amber Zabinsky, BA Psychology, Psychology, University of North Florida, Jacksonville, FL, 32224; a.zabinsky@unf.edu

B-140

BODY IMAGE DISCREPANCY AND NEGATIVE AFFECT IN WOMEN'S EVERYDAY LIVES: AN ECOLOGICAL MOMENTARY ASSESSMENT EVALUATION OF SELF-DISCREPANCY THEORY

Kristin E. Heron, MS and Joshua M. Smyth, PhD

Syracuse University, Syracuse, NY.

Body image discrepancy [BID] is associated with an array of psychological and physical health outcomes including disordered eating, weight control attempts and obesity. Self-discrepancy theory [SDT] provides a theoretical framework for how BID influences health. Discrepancies result from differences between beliefs about one's actual attributes and those one either ideally wants to possess (actual:ideal [A:I]) or feels one ought to (should) possess (actual:ought [A:O]). SDT predicts different types of negative affect are produced depending on the nature of the discrepancy individuals experience (A:I vs. A:O). Specifically, A:I discrepancy results in depressed (but not anxious) affect, and A:O discrepancy produces anxious (but not depressed) affect. Evidence for SDT is largely based on laboratory, often between-person, studies; no empirical examination of within-person discrepancies in daily life has been conducted. This study used Ecological Momentary Assessment [EMA] to test the momentary affective consequences of discrepancies experienced in the natural environment. College women (n=63; mean age=19) completed 5 daily assessments of negative affect and BID on palmtop computers for 2 weeks. Results indicated momentary A:I BID was associated with concurrent depressed affect ($p<.01$), but only marginally related to anxious affect ($p=.09$). The pattern was reversed for A:O BID, which predicted concurrent anxious ($p<.05$), but not depressed affect ($p=.45$). A dose-response relationship was seen, with increases in the magnitude of BID corresponding to a greater likelihood of experiencing depressed and anxious affect. This is the first study to assess BID and negative affect in everyday life with EMA, and provides novel empirical support for SDT. Dynamic fluctuations in BID have predictable, real-world consequences for women's experience of depressed and anxious affect. As depression and anxiety can influence behavior, these findings can inform the development of health behavior interventions that target maladaptive self-beliefs and negative affect.

CORRESPONDING AUTHOR: Kristin E. Heron, MS, Syracuse University, Syracuse, NY, 13210; keheron@syr.edu

B-141

DEVELOPMENT OF A DYNAMIC ASSESSMENT FOR ASTHMA IMPACT: INCORPORATING CONSUMER AND ASTHMA SPECIALIST FEEDBACK

Diane M. Turner-Bowker, PhD,[1] Renee N. Saris-Baglama, PhD,[1] Michael A. DeRosa, MA[1] and Paulsen A. Christine, PhD[2]

[1]QualityMetric Incorporated, Lincoln, RI and [2]American Institutes for Research, Concord, MA.

Research was conducted as part of a broader initiative to develop a single comprehensive ASTHMA-CAT assessment that combines asthma impact, asthma control, and generic health-related quality of life (HRQOL) measures in one administration, yielding patient, provider, and aggregate feedback reports.

Following preliminary research (review of asthma tools, focus groups), adults with asthma and clinical specialists evaluated asthma impact item bank content and feedback reports.

Twenty adults self-reporting asthma (30% controlled, 35% somewhat controlled, 35% uncontrolled) from the Boston area participated in one-on-one cognitive interviews to evaluate item content for interpretation, comprehension, memory recall, decision/response processes, content coverage, and layout; and to review a patient feedback report. Most items and instructions were worded clearly, easily understood, and included a relevant recall period. Comprehension was reduced when items contained multiple concepts, vague terms, words with dual meaning, or perceived irrelevant content. Interpretation improved when specific examples were provided. Replicating prior results, participants had difficulty correctly interpreting scores shown in a graph, and preferred a table of possible score levels with associated interpretative text. A clinical advisory panel (N=12) reviewed focus group and cognitive testing results; confirmed the adequacy of content coverage in the impact bank (focusing mostly on physical, role, and sleep domains); recommended item-level additions and revisions; and suggested report improvements (e.g., include hyperlink to full score history).

Next steps include administering the final set of items (N≈1,000 asthmatics) to establish calibrations for the dynamic component of the ASTHMA-CAT. Reports will be programmed, and the final tool will be fielded in a clinical sample to evaluate its validity and responsiveness.

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CORRESPONDING AUTHOR: Diane M. Turner-Bowker, PhD, Research & Development, QualityMetric Incorporated, Lincoln, RI, 02865; dtbowker@qualitymetric.com

B-142

ROLE STRESS AND STRAIN IN ADULTS WITH RECENT ONSET OF RHEUMATOID ARTHRITIS

Mary-Beth Coty, PhD[1] and Elizabeth Scarbrough, MSN, ARNP[2]

[1]Nursing, University of Louisville, Louisville, KY and [2]Rheumatology, University of Kentucky, Lexington, KY.

Aim: The purpose of the study is to examine the relationships among multiple roles, role stress, key psychosocial variables (generalized self-efficacy, social support), and role strain in chronically ill men and women with recent onset of rheumatoid arthritis (RA).
Background: A substantial literature exists that has examined role stress and strain in healthy adults however, less is known about how these variables are affected in men and women with recent onset of RA.
Methods: This is a correlational/comparative study. A preliminary analysis of the data was conducted on 45 subjects (69% female) with recent onset of RA (mean age=54 years; average length of time since dx=2.4 years). Subjects completed questionnaires that assessed role stress (i.e., role conflict, role overload, and role balance), social support, generalized self-efficacy, and role strain (i.e., depressive symptoms, positive and negative affect, and life satisfaction). Correlation coefficients were calculated to determine the nature of the relationships among the variables and a multiple regression analysis was conducted with the index of role strain regressed on role stress, social support, and generalized self-efficacy.
Findings: Role stress was positively related to role strain and inversely related to generalized self-efficacy and social support. Generalized self-efficacy and social support were inversely related to role strain. In a multiple regression analysis, both social support and generalized self-efficacy as well as role stress together predicted 61% of the variance in role strain [F(3,40)=25.53, p<.001] with role stress and generalized self-efficacy adding unique as well as common variance.
Conclusion: The findings from this study suggest that the degree of role strain is largely influenced by perceptions of role stress, feelings of being self-efficacious, and the availability of support received from others.

CORRESPONDING AUTHOR: Mary-Beth Coty, PhD, Nursing, University of Louisville, Louisville.edu, KY, 40202; m0coty02@louisville.edu

B-143

AN EXAMINATION OF THE PSYCHOSOCIAL IMPACT OF FAMILIAL DYSAUTONOMIA ON THE FAMILY

Emily J. Sonenshein, MA, Bret Boyer, PhD, Sanjay Nath, PhD and Marc Tannenbaum, PsyD

Institute for Graduate Clinical Psychology, Widener University, Philadelphia, PA.

Familial dysautonomia (FD) is a rare, chronic, Jewish genetic disease that results in the dysfunction of the sensory and autonomic nervous systems. Although much research has been conducted with families of children with other, more prevalent chronic illnesses regarding the psychosocial experience of having and being a family member with these illnesses, no research has been conducted with families of children with FD. This qualitative research study utilized a modified grounded theory approach to examine the salient psychosocial experiences of families of individuals with FD. Using semi-structured interviews, the researcher interviewed six FD families, including the mother (mean age=53.83), father (mean age=55.33), the individual with FD (mean age=22.00), and one unaffected sibling (mean age= 22.83). All family members were Caucasian and upper-middle class. Fifteen core themes (the limited sibling relationship, the unaffected sibling as the third parent, the marital relationship being enhanced as well as limited by FD, long-term care issues for the child with FD, the limitations FD has imposed on the individual with FD as well as on the family, the benefits of having a family member with FD, the parents' reaction to the diagnosis, the feeling that others cannot relate to the experience of having a family member with FD, the feeling of the unaffected siblings that their parents paid more attention to their siblings with FD than to them, experiences with the healthcare system, the schools' ability to accommodate the special needs of the children with FD, respite care issues, and feeling a lack of support from the Jewish community) emerged from the interviews. These themes highlight for health practitioners the salient experiences and dynamics that exist for FD families. Individual, couples, family, and supportive group therapy are suggested as therapeutic interventions for families who are struggling to cope with living with FD and ideas for future research are discussed.

CORRESPONDING AUTHOR: Emily J. Sonenshein, MA, Institute for Graduate Clinical Psychology, Widener University, Philadelphia, PA, 19147; ejsonenshein@gmail.com

B-144

RELIGIOUS VS. DEMOGRAPHIC PREDICTORS OF DEPRESSION IN TWO RELIGIOUS COMMUNITIES

David H. Rosmarin, MA, Elizabeth J. Krumrei, MA, Kenneth I. Pargament, PhD and William H. O'Brien, PhD

Psychology, Bowling Green State University, Toronto, OH.

A recent search of the literature located over 620 articles on the topic of religion and depression (Rosmarin, Pargament, & Mahoney, in press). In general, religious beliefs and practices have been associated with lower levels of depression, however the overall relationship of religious factors to depression appears to be relatively low (Smith, McCullough, & Poll, 2003). Thus, it is possible that religion is no more predictive than common demographic factors, and that the extant literature has overemphasized the importance of religion in depressive symptomatology. We therefore sought to compare the extent to which religious and demographic variables each predicted clinical levels of depression in two religious communities. A community-based sample of n=234 Jewish and n=120 Christian individuals was recruited for participation in an on-line survey. Survey items measured demographic factors (age, gender, highest level of education, income, current employment, and number of children), religious beliefs and practices (belief in God, importance of religion, and frequency of prayer, religious service attendance and religious study), and depression (measured by the Center for Epidemiological Studies Depression Scale; CES-D; Radloff, 1977). The sample was split into depressed and non-depressed groups using a clinical cut-off of 16 on the CES-D (Nezu, Ronan, Meadows & McClure, 2000). Between-group comparisons of religious and demographic factors were conducted. Surprisingly, there were no significant between-group differences observed for any of the demographic items (F's ranging from .07 to 2.3, ns). By contrast, significant between-group differences were observed for all of the religious items (F's ranging from 4.0 to 17.0, p's ranging from .05 to .005) such that lower levels of depression were associated with higher levels of religious involvement. This finding suggests that in religious communities, religious factors may be of greater salience to depression than demographic factors.

CORRESPONDING AUTHOR: David H. Rosmarin, MA, Psychology, Bowling Green State University, Toronto, ON, M6B1T7; drosmar@bgsu.edu

B-145

LESSONS LEARNED FROM AN EVIDENCE-BASED BULLYING PREVENTION PROGRAM

Sally Black, PhD, RN

Health Services, Saint Joesph's University, Philadelphia, PA.

True bullying is the sign of social pathology. Bullying is social injustice where individuals with social power are allowed to hurt individuals with lesser power. Community acceptance of bullying promotes violence among the group and impacts the health of individual members. Bullies may progress to more severe behaviors, including criminal activity. Victims suffer from anxiety, depression, suicide, and eating disorders. The Olweus Bullying Prevention Program (BPP) is an internationally recognized, evidence-based program. Goals of the program are to change social norms that passively support bullying in schools. Initial studies in Scandinavia showed 50% less bullying. Subsequent studies have not enjoyed the same levels of success. Lack of replicability may be due to weaknesses in the recommended instrument, the Bully Victim Questionnaire (BVQ) or the fact that intentional behavioral change normally takes two years to achieve. Shorter studies would not capture long-term changes. This presentation reports implementation of BPP in 15 schools over two years and the tools used. Half of the schools used BVQ and the other half used a newer survey, the Philadelphia Bullying Survey (PBS). Lunches and recesses were monitored for observational data. Bullying increased 9.0% in BVQ schools and 28.3% in PBS schools. There was virtually no change in observational data. Responses by victims and bystanders showed trends in the desired direction. There was an increase in the victims who reported using classroom meetings, ignoring the bully, and talking to the bully. Forty percent more bystanders reported using classroom meetings. While results did not show significant improvements in overall bullying, lessons learned from the project help to suggest future directions. Telling an adult, the most common school-based recommendation, empowers adults, not victims. While some victims did tell adults, victims preferred methods that provided self-empowerment. Addressing the underlying imbalance of power, respecting culture of the target population, and normal childhood development may help improve future bullying prevention programs.

CORRESPONDING AUTHOR: Sally Black, PhD, RN, Health Services, Saint Joesph's University, Philadelphia, PA, 19131; sblack@net-thing.net

B-147

EFFECTIVENESS OF TREATING CHRONIC PAIN IN AN INTERGRATED PRIMARY CARE SETTING

Chad Morrow, MA, Craig J. Bryan, Psy D, Kathryn K. Appolonio, Psy D and Donald McGeary, PhD

Wilford Hall Medical Center, San Antonio, TX.

Current empirical literature is robust with examples of how mental health difficulties can impair the ability to cope with chronic pain. Potential impact of chronic pain is great and may involve negative self-talk and/or cognitions, sleep disturbances, lost time at work, which can in turn lead to distress, decreased activity, loss of motivation, and increased isolation. Further, this cycle can be predictive of higher pain intensity, lower tolerance of painful procedures, higher analgesic use, and greater psychological distress and psychosocial dysfunction. Given the difficulties that many chronic pain patients face, and the significant number of chronic pain patients seen in primary care settings, this study's purpose was to examine the effects of brief, behaviorally-oriented treatment on negative mood and functioning associated with chronic pain. Patterns of symptomatic and functional change associated with Behavioral Health Consultant (BHC) intervention in an integrated family medicine clinic were investigated among 71 primary care patients referred for chronic pain. Patients were referred to the BHC by primary care providers (PCPs) upon identification of psychosocial health issues, and participated in 1 to 4 brief, behaviorally-oriented appointments in primary care. The Behavioral Health Measure-20 (BHM) was completed at each appointment. Results indicated that in 2 to 4 BHC appointments, patients demonstrated clinically-meaningful improvement/significant changes in well-being, symptoms, and global mental health, but not life functioning. Patterns of clinical improvement lend further support for the effectiveness of BHC interventions with chronic pain patients on subjective well-being, emotional symptoms, and global mental health. Future studies should examine the long term effects of well-being, improved symptoms, and global mental health on life functioning in patients who have received these interventions.

CORRESPONDING AUTHOR: Chad Morrow, MA, Wilford Hall Medical Center, San Antonio, TX, 78236; morrowc@lasalle.edu

B-148

PREVENTING PROGRESSION TO CHRONICITY IN LOW BACK PAIN: A 12-MONTH FOLLOW-UP STUDY

Melanie A. Greenberg, PhD,[1] Mark Slater, PhD,[3,4] Anne Weickgenant, PhD,[1] Dennis Wahlgren, MA,[1] Steven Garfin, MD,[6] John Webster, MD[5] and Joseph H. Atkinson, MD[2,4]

[1]Research Service, VA San Diego Healthcare System, San Diego, CA; [2]Psychiatry Service, VA San Diego Healthcare System, San Diego, CA; [3]Scottsdale Clinical Research Institute, Scottsdale Healthcare, Scottsdale, AZ; [4]Dept of Psychiatry, University of California, San Diego, CA; [5]Dept of Orthopedics, Naval Medical Center, San Diego, CA and [6]Dept of Orthopedic Surgery, University of California, San Diego, CA.

This RCT compared Behavioral Medicine (BM) to a supportive therapy Attention Control(AC) in preventing transition to chronic pain and disability in first onset, suB-acute Low Back Pain (LBP) patients with pain of 6–10 weeks, recruited from an active duty military population. Both Intent to Treat(N=67) and Completer samples (N=50) were analyzed. Completers completed all 4 one-hour therapy sessions and follow-up 6 months post-pain onset, the cutoff for chronicity. BM was a structured intervention comprising education, self-management training and graded activity increases. Primary outcome was proportion “Recovered,” using pre-established cutoffs signifying absence of pain and disability at 6 months. Chi square analyses found "Recovered" rates of 52% for BM versus 31% for AC in the ITT sample (p=.09) and 54% for BM versus 23% for AC among Completers (p=.02). At 12 months, there was lower pain magnitude in the "Recovered", compared to the "Chronic" group(DDS: p<.0001), better function(SIP: p<.001) and higher QWB life quality (p=.033). “Recovered” participants also had greater functional work status recovery at 12 months (Recovered: 96% Full Return & 4% Partial Return; Chronic Pain: 61% Full Return, 18% Partial Return, and 21% Medical Discharge, respectively; p=.03). Results suggest early intervention using BM rehabilitation at the subacute stage may reduce risk of transition to chronic pain/disability and improve longer-term work outcomes.

CORRESPONDING AUTHOR: Melanie A. Greenberg, PhD, Research Services, VA San Diego Healthcare System, San Diego, CA, 92130; melanie.greenberg@va.gov

B-149

NUMBER OF PTSD SYMPTOMS MEDIATES THE RELATIONSHIP BETWEEN NUMBER OF TRAUMATIC LIFE EVENTS AND PAIN CATASTROPHIZING

Kristin L. Somar, MA, Jessica Gerfen, MS and John Burns, PhD

Psychology, Rosalind Franklin University of Medicine and Science, North Chicago, IL.

Chronic pain patients who report traumatic life events tend to appraise and cope with pain poorly. This relationship may be facilitated by the development of PTSD symptoms subsequent to traumatic events. That is, traumatic events could lead to poor coping, such as pain catastrophizing, through the detrimental effects of PTSD symptoms. 249 chronic pain patients completed the Life Events Questionnaire, PTSD Checklist, and the Pain Catastrophizing Scale. Number of traumatic life events correlated with pain catastrophizing (r=0.11, p=0.04) and PTSD symptoms (r=0.34, p<0.001). PTSD symptoms also correlated with pain catastrophizing (r=0.52, p<0.001). Regressions showed that PTSD symptoms were a significant predictor of pain catastrophizing with traumatic life events controlled (beta=0.54, p<0.001). Number of traumatic life events did not account for unique variance in pain catastrophizing with PTSD symptoms controlled (R2 change=0.003, p=0.30). The amount of mediation was significant (Sobel=4.74, p<0.001). Thus, occurrence of traumatic life events for chronic pain patients may undermine optimal pain coping through the harmful influence of PTSD symptoms.

CORRESPONDING AUTHOR: Kristin L. Somar, MA, Psychology, Rosalind Franklin University of Medicine and Science, North Chicago, IL, 60064; kristin.somar@my.rfums.org

B-150

DO INDIVIDUALS WITH FIBROMYALGIA REACT DEFENSIVELY TO THE PSYCHOGENIC ACCUSATION INHERENT IN THE DIAGNOSTIC LABEL?

Naomi J. Gryfe, MSc and Leora C. Swartzman, PhD

Department of Psychology, University of Western Ontario, London, ON, Canada.

OBJECTIVE: The literature suggests that patients with medically unexplained syndromes feel profoundly delegitimized when an organic explanation cannot be found for their symptoms. Moreover, there is the view that these individuals are resistant to psychologically-based treatments because accepting them amounts to a tacit admission of being ‘guilty’ of having a psychogenic illness. This assumption was tested by contrasting the illness models and reported treatment experience of individuals with fibromyalgia (a diagnosis that frequently carries an undertone of psychogenic accusation) with those of individuals with rheumatoid arthritis, a ‘bona fide’ organic condition.
METHOD: 193 patients with FM and 176 patients with rheumatoid arthritis (RA) completed a series of questionnaires assessing their views of their condition (i.e., The Illness Perception Questionnaire- Revised) and also indicated the treatments they had used for their condition and their effectiveness.
RESULTS: Compared to patients with RA, patients with FM were more likely to endorse psychological causes (e.g., personality, stress) for their condition (F=9.71, p<.05) and reported having used more psychological management approaches (e.g., psychotherapy, stress management) (F=13.83, p<.01). The psychological treatments were rated as equally effective by the two patient groups. Moreover, the FM patients reported psychological approaches to be as effective as narcotic pain medication, and more effective than non-medication based physical treatments (e.g. chiropractics, massage) (t=2.45, p<.05).
CONCLUSION: These findings indicate that, rather than adopting a defensive stance against the ‘psychogenic accusation’ often carried by the fibromyalgia diagnostic label, individuals with fibromyalgia, as a group, tend to acknowledge both the psychosocial influences on, and the effectiveness of psychologically-based management approaches for their condition.

CORRESPONDING AUTHOR: Naomi J. Gryfe, MSc, Department of Psychology, University of Western Ontario, London, ON, N6A 3K7; ngryfe@uwo.ca

B-151

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY-2 PROFILES OF INTERSTITIAL CYSTITIS PATIENTS

Rachel L. Fazio, MS, Steve Akeson, PsyD and Christopher Neumann, PhD

School of Professional Psychology at Forest Institute, Springfield, MO.

This project concerns the MMPI-2 profiles of Interstitial Cystitis (IC) patients. Although not well-know, IC actually affects 1.3 million Americans, mostly women. The main symptom is debilitating bladder pain. There is no cure. The treatments, of which there are many, focus on managing the symptoms of the disease. Many patients with IC are trivialized by the current biomedical model of medicine and are delegitimatized and told they have psychological disorders. Despite this, no study has ever been conducted to evaluate the MMPI-2 profiles of those with IC. This study, currently being conducted, will examine the MMPI-2 profiles of approximately one hundred IC patients and compare the profiles to those diagnosed with other chronic pain syndromes as well as those who somaticize and malinger. A unique MMPI-2 profile is expected to be found given the unpredictable and largely uncontrollable symptom pattern of this disorder.

CORRESPONDING AUTHOR: Rachel L. Fazio, MS, School of Professional Psychology at Forest Institute, Brookline, MO, 65619; rfazio@forest.edu

B-152

SELF-EFFICACY AND CATASTROPHIZING MEDIATE THE RELATIONSHIP BETWEEN SOCIOECONOMIC STATUS AND MIGRAINE-RELATED DISABILITY

Elizabeth K. Seng, BA and Kenneth Holroyd, PhD

Psychology, Ohio University, Athens, OH.

Migraine is a disabling disorder that disproportionately affects individuals of lower socioeconomic status (SES). Differences among individuals with high and low SES in self-efficacy (confidence to self-manage migraine) and pain catastrophizing (thought patterns characterized by rumination and magnification) may help explain the relationship between SES and migraine-related disability/quality of life.

232 individuals with severe migraine completed questionnaires measuring disability/quality of life (The Migraine-Specific Quality of Life Questionnaire; Jhingran et al., 1998), self-efficacy (Headache Management Self-Efficacy Scale; French, et al., 2000), and pain catastrophizing (Pain Catastrophizing Scale; Sullivan, Bishop & Pivik, 1995). Several series of regression analyses were run to test for mediation of the relationship between SES and disability by self-efficacy or pain catastrophizing using the Baron and Kenny (1986) approach.

In this sample, higher SES was associated with lower disability, t(208)=-3.188, p<.01, r=-.22. Higher self-efficacy was associated with higher SES, t(208)=3.310, p<.01, r=.22, and was associated with lower disability in the presence of SES, t(207)=-3.288, p<.01, partial r=-.223. The relationship between SES and disability diminished in the presence of self-efficacy, t(207)=-2.444, p<.05, partial r=-.17, indicating partial mediation of the relationship between SES and disability. Higher catastrophizing was associated with lower SES, t(208)=-2.616, p<.05, r=-.18, and higher disability when controlling for SES, t(207)=6.961, p<.001, partial r=.44. Catastrophizing also partially mediated the relationship between SES and disability, t(207)=-2.234, p<.05, partial r=-.153.

Individuals of lower SES experience greater migraine-related disability than individuals of higher SES. This relationship is partially explained by lower confidence to manage migraine and greater catastrophic thought patterns experienced by individuals of lower SES.

CORRESPONDING AUTHOR: Elizabeth K. Seng, BA, Psychology, Ohio University, Athens, OH, 45701; es842306@ohio.edu

B-153

CHRONIC PAIN AND OBESITY: FINDINGS FROM A COMMUNITY BASED TWIN REGISTRY

Lisa Johnson Wright, PhD,[1] Carolyn Noonan, MS,[2] Sandra Ahumada, BA,[1] Ellen Schur, MD[2] and Niloofar Afari, PhD[1]

[1]University of California, San Diego, La Jolla, CA and [2]University of Washington, Seattle, WA.

Chronic pain and obesity are two leading chronic health concerns with significant associated disability. While chronic pain and obesity have been associated, the underlying mechanisms remain unclear. The focus of this study was to examine the association of pain and obesity for distinct pain conditions and to determine whether familial influences could explain this relationship. Data from 3,503 twins in the community-based University of Washington Twin Registry were used. Twins self-reported demographic data, current height and weight, low back pain and headache diagnoses, symptoms of chronic widespread pain, and lifetime depression. On average, twins were 31 years old (SD=14.3), 66% were from monozygotic pairs, 62% were female, 86% were White, 40% were partnered, 58% had some college or a college degree, and 38% were overweight or obese. The first set of analyses used the entire sample and controlled for age and gender. Compared with normal weight twins, those who were overweight or obese were significantly more likely to have low back pain (Or=1.7), headache (Or=1.3), and chronic widespread pain (Or=1.7). Twins who reported lifetime depression were also significantly more likely to have low back pain (Or=2.8), headache (Or=2.8), and chronic widespread pain (Or=3.3) than non-depressed twins. The second set of analyses adjusted for familial influences by examining these associations in 382 overweight- or obese-discordant twin pairs. The within-pair effects for low back pain (Or=1.3), headache (Or=1.0), and chronic widespread pain (Or=1.2) were diminished and became non-significant. These findings suggest that familial influences may partially explain the relationship between chronic pain and obesity; however other factors, such as depression, age, and gender may account for more of the variance in this association. Future longitudinal research can help to determine causality and underlying mechanisms.

CORRESPONDING AUTHOR: Lisa Johnson Wright, PhD, University of California, San Diego, La Jolla, CA, 92093-0738; lmjwright@ucsd.edu

B-154

ACCEPTANCE AND FEAR OF MOVEMENT IN PATIENTS WITH CHRONIC PAIN: UNDERSTANDING THE ASSOCIATIONS WITH PAIN SEVERITY AND FUNCTIONING

Monica D. Franklin, PhD,[1] Priti Parekh, PhD[2] and Sonja Batten, PhD[2]

[1]New York Presbyterian - Weill Cornell Medical College, White Plains, NY and [2]VA Maryland Healthcare System, Baltimore, MD.

Acceptance and fear of movement are two psychological constructs that have been examined in chronic pain populations. Acceptance has been associated with decreased emotional distress and physical disability despite being unrelated to pain severity. Fear of movement, in contrast, has been associated with increased pain severity, distress, and physical disability. The interrelation between acceptance and fear of movement, however, is unknown. The aims of the present study were to 1) examine the relationships of acceptance and fear of movement with depression, anxiety, pain, and physical functioning and 2) test whether fear of movement mediates the relationship between acceptance and measures of emotional and physical functioning. Acceptance (Chronic Pain Acceptance Questionnaire), fear of movement (Tampa Scale of Kinesiophobia), depression (Beck Depression Inventory), anxiety (Beck Anxiety Inventory), pain severity (Short-form McGill Pain Questionnaire including visual analog scale and present pain inventory), and physical functioning (Multidimensional Pain Inventory section three) were measured in veterans (n=40) with chronic pain. Acceptance and fear of movement were found to be negatively related (r=-.67, p<.001). Contrary to expectation, acceptance was associated with less severe pain as measured by visual analog scale (r=-.405, p=.01) and present pain inventory (r=-.406, p<.01) and failed to show significant relationships with emotional distress or physical functioning. Fear of movement was associated with greater pain severity (present pain inventory; r=.34, p<.05), depression (r=.33, p<.05) and anxiety (p=.53, p=.001) but was not related to physical functioning. Because acceptance did not show expected associations with emotional and physical measures, we could not test a meditation model. Our results contradict previous findings and suggest that further research regarding the role of acceptance within chronic pain populations is needed.

CORRESPONDING AUTHOR: Monica D. Franklin, PhD, New York Presbyterian - Weill Cornell Medical College, Elmsford, NY, 10523; monicadfranklin@hotmail.com

B-155

QOL AND HEALTH BEHAVIORS IN OLDER ADULTS WITH PAIN AND DEPRESSION

Katy Dondanville, BS[1] and E. A. Janke, PhD[2,1]

[1]Clinical Psychology, Argosy University- Chicago Campus, Chicago, IL and [2]CMC3, Hines VA Hospital, Hines, IL.

Many older adults with enduring pain report depressive symptoms, but little is known about whether the pairing of pain and depression also increases the probability of additional health risk behaviors and negatively affects quality of life (QOL).

A sample of 17,154 respondents aged $\geq$65 years was drawn from the 23 states completing the QOL module of the CDC's 2002 BRFSS. Data were analyzed to examine variation in health behaviors and QOL as a function of reported pain-related activity difficulty and depressive symptoms during the last 30 days. Respondents were sorted into a two pain group (infrequent pain=0–13 pain days; frequent pain$\geq$14 pain days) by two depressive symptoms group (infrequent depression=0–13 depressed days; frequent depression$\geq$14 depressed days) classification, in order to examine relationships among pain/depression status and demographic, QOL, and health behavior characteristics.

Of the present sample, 13,763 (80.2%) were classified with infrequent pain, infrequent depression; 873 (5.1%) were classified with infrequent pain, frequent depression; 1,829 (10.7%) were classified with frequent pain, infrequent depression; and 689 (4.0%) were classified with frequent pain, frequent depression. Co-occurrence of frequent pain and frequent depression was found associated with female gender, lower educational attainment, divorce, underemployment and inability to work ($p \leq .05$). Increasing frequency of depressive symptom days and activity-interfering pain days significantly co-varied with physical inactivity, limited fruit/vegetable consumption, increased rates of smoking, frequent need for specialized equipment and assistance with personal/routine care, poor physical and mental health, frequent anxious symptoms, and frequent loss of sleep and fatigue.

These cross-sectional survey data suggest a dose-response relationship between increasing days with pain-related activity difficulty, increasing days with symptoms of depression, and increased prevalence of impaired QOL and select health risk behaviors in older adults.

CORRESPONDING AUTHOR: Katy Dondanville, BS, Clinical Psychology, Argosy University-Chicago Campus, Chicago, IL, 60601; kdondanvi@gmail.com

B-156

SYMPTOM CLUSTER AS A CORRELATE OF QUALITY OF LIFE IN MULTIPLE SCLEROSIS: PRELIMINARY EVIDENCE

Robert Motl, PhD and Edward McAuley, PhD

University of Illinois at Urbana-Champaign, Urbana, IL.

Researchers have identified a symptom cluster (i.e., three or more concurrent and interrelated symptoms) that includes fatigue, depression, and pain among individuals with cancer. That symptom cluster has further been identified as a correlate of compromised quality of life (QOL) in persons with cancer. This same symptom cluster might exist in people with multiple sclerosis (MS) and provide a partial explanation for compromised QOL in this population. The present study examined (1) the existence of a symptom cluster of fatigue, pain, and depression and (2) its cross-sectional relationship with QOL in a sample of individuals with MS. The sample included 292 individuals with a definite diagnosis of MS. Participants completed the Fatigue Severity Scale, Hospital Anxiety and Depression Scale, and Short-Form of the McGill Pain Questionnaire as measures of fatigue, depression, and pain, respectively. Participants further completed the SF-12 and Satisfaction With Life Scale as measures of health-related and overall QOL, respectively. The data were analyzed using confirmatory factor analysis in Mplus 3.0 and bivariate correlation, cluster analysis, and multivariate analysis of variance (MANOVA) in SPSS, version 15.0. Fatigue, depression, and pain represented a symptom cluster based on moderate-to-strong correlations among scores (r's=.35−.50) and the fit of a single factor measurement model (CFI=1.0, RMSEA=.00). The cluster analysis identified three groups of individuals who differed based on experiences of low, moderate, and high levels of fatigue, depression, and pain. The MANOVA indicated that the symptom cluster had a strong relationship with mental ($\eta2$=.33) and physical ($\eta2$=.30) health-related QOL and overall QOL ($\eta2$=.34). Those with high levels of fatigue, depression, and pain reported the lowest levels of QOL, whereas those with low levels reported the highest levels of QOL. Such findings provide preliminary support for the importance of considering a symptom cluster as a meaningful determinant of compromised QOL in persons with MS and perhaps other chronic disease conditions.

CORRESPONDING AUTHOR: Robert Motl, PhD, University of Illinois at Urbana-Champaign, Urbana, IL, 61801; robmotl@uiuc.edu

B-157

RELATIONSHIPS BETWEEN PAIN, BODY MASS INDEX, AND QUALITY OF LIFE IN INDIVIDUALS WITH SPINAL CORD INJURY

Samuel P. Hetz, BSc,[1] Amy E. Latimer, PhD,[1] Kathleen A. Martin Ginis, PhD[2] and SHAPE SCI Research Group, N/A[2]

[1]Kinesiology & Health Studies, Queen's University, Kingston, ON, Canada and [2]Department of Kinesiology, McMaster University, Hamilton, ON, Canada.

Although elevated body weight and body fat are negatively associated with quality of life (QoL) in able-bodied individuals, a recent study has also suggested that pain may mediate the relationship between body mass index (BMI; a common proxy for body fat) and QoL. The relationships between BMI, pain, and QoL are poorly understood among individuals with chronic spinal cord injury (SCI). Therefore the primary purpose of this study was to examine these relationships in individuals with SCI.

The current study included 150 women and 521 men (N=671) with a mean age of 47.16±13.32 yrs. On average, these individuals were 15.11±11.17 yrs post injury (YPI) and had a self-reported BMI of 25.70±5.68 kg/m2.

QoL was assessed using the 5-item Satisfaction with Life Scale (SWLS; Diener et al., 1985) and the Patient Health Questionaire-9 (PHQ-9); a 9-item measure of depressive symptoms. Pain was assessed using the 2-item pain subscale of the SF-36.

Preliminary analyses revealed that pain was higher, F(5.80)=p<.05, and YPI was lower, F(10.52)=p<.05, in women than men. Therefore both sex and YPI were entered as covariates in the subsequent hierarchical regression analyses.

As expected, BMI was positively associated with depressive symptoms (R2change= .006, B=.08, p<.05) as well as pain (R2change=.006, B=.08, p=.05). Pain was also positively associated with depressive symptoms (R2change=.10, B=.32, p<.001) and negatively associated satisfaction with life (R2change=.04, B=-.20, p<.001). Baron and Kenny's 4-step test for mediation revealed that pain partially mediated the relationship between BMI and depressive symptoms.

Examining the relationships between BMI, pain, and QoL cross-sectionally is the first step in understanding how these variables are interrelated. The mediation pathway should be examined further using a prospective study design. These findings will contribute to the development of interventions aiming reduce pain and improve QoL in individuals with SCI.

CORRESPONDING AUTHOR: Samuel P. Hetz, BSc, Kinesiology & Health Studies, Queen's University, Kingston, ON, K7L3N6; 5sph1@queensu.ca

B-158

DEPRESSION, PAIN, AND HEALTHCARE USE IN PRIMARY-CARE PRACTICES

Bruce Blaine, PhD and Eileen Merges, PhD

St. John Fisher College, Rochester, NY.

Research has documented that people with depression use more healthcare services than do nondepressed people, even when controlling for comorbid illness (Greenberg, et. al., 2003). One explanation for this difference focuses on pain—a common feature of depression. In one study, people who were depressed at time 1 were nearly three times more likely than nondepressed subjects to have chronic back pain at time 2 (Currie & Wang, 2005). Depression also enhances the perception of pain and is a risk factor for the development of pain syndromes. Few studies, however, have tested the role of pain in the explaining the relationship between depression and healthcare use. The present study tested the extent to which pain mediated the effect of depression on healthcare use. Subjects (N=78) were patients from primary care practices in the Rochester, NY area who participated voluntarily. Subjects completed measures of depression and pain (pain intensity, disability, and disruptiveness) via mailed survey. Healthcare costs for each subject, in the form of total medical costs and prescriptions for 2007, were provided by Preferred Care of Rochester. The hypothesis that, net of comorbid illness, pain mediates the relationship between depression and healthcare use was evaluated as a hybrid structural equation model in Amos 5.0. After controlling for comorbid illness, the total standardized effect of depression on healthcare use was small and nonsignificant (β=-.04). This total effect, however, obscured opposing indirect and direct effects. As predicted, there was an appreciable indirect effect of depression, through pain, on healthcare use (β=.20, p<.05). When pain measures were controlled, depression had a marginally significant negative direct effect on healthcare use (β=-.24, p=.09). These findings suggest that pain mediates the impact of depression on healthcare costs and raise the promise of pain management programs for reducing healthcare costs among primary care patients with depression.

CORRESPONDING AUTHOR: Bruce Blaine, PhD, St. John Fisher College, Rochester, NY, 14618; bblaine@sjfc.edu

B-160

RESIDENTIAL SEGREGATION AND EXERCISE AMONG A NATIONAL SAMPLE OF HISPANICS

Jenelle Mellerson, MPH,[1] Dexter Cooper, MPH,[1] Luhua Zhao, MS,[1] Hope Landrine, PhD,[1] Irma Corral, MS, MPH[2] and Yongping Hao, PhD[1]

[1]American Cancer Society, Atlanta, GA and [2]San Diego State University, San Diego, CA.

Physical activity levels among Hispanics are significantly lower than Whites. Demographic variables and acculturation contribute to but do not fully account for these disparities. Neighborhood segregation might be an additional contributor insofar as 82% of segregated Hispanic neighborhoods have no recreational facilities, compared to 38% of White neighborhoods. Hence, we explored the role of segregation in exercise among Hispanics for the first time. Data on exercise among the 8,785 Hispanic adults in the 2000 Behavioral Risk Factor Surveillance Survey were linked to 2000 Census data for 322 cities. Segregation was measured by the Segregation Index (SI). SI indicates the distribution of Hispanics vs. Whites across the neighborhoods of a city, and ranges from 0 to 100, with SI>45=High and SI≤45=Low Segregation. City Poverty was included because poor areas are 4.6 times more likely than middle-class ones to lack recreational resources. Poverty was measured as the percentage of people below the poverty line, with<9.5%=Low, 9.5 -12%=Moderate, and >12%=High Poverty levels. Multi-level modeling was used to predict Any Exercise in the Past Month from individual (age, gender, education) and city-level (Segregation, Poverty) variables. Results revealed that men and the college-educated were significantly more likely than women and the less educated to exercise. In addition, Hispanics residing in High Segregated cities were 25% less likely to exercise than those in integrated cities; those residing in High-Poverty cities were 17% less likely than those in low-poverty cities to exercise. After controlling for the individual-level variables, the relationship between city-poverty and exercise was no longer significant, whereas the relationship between segregation and exercise remained significant. This novel study highlights the need for further investigation of the role of segregated Hispanic neighborhoods in health behavior among Hispanics, and the need for analyses of the built environments of these neighborhoods.

CORRESPONDING AUTHOR: Jenelle Mellerson, MPH, American Cancer Society, Atlanta, GA, 30303; jmellerson@cancer.org

B-161

EXAMINING THE RELATIONSHIP OF SOCIAL SUPPORT AND PERCEPTIONS OF THE SOCIAL ENVIRONMENT IN AN EXERCISE CONTEXT

Jennifer L. Gay, PhD[1] and Ruth P. Saunders, PhD[2]

[1]Univ. of Texas at Houston Health Science Center, Brownsville, TX and [2]Univ. of South Carolina, Columbia, SC.

Social environment constructs are associated with physical activity in adults. Self-determination constructs, such as autonomy, competence, and relatedness, are used to assess the influence of the social environment within exercise contexts. Perceived social support from significant others outside the exercise environment is a common predictor of physical activity in adult populations. Understanding the relationship between social support outside of the exercise environment and the social context within the exercise environment may contribute to explaining the role of social environments in exercise behavior. The primary aim of this study was to explore the influence of external social support on perceptions of the social environment in an exercise context. Adult participants (n=311, 85.6% female, M age=45.8±13.5 years, 68.0% White, 29.0% African-American, M BMI=31.7±7.5) from a multi-site weight loss program completed measures of friend and family social support, rewards from family, psychological need satisfaction, and locus of causality at baseline and 3-month follow-up. At follow-up participants reported a weekly average of 21.7 moderate to vigorous METs. Social environment variables may be influenced by the reason for initiating exercise. Thus, structural equation models were adjusted for locus of causality. In the model (RMSEA= 0.068, 90% CI=0.065, 0.070), standardized coefficients revealed that friend support had a small positive effect on relatedness ($\gamma=0.20$) at baseline. At follow-up, friend support had small positive effects on autonomy ($\beta=0.17$), competence ($\beta=0.15$), and relatedness ($\beta=0.27$). Family support also had small positive effects on autonomy ($\beta=0.26$), competence ($\beta=0.15$), and relatedness ($\beta=0.12$). Support for exercise from friends and family may have an effect on perceptions of the social environment within an exercise context. Future research and interventions should account for the effects of external social support on the immediate exercise environment and implications for maintaining exercise.

CORRESPONDING AUTHOR: Jennifer L. Gay, PhD, Univ. of Texas at Houston Health Science Center, Columbia, SC, 29210; jmgay@mailbox.sc.edu

B-162

EXERCISE, MENTAL HEALTH, AND HEALTH BEHAVIORS IN SINGLE MOTHERS LIVING IN TRANSITIONAL

Mari L. Marsico, BA and Eric G. Benotsch, PhD

Psychology, University of Colorado Denver, Lone Tree, CO.

Single mothers living in transitional housing often experience problems with self-esteem, coping skills, and health behaviors. This research assessed the impact of an exercise program on mental health and health behaviors. Participants (N=34) were low-income single mothers living in transitional housing who were invited to participate in a marathon training program. The training program consisted of 5 months of weekly group runs, training in nutritional choices, and methods for incorporating exercise into their daily lives. Participants completed measures assessing mental health variables (self-esteem, hopelessness, body image) and health behaviors before and after completing the program. A repeated measures MANOVA indicated that participating in the program significantly improved mental health (Wilk's Lambda=0.48, F=19.66, p<.01). Univariate analyses indicated that participating in the program had the greatest benefits for self-esteem and hopelessness (ps<.05). Participants who completed the program also reported significantly better health behaviors (F=6.46, p<.05). The findings suggest that an exercise program may be beneficial for low-income single mothers living in transitional housing.

CORRESPONDING AUTHOR: Mari L. Marsico, BA, Psychology, University of Colorado Denver, Lone Tree, CO, 80124; mlm.grow@comcast.net

B-163

CROSS-CULTURAL COMPARISON OF LACK OF REGULAR PHYSICAL ACTIVITY AMONG COLLEGE STUDENTS: UNIVERSAL VERSUS TRANSVERSAL

Dong-Chul Seo, PhD,[1] Mohammad R. Torabi, PhD,[1] Nan Jiang, MS,[1] Xinia Fernandez-Rojas, PhD[2] and Bock-Hee Park, PhD[3]

[1]Applied Health Science, Indiana University, Bloomington, IN; [2]School of Nutrition, Ciudad Universitaria Rodrigo Facio, San Jose, Costa Rica and [3]Food and Nutrition, Mokpo National University, Mokpo, Korea, South.

Purpose. This study examined cultural influence on personal and behavioral correlates of lack of regular physical activity (PA) among college students in four countries, i.e., the United States, Costa Rica, India, and South Korea.

Method. Public universities were randomly chosen among the four countries. A total of 4,685 students participated in the study during the 2006–2007 academic year with a response rate of 90.1%. The vast majority of the questions on the instrument were adopted from the Youth Risk Behavior Survey and the Behavioral Risk Factor Surveillance System questionnaires. The instrument was translated into Spanish and Korean and then back-translated into English to check accuracy of the translation.

Results. Low fruit consumption was a culture-universal predictor of lack of regular PA. Gender, perceived body weight, vegetable consumption, and cigarette smoking were culture-specific predictors, indicating PA might be a transversal value. Body mass index, binge drinking, and TV/video watching were not associated with lack of regular PA in any of the four countries.

Conclusion. While PA is valued across different segments of many cultures, given the several culture-specific predictors, PA appears to be more transversal than universal. Therefore, culturally sensitive interventions are necessary to promote PA among young adults.

CORRESPONDING AUTHOR: Dong-Chul Seo, PhD, Applied Health Science, Indiana University, Bloomington, IN, 47405; seo@indiana.edu

B-164

WHERE WOULD TEENS GO FOR INFORMATION ABOUT PERFORMANCE ENHANCING SUBSTANCES?

Tonya Dodge, PhD

Psychology, Skidmore College, Saratoga Springs, NY.

Legal performance enhancing substances (PES) are taken by adolescent boys to improve athletic performance or physical appearance. Although legal PES are sold over-the-counter, there is considerable variability with respect to their safety. To help boys make informed decisions about legal PES it is necessary to find out where they would go for information. It is also important to know whether boys are communicating with their parents about legal PES.

Objectives. One objective was to identify where boys would go for information about legal PES. Another objective was to examine the extent to which father-son dyads and mother-son dyads report communicating about legal PES.

Procedures. Participants were recruited from sporting events and a parent-teacher association. Seventy-seven adolescent boys and at least one parent (mothers=55, fathers=46) completed a questionnaire about legal PES. Completed questionnaires were returned via postal mail.

Measures. Boys checked from a list (e.g., internet, physician, mother, father, etc.) where they would go for information about legal PES. Boys were also asked to report whether or not they had tried a legal PES. Four items assessed communication about legal PES where responses ranged from 0=not all to 3=a great deal. This communication scale was completed by fathers, mothers and sons.

Results. Fifteen-percent of boys reported having tried a legal PES. A majority of boys (85%) reported they would consult the internet for information and 68% reported they would consult a physician. Boys reported more willingness to ask fathers (52%) than mothers (36%) about legal PES. Overall, sons reported low levels of communication with their fathers (M=0.70, SD=0.74) and mothers (M=0.67, SD=0.68). These reports mirrored fathers' (M=0.53, SD=0.71) and mothers' reports (M=0.68, SD=0.84).

Conclusions. Results of the study indicate that boys view physicians as a credible source of information about legal PES. Furthermore these data highlight the need for greater communication between parents and sons about legal PES. Implications for prevention efforts and future research are discussed

CORRESPONDING AUTHOR: Tonya Dodge, PhD, Psychology, Skidmore College, Saratoga Springs, NY, 12866; tdodge@skidmore.edu

B-165

PSYCHOMETRIC PROPERTIES OF THE COMMITMENT TO PHYSICAL ACTIVITY SCALE

Rita D. DeBate, PhD, MPH,[1] Jennifer White, PhD[3] and Kelley Pettee, PhD[2]

[1]Community & Family Health, University of South Florida, Tampa, FL; [2]Dept. of Health Promotion, Social & Behavioral Health, University of Nebraska Medical Center, Omaha, NE and [3]School of Health, Physical Education, and Recreation, University of Nebraska Omaha, Omaha, NE.

Objective: To assess the psychometric properties of the Commitment to Physical Activity Scale (CPAS) among girls in 3rd to 5th grade.

Methods: The CPAS consisted of twelve items measuring attitudes and feelings towards physical activity. Minimal adaptations were made to the scale that was developed by Corbin et al. (1987) to account for readability among participants. A total of 932 girls completed the CPAS prior to and following an intervention focused on promoting physical activity among 3rd-5th grade girls. Psychometric measures included internal consistency, factor analysis, and concurrent validity.

Results: Three CPAS factors emerged: valuation of physical activity, attitudes toward physical activity, and motivation to be physically active, with reliability coefficients ranging from .429 to .821. Significant correlations existed between subscales and physical activity frequency, which suggest the concurrent validity of the CPAS.

Conclusions: The CPAS was reliable and valid and in a sample of 3rd-5th grade girls and correlated with physical activity frequency. Factor analysis revealed three interpretable subscales whose components may be used as variables in evaluations of future physical activity interventions. The findings from the current report support the utility of the CPAS in 3rd to 5th grade girls in research studies examining the commitment to physical activity. Measuring overall commitment to physical activity is important as it may serve as a determinant of physical activity maintenance across a girl's lifespan, thereby increasing the potential to experience the beneficial effect of physical activity on health-related outcomes

CORRESPONDING AUTHOR: Rita D. DeBate, PhD, MPH, Community & Family Health, University of South Florida, Tampa, FL, 33612; rdebate@health.usf.edu

B-166

CONVERGENT VALIDITY OF PHYSICAL ACTIVITY QUESTIONNAIRES USED IN MIDDLE-AGED WOMEN

Kelley K. Pettee, PhD,[1,2] James J. McClain, PhD, MPH,[3] Chong D. Lee, PhD,[2] Pamela D. Swan, PhD[2] and Barbara E. Ainsworth, PhD, MPH[2]

[1]Health Promotion, Social & Behavioral Health, University of Nebraska Medical Center, Omaha, NE; [2]Exercise and Wellness, Arizona State University, Mesa, AZ and [3]Office of Preventive Cardiology, National Cancer Institute, Bethesda, MD.

The convergent validity of five commonly used physical activity questionnaires (PAQ) was examined in women, ages 45–65 years, with varying physical activity (PA) levels. Data were obtained from the Evaluation of Physical Activity Measures in Middle-Aged Women study and included 66 women [mean(SD) age: 52.6 (5.4) yrs] who wore an ActiGraph accelerometer daily, for 5 consecutive weeks and completed all PAQs, including: 1). past week (PW) and 2). past month (PM) modifiable activity questionnaire (MAQ), 3). Active Australia (AAUS), 4). Nurses' Health Study and 5). Women's Health Initiative (WHI) PAQs. Spearman rank order correlation coefficients were used to examine the associations of accelerometer data with PAQ summary estimates.

Accelerometer determined median (25th, 75th percentile) time (min/d) spent in moderate-lifestyle [(760–1951 counts (cts)], moderate-walk (1952–5724 cts), vigorous ($\geq$ 5725 cts), and combined moderate and vigorous PA (MVPA$\geq$1952 cts) over 35 days was 66.0 (51.2, 81.3), 23.1 (14.1, 34.6), 0.4 (0.0, 2.3), and 24.3 (15.9, 41.6) min/d, respectively. All PAQs were associated with total cts/d [0.46 to 0.60 (all $p<0.0002$)] and moderate-walk PA min/d [0.43 to 0.58 (all $p<0.001$)], with the strongest associations observed with both MAQ versions. All PAQs, except AAUS, were associated with vigorous PA [0.34 to 0.45 (all $p<0.006$)], with the strongest association observed with WHI PAQ. All PAQs were also associated with combined MVPA min/d [0.45 to 0.60 (all $p<0.0002$)]. The PW-and PM-MAQ were related to moderate-lifestyle PA min/d [0.25 and 0.26, respectively (both $p<0.05$)]. All PAQs demonstrated convergent validity when compared with raw and derived accelerometer determined PA. Current findings support the utility of these PAQs for PA assessment in research studies of middle-aged women.

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CORRESPONDING AUTHOR: Kelley K. Pettee, PhD, Health Promotion, Social & Behavioral Health, University of Nebraska Medical Center, Omaha, NE, 68198-6075; kpettee@unmc.edu

B-167

STRUCTURAL EQUATION MODELING TO TEST THE CONSTRUCT VALIDITY OF THE SF-36 HEALTH SURVEY FOR YOUNG ADULTS

Marjorie A. Pett, MStat, DSW and Jia-Wen Guo, PhD student

College of Nursing, University of Utah, Salt Lake City, UT.

The SF-36 is a widely used health outcome measure that evaluates physical(PCS) and mental(MCS) health in diverse populations. While its reliability and validity have been extensively evaluated using exploratory factor analysis,few studies have used structural equation modeling(SEM)to test the construct validity of the scale's hypothesized first and second order factor structures. The limited SEM research for the SF-36 has raised important concerns about the generalizability and validity of the scale's measurement model. Particularly, both the 8 subscales and the PCS and MCS components, previously stated to be orthogonal, appear to be substantially correlated (de Vet et al., 2005; Güthlin & Walach, 2007; Keller et al., 1998).

The purpose of this study was to test the construct validity of the SF-36 first- and second-order factor structures in a sample of 948 randomly selected university students, ages 18 to 45. An SEM analysis(AMOS, MLE) using the original SF-36 solution indicated that an orthogonal solution was not admissible owing to negative variances. Even when correlating the PCS and MCS(r=.70), we found evidence of model misspecification. While all 35 items loaded significantly on their specified subscales, the goodness of fit statistics indicated model misfit (CMIN/df=6.61, GFI=.79, NFI=.82, CFI=.84, RMSEA=.077,CI=.075–079).

To determine the best model fit for young adults,the sample was divided randomly into 2 groups. Best model fit was first determined for Group 1(n=476); its factor stability was cross-validated in Group 2(n=472). Using the modification indices, additional paths were added and selected error terms for the indicator and latent variables correlated. Considerable improvement in the model fit was obtained (CMIN/df=2.26, GFI=.88, NFI=.89, CFI=.93, RMSEA=.052,CI=.048–056). Cross-validation supported stability of the generated model (CMIN/df=2.20, GFI=.88, NFI=.88, CFI=.93, RMSEA=.051, CI=.047–055).

The implications of these findings for using the SF-36 in young adult populations as well as a presentation of the final model will be included in the discussion.

CORRESPONDING AUTHOR: Marjorie A. Pett, MStat, DSW, 511 College of Nursing, University of Utah, Salt Lake City, UT, 84112-5880; marge.pett@nurs.utah.edu

B-168

PREDICTING THE PHYSICAL ACTIVITY INTENTION-BEHAVIOUR PROFILES OF ADOPTERS AND MAINTAINERS USING THREE SOCIAL COGNITION MODELS

Ryan E. Rhodes, PhD,[1] Ronald C. Plotnikoff, PhD[2] and Kerry S. Courneya, PhD[2]

[1]Exercise Science, Univeristy of Victoria, Victoria, BC, Canada and [2]Physical Education and Recreation, University of Alberta, Edmonton, AB, Canada.

Background: Most of the population have positive intentions to engage in physical activity (PA) but fail to act; thus, the need to understand successful translation of intention into behaviour is warranted in order to focus intervention efforts.

Purpose: To examine constructs of the transtheoretical model, theory of planned behaviour, and protection motivation theory as predictors of physical activity intention-behaviour profiles across six-months in a Canadian workplace sample.

Methods: Employees from three large organizations in the province of Alberta (N=887) completed a baseline survey relating to their demographic and medical background, PA, and social-cognitive constructs. A total of 611 participants completed a second assessment six months later.

Results: Participants were grouped by five profiles: nonintenders (PA below guidelines time 1, no intention time 1, PA below guidelines time 2), unsuccessful adopters (PA below guidelines time 1, intention time 1, PA below guidelines time 2), successful adopters (PA below guidelines time 1, intention time 1, PA at or above guidelines time 2), unsuccessful maintainers (PA at or above guidelines time 1, intention time 1, PA below guidelines time 2), and successful maintainers (PA at or above guidelines time 1, intention time 1, PA at or above guidelines time 2). Using discriminant analyses, perceived importance and concern for PA (cognitive processes, instrumental attitude, perceived severity) distinguished nonintenders from the other four profiles, self-management and self-regulation of the behaviour (behavioural processes, self-efficacy) distinguished successful adopters from unsuccessful adopters, while control over constraints (cons, perceived control, self-efficacy) were the key discriminators of successful maintainers from unsuccessful maintainers.

Conclusion: The results provide useful information for intervention campaigns and demonstrate a need to consider adoption and maintenance profiles.

CORRESPONDING AUTHOR: Ryan E. Rhodes, PhD, Exercise Science, University of Victoria, Victoria, BC, V8W 3N4; rhodes@uvic.ca

Meritorious Student Poster

B-169

THE EXERCISE AND MOOD RELATIONSHIP: THE DUAL-MODE MODEL AND OPPONENT-PROCESS THEORY IN ASSIGNED AND SELF-SELECTED SPEEDS

Sarah M. Markowitz, MS[1,2] and Shawn M. Arent, PhD[1]

[1]Rutgers, the State University of New Jersey, New Brunswick, NJ and [2]Psychiatry, Massachusetts General Hospital, Boston, MA.

Background: The question of a dose-response relationship between acute exercise and mood is unresolved. Two of the most important theories regarding the effects of exertion level on mood are the opponent-process theory and the dual-mode model.

Purpose: This study sought to elucidate the nature of the relation between exertion level and mood improvement in the theoretical context of the dual-mode model and opponent-process theory by testing mood changes in highly active and sedentary college-age participants. This study also examined whether activity level predicted mood response to exertion level.

Methods & Results: 37 college students between the ages of 18 and 26 engaged in 20 minutes of treadmill walking or running at 5% below, 5% above, and at their lactate threshold (LT), and at a self-selected speed, during which mood was evaluated before, during, and after the task using the Activation-Deactivation Adjective Checklist and the State Anxiety Inventory. The results indicate some support for the dual-mode model in the context of opponent-process theory. Participants experienced worsening of mood in-task at exertion above LT in the form of increased anxiety, which was not the case in the other three conditions, in which anxiety decreased in-task. Participants also experienced post-task mood improvement compared to baseline; for lower levels of exertion, mood improvement occurred immediately post-task, and for exertion above LT, mood improvement was delayed. Active participants did not experience more mood benefit at higher levels of exertion than inactive participants.

Conclusions: This study suggests that maximal mood benefit in- and for 30 minutes post-task is achieved through exercise at or below LT, either assigned or self-selected, in both active and inactive individuals. Exercise above LT, on the other hand, produces comparable mood improvement after 30 minutes post-task, preceded by worsening of mood in-task and during 30 minutes of recovery.

CORRESPONDING AUTHOR: Sarah M. Markowitz, MS, Psychiatry, Massachusetts General Hospital, Boston, MA, 02114; smarkowitz@partners.org

B-170

AFFECT, MOOD AND SELF-CONSCIOUS EMOTION: A ROLE IN SELF-REGULATION AND SELF-DETERMINED MOTIVATION FOR EXERCISE

Bethany M. Kwan, MA, MSPH,[1] Angela Bryan, PhD[2] and Hannah E. S. Fields, Undergraduate[1]

[1]University of Colorado, Boulder, CO and [2]University of New Mexico, Albuquerque, NM.

Affective experiences can have a powerful influence on health behaviors, including exercise. Anticipated and experienced self-conscious emotion, mood and affective response to exercise may contribute to self-regulation of exercise behavior, and may reflect self-determined motivation. Participants (N=233) made future plans to engage in aerobic exercise, and reported anticipated mood and negative self-conscious emotion (NSCE) given self-regulatory success and failure. They later completed an online survey assessing actual behavior, experienced affect and self-esteem, ease of self-regulation (ESR), deliberation about whether or not to exercise as planned (DEL), and self-determined motivation to exercise (SDM). Those anticipating a more positive mood following exercise reported greater ESR (r=.16, p<.05), less DEL (r=-.15, p<.05), and more SDM (r=.37, p<.01), and had greater odds of exercising (Or=1.44, p<.10). Those anticipating greater NSCE following regulatory failure reported greater ESR (r=.16, p<.05) and less DEL (r=-.14, p<.05), and had greater odds of exercising (Or=1.94, p<.05) but no association with SDM. Successful exercisers reporting a more positive affective response reported greater ESR (r=.22, p<.01), less DEL (r=-.27, p<.01), and more SDM (r=.30, p<.01). Finally, those reporting greater experienced self-esteem due to self-regulatory outcome reported greater ESR (r=.27, p<.01), less DEL (r=-.27, p<.01), and more SDM (r=.24, p<.01), and had greater odds of exercising (Or=7.72, p<.001). ESR and DEL predicted behavior even after controlling for intentions and past behavior. It appears that anticipated and experienced affect, mood and self-conscious emotion are associated with more effective self-regulation for acute bouts of exercise, reflecting more self-determined motivation and a more implemental mindset. We conclude that affective and emotional factors are important in the volitional phase of exercise behavior, and should be considered in the design of interventions.

CORRESPONDING AUTHOR: Bethany M. Kwan, MA, MSPH, Psychology, University of Colorado at Boulder, Boulder, CO, 80309-0345; bethany.kwan@colorado.edu

B-171

DIFFERENTIAL EFFECTS OF PHYSICAL ACTIVITY INTERVENTION ON SELF-EFFICACY IN OLDER ADULTS

Emily L. Klamm, MS,[1] Thomas R. Wojcicki, BS,[1] Siobhan M. White, BS,[1] Amanda N. Szabo, BS,[1] Arthur F. Kramer, PhD[2] and Edward McAuley, PhD[1]

[1]Kinesiology, University of Illinois at Urbana-Champaign, Urbana, IL and [2]Psychology, University of Illinois at Urbana-Champaign, Urbana, IL.

Although physical activity (PA) mastery experiences typically lead to increases in self-efficacy, this is not always the case in PA interventions. We argue that not all measures of self-efficacy are equal and the failure of interventions to increase self-efficacy is in part due to overestimations at baseline with a correction factor operating at the end of the intervention. We examined the effects of a six-month PA intervention on four measures of exercise self-efficacy in 109 previously sedentary older adults. Participants completed: a barriers self-efficacy scale (BARSE) ; a lifestyle self-efficacy (LSE) scale assessing confidence to accumulate 30 minutes of physical activity on 5 or more days of the week; an exercise self-efficacy (EXSE) scale measuring confidence to exercise three times per week at moderate intensities for 40+ minutes; and a walking self-efficacy scale (SEW) examining beliefs in capabilities to complete incremental 5-minute intervals (5 to 40 minutes) of walking at a moderate pace. A repeated measures MANOVA revealed a significant multivariate effect for time (p<.0001). Follow-up analyses indicated that BARSE and LSE had small but significant decreases (p=.01), EXSE remained unchanged, and SEW showed a large and significant increase (p<.0001; η2=.31) across the intervention. These results provide support for previous interventions that have reported reductions in self-efficacy in spite of successful interventions. Further, they suggest that sedentary individuals may not initially have an appropriate frame of reference for certain types of efficacy (e.g., barriers, exercise prescriptions, etc). However, when assessing very specific behaviors such as walking, older individuals appear to have a much better frame of reference for evaluating their capabilities.

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CORRESPONDING AUTHOR: Emily L. Klamm, MS, Kinesiology, University of Illinois at Urbana-Champaign, Urbana, IL, 61801; eklamm@uiuc.edu

B-172

PHYSICAL ACTIVITY AND PSYCHOSOCIAL HEALTH OF OLDER CAREGIVERS AND NON-CAREGIVERS

David X. Marquez, PhD,[1] Eduardo E. Bustamante, BS,[1] Sarah Kozey, MS[2] and Jennifer Kraemer, MS[2]

[1]Kinesiology and Nutrition, University of Illinois at Chicago, Chicago, IL and [2]Kinesiology, University of Massachusetts, Amherst, MA.

Older adults who are caregivers of individuals with dementia and Alzheimer's disease may be at greater risk for physical, cognitive, and social decline than non-caregivers due to the great time and energy demands of caring for others. To date, physical activity interventions with caregivers have asked participants to exercise continuously for a 30–40 min bout. Given the amount and relative unpredictability of time that must be invested in caregiving, caregivers may be unable to devote large blocks of time in order to complete daily exercise. It is unknown whether intermittent exercise would be preferred by dementia caregivers in order to incorporate regular exercise into their lives. Thus, the present study examined differences in self-reported physical activity, psychosocial factors, and preferred exercise format between caregivers and non-caregivers. Caregivers (N=20) and non-caregivers (N=49) who were non-exercisers (<1 time/week) and over the age of 50 (M=67.3) completed a series of questionnaires. After controlling for age the MANCOVA revealed a main effect for caregiving status F(10, 50)=2.53, p<.05. Follow-up univariate analyses showed no significant differences in overall physical activity (p=.33), but caregivers reported greater exercise barriers (p<.05), depression (p<.01), negative health symptoms (p<.05), stress (p<.01), and anxiety (p<.01) and less social support from family to exercise (p<.01) than non-caregivers. 50% of caregivers reported being more likely to do 3–10 min bouts of exercise as opposed to a 30-min continuous bout of exercise compared to only 35% of non-caregivers. Similar proportions of caregivers (60%) and non-caregivers (65%) reported being more likely to exercise on their own versus in a group. These results demonstrate the pressing need for exercise interventions among caregivers of individuals with dementia that take special consideration of individual preferences and caregiving situations.

CORRESPONDING AUTHOR: David X. Marquez, PhD, Kinesiology and Nutrition, University of Illinois at Chicago, Chicago, IL, 60612; marquezd@uic.edu

B-173

INTEGRATING FIVE-FACTOR MODEL FACET LEVEL TRAITS WITH THE THEORY OF PLANNED BEHAVIOR AND EXERCISE

Heather A. Hausenblas, PhD,[1] Ryan Rhodes, PhD,[3] Amy Hoyt, PhD[1] and Peter Giacobbi, PhD[2]

[1]University of Florida, Gainesville, FL; [2]University of Arizona, tuscon, AZ and [3]University of Victoria, Victoria, BC, Canada.

The purpose of this study was to examine direct, indirect, and moderating links between facet level personality traits of the five-factor model, the theory of planned behavior constructs (Ajzen, 1991), and exercise behavior. University students (N=507) completed the NEO-PI-R (Costa & McCrae, 1992), the Leisure-time Exercise Questionnaire (Godin & Shephard, 1985), and measures assessing the theory of planned constructs. Preliminary analysis revealed the extraversion and conscientiousness facet level traits of activity and self-discipline, respectively, were independent predictors of exercise behavior. An integrated structural model with both facet level traits revealed that 46% of the variance in exercise behavior and 70% of the variance in intention was explained. Significant indirect effects of activity and self-discipline and the theory of planned behavior constructs of affective attitude, instrumental attitude, and subjective norm, on exercise behavior through intention and perceived behavioral control were also observed. Finally, the anxiety facet trait of neuroticism significantly moderated the intention behaviour relationship. Our findings showed that the facet level personality traits of activity and self-discipline are important motivational variables that link the theory of planned behavior constructs to exercise behavior. Future research that integrates personality with the theory of planned behavior within experimental interventions are warranted.

CORRESPONDING AUTHOR: Heather A. Hausenblas, PhD, University of Florida, Gainesville, FL, 32611; heatherh@hhp.ufl.edu

B-174

UNDERSTANDING EXERCISE BEHAVIOUR DURING HOME-BASED CARDIAC REHABILITATION: IS THERE A NEED FOR THEORY INTEGRATION?

Chris Blanchard, PhD,[1] Robert Reid, PhD,[2] Louise Morrin, Bsc(PT),[3] Lisa McDonnell, MSc,[2] Kerry McGannon, PhD,[4] Ryan Rhodes, PhD,[5] John Spence, PhD[7] and Nancy Edwards, PhD[6]

[1]Medicine, Dalhousie University, Halifax, NS, Canada; [2]Ottawa Heart Institute, Ottawa, ON, Canada; [3]Calgary Health Region, Calgary, AB, Canada; [4]University of Iowa, Iowa City, IA; [5]University of Victoria, Victoria, BC, Canada; [6]University of Ottawa, Ottawa, ON, Canada and [7]University of Alberta, Edmonton, AB, Canada.

Background: A significant proportion of cardiac patients who attend home-based cardiac rehabilitation (CR) programs do not adhere to their exercise recommendations warranting the need for behavioural intervention. Unfortunately, only one study has attempted to identify the key theoretical correlates of exercise to better inform intervention development for this population and it relied on a single theory (i.e., theory of planned behaviour: TPB).

Purpose: To examine the independent ability of the TPB, social cognitive theory (SCT), and protection motivation theory (PMT) in explaining exercise behaviour during home-based CR and whether integrating the significant predictors from each theory into a final model would explain more exercise variability.

Method: A total of 280 patients (mean age=62.8: SD=11.5), primarily Caucasian (n=95.4%) attending home-based CR completed a baseline theoretical / demographic questionnaire and a self-reported exercise questionnaire 3 months later.

Results: Path analyses showed that the TPB (R2=.17), SCT (R2=.26), and PMT (R2=.11) accounted for significant variability in exercise. However, integrating the significant predictors into the final model accounted for 41% of the exercise variability with task self-efficacy (β=.32), response efficacy (β=.23), and perceived behavioural control (β=.27) making significant and unique contributions to exercise behaviour.

Conclusion: Results show that there may be an advantage to integrating theoretical concepts among different theories to better explain exercise behaviour during home-based CR.

CORRESPONDING AUTHOR: Chris Blanchard, PhD, Medicine, Dalhousie University, Halifax, NS, B3H 1V7; chris.blanchard@dal.ca

B-175

HABIT STRENGTH, PERCEIVED BARRIERS AND MOTIVES FOR PHYSICAL ACTIVITY AMONG CONSISTENT AND INCONSISTENT EXERCISERS

Carissa Wott, MA and Robert Carels, PhD

Psychology, Bowling Green State University, Bowling Green, OH.

Regular participation in physical activity has been linked to disease prevention, quality of life, and longevity (Sallis & Owen, 1999). However, many Americans do not consistently engage in physical activity or exercise behaviors (CDC, 2001), and over 59% of young adults lead a sedentary lifestyle (CDC, 1993). Although correlates of physical activity maintenance have been given less attention than exercise initiation, it appears that habit strength, perceived barriers and motives for physical activity may be associated with long-term physical activity participation (Frederick et al, 1997; Sallis et al., 1990; Stewart, Trost, Bauman, Sallis & Brown, 2002). The current study used daily diaries and ecological momentary assessment (EMA; Shiffman & Stone, 1998) to examine the relationship between habit strength as well as barriers to and motives for physical activity participation in a group of consistent/long-term exercisers and a group of inconsistent/sporadic exercisers. Consistent exercisers reported significantly more intrinsic motives (i.e., interest and competence motives; p's<.05) for daily exercise participation and fewer barriers for exercise than inconsistent exercisers, F(1,13)=5.18, p=.04 . In addition, participants that reported intrinsic motives prior to an exercise session had longer and more intense exercise sessions. Finally, participants who reported more habit motives for exercise in the morning were more likely to exercise during the day than participants who reported fewer habit motives (β=13.55, SD=3.78, t=3.57, p<.01). Thus, habit, barriers and motives play important roles in long-term, consistent exercise participation and should be addressed in all physical activity interventions.

CORRESPONDING AUTHOR: Carissa Wott, MA, Psychology, Bowling Green State University, Bowling Green, OH, 43402; ccoit@bgsu.edu

B-176

PATHWAYS TO HEALTHY AGING: INVESTIGATING THE LINKS BETWEEN PSYCHOLOGICAL FACTORS, LEISURE ACTIVITIES AND PHYSICAL HEALTH OUTCOMES REBECCA RUEGGEBERG, MA , CARSTEN WROSCH, PHD, FATIMA AMARI, CONCORDIA UNIVERSITY, MONTREAL, QC, CANADA CATHERINE SABISTON, PHD, MCGILL UNIVERSITY, MONTREAL, CANADA

Rebecca Rueggeberg, MA,[1] Carsten Wrosch, PhD,[1] Fatima Amari, College Diploma[1] and Catherine Sabiston, PhD[2]

[1]Psychology, Concordia University, Montreal, QC, Canada and [2]Kinesiology and Physical Education, McGill University, Montreal, QC, Canada.

The engagement in leisure participation has been linked to increasing adults' risk of mortality and increasing physical functioning and health status in old age (Avlund et al., 2004). However, the impact of leisure activities on physical health may vary with respect to different psychological profiles. In particular, low self-esteem or high depression may compromise a person's motivation to address emerging health problems (e.g., Wrosch et al., 2002) or contribute to health compromising behaviours as a maladaptive coping mechanism for regulating negative emotions (e.g., substance abuse or overeating, Tracy, 1999). In contrast, individuals with positive psychological profiles may be more likely to engage in adaptive health behaviours (Wrosch et al., 2002). Thus, it may be possible that negative psychological profiles undermine the beneficial effect of leisure activities on physical health outcomes. To examine this hypothesis, 158 older adults from Montreal were examined three times over a period of 4 years. This study assessed functional health problems, self-esteem, depressive symptoms, leisure activities and socio-demographic characteristics.

CORRESPONDING AUTHOR: Rebecca Rueggeberg, MA, Psychology, Concordia University, Montreal, QC, H4B 1R6; r.rueggeberg@gmail.com

B-177

PROSPECTIVE STUDY OF ASSOCIATIONS AMONG POSITIVE EMOTION AND FUNCTIONAL STATUS IN PATIENTS WITH CARDIAC DISEASE

Beverly H. Brummett, PhD,[1] Miriam C. Morey, PhD,[2] Stephen H. Boyle, PhD[1] and Daniel B. Mark, MD[3]

[1]Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC; [2]Department of Medicine, Geriatrics, Duke University Medical Center, Durham, NC and [3]Duke Clinical Research Institute, Duke University Medical Center, Durham, NC.

We examined associations between positive emotion (PE) and functional status in 948 cardiac disease (CAD) patients (35.1% female; mean age 70.1 (SD=6.3)). Emotion and function measures were gathered during hospitalization and annually for 3 years. We used random-coefficients models to examine PE during hospitalization and follow-up, as a predictor of change in functional status. Importantly, analyses adjusted for baseline functional status, negative emotion, social support, marital status, and disease severity. PE assessed during hospitalization was a predictor of change in function (p=.042) such that lower levels of PE were associated with accelerated decline in function. Lower levels of PE during follow-up were also related to faster decline in function, but only in males (p=.035). The observed effect size (i.e., estimated differences approximating MET change of 1.7 for patients low vs high on positive emotion ratings) have been associated with an 8% decrease in risk of major adverse cardiovascular events during follow-up. Our findings are among the first to show that positive emotions account for a significant amount of the change observed in functional status over time in older CAD patients, in particular for males. Related research has shown that positive emotions are associated with increased longevity. Thus, the ability to influence changes in functional status may be one way in which positive emotion leads to increased longevity. Our findings suggest to health care professionals that patients who have been diagnosed with significant CAD may continue to experience positive emotions that may facilitate their future recovery. Along with other assessments, clinicians may find it beneficial to measure positive emotion in order to help identify patients who may experience higher levels of physical decline over a prolonged period following a diagnosis of CAD.

CORRESPONDING AUTHOR: Beverly H. Brummett, PhD, Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC, 27710; brummett@duke.edu

Meritorious Student Poster

B-178

OBJECTIVELY MEASURED PHYSICAL ACTIVITY PARTICIPATION IN AFRICAN AMERICAN ADULTS

Meghan Baruth, MS, Sara Wilcox, PhD, Deborah Kinnard, BA, Tatiana Warren, MS and Marsha Dowda, DrPH

Exercise Science, University of South Carolina, Columbia, SC.

African American (AA) adults have the lowest rates of physical activity (PA) among U.S. adults. Most studies targeting AAs have relied on self-report measures to quantify PA. This study measured sedentary, light, and moderate to vigorous (MV) intensity PA with the Actigraph accelerometer in AAs participating in baseline measurements of a faith-based PA and nutrition intervention, and examined whether PA differed by gender and age. Data from actigraphs worn for at least 10 hrs/day on 3 days were included. Cutpoints were 0–99 counts/min for sedentary activity, 100–1951 for light PA, and ≥1952 for MVPA. Mean minutes per week (min/wk) of PA intensities for each gender and age group (18–54, ≥55) were calculated. To account for the dependency among participants from the same church, multiple regression models were conducted using SAS PROC MIXED. Education, self-rated health, BMI, and hours worn were covariates. Participants were 214 adults from 34 churches averaging 54±12 years of age, 79% women, and a mean BMI of 33±7 kg/m2. Adjusted mean min/wk (SE) of sedentary, light, and MVPA were 550±17 (62% of wear time), 289±16 (33%), and 19±3 (2%) for men, 546±14 (64%), 299±13 (35%) and 13±2 (2%) for women, 532±15 (61%), 307±13 (35%), and 19±3 (2%) for participants ages 18–54, and 564±15 (67%), 281±14 (33%), and 13±3 (2%) for participants ages 55+. Men engaged in significantly more MVPA than women (p=.046). Compared to those over 55 years of age, participants ages 18–54 engaged in significantly more MVPA (p=.003) and light PA (p=.012), and significantly less sedentary activity (p=.005). These findings suggest that AAs spend a majority of waking hours in sedentary behaviors, and PA, especially among women and those ages 55+, is quite low, further supporting the need for interventions targeting PA behaviors among AAs.

CORRESPONDING AUTHOR: Meghan Baruth, MS, Exercise Science, University of South Carolina, Columbia, SC, 29201; stritesk@mailbox.sc.edu

B-179

UNDERSTANDING GENDER DIFFERENCES IN PHYSICAL ACTIVITY PARTICIPATION DURING HOME-BASED CARDIAC REHABILITATION: A GROUNDED THEORY APPROACH

Kerry R. McGannon, PhD,[1] Chris M. Blanchard, PhD,[2] Rebecca Busanich, MSc,[1] Lisa McDonnell, MSc,[3] Robert Reid, PhD,[3] Ryan Rhodes, PhD,[4] John Spence, PhD,[5] Louise Morrin, MSc/PT[6] and Nancy Edwards, PhD[7]

[1]Health and Sport Studies, University of Iowa, Iowa City, IA; [2]Dalhousie University, Halifax, NS, Canada; [3]Ottawa Heart Institute, Ottawa, ON, Canada; [4]University of Victoria, Victoria, BC, Canada; [5]University of Alberta, Edmonton, AB, Canada; [6]Calgary Health Region, Calgary, AB, Canada and [7]University of Ottawa, Ottawa, ON, Canada.

Background: The sole use of quantitative methods to better understand gender differences in PA behaviour in home based cardiac rehabilitation (HCR) has been criticized. It has been suggested that qualitative approaches may further enhance the understanding of gender differences in PA participation in HCR and also allow for gender-specific interventions to enhance HCR adherence.

Method: Grounded theory coding techniques were used on interviews with patients who completed HCR; 6 male patients (53–77 yrs.) and their spouses; 4 female patients (43–73 yrs) and their spouses. Interviews with 5 female HCR staff and 6 physicians (5 male, 1 female) were also conducted. Spousal interviews and HCR staff and physician interviews were coded into categories generated from male vs. female patient data sets. A final gender-specific grounded theory of PA participation in HCR was generated.

Results: Gender similarities linked to PA participation included lifestyle activity, intrapersonal facilitators (e.g., enjoyment), environmental/structural factors (e.g., home exercise equipment, physician policies), and family support. Gender differences linked to PA participation included intrapersonal facilitators vs. intrapersonal barriers (e.g., men emphasized facilitators, women emphasized barriers), type of support (e.g., women preferred emotional support from HCR staff), and negative/undermining support sources (e.g., HCR staff for men, spouses for women).

Conclusion: There may be an advantage to using gender-specific factors across various levels of the ecological model to better understand and enhance PA participation during HCR.

CORRESPONDING AUTHOR: Kerry R. McGannon, PhD, Health and Sport Studies, University of Iowa, Iowa City, IA, 52245; kerry-mcgannon@uiowa.edu

B-180

DOES PHYSICAL ACTIVITY INTENSITY MODERATE SOCIAL COGNITION AND BEHAVIOR RELATIONSHIPS?

Felicity Scott, Bsc,[1] Ryan E. Rhodes, PhD[1] and Danielle Symons Downs, PhD[2]

[1]Exercise Science, Univeristy of Victoria, Victoria, BC, Canada and [2]Kinesiology, The Pennsylvania State University, University Park, PA.

Objective: Public health messaging about physical activity (PA) combines moderate and vigorous intensity, but the variance/invariance of the motives/cognitions for PA by intensity has received scant attention. Thus, the purpose of this study was to examine the beliefs and motivations associated with regular moderate and vigorous intensity PA in a college sample using the framework of Ajzen's Theory of Planned Behavior (TPB). Methods: A random college sample, stratified by faculty of study and year in school, of 337 participants was randomly assigned to complete measures of the TPB framed for either 1) vigorous or 2) moderate intensity PA (duration and frequency were held constant) and subsequently completed self-reported measures of PA two weeks later using the Godin Leisure-Time Exercise Questionnaire. Results: Mean comparisons indicated that participants held higher mean behavioral beliefs about the benefits of vigorous PA for improving appearance and fitness (d >.27), but vigorous PA was perceived to take more time than moderate intensity activities (d=41). A stacked structural equation model and follow-up Fisher z tests, however, suggested no differences between the associations of TPB constructs with intention or PA by intensity using both chi-square and comparative fit index criteria. Conclusions: The findings provide support for the current public health approach of combining moderate and vigorous physical activity messaging among college students through the general invariance of motives by intensity.

CORRESPONDING AUTHOR: Ryan E. Rhodes, PhD, Exercise Science, Univeristy of Victoria, Victoria, BC, V8W 3N4; rhodes@uvic.ca

B-181

WALKING FOR ACTIVE TRANSPORTATION: USING SOCIAL COGNITIVE THEORY TO EXAMINE DIFFERENCES BETWEEN SUCCESSFUL AND LESS SUCCESSFUL USERS

Daniel L. Fuller, MSc,[1,2] Nancy C. Gyurcsik, PhD,[2] Lawrence R. Brawley, PhD[2] and Kevin S. Spink, PhD[2]

[1]Public Health, University of Montreal, Montreal, SK, Canada and [2]Kinesiology, University of Saskatchewan, Saskatoon, SK, Canada.

Walking for active transportation (AT) can increase overall physical activity levels (PA) when individuals adhere. Social cognitive theory's (SCT) personal and environmental factors, such as self-efficacy beliefs (self-regulatory and task), intention, and proximity, may be correlates of AT adherence. Understanding differences in these correlates is needed to identify which should be targeted to promote the regular use of AT (i.e., adherence). However, determining whether the strength of these correlates differs among successful and less successful AT users has not been undertaken. Participants were 103 university students, faculty, and staff aged 17–55 years (67% female), who lived within a walkable distance to a university. This SCT-based prospective, observational study examined whether successful AT users (n=49; walked ≥50% of the days to/from a university campus in a 2-week study period) differed from less successful AT users (n=54; walked < 50% of the days in the study period) with respect to: (a) personal factors: self-regulatory efficacy, walking for AT task efficacy, and AT intention, (b) an environmental factor: proximity, and (c) total PA. Social cognitions for the study period of school/work were assessed via a web-based survey. Proximity was assessed using Geographic Information Systems. PA and walking for AT to/from the campus were assessed over the study period via weekly web-based surveys. Omnibus MANOVA results revealed successful AT users differed from those less successful in social cognitions, proximity, and total PA (p<.001). Successful AT users had higher self-regulatory and walking for AT task efficacy, intentions, total PA, and lived closer to campus (p's<.05). SCT appears to be a promising model to explore personal-environmental AT links and to identify modifiable determinants of walking for AT. Future research should examine whether proximity moderates the relationship between social cognitions and adherence to walking for AT.

CORRESPONDING AUTHOR: Daniel L. Fuller, MSc, Public Health, University of Montreal, Montreal, SK, H2T 1L7; fuller.daniel@gmail.com

B-182

THE ROLE OF EXERCISE FOR EATING DISORDER INTERVENTIONS: A STRUCTURAL EQUATION MODELING ANALYSIS

Brian Cook, MS,[1] Heather Hausenblas, PhD,[1] Daniel Tuccitto, MS[1] and Peter Giacobbi, PhD[2]

[1]Applied Physiology & Kinesiology, University of Florida, Gainesville, FL and [2]Univeristy of Arizona, Tucson, AZ.

Successful eating disorder (ED) prevention and treatment interventions have been hampered by a lack of theoretic models that address the multidimensional nature of ED. Despite its well-established mental health benefits, exercise has been overlooked as an ED intervention, thus dictating a need for a better understanding of the mechanisms of exercise and ED. A recent conceptual model has proposed that exercise may positively impact several precipitating and maintaining factors of ED (Hausenblas, Cook, & Chittester, 2008). The purpose of our study was to test this model using structural equation modeling analysis. Participants were 539 adults (M age=19.88) recruited from a large southeastern university. Eating disordered risk was assessed by the Drive for Thinness subscale of the Eating Disorder Inventory (DT; Garner, 1991), exercise was assessed by the Leisure-time Exercise Questionnaire (LTEQ; Godin & Shephard, 1985), mental health was assessed by the mental health component of the SF-36 (Ware, et al., 1993), and pathological motivation for exercise was assessed by the Exercise Dependence Scale (EDS; Hausenblas & Symons Downs, 2002). Fit indices ($\chi 2$ [85]=354.48, p<.001, CFI=.838, TLI=.943, RMSEA=.077) and second-order factor loadings for a second-order measurement model supported the use of second-order factor scores for mental well-being and EDS. In our mediation analysis, model comparison tests showed that the partially mediated model ($\chi 2$ [83]=340.35, p<.001, CFI=.845, TLI=.944, RMSEA=.076) fit better than both the direct effects model and the fully mediated model. Structural regression coefficients estimated in the partially mediated model showed that mental well-being had a negative direct effect on DT (β=-.40, p<.001), while LTEQ had a positive indirect effect on DT via EDS (IE=.20, p<.001). Together, LTEQ, mental well-being, and EDS predicted 22.9% of the variation in DT. Our results support the conceptual model. Future studies must elucidate the mechanisms of exercise and ED.

CORRESPONDING AUTHOR: Brian Cook, MS, Applied Physiology & Kinesiology, University of Florida, Gainesville, FL, 32611; bjcook@hhp.ufl.edu

B-183

MEDIATORS OF BEHAVIOUR CHANGE AMONG ADULT NON-CLINICAL POPULATIONS: A REVIEW UPDATE

Ryan E. Rhodes, PhD and Leila A. Pfaeffli, B ED

Exercise Science, Univeristy of Victoria, Victoria, BC, Canada.

Objective: An understanding of the determinants of physical activity (PA) through mediators of behaviour change is important in order to evaluate the efficacy of interventions. Prior reviews on this topic (Baranowski et al., 1998; Lewis et al., 2002) noted that few studies employed mediator analyses in experimental PA trials; the purpose of this paper is to update these prior reviews in order to evaluate the state of our present understanding.

Methods: Studies included published experimental trials examining the effect of a theoretical intervention on PA change and on psychological mediating variables in non-clinical adult populations. Literature searches were conducted from January, 2001 to June, 2008 in five major search engines. The literature search yielded a total of 3773 potentially relevant records using key words. Of these, 22 unique trials passed the eligibility criteria and were included.

Results: The majority of the studies found a positive change in PA (N=18). The transtheoretical model and social cognitive theory were the most commonly used theories. All studies that reported a change in PA also reported a change in some mediating variables. Social support and behavioural processes of change/self-regulation showed symmetry with PA change in the majority of studies examining those variables, while self-efficacy and cognitive processes were found to change in about half of the studies. Formal mediators on PA, analyzed in 3 studies, included social support and self-regulation.

Conclusion: Published literature employing mediators of change analyses in experimental designs still remains elusive despite 22 studies since the time of prior reviews. Overall, changes in social support and self-regulation constructs appear to have the most symmetry with changes in behaviour. Future research needs to include a formal mediation analysis component. Studies employing other theories/models (e.g., theory of planned behaviour, self-determination theory, socioecological model) may be helpful to complement existing trials.

CORRESPONDING AUTHOR: Ryan E. Rhodes, PhD, Exercise Science, Univeristy of Victoria, Victoria, BC, V8W 3N4; rhodes@uvic.ca

B-185

CYTOKINES ARE RELATED TO MOODS AND STRESS IN PREGNANCY

Maureen Groer, PhD,[1] Cecilia Jevitt, PhD,[1] David Keefe, MD,[2] Monalisa Harrington, BS,[1] Maura Manion, BS,[1] Jessica Heckel, MSN[1] and Gina Jean-Francois, MS[1]

[1]College of Nursing, University of South Florida, Tampa, FL and [2]College of Medicine, University of South Florida, Tampa, FL.

The cytokine balance in pregnancy reflects a unique state that preserves the integrity of the allogeneic fetus from maternal rejection, while acting to maintain health. The balance between Th1-Th2-Th3-and Tr1 arms of the immune system is reflected by plasma cytokine levels. Th1 cytokines are decreased and Th2 cytokines increased, while innate immunity is upregulated, perhaps as a maternal defense. T regulatory cells are also important in pregnancy. Psychoneuroimmunological research has provided evidence for roles for stress and moods in altering immune balance, but little is known about these pathways in pregnancy. The influence of stress and anxiety on preterm birth and miscarriage is well known, but how stress is translated into pathophysiological danger is not clear. Anxiety accounts for a major portion of the variance in preterm birth, and anxiety is potentially associated with cytokine balance in non-pregnant individuals. Therefore we examined the levels of 14 cytokines through a multiplex assay in plasma samples provided by 78 pregnant women between weeks 16 and 24 of pregnancy. Women completed a demographic instrument, the Perceived Stress Scale and the Profile of Mood States (POMS) instruments. Inflammatory cytokines IL-1β, TNF-α, and IL-6 are normally increased during normal pregnancy. These inflammatory cytokines were statistically significantly inversely correlated with anxiety, anger and perceived stress scores. GM-CSF, a cytokine known to be elevated in pregnancy, with lowered amounts being associated with miscarriage, was also inversely correlated with dysphoric moods. IL-10, a T-regulatory cytokine, was inversely correlated with stress, tension, depression, and anger.

These data suggest that stress and mood may be important in the regulation of pregnancy cytokine balance, and thus could affect the health of both mother and fetus as well as success of the pregnancy.

CORRESPONDING AUTHOR: Maureen Groer, PhD, Nursing, USF, Tampa, FL, 33612; mgroer@health.usf.edu

B-186

PREVALENCE OF PSYCHIATRIC DISORDERS DURING THE THIRD TRIMESTER OF PREGNANCY USING THE PRIME-MD PATIENT HEALTH QUESTIONNAIRE

Nancy Verreault, PhD candidate,[1] Deborah Da Costa, PhD,[2] Maria Dritsa, PhD,[2] André Marchand, PhD,[1] Caline Balaa, BA,[2] Jennifer Kudzman, BA[2] and Samir Khalifé, MD[3]

[1]Department of Psychology, Université du Québec à Montréal, Montréal, QC, Canada; [2]Division of Clinical Epidemiology, McGill University Health Centre, Montréal, QC, Canada and [3]Royal Victoria Hospital, Montréal, QC, Canada.

Psychiatric disorders are disabling and can contribute to complications during pregnancy, yet they are frequently unrecognised in obstetrical care settings. The aim of this study was to estimate the prevalence of psychiatric disorders in a sample of pregnant women during the third trimester of pregnancy. Two hundred and forty-nine pregnant women (mean age 31.8, SD=4.4) completed the PRIME-MD Patient Health Questionnaire (PHQ; 15 items), along with standardized measures of childbirth fear and health related quality of life (SF-36). The presence of one or more psychiatric disorder in this sample was 14.1% (n=35 women). Co-morbidity of two diagnoses was present in 5.2% (n=13) of the sample. Forty-seven (18.9%) women reported 6 or more somatic symptoms. Depressive disorders were present in 9.6% (n=24) of the women: 3.6% (n=9) and 6% (n=15) with major depression or minor depressive disorder, respectively. Anxiety disorders were present in 5.6% (n=14) of the women including 2.4% (n=6) with panic disorder. No women met the criteria for bulimia nervosa, however 3.2% (n=8) met criteria for a binge eating disorder. Two (0.8%) women presented a potential problem of alcohol abuse. Women with any psychiatric disorder reported significantly more somatic symptoms, greater fear of childbirth (p <.0001) and poorer HRQoL across all 8 SF-36 domains (p<.0001). Psychiatric disorders in pregnant women are common and contribute to worse physical and mental adjustment during pregnancy. The PRIME-MD PHQ is an efficient method for screening psychiatric disorders early during pregnancy in obstetrical settings and would enable referral for appropriate treatment.

CORRESPONDING AUTHOR: Nancy Verreault, PhD candidate, Psychology, UQÃ€M, Montréal, QC, H3A 1A1; nancy_verreault@hotmail.com

B-187

STRESS DURING PREGNANCY AND PERINATAL OUTCOMES: A META-ANALYSIS

Heather Littleton, PhD,[1] Kimberly Bye, BA,[2] Amanda Amacker, BA[2] and Angela Rickelm, BA[2]

[1]Psychology, East Carolina University, Greenville, NC and [2]Psychology, Sam Houston State University, Huntsville, TX.

A number of mechanisms have been proposed by which psychosocial stress during pregnancy may negatively impact perinatal outcomes. These include increased risk for engaging in unhealthy behaviors such as smoking, decreased uterine blood flow as a result of elevated cortisol, and immune-modulated complications. Empirical findings have been mixed however with regard to the relationship between stress during pregnancy and negative outcomes. Thus, the current study sought to quantify the size of the relationship between stress during pregnancy and perinatal outcomes, as well as identify moderators through meta-analysis. A total of 28 studies were identified that prospectively evaluated the relationship between stress during pregnancy and one or more perinatal outcomes. The outcomes evaluated were: birth weight, gestational age, adjusted birth weight, IUGR, five minute Apgar, preterm delivery, low birth weight, and premature delivery. Overall, the relationship between stress and perinatal outcomes was quite small but in the expected direction (that is, greater stress associated with worse outcomes), with an average correlation utilizing a theta random effects model of r=-.05. The strongest relationships found were between stress and low birth weight, r=.07, and neonatal weight, r=-.09. Several moderator variables were identified using WLS regressions. The relationship between stress and negative outcomes was stronger among studies that measured perceived stress as opposed to life events or hassles. The relationship was also stronger among studies with a higher proportion of ethnic minority women. Results suggest that the bivariate relationship between women's experience of stress during pregnancy and perinatal outcomes is modest at best. Future research should focus on identifying and intervening to ameliorate key risk factors for these outcomes as well as evaluating how stress may interact with other risk factors in producing negative outcomes. Research in these areas will increase the number of healthy mothers and healthy babies born.

CORRESPONDING AUTHOR: Heather Littleton, PhD, East Carolina University, Greenville, NC, 27858; littletonh@ecu.edu

B-188

SOCIAL SUPPORT AND ATTITUDES TOWARD EXERCISE PREDICT GREATER PHYSICAL ACTIVITY DURING PREGNANCY

Susan Darlow, MA,[1] Marci Lobel, PhD,[1] Dolores Cannella, PhD[2] and Alan G. Monheit, MD[3]

[1]Psychology, Stony Brook University, Stony Brook, NY; [2]General Dentistry, Stony Brook University, Stony Brook, NY and [3]Obstetrics and Gynecology, Stony Brook University, Stony Brook, NY.

The majority of pregnant women are sedentary, despite abundant evidence that moderate physical activity is safe and beneficial during pregnancy for most women. We predicted that receiving encouragement from one's social network to exercise during pregnancy would counteract the tendency toward inactivity and that this type of social support would lead to greater activity by improving women's attitudes toward prenatal exercise. Support and attitudes are strongly related to physical activity in other populations but have not been examined in pregnant women. We investigated the association between social support for exercise and prenatal physical activity in a socioeconomically diverse sample of women (N=179) and examined whether attitudes towards physical activity mediated this association. Participants were recruited from a public prenatal care facility in the Northeastern U.S. Social support for exercise was defined as receiving information about the benefits of prenatal physical activity and direct encouragement to exercise from healthcare providers, spouse or partner, family members, and friends. A five-item measure assessed attitudes toward physical activity during pregnancy; physical activity was assessed by summing self-reports of time spent walking, and in moderate and vigorous activity. Unpartnered women and those with less education or income received less support for exercise and had the least favorable attitudes towards exercise. Physical activity did not differ across these groups and was low for the entire sample. As hypothesized, support for exercise predicted greater physical activity. Recommended methods for mediational testing confirmed that the association of support and physical activity was mediated by more favorable attitudes toward physical activity. These findings indicate that social relationships may influence a pregnant woman's views about the value of exercise and thereby have critical impact on the practice of this health behavior in pregnancy, and potentially other behaviors as well.

CORRESPONDING AUTHOR: Susan Darlow, MA, Psychology, Stony Brook University, Port Jefferson Station, NY, 11776; sdarlow@notes.cc.sunysb.edu

B-189

QUALITY OF LIFE OF UNDERSERVED HYPEREMESIS GRAVIDUM PATIENTS

Lina M. D’Orazio, MA,[1] Beth E. Meyerowitz, PhD,[1] Lisa M. Korst, MD PhD[2] and Thomas M. Goodwin, MD[2]

[1]Psychology, University of Southern California, Los Angeles, CA and [2]Obstetrics & Gynecology, Keck School of Medicine of USC, Los Angeles, CA.

Hyperemesis Gravidum (HG), a rare disorder characterized by persistent and severe nausea and vomiting during pregnancy, affects about 2% of pregnant women. 50,000 women per year are hospitalized for dehydration and malnutrition associated with HG. The few studies on HG suggest that this disorder may be emotionally and physically distressing, especially during a delicate psychosocial period like pregnancy. To understand the experiences of underserved HG patients, we collected data from 24 low-income women hospitalized for the disorder. Psychological distress (Symptom Checklist-90; SCL-90), depression (Beck Depression Inventory II; BDI-II), acculturation (Marin Brief Acculturation Scale; MARIN), and HG-related quality of life (Nausea/Vomiting in Pregnancy Quality of Life Questionnaire; NVQOL) were measured. About 67% of the sample identified as Hispanic, 60% of whom primarily speak Spanish. The majority of patients reported experiencing nausea (79%), poor appetite (79%), exhaustion (67%), frustration with their condition (71%), difficulty maintaining regular social activities (70%), loss of interest in sex (63%) and feelings that they could not enjoy their pregnancy (63%). The BDI-II mean was 19.96 (10.14), with 42% of patients scoring in the moderate to severe depression ranges. Additionally, over 48% of the sample scored above the cutoff score on the SCL-90 somatic scale, indicating diagnosable levels of somatic distress. BDI-II scores significantly correlated with the NVQOL Emotion subscale (r=-.49, p=.015). NVQOL Emotion was also correlated with acculturation (r=.544, p=.020), where patients who primarily speak English had better emotional wellbeing than primarily Spanish-speakers. Our findings suggest that low-income Hispanic HG patients may often experience negative emotional reactions to their physical conditions, which was linked to higher levels of depression. More research is needed to identify other predictors of depression for low-income HG patients to inform future culturally-sensitive interventions.

CORRESPONDING AUTHOR: Lina M. D’Orazio, MA, Psychology, University of Southern California, Los Angeles, CA, 90089; ldorazio@usc.edu

B-191

PERCEPTION OF INFERTILITY, EMOTIONAL WELLBEING, AND SEXUAL FUNCTION AMONG WOMEN UNDERGOING INFERTILITY TREATMENT

Nihal E. Mohamed, PhD, Natan Bar-Chama, MD, PhD and Michael A. Diefenbach, PhD

Department Of Urology, Mount Sinai Medical Center, New York, NY.

Background: Infertility is associated with considerable psychological distress and sexual dysfunction. The present study examined associations among women’s perceptions of infertility, emotional wellbeing, and sexual function.

Materials and Methods: Women (N=320; Mean age=34 years, SD=6.0) undergoing fertility treatment completed an online questionnaire. The majority was Caucasian (85%), married (97%), employed (84%), and had at least a college education (85%). Measures used include the Illness Perception Questionnaire (IPQ-R), Center for Epidemiological Studies Depression Scale (CES-D), and the Female Sexual Function Index (FSFI).

Results: Women experienced clinically significant levels of depression (M=20.7, SD=5.6; Norm cut-offF=16), and greater levels of anxiety during sexual activity. Women reported significantly lower levels of emotional closeness (M=3.42; SD=1.3 vs Mnorm=4.3; SDnorm=1.1), poorer satisfaction with their sexual relationship (M=3.2; SD=1.3; Mnorm=4.2; SDnorm=1.0), and lower overall satisfaction with their sexual life (M=3.0; SD=1.3; Mnorm=4.2; SDnorm=1.1; all ps < .0001). Perceived extended duration of infertility and perceived low levels of personal control were significantly associated with low sexual desire/interest (r=-.23, p<.001). Perceived negative consequences of infertility on women’s self-image and social relationships were significantly associated with diminished sexual satisfaction, lack of emotional closeness to partners, and higher levels of anxiety, pain, and discomfort during sexual activities (ps<.05).

Conclusions: Women undergoing fertility treatment had higher levels of depression and low emotional closeness and sexual satisfaction. Women’ beliefs about infertility were significantly associated with their sexual function. Health care providers should address women’s beliefs about infertility during consultations and comprehensive education and therapy should be offered.

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CORRESPONDING AUTHOR: Nihal E. Mohamed, PhD, Department Of Urology, Mount Sinai Medical Center, New York, NY, 10029; Nihal.Mohamed@mountsinai.org

B-192

NEUROCOGNITIVE CORRELATES OF RISKY SEXUAL BEHAVIOR IN ADOLESCENTS: AN FMRI APPROACH

Angela D. Bryan, PhD,[1] Sarah Feldstein Ewing, PhD,[2,1] Francesca M. Filbey, PhD,[2] Prashanth Nyalakanti, PhD,[2] Kent A. Kiehl, PhD[1,2] and Kent E. Hutchison, PhD[1,2]

[1]Psychology, University of New Mexico, Albuquerque, NM and [2]MIND Research Network, Albuquerque, NM.

Juvenile justice-involved youth are at high risk for HIV and other STDs (Teplin et al., 2003). Basic biological factors that influence risky sexual behavior among adolescents have yet to be identified. Recent work has identified specific neuronal regions (e.g., anterior cingulate cortex; AC, Rueda et al., 2005; orbitofrontal cortex; OFC, Ursu & Carter, 2005) that underlie impulsivity and risky decision making and thus may be associated with higher sexual risk.

Through a juvenile justice program in the southwest, we recruited 18 adolescents (ages 14–18; M=15.4; 89% Hispanic, 11% African-American; 83% male). Median number of lifetime sexual partners was 6 (range 0 to 25). Participants reported having sex on average once per week in the prior 3 months, but 22% (4 participants) had sex more than 10 times in the prior 3 months. Fewer than half reported consistent condom use (46.7%) on all sexual occasions. To evaluate the relationship between risky sex and neurocognitive factors, a risky sex index was created by multiplying frequency of intercourse by lack of condom use. The fMRI assessment was a modified Go/NoGo task consisting of one run (245 trials) where participants were instructed to respond by button pressing to presentations of the letter “X” (Go trials=206) and to inhibit a response to presentations of the letter “K” (NoGo trials=39). Number of sexual partners, frequency of intercourse, condom use, and the risky sex index were all significantly correlated with neural activation during error detection processes (p<.01) in the AC, which underlies error monitoring and the OFC, which underlies goal-directed behavior. These findings indicate that greater neural activation for adolescents high in sexual risk maps onto behavioral measures of similar constructs related to sexual risk (e.g., impulsivity). Gaining a more thorough understanding of basic biological differences that underlie adolescent sexual risk will facilitate the design and targeting of interventions to reduce HIV/STD risk.

CORRESPONDING AUTHOR: Angela D. Bryan, PhD, Psychology, University of New Mexico, Albuquerque, NM, 87131-1161; abryan@unm.edu

B-193

USING COMMUNITY-BASED PARTICIPATORY RESEARCH APPROACHES WITH RURAL AFRICAN AMERICAN COCAINE USERS TO DESIGN A SEXUAL RISK REDUCTION INTERVENTION

Brooke E. Montgomery, MPH, Katharine E. Stewart, PhD, MPH, Patricia B. Wright, MPH, RN, LeaVonne Pulley, PhD, Donna L. Gullette, DSN, RN and Brenda Booth, PhD

University of Arkansas for Medical Sciences, Little Rock, AR.

African American cocaine users in the rural South are underserved, understudied, stigmatized, and at high risk for sexually transmitted infections (STI) and HIV. Though rarely used with drug-using communities, community-based participatory research (CBPR) approaches, including focus groups, an advisory board, and community partners were used to design a sexual risk reduction (SRR) intervention that targets this population and addresses capacity building and health disparities. Using purposive sampling, 40 community members from 2 rural towns were recruited to participate in 4 focus groups, which were audio-taped and transcribed verbatim for accuracy. Participants discussed factors affecting sexual risk-taking, promoting safer sex in their community, and necessary components of a SRR program. Groups agreed that preventing STI/HIV was an important health issue in their community, but perceptions of sexual risk factors differed. Participants knew condoms provided protection, but attitudes towards condoms were negative and gaining compliance from sexual partners was difficult. Other community recommended program topics were hygiene, mental health, poverty, and social relationships because these topics influence partner selection, drug use, trading sex, and sexual decision-making. Participants encouraged providing free community-based STI/HIV testing and free condoms since local health agencies were distrusted. They suggested using peer role models, teaching erotic safer sex practices, and role-playing sexual situations as program activities. Men preferred mixed gender program sessions while women wanted single gender programs. Groups were concerned about confidentiality and incentives and believed that both community members and health professionals should be involved in the program. Using CBPR approaches provides valuable evidence for intervention planning and designing culturally-appropriate and effective community-based SRR interventions for rural drug-using populations.

CORRESPONDING AUTHOR: Brooke E. Montgomery, MPH, College of Public Health, University of Arkansas for Medical Sciences, Little Rock, AR, 72205; beeaton@uams.edu

B-194

LATINAS' STI/HIV RISK: ADVANTAGES AND DISADVANTAGES OF ACCULTURATION AND RELATIONSHIP POWER

Mary E. Randolph-Frye, PhD,[1] Heather L. Gamble, MS[2] and Joanna Buscemi, MS[2]

[1]Department of Psychiatry and Behavioral Medicine, Medical College of Wisconsin, Milwaukee, WI and [2]Department of Psychology, University of Memphis, Memphis, TN.

Latinas make up a growing segment of new HIV/AIDS cases and continue to be at high risk for HIV/AIDS. In Latinas, HIV is most frequently transmitted through heterosexual sex, making sexual relationship factors, such as relationship power, of primary importance in understanding Latinas' risk and developing interventions. The purpose of this research was to clarify the role of relationship power, acculturation, and sexual activity-related alcohol/drug use in STI/HIV risk for Latinas. Primary hypotheses were that higher acculturation would be related to greater relationship power, but would also predict greater sexual risk behavior. Sexually active Latinas 18 years of age or older (N=135) were offered surveys in either English or Spanish that included measures of relationship power, acculturation, sexual behavior, and STI/HIV risk of sexual partner. Higher acculturation was associated with greater sexual relationship power. However, higher levels of acculturation, greater relationship power and more frequently using drugs before sex were also related to a greater number of sexual partners in the past 3 months. The association between greater sexual relationship power and higher number of sexual partners was mediated by acculturation. A higher percentage of unprotected intercourse in the past 3 months was related to higher acculturation, higher sexual relationship power, and more frequently using drugs before sex. Acculturation thus conferred both benefits and risks, as Latinas who were higher in acculturation reported greater sexual relationship power, but also reported more sexual risk behavior. Contrary to previous research, relationship power did not translate into a higher percentage of condom use, but was related to more frequent sexual risk behavior. Interventions seeking to increase Latinas' self-efficacy for safer sex behavior through improving sexual relationship power need to address the influence of acculturation and Latinas' perceptions of STI/HIV risk.

CORRESPONDING AUTHOR: Mary E. Randolph-Frye, PhD, Behavioral Medicine, St. Jude Children's Research Hospital, Memphis, TN, 38105-3678; mary.randolph-frye@stjude.org

B-196

SELF-REPORTED SLEEP DIFFICULTIES PREDICT MEDICATION ADHERENCE IN ADULTS WITH TYPE II DIABETES

Faith Luyster, PhD and Jacqueline Dunbar-Jacob, PhD, RN

University of Pittsburgh, Pittsburgh, PA.

Introduction: Patients with chronic illnesses, including Type II diabetes (T2DM), are often nonadherent to their medication regimens. Although patients with chronic illnesses commonly report sleep difficulties, the association between sleep and medication adherence has not been examined. The current study examined sleep problems as predictors of self-reported and electronically monitored medication adherence in patients with T2DM.

Methods: Participants were 271 adults with T2DM who were prescribed oral medication for diabetes. They were enrolled in an intervention study and the current analyses examined data from the baseline assessment (mean age=63±10 years, 58% women). Medication adherence was assessed using the Morisky Medication Adherence Scale (MMAS) and electronic monitors. Self-reported and electronically monitored medication adherence were dichotomized based on scores from the MMAS and percentage of days adherent ($\geq$ 95%), respectively. The following subscales of the Pittsburgh Sleep Quality Index were used to assess sleep difficulties: sleep quality, sleep duration, and sleep disturbances.

Results: The average score on the MMAS was 3.2 (range: 0–4, with higher scores indicating better adherence). The mean adherence rate obtained by electronic monitor was 85%. About half of the participants reported their sleep quality to be fairly good and reported sleeping 6–7 hours. One-third reported having sleep disturbances 1–2 times per week. Logistic regression analyses revealed that sleep quality (OR: .67, CI: .50, .94), sleep duration (OR: .70, CI: .51, .96), and sleep disturbances (OR: .58, CI: .37, .91) were significant predictors of self-reported medication adherence after controlling for age, education, and global cognitive functioning. The sleep variables did not predict electronically monitored medication adherence.

Conclusions: These findings suggest that sleep difficulties among patients with T2DM may interfere with medication adherence; however sleep may be more influential for self-reported adherence as compared to electronically monitored adherence.

CORRESPONDING AUTHOR: Faith Luyster, PhD, University of Pittsburgh, Pittsburgh, PA, 15261; luysterfs@upmc.edu

B-197

DEPRESSION MEDIATES THE RELATION OF EMOTIONAL AND TANGIBLE SUPPORT TO SLEEP DISTURBANCES DURING LOW AND HIGH STRESS

Nathan T. Deichert, PhD, Stephanie Martin, None and Lisa Kreuzberger, None

Psychology, Mount Olive College, Mount Olive, NC.

Although social support is associated with sleep disturbances, less is understood about the pathways through which support influences sleep and the role of stress in these associations. Additionally, it is unclear if various types of support explain sleep through different cognitive and affective mechanisms, which is possible given various demands of stressful events. Thus, the goal of the present study was to examine whether depressive symptoms and perceived control mediated the link between support and sleep disturbances during times of low and high stress. Undergraduate students reported on their perceptions of emotional and tangible support, personal mastery, depressive symptoms, and sleep disturbances at the beginning of the semester (low stress; n=75) and again during the class preceding the first exam of the semester (high stress; n=57). Regression analyses using bootstrap methods examined mediators of the relationship between emotional and tangible support to sleep disturbances during times of stress. Results revealed that all models accounted for significant variance in sleep disturbances (all p's$<.01$). Examination of specific pathways revealed that emotional (estimate=-.37, 95% CI=-.75, -.14, $p<.05$) and tangible (estimate=-.28, 95% CI=-.58, -.08, $p<.05$) support had significant indirect effects on sleep disturbances through fewer depressive symptoms during low stress. Similarly, during the high stress period, both emotional (estimate=-.26, 95% CI=-.62, -.02, $p<.05$) and tangible (estimate= -.38, 95% CI=-.82, -.04, $p<.05$) support had significant indirect effects on sleep disturbances through fewer depressive symptoms. Personal control did not emerge as a mediator. Interestingly, results of the current study revealed that depressive symptoms accounted for the association between support and sleep disturbances regardless of stress level. Given the link between support and depression, interventions aimed at improving one's support network would be most beneficial if simultaneous attempts were made to alleviate symptoms of depression.

CORRESPONDING AUTHOR: Nathan T. Deichert, PhD, Psychology, Mount Olive College, Mount Olive, NC, 28365; ndeichert@moc.edu

B-199

DO THE DETERMINANTS OF SMOKING CESSATION COUNSELLING DIFFER ACROSS HEALTH PROFESSIONAL GROUPS?

Michèle Tremblay, MD,[1] Daniel Cournoyer, MSc[1] and O'Loughlin Jennifer, PhD[2]

[1]Développement des individus et des communautés, Institut national de santé publique du Québec, Montréal, QC, Canada and [2]Department of Social and Preventive Medicine, University of Montréal, Montréal, QC, Canada.

Because of regular contact with their clientele, health professionals are viewed as key in community-based efforts to help smokers quit. To guide the development of training and educational interventions, and to enable tracking of cessation counselling practices over time, we surveyed six health professional groups including general practitioners (GPs), pharmacists, dentists, dental hygienists, nurses and respiratory therapists in 2004–5.

Data were collected in self-administered questionnaires mailed to 500 persons in each group randomly selected from the membership lists of active licensed professionals in Quebec, Canada.

Response proportions ranged from 52% in nurses to 70% in dental hygienists. GPs and pharmacists undertook substantially more counselling than other health professionals among patients who were ready to quit, while GPs and respiratory therapists undertook more counselling among patients who were not ready to quit. Three factors were positively associated with cessation counselling across most groups including the belief that cessation counselling is the role of health professionals, perceived self-efficacy to engage in effective counselling, and knowledge of community cessation resources to which patients can be referred.

Interventions that address beliefs that cessation counselling is the role of health professionals, perceived self-efficacy, and knowledge of community resources may result in improved cessation counselling practices among health professionals.

CORRESPONDING AUTHOR: Michèle Tremblay, MD, Développement des individus et des communautés, Institut national de santé publique du Québec, Montréal, QC, H2P 1E2; michele.tremblay@inspq.qc.ca

B-200

DOES THE "HEALTHY IMMIGRANT EFFECT" EXTEND TO SMOKING IN IMMIGRANT CHILDREN?

Keely G. Fraser, MSc,[1] Theodoro Koulis, PhD,[1] Katerina Maximova, MA,[4] Jennifer O'Loughlin, PhD[1,2] and Katherine Gray-Donald, PhD[3,4]

[1]Centre de recherche du CHUM, Montreal, QC, Canada; [2]Department of Social and Preventive Medicine,Department of Social and Preventive Medicine, Université de Montréal, Montreal, QC, Canada; [3]School of Dietetics and Human Nutrition, McGill University, Montreal, QC, Canada and [4]Department of Epidemiology, Biostatistics and Occupational Health, McGill University, Montreal, QC, Canada.

Background: Compared to native-born adults and adolescents, fewer recently arrived immigrants smoke, but the prevalence of smoking among immigrants often increases with increased length of residence in a new host country. Few studies examine if this finding extends to young immigrant children. The objective was to investigate if number of years lived in Canada is related to ever smoked status in immigrant children

Methods: Data on smoking and socio-demographic characteristics were collected in self-report questionnaires completed by children and their parents in 24 elementary schools located in multiethnic, disadvantaged, inner-city neighbourhoods. The association between number of years lived in Canada and ever smoked status was examined in multivariate logistic regression analyses among 668 children aged 9–12 years born outside Canada.

Results: Relative to immigrant children who had lived in Canada ≤5 years, the adjusted prevalence odds ratio of ever smoked status among children who had lived in Canada 6–10 years was 2.2 (95% confidence interval (CI) 1.5 to 3.2), and 3.4 (95% CI 1.5 to 8) among those who had lived in Canada 11–12 years.

Conclusion: The risk of smoking among immigrant children increases the longer they live in Canada. Because immigrants constitute the fastest growing segment of the Canadian population, the mechanisms underlying this association need to be better understood so that preventive interventions can address risk factors that are amenable to change.

CORRESPONDING AUTHOR: Keely G. Fraser, MSc, Centre de recherche du CHUM, Montreal, QC, H2W 1V1; keely.fraser@crchum.qc.ca

B-201

PROGRAM EVALUATION IN COMMUNITY YOUTH SMOKING CESSATION PROGRAMS

Linda S. Houser-Marko, PhD,[1] Lisa Hund, MPH,[2] Sherry Emery, PhD,[1] Amy Sporer, MS,[1] Jungwha Lee, MS[1] and Susan J. Curry, PhD[1]

[1]Institute for Health Research and Policy, University of Illinois-Chicago, Chicago, IL and [2]Westat, Inc, Raleigh, NC.

This research examines the extent to which community-based youth cessation programs engage in program evaluation. As part of the Helping Young Smokers Quit initiative, a national sample of youth program administrators were interviewed regarding their use of program evaluation, including evaluation components and challenges. Almost two-thirds of the youth programs performed program evaluation to some extent, and most included both process and outcome measures, such as attendance, user satisfaction, and quitting data. Follow-ups at 3 to 6 months after the end of the program were conducted by 49% of the programs overall, and the greatest reported challenge was obtaining follow-up information. Performance of program evaluations was modeled using bi-variate logistic regression, considering a set of program characteristics: if annual funding was above or below the median of $2000, type of enrollment (mandatory, voluntary, or both), whether follow-ups were conducted, and number of participants each year. Programs that had greater than median annual funding were 2.45 times more likely (CI 1.45, 4.13, p<.01) to conduct program evaluation. Further, programs that followed-up with participants were 1.6 times more likely (CI 1.09, 2.34, p<.01) to conduct evaluations than those that did not follow-up. We note that the level of annual funding was related to a program's utilization of program evaluation.

CORRESPONDING AUTHOR: Linda S. Houser-Marko, PhD, Institute for Health Research and Policy, University of Illinois-Chicago, Chicago, IL, 60608; lhmarko@uic.edu

B-202

RISK FACTORS FOR DEVELOPING CRAVINGS, WITHDRAWAL SYMPTOMS AND TOLERANCE IN ADOLESCENTS

Erika Dugas, MSc,[1] Paul Wileyto, PhD,[2,3] Jennifer O'Loughlin, PhD,[1,4] Magdalena Lugerlund, PhD,[5] Garbis Meshefedjian, PhD[6] and André Gervais, MD[6]

[1]Centre de recherche du CHUM, Montreal, QC, Canada; [2]Department of Psychiatry, University of Pennsylvania, Philadelphia, PA; [3]Transdisciplinary Tobacco Use Research Center (TTURC), Philadelphia, PA; [4]Department of Social and Preventive Medicine, University of Montreal, Montreal, QC, Canada; [5]Department of Epidemiology and Biostatistics, University of Western Ontario, London, ON, Canada and [6]Direction de santé publique de Montréal, Montreal, QC, Canada.

This study aims to distinguish between risk factors for cravings, withdrawal symptoms and tolerance, three hallmarks of nicotine dependence. Data were drawn from a prospective cohort of 1293 adolescents recruited in grade 7 from a convenience sample of ten secondary schools in Montreal, Canada. A total of 319 novice smokers were followed from first puff on a cigarette until the end of secondary school. Outcomes included time to first report of cravings, withdrawal symptoms, and tolerance. Covariates of interest include both time-varying and time-invariant exposures. Inhalation, smoking a whole cigarette, weekly smoking, daily smoking, and use of alcohol were strongly independently related to cravings and withdrawal symptoms. In addition, female sex was positively related to cravings. Smoking a whole cigarette, cravings, all three indicators of smoking frequency, and friends and siblings smoking were positively related to tolerance. None of age, parental education, academic performance, impulsivity, novelty-seeking, self-esteem, depression, stress, parental smoking, or physical activity was associated with the outcomes. The hallmarks of nicotine dependence are primarily related to milestones in the early natural course of cigarette use inset, including the frequency of smoking.

CORRESPONDING AUTHOR: Erika Dugas, MSc, Centre de recherche du CHUM, Montreal, QC, H2W 1V1; erika.dugas@crchum.qc.ca

B-203

MARIJUANA USE AMONG SMOKERS AND NON-SMOKERS ON ONTARIO COLLEGE AND UNIVERSITY CAMPUSES

James I. Macintosh, BSc, MSc candidate,[1] Kelli-an Lawrance, PhD,[1] Sandy M. Dupuis, MSc[1] and Jillian Welk, MSc[2]

[1]Community Health Sciences, Brock University, St. Catharines, ON, Canada and [2]University of Waterloo, Waterloo, ON, Canada.

Background: Young adults have the highest use of marijuana (32%) and tobacco (26%) of all age groups (Adlaf et al., 2005; CTUMS, 2005). Although marijuana use is associated with tobacco use and with school attendance (Leatherdale et al., 2006), little is known about post-secondary smokers who use marijuana. Context: We examined the likelihood of marijuana use among university and college smokers and non-smokers. Methods: From a stratified, representative sample of 10 universities and 7 colleges, approximately 215,000 students were invited to complete an on-line survey; 7,843 university and 2,383 college students did so. Due to over-representation of females, data were weighted to reflect school population gender distributions. Results: Complete data were available for 5,407 university and 1,324 college students, ages 17 to 24. Among them, 9.8% of university and 15.9% of college students used only tobacco, 13.9% and 12.2% used only marijuana, and 12.6% and 19.7% used both substances (chi-square= 132.159, p<.001). After controlling for age, gender, whether they live with a smoker, and whether they live on campus, off campus or at home, university smokers were more likely than non-smokers to use marijuana (Or=5.71, 95% CI=5.02–6.48) The same was true for college smokers (Or=4.82, 95% CI=3.83–6.07). Conclusions: Remarkably high comorbidity of tobacco and marijuana use was found for both university and college students. How marijuana use influences students' smoking initiation, maintenance and cessation warrants investigation. Tobacco control programming for young adults may be strengthened by addressing concurrent marijuana use.

CORRESPONDING AUTHOR: James I. Macintosh, BSc, MSc candidate, Community Health Sciences, Brock University, St. Catharines, ON, L2S 3A1; jmacintosh@brocku.ca

B-204

USING TOBACCO INDUSTRY MARKET RESEARCH TO UNDERSTAND CIGARETTE USE AMONG COLLEGE STUDENTS

Carla J. Berg, PhD,[1] Pamela M. Ling, MD,[2] Colleen M. Klatt, PhD,[1] Jasjit S. Ahluwalia, MD[1] and Lawrence C. An, MD[1]

[1]Department of Medicine, University of Minnesota, Minneapolis, MN and [2]Department of Medicine, University of California, San Francisco, San Francisco, CA.

Background: Using strategies from tobacco industry market research may inform public health efforts to reduce smoking.
Objective: To examine smoking behavior among market segments of college students (per psychographics including interests, lifestyle, attitudes, etc.).
Methods: Data from an online survey of college students including demographics, psychographic variables from tobacco industry surveys, and health behaviors (smoking, drinking, exercise) was examined through cluster analysis.
Results: The response rate was 27% (801/3,000), 32.1% smoked cigarettes in the past 30 days, and 9.5% regularly smoked (>24 of past 30 days). Analyses identified 4 segments.

(1) The Play-It-Safe's (30.5%) were most likely to be female (85.1% vs. <62.0% in other groups), are guarded in social situations, and are unlikely to be thrill-seekers. They had a 30-day smoking rate of 32.0% but a low rate of regular smoking (6.1%).
(2) The Traditional Intellectuals (19.2%) value intellectual satisfaction in intimate relationships, prefer sex after marriage, and are observers in social situations. This group had 30-day smoking prevalence of 28.3%.
(3) The Thrill-Seeking Socializers (30.8%) include a high rate of underclassmen (57.1% vs. <40.0% in other groups) and are thrill-seekers. This group had the highest rate of past 30-day smoking (41.6%) and regular smoking (13.7%) and the highest rates of going to a bar or party, exercising, dieting, and drinking alcohol.
(4) The Quiet Individualists (19.6%) are observers at parties and have more depressive symptoms. They had a 30-day smoking rate of 20.9% and had the second highest regular smoking rate (9.5%).

After controlling for gender in multivariate analysis, segment was a predictor of 30-day point prevalence of smoking (p<0.001).
Conclusions: Given the different characterizations of lifestyle and health behaviors among college students, cessation programs could consider tailoring to segments of students in addressing tobacco use.

CORRESPONDING AUTHOR: Carla J. Berg, PhD, Department of Medicine, University of Minnesota, Minneapolis, MN, 55401; cjberg@umn.edu

B-205

CHANGE IN SELF-EFFICACY AMONG PERSISTENT SMOKERS AND THE IMPACT OF THESE CHANGES ON SUBSEQUENT SMOKING CESSATION

Carla J. Berg, PhD,[1] Niaman Nazir, PhD,[2] Lisa S. Cox, PhD,[2] Laura M. Mussulman, MPH,[2] Jasjit S. Ahluwalia, MD[1] and Edward F. Ellerbeck, MD[2]

[1]Department of Medicine, University of Minnesota, Minneapolis, MN and [2]Department of Preventive Medicine and Public Healath, University of Kansas Medical Center, Kansas City, KS.

Background: Self-efficacy has been associated with intent to stop smoking, abstinence success, and risk for relapse, but little is known about correlates of change in self-efficacy and how these changes influence cessation.
Objective: To identify correlates of change in self-efficacy among smokers over the initial 6 months of a cessation intervention and assess the impact of these changes on subsequent smoking cessation at 12 months.
Methods: Smokers recruited from rural primary care clinics completed a telephone survey assessing demographics, smoking history, and psychosocial variables (e.g., self-efficacy, motivation, depression) at baseline, month 6, and month 12.
Results: Among 520 participants reporting continued smoking at month 6, the mean change in Smoking Self-Efficacy Questionnaire scores was 2.94 (SD=10.85). Increases in self-efficacy were related to lower baseline self-efficacy (Coefficient=-0.56, SE=0.04, T=-14.44, p<0.001), fewer cigarettes smoked per day at baseline (Coefficient=-0.21, SE=0.04, T=-4.70, p<0.001), reductions in smoking over the 6-month period (Coefficient=-0.22, SE=0.05, T=-4.24, p<0.001), having made a quit attempt in the first 6 months (Coefficient=2.14, SE=0.85, T=2.51, p=0.01), and not being married or living with a partner (Coefficient=-1.78, SE=0.85, T=-2.10, p=0.04). Among persistent smokers, abstinence at month 12 was related to fewer cigarettes smoked per day at baseline (OR=0.96, 95% Confidence Interval [CI] 0.93, 0.99, p=0.01) and greater increases in self-efficacy from baseline to month 6 (OR=1.05, CI 1.02, 1.08, p<0.001).
Conclusions: Attending to the dynamic process of self-efficacy may provide more predictive information than a single assessment. Future research should examine the impact of changes in self-efficacy and develop interventions supporting changes in self-efficacy that could facilitate subsequent smoking cessation attempts.

CORRESPONDING AUTHOR: Carla J. Berg, PhD, Department of Medicine, University of Minnesota, Minneapolis, MN, 55401; cjberg@umn.edu

B-206

DYADIC EFFICACY IN PARTNERED SMOKERS MOTIVATED TO QUIT

Katherine R. Sterba, MPH, PhD,[1] Vance Rabius, PhD,[2] Pamela Villars, MEd, LPC,[2] Dawn Wiatrek, PhD,[2] Penny Harmonson, CPS, LCDC[3] and Alfred McAlister, PhD[4]

[1]Biostatistics, Bioinformatics & Epidemiology, Medical University of South Carolina, Charleston, SC; [2]American Cancer Society, Austin, TX; [3]Texas State Health Department, Austin, TX and [4]University of Texas School of Public Health, Austin, TX.

Smoking cessation research has demonstrated a link between support and quitting, but interventions designed to enhance support from partners for quitting have often failed to achieve desired results. We developed and tested a measure of dyadic efficacy to assess quitters' confidence in their abilities to work together as a team with a partner to quit smoking and cope with the practical and emotional challenges of quitting.
We recruited partnered individuals who called the American Cancer Society's Texas Quitline to participate in a telephone interview (N=482, 61% female, mean age=41, 58% White). Surveys included 8 dyadic efficacy items and a variety of sociodemographic, smoking history, self-efficacy, and relationship variables. We conducted exploratory factor analysis, calculated Cronbach's alpha, and explored construct validity with Pearson correlations and multiple regression.
Factor analysis yielded a 1-factor scale (64.5% variance explained, all factor loadings >0.6 and Cronbach's α=.92). Dyadic efficacy was positively associated (p<.0001) with smoking-related support behaviors (r=.53), marital satisfaction (r=.38), and dyadic coping (r=.55). Dyadic efficacy was not associated with age, gender, race, number of daily cigarettes, previous quit attempts, or relationship length. Respondents with partners who were willing to quit with them had higher dyadic efficacy than those whose smoking partners were not (t=-7.13, p<.0001). In cross sectional regression models, dyadic efficacy was associated with more smoking-specific support from one's partner (B=.03, SE=.004, β=.43, p<.0001) and more self-efficacy for quitting (B=.39, SE=.10, β=.32, p=.0001), when age, education, gender, partner smoking status, and marital satisfaction were controlled. This new instrument may enhance our understanding of the role of partner relationships in smoking cessation.

CORRESPONDING AUTHOR: Katherine R. Sterba, MPH, PhD, Biostatistics, Bioinformatics & Epidemiology, Medical University of South Carolina, Charleston, SC, 29425; sterba@musc.edu

B-207

TRENDS IN THE ASSOCIATION BETWEEN SMOKING AND WEIGHT CONTROL BEHAVIORS AMONG ADOLESCENTS, 1999–2007

Dong-Chul Seo, PhD and Nan Jiang, MS

Applied Health Science, Indiana University, Bloomington, IN.

Purpose. We examined trends in the association between smoking and weight control behaviors between 1999 and 2007 among U.S. adolescents.
Methods. Nationally representative data from the 1999–2007 Youth Risk Behavior Survey were analyzed. Multivariable logistic regression was used to determine the association between smoking and weight control behaviors over the years. Prevalence estimates of current smoking and corresponding 95% confidence intervals were computed across four comparison groups formed by gender and body weight.
Results. Extreme dieting was an independent predictor of smoking across all the survey years. All of the three modes of extreme dieting (fasting, taking pills, and vomiting) were associated with smoking in recent years regardless of gender and weight status. However, such an association was not found for overweight mild dieters. Extreme dieters showed a higher variability of smoking behavior than their peers.
Conclusions. Intensity of dieting behaviors should be considered when adolescents' smoking behavior is examined in regards to its association with other co-occurring unhealthy behaviors. Aggressive interventions are needed to curb the misperception on the smoking as a weight control strategy among adolescents who engage in extreme dieting.

CORRESPONDING AUTHOR: Dong-Chul Seo, PhD, Applied Health Science, Indiana University, Bloomington, IN, 47405; seo@indiana.edu

B-209

META-ANALYSIS OF COMPUTER-DELIVERED INTERVENTIONS TO REDUCE COLLEGE STUDENT DRINKING

Lori A. Scott-Sheldon, PhD, Jennifer C. Elliott, BA, BS, Jamie R. Bolles, BS, Kate B. Carey, PhD and Michael P. Carey, PhD

Center for Health and Behavior, Syracuse University, Syracuse, NY.

In Healthy People 2010, the U.S. Department of Health and Human Services (2000) set an objective to reduce heavy drinking among undergraduates to 20% by the year 2010. With the increased use of computers to promote a wide range of healthy behaviors, computer and internet-delivered interventions may prove to be an effective method for reducing alcohol use. The current meta-analytic review evaluates the efficacy of computer-delivered alcohol interventions (CDAI) for undergraduates. Studies were retrieved from electronic databases, reference sections of relevant papers, electronic journals, and author responses to requests. Thirty-five studies that measured alcohol use or problems, provided sufficient information to calculate effect sizes, and were available as of May 31, 2008 were included (*N*= 28,621; *M* age=19.73; 50% women; 75% White; 68% freshman). Independent raters coded participant characteristics, design and methodological features, and intervention content. Weighted mean effect sizes, using both fixed- and random-effects models, were calculated for short-term (≤ 5 weeks) and long-term (≥ 6 weeks) follow-up intervals; positive effect sizes indicated *less* alcohol use and *fewer* alcohol-related problems. Compared to controls, CDAIs significantly reduced alcohol use at short- and long-term (*d+s*=0.10 to 0.16) and reduced alcohol-related problems at long-term (*d+*=0.17, 95% CI=0.07, 0.26). Significant within-group reductions in alcohol use and problems emerged for both the intervention and control groups (*d+s*=0.14 to 0.32) but intervention participants reduced their alcohol-related problems significantly more than controls at short-term follow-up (*QB*=4.12, p=.04). Implications for developing more efficacious CDAI for undergraduates will be discussed.

CORRESPONDING AUTHOR: Lori A. Scott-Sheldon, PhD, Center for Health and Behavior, Syracuse University, Syracuse, NY, 13244; lajss@syr.edu

B-210

ESTIMATING ALCOHOL CONTENT OF TRADITIONAL BREW IN RESOURCE-LIMITED KENYA USING CULTURALLY RELEVANT METHODS: THE CASE FOR COST OVER VOLUME

Rebecca K. Papas, PhD,[1] John E. Sidle, MD,[2] Emmanuel S. Wamalwa, MPH,[3] Thomas O. Okumu, BS,[4] Kendall L. Bryant, PhD,[5] Joseph L. Goulet, PhD,[1] Stephen A. Maisto, PhD,[6] Ronald S. Braithwaite, MD[1] and Amy C. Justice, MD, PhD[1]

[1]Yale University School of Medicine, West Haven, CT; [2]Moi Faculty of Health Sciences, Eldoret, Kenya; [3]Box 5550, Eldoret, Kenya; [4]Kenya Bureau of Standards, Nairobi, Kenya; [5]National Institute of Alcohol Abuse and Alcoholism, Rockville, MD and [6]Syracuse University, Syracuse, NY.

Two-thirds of those with HIV worldwide live in sub-Saharan Africa. Alcohol use is associated with both risky sex and poor adherence to antiretrovirals. Traditional homemade brew is believed to constitute the highest proportion of alcohol use in sub-Saharan Africa. Estimating alcohol content in resource-limited settings is challenging due to the lack of a “standard drink.”

In Eldoret, Kenya, hazardous drinking was reported by 53% of HIV and 68% of general medicine patients. This substudy was part of a study (R21AA016884) to adapt cognitive behavioral therapy to reduce alcohol use among Eldoret HIV patients. Two brews are common in Eldoret: chang’aa, spirits, and busaa, maize beer. Local residents refer to the amount of brew consumed by the amount of money spent, suggesting a culturally relevant estimation method. The purposes of this substudy were: 1) to analyze ethanol content of chang’aa and busaa and, 2) to compare two methods of alcohol estimation: use by cost, and use by volume, the latter the current international standard. Four samples were collected from 5 Eldoret breweries (n=20). All brewers were female. Range of serving sizes was 70–260 ml (chang’aa) and 260–1,100 ml (busaa). Laboratory results showed mean ethanol content was 34% (SD=14%) for chang’aa and 4% (SD=1%) for busaa. Mean cost per milliliter of ethanol in shillings was 0.67 (chang’aa) and 0.57 (busaa). Using a computational approach to estimate alcohol content, both methods demonstrated comparable results. The standard drink unit equivalents for chang’aa and busaa, respectively, were 2 and 1.3 (US) and 3.5 and 2.3 (UK). We conclude that cost estimation of alcohol content of brew is more culturally relevant and does not differ in accuracy from the international standard.

CORRESPONDING AUTHOR: Rebecca K. Papas, PhD, Medicine, Yale University School of Medicine, West Haven, CT, 06516; rebecca.papas@yale.edu

B-211

PREDICTORS OF INJECTION DRUG USE IN FEMALE PRISONERS

Dorothy O. Jackson, MA,[1] Karen L. Cropsey, PsyD,[1] Galen O. Jones, MA,[1] Michael F. Weaver, MD,[2] Gabriela C. Villalobos, BS,[2] Gloria D. Eldridge, PhD[3] and Maxine L. Stitzer, PhD[4]

[1]Psychology, University of Alabama at Birmingham, Birmingham, AL; [2]Virginia Commonwealth University, Richmond, VA; [3]University of Alaska at Anchorage, Anchorage, AK and [4]Johns Hopkins University, Baltimore, MD.

Aim: Studies have shown that injection drug users (IDUs) are at higher risk for infectious diseases and for involvement in the criminal justice system, including incarceration. An estimated 18% of jail inmates report IDU during the month prior to incarceration with up to 28% continuing to inject while incarcerated. The high prevalence of IDU in inmates naturally results in higher rates of infectious disease in prison. In order to address this public health crisis, it is necessary to understand the risk factors for IDU. This study aims to identify these factors among female prisoners. Methods: Female inmates (N=655) were surveyed about their substance use, social histories, and demographics. Characteristics of IDUs (n=189) versus non-IDUs (n=299) and IDUs versus all others, including non-IDUs, non-users, and missing responders (n=466) were compared using univariate analyses. Logistic regression was used to identify salient predictors of IDU. Variables were selected following univariate analyses. Results: The sample was primarily young (M=34 + 9 years), and evenly split on race (45.3% White and 44.6% Black). Being White and having a history of more overdoses (OD) were predictive of IDU vs. non-IDU. Four predictors were identified as significant risk factors for IDU when compared to all others: being White, having a prior history of substance abuse treatment, having a prior drug-related charge, and being a problem drinker. Conclusion: The demonstrated link between previous substance use behaviors, including OD history, and IDU highlights the need for early intervention. Identifying and treating addictions sooner may help reduce IDU and the transmission of infectious diseases.

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CORRESPONDING AUTHOR: Dorothy O. Jackson, MA, Psychology, University of Alabama at Birmingham, Birmingham, AL, 35205; ocky_888@yahoo.com

B-212

EXAMINING THE MEDIATION OF STRESS AND ALCOHOL BETWEEN GENDER AND EATING DISORDER TENDENCIES

Katie M. Hogan, Health Profession and Rose Marie Ward, PhD

Kinesiology and Health, Miami University, Oxford, OH.
Kathryn Hogan, Rose Marie Ward, Miami University, Oxford OH

Previous research has found that participants with eating disorders had higher levels of stress than those with other psychiatric disorders. Additional research has established a link between eating disorders and alcohol use. Eating disorders and eating disorder tendencies have a higher prevalence in women than in men. Research has also established that men and women experience stress differently and drink alcohol at different levels. The purpose of this study is to further examine the relationship between eating disorder tendencies and gender while accounting for the mediational effects of alcohol and stress.

Participants for this study were recruited from a mid-sized Midwestern university. The average age of the participants was 18.47 years old (SD=.89). Approximately 87% (n=431) of the participants were Caucasian. Approximately, 87% (n=431) of the participants were single, and 60% (n=297) of the participants were female.

The participants for this study were asked to fill out a questionnaire which assessed several health issues as part of a larger longitudinal study. Scales included Alcohol Decisional Balance which is based on the Transtheoretical Model, the Cumulative Stress Score, and the Eating Disorder Inventory.

Two levels of simple linear regression and one level of multiple linear regression were used to analyze some of the hypotheses. When examining the EDI-2 construct body dissatisfaction, mediation was not achieved. Slight partial mediation was achieved when examining the EDI-2 construct drive for thinness. Mediation was also not achieved for the bulimia construct. Additional SEM analyses which examined both mediators simultaneously will be discussed. The models fit the data well. Certain aspects of eating disorder tendencies (e.g. those most closely aligned with anorexia) were mediated by alcohol use and stress. Implication and clinical uses will be discussed.

CORRESPONDING AUTHOR: Katie M. Hogan, Health Profession, Kinesiology and Health, Miami University, Oxford, OH, 45056; Hogankm@muohio.edu

Citation Poster
B-213

DISSEMINATION OF A MI-BASED ADDICTIONS PREPARATORY SESSION IN NEW YORK: ASSESSING KNOWLEDGE

Kimberly Walitzer, PhD, Kurt H. Dermen, PhD, Christopher Barrick, PhD and Kathleen Shyhalla, PhD

Research Institute on Addictions, University at Buffalo, The State University of New York, Buffalo, NY.

We have little understanding of how efficacious alcoholism treatments transfer to the real world. As an example, research has demonstrated that a motivational interviewing (MI)-based preparatory session at the onset of alcoholism treatment reduces premature termination from treatment and improves outcome. The "New York Prep" study seeks to study the dissemination of a MI-based preparatory session to outpatient addiction clinics.

122 New York clinics were randomly assigned to receive a 15-min, 3.5-hr, or 6.5-hr training. Clinicians completed a 15-item MI-knowledge test at baseline (n=652), post training (n=630), and 1-mo follow-up (n=510).

Three-level HLM analyses examined how dissemination condition impacted test scores over time. Knowledge increased from baseline (m=10.52, se=.09) to post (m=12.98, se=.09) (t[1019]=-27.69, p<.001), but slightly decayed to 1-mo follow up (m=12.53, se=.09) (t[1134]=4.59, p<.001).

Dissemination condition significantly affected accumulation and loss of knowledge. At post, clinicians receiving the 3.5-hr (m=13.03, se=.16) and 6.5-hr trainings (m=13.31, se=.16) were more knowledgeable than those receiving the 15-min training (m=12.60, sd=.13) (t[1451]=-2.11, p<.05; t[1401]=-3.42, p<.001). However, the 1-mo follow up indicated decay in knowledge for clinicians in the 3.5-hr (m=12.58, se=.16, t[1158]=2.62, p<.01) and 6.5-hr (m=12.48, se=.17, t[1120]=4.69, p<.001) trainings; there was no decay in the 15-min condition (m=12.54, se=.15). Clinicians in all three conditions remained more knowledgeable at 1-mo relative to baseline (all ps<.001).

These findings suggest that MI knowledge was differentially affected as a function of intensity of MI training. Even low-intensity exposure to MI led to significant improvement on the knowledge test. However, differences between conditions were not apparent 1 month after training.

CORRESPONDING AUTHOR: Kimberly Walitzer, PhD, Research Institute on Addictions, Buffalo, NY, 14203; walitzer@ria.buffalo.edu

B-215

STRESS AND COPING IN CAREGIVERS OF PATIENTS AWAITING SOLID ORGAN TRANSPLANTATION

Amy M. Goetzinger, PhD, James A. Blumenthal, PhD, Michael A. Babyak, PhD, Benson Hoffman, PhD and C. Virginia Fenwick, PhD

Medical Psychology, Department of Psychiatry & Behavioral Sciences, Duke University Medical Center, Durham, NC.

Taking care of a person with a severe, life-threatening illness can significantly impact a caregiver's well-being. The aims of the present study were 1) to characterize the levels of psychological adjustment among caregivers of persons awaiting solid organ transplant; and 2) to examine the relation of caregiver burden and dyadic adjustment to caregivers' coping style and psychological adjustment. Six hundred twenty-one primary caregivers of potential candidates for lung (n=316), liver (n=147), heart (n=115), or kidney (n=42) transplantation completed a psychometric test battery at the time of their initial clinical evaluation, including the Beck Depression Inventory (BDI-II), State-Trait Anxiety Inventory (STAI), Medical Coping Modes Questionnaire (MCMQ-R), Scale for Caregiver Burden (SCB-R), Dyadic Adjustment Scale (DAS), and Marlowe Crowne Social Desirability Scale. A majority of caregivers were married (79%), Caucasian (82%), and the spouse to the candidate (70%). Caregivers ranged from 19–80 yrs (M=51.3, SD=11.4). Caregivers were generally well-adjusted, with 6% exhibiting elevated symptoms of depression (BDI-II>13) and fewer than 3% reporting elevated anxiety levels (STAI>59). However, participants evidenced a high degree of socially desirable responding, suggesting that caregivers may tend to minimize or underreport negative symptoms or distress. Greater caregiver burden was associated with poorer mental health, including higher levels of depression (r=.46) and anxiety (r=.37), and with greater use of negative coping strategies, including avoidance (r=.33) and resignation (r=.20). Better dyadic adjustment was associated with improved mental health, including lower levels of depression (r=-.26) and anxiety (r=-.31). The tendency to minimize psychological distress should be considered when evaluating the suitability of potential caregivers of transplant candidates. Assessing caregiver burden and dyadic adjustment may help identify caregivers who experience psychological distress.

CORRESPONDING AUTHOR: Amy M. Goetzinger, PhD, Medical Psychology, Department of Psychiatry & Behavioral Sciences, Duke University Medical Center, Durham, NC, 27710; amy.goetzinger@duke.edu

Friday
April 24, 2009

Symposium #09 8:45 AM -10:15 AM 3001

RECENT DEVELOPMENTS IN DECISION MAKING RESEARCH : FROM BASIC QUESTIONS TO TRANSLATIONAL APPLICATIONS

Michael A. Diefenbach, PhD

Department of Urology & Oncological Sciences, Mount Sinai School of Medicine, New York, NY.

This symposium presents cutting-edge research that ranges from basic investigations into the neurobiology of the reward mechanism among rats to the clinical application of decision making principals in the encounter between patients and physicians. The first presenter, Dr. Peter Shizgal, from Concordia University, Montreal, examines the role of dopaminergic pathways in reward seeking and how these basic mechanisms influence decision making via anticipated or received rewards. The second presenter, Dr. Mary Frances Luce from Duke University, will pick up the thread developed by Dr. Shizgal by discussing the various ways emotions can influence decision making particularly treatment decisions and health behavior. The third presenter, Dr. Peter Ubel from the University of Michigan, presents data from patient-physician encounters which demonstrate that even subtle psychological and behavioral factors influence information processing and that the concept of neutrality in information presentation might be an unrealistic goal. Dr. Ellen Peters, from Decision Research, in Oregon will provide an integrative view of the field of decision research today.

CORRESPONDING AUTHOR: Michael A. Diefenbach, PhD, Department of Urology & Oncological Sciences, Mount Sinai School of Medicine, New York, NY, 10029-6574; michael.diefenbach@mountsinai.org

Symposium #09A 3002

THE HEEDLESS PURSUIT OF REWARD BY LABORATORY RATS: IMPLICATIONS FOR THE PSYCHOLOGY AND NEUROBIOLOGY OF DECISION MAKING

Peter Shizgal, PhD

Concordia University, Montreal, QC, Canada.

Abstract: Rats and other vertebrates, including humans, will work to obtain electrical stimulation of certain brain pathways. Although the stimulation confers no known physiological benefits, it is sought out with great ardor. When the stimulation is intense and available at low cost, rats will work for it at the expense of forgoing their sole daily opportunity to eat. Such apparently heedless pursuit of a physiologically useless objective is reminiscent of addiction. In both cases, an exogenous input (current pulses or a drug) appears to bypass sensory filters and to mimic neural activity signifying a highly valuable goal object. Indeed, pursuit of rewarding brain stimulation is potentiated by abused drugs, and, like the pursuit of such drugs, depends on the integrity of dopaminergic neuro transmission. The talk will summarize a lively ongoing controversy concerning the role played by dopaminergic pathways in reward seeking. Does the level of dopaminergic signaling determine the strength of reward, the proclivity to invest effort in its procurement, both, or neither? Also discussed will be ideas from the behavioral decision and behavioral economic literatures concerning the salience and evaluability of reward costs. It will be argued that the line distinguishing adaptive and maladaptive behavior depends on how the strengths, costs, and kinds of rewards
influence allocation decisions. Analysis of the underlying neural circuitry promises to shed light on the nature of the computations involved in such decisions and how they are perturbed by drugs and neurochemical imbalance.

Symposium #09B 3003

EMOTIONS, DECISIONS, AND ACTION: IMPLICATIONS OF AFFECTIVE MECHANISMS FOR EFFECTIVE PATIENT DECISION MAKING

Mary Frances Luce, PhD

Duke University, Durham, NC.

Few decisions are as emotional as the ones that patients make regarding health care for themselves and for loved ones. Emotions generated during decision making are likely to be both a cost to the patient and a barrier towards the move towards patient participation in health care decision making. However, it is unreasonable and perhaps even undesirable, to expect patients to adhere to norms of affect neutrality. Emotions often drive decision making and behavior and thus should be harnessed in order to accomplish beneficial patient behavior (e.g., adherence to treatment regimes). In this talk, I will review some of the various mechanisms whereby emotions influence decision making and behavior, and discuss some examples of how emotions seem to both impede and facilitate adaptive behavior in health domains.

Symposium #09C 3004

NO TIME FOR NEUTRALITY: HOW AND WHY TO HELP PATIENTS MAKE BETTER HEALTH CARE DECISIONS

Peter Ubel, MD

University of Michigan, Ann Arbor, MI.

Sometimes medical decisions aren't purely "medical" but also depend, in large part, on value judgments—on what an individual patient thinks and feels about competing outcomes. In these situations, shared decision making experts believe that patients ought to receive neutral and balanced (notice that I avoided calling it "fair and balanced") information about their alternatives, so they can combine that information with their unique preferences, and make a decision. Unfortunately, there is no neutral way to give people such information. I will present research findings showing how subtle factors, in seemingly neutral educational materials, can unduly influence choice. I'll demonstrate some ways to reduce such influence, and present some ideas about when, or whether, health care professionals ought to strive for neutrality

Symposium #10 8:45 AM -10:15 AM 3005

WILL THE YANKS EVER REALLY LEARN ANYTHING FROM NORTH OF THE BORDER?: THE CANADIAN UNIVERSAL COVERAGE PERSPECTIVE ON HEALTH CARE DELIVERY AND BEHAVIORAL HEALTH.

Co-Chair and Moderators:
Suzanne M. Miller Ph.D. and Linda Fleisher MPH

Speakers:
"Our Healthcare system is perfect. How about yours?" Shafiq Qaadri (Ontario) MD, MPP Physician and State Legislator

"The Public Health Care System in Québec: The New Reality in 2009–What Works? What Needs to be Fixed?" Geoffrey Kelley MPP State Legislator (Québec)

Dr. Shafiq Qaadri, MD, MPP and Mr. Geoffrey Kelley, MPP will examine the Canadian health care system as it pertains to such chronic diseases and conditions as diabetes, cardiovascular disease, obesity and cancer. Part of this up close examination will review how chronic diseases are addressed on a systems level, and will further examine if diseases and health conditions tax and/or burden the Canadian Health System to the extent they affect the United States. The discussant panel will review the implications for behavioral health, what steps the United States is taking to implement positive aspects of the Canadian Health Care System, as well as its potential successes and failures.
Discussant Panel: Kim Elmslie (Canadian Public Health Center for Chronic Disease), Jon Kerner (Canadian Partnership against Cancer), and Mitch Golant (Wellness Community)

Symposium #11 8:45 AM -10:15 AM 3006

HEALTH INFORMATION TECHNOLOGY: ENABLING THE FUTURE OF BEHAVIORAL INFORMATICS

Abdul R. Shaikh, PhD,[1] Beth Bock, PhD,[2] Alison Pilsner, MPH[1] and Brad W. Hesse, PhD[1]

[1]National Cancer Institute, Bethesda, MD and [2]Brown Medical School, Providence, RI.

Advances in health information technology and grid-based computing are transforming healthcare research and practice. The National Cancer Institute and the National Science Foundation are playing a key role in identifying both new technologies and new computational approaches that can rapidly analyze and identify patterns in health-related data spanning 'cells to society.' The growing proliferation of electronic and personal health records is an integral aspect of the 'health 2.0' phenomenon. This technology is enabling consumers to become more effective partners in healthcare and preventive medicine. Private sector entities are also using innovative technologies with behavioral analytic methodologies to monitor behavioral and electronic health record data in the home and clinical contexts that have the potential to detect disease before manifestation.

This symposium will present key recommendations that came out of a 2008 expert panel workshop on grid-based computing in behavioral medicine. Speakers will also present cutting edge research, analytic methods, lessons learned, and health information technologies being developed in the public and private sectors that have direct applications to behavioral medicine research and practice.

CORRESPONDING AUTHOR: Abdul R. Shaikh, PhD, National Cancer Institute, Bethesda, MD, 20892-7335; shaikhab@mail.nih.gov

Symposium #11A 3007

HEALTH INFORMATICS AND CYBER-ENABLED RESEARCH: INNOVATIONS IN CLINICAL AND CONSUMER HEALTH INFORMATION TECHNOLOGY

Abdul R. Shaikh, PhD

National Cancer Institute, Bethesda, MD.

The rapid evolution of health information technology (HIT) and cyberinfrastructure (CI; defined as infrastructure based on distributed computer, information, and communications technology), led the National Cancer Institute (NCI) to convene an expert panel workshop in March 2008 with behavioral scientists, policymakers, and experts in public health informatics. Co-sponsored by the National Science Foundation (NSF) and the University of California San Diego (UCSD), this workshop focused on the development and potential uses of grid-based computing in behavioral medicine. Participants explored how CI, and the human and technical infrastructure that it supports, can encourage collaboration, data sharing, and greater computational capabilities for behavioral medicine.

Emerging HIT products and applications including personal health records, wearable technologies, and environmental sensors are being used to improve screening, treatment, prevention, and health promotion interventions in clinical and consumer contexts. This presentation will offer key recommendations from the workshop with an emphasis on demonstrating how CI, when linked to emerging HIT, can be used to enhance the collection, integration, and analysis of consumer, clinical, biological, and population-level data. Behavioral informatics, HIT, and grid-based computing spur greater collaboration between science and industry and help lead to a new transformative science in behavioral medicine and population health.

CORRESPONDING AUTHOR: Abdul R. Shaikh, PhD, National Cancer Institute, Bethesda, MD, 20892-7335; shaikhab@mail.nih.gov

Symposium #11B 3008

REAL-TIME MONITORING AND ANALYSIS OF BEHAVIORAL DATA AND ELECTRONIC HEALTH RECORDS IN CLINICAL SETTINGS

Steven Azzaro, MA,[1] Mark Dente, MD[2] and Abdul R. Shaikh, PhD[3]

[1]GE Global Research Center, Albany, NY; [2]GE Health, Wellesley, MA and [3]National Cancer Institute, Bethesda, MD.

Current medical practice is event based. Individual's go to a doctor's office, clinic or hospital, are checked, treated and return to their lives until the next episode of care. The electronic medical record (EMR) is an effort to standardize and better connect these events, increasing the likelihood of improved outcomes with greater systemic efficiencies. Combining personal health records, where individual's record health-related information and events, with EMRs and other health data can provide better information granularity, potentially enabling preventive interventions between clinical visits.

Our presentation will explore the potential of real-time clinical healthcare monitoring. We will provide examples taken from pilot studies using ubiquitous data collection methods in elder care and heart failure patients that leverage GE's 20 years of experience in system and equipment monitoring. We will show how this information can become part of a comprehensive patient health information system using a health information exchange and then explore how this health-related data can drive an EMR clinical decision support system. Finally efforts in applying this data to increase patient motivation for health promotion and drug compliance will also be discussed.

CORRESPONDING AUTHOR: Abdul R. Shaikh, PhD, National Cancer Institute, Bethesda, MD, 20892-7335; shaikhab@mail.nih.gov

Symposium #11C 3009

CYBERINFRASTRUCTURE AND COMPUTATIONAL INTELLIGENCE IN POPULATION HEALTH: THE NATIONAL SCIENCE FOUNDATION'S RECENT EXPERIENCE IN FOSTERING CYBER-ENABLED RESEARCH

David Lightfoot, PhD,[1] Edward Seidel, PhD,[1] Fahmida Chowdhury, PhD[1] and Abdul R. Shaikh, PhD[2]

[1]National Science Foundation, Arlington, VA and [2]National Cancer Institute, Bethesda, MD.

Cyberinfrastructure (CI) describes the research environment in which capabilities of the highest levels of computing, data storage and retrieval, resource sharing and analysis tools are available to researchers in an interoperable network. Although originally used in a more restricted sense (http://www.fas.org/irp/news/1998/05/980522-wh3.htm), the term has come to represent the coordinated aggregate of software, hardware, internet and other communications technologies, as well as human expertise used for scientific research. This presentation will describe the process of cultural transformation that has taken place within the National Science Foundation (NSF) supported fields of science and engineering. As a high-profile, Foundation-wide endeavor at NSF, CI has played the role of an enabler and attractor for various disciplines to collaborate, sharing data, resources, networks and scientific skills. It can be argued that NSF has - to a certain extent - engineered this transformation by requiring truly interdisciplinary teams of principal and co-principal investigators in many of its grant solicitations. In addition to traditional research communities, NSF has fostered virtual organizations of researchers in various disciplines, addressing the problems of data interoperability, confidentiality, and intellectual property. While the computational sciences and engineering communities are obvious candidates for this cyber-enabled research, social and behavioral sciences are also rapidly embracing the new research environment. The idea of computational and cyber-enabled approaches to analyzing data/patterns in health-related fields is of particular importance to our nation's well-being. As we begin to address issues related to utilizing the large amounts of behavioral and biomedical data being collected at the clinical, environmental, and population levels, it is becoming more apparent that effective CI utilization is becoming a necessity rather than a luxury.

CORRESPONDING AUTHOR: Abdul R. Shaikh, PhD, National Cancer Institute, Bethesda, MD, 20892-7335; shaikhab@mail.nih.gov

Symposium #12 8:45 AM -10:15 AM 3010

SYMPOSIUM ON PHYSICAL ACTIVITY INTERVENTIONS: ANTECEDENTS, MECHANISMS, AND OUTCOMES

IMPROVING SELF-WORTH TO INCREASE PHYSICAL CTIVITY ADHERENCE IN WOMEN: INNOVATIVE STRATEGIES

Jennifer Huberty, PhD

University of Nebraska at Omaha, Omaha, NE.

Researchers have shown that women are generally less physically active than men, and are more likely to drop out of a physical activity (PA) program within 6 months of starting one, often before health benefits are realized. Strategies to improve long-term adherence to PA programs among women are needed. PA participation has been linked to self-worth/self-esteem (SW/SE). By definition, global SW/SE is comprised of physical, emotional, social, and academic dimensions. According to Sonstroem & Morgan's exercise and self-esteem model, as women participate in PA their physical self-concept increases and thus increases their self-worth. Few researchers have focused on the reciprocal nature of this model or on the emotional, social, and academic dimensions of SW/SE as antecedents to long-term adherence, and thus, is the focus of this presentation. Innovative programs that are attractive to women and aim to build a foundation of self-worth in women are feasible but take time. The evidence that these studies are practical and warranted will be reviewed and recommendations for future research in this area will be discussed. Studies are needed that include: (1) better tools to measure each dimension of self-worth in women, (2) evaluation of the best methods to measure PA in women, (3) effectiveness of innovative programs for women with chronic disease, and (4) qualitative studies for follow-up of greater than one year. Exploring innovative strategies may help to begin to change the way health promotion professionals think about implementation of PA programs for women and how programs can be aimed at long-term PA adherence.

CORRESPONDING AUTHOR: Mark H. Anshel, PhD, Health and Human Performance, Middle Tennessee State University, Murfreesboro, TN, 37132; manshel@mtsu.edu

Symposium #12A 3011

EFFECT OF THE DISCONNECTED VALUES MODEL ON CHANGES IN FITNESS, BLOOD LIPIDS, EXERCISE ADHERENCE, AND MENTAL HEALTH

Mark H. Anshel, PhD

Health and Human Performance, Middle Tennessee State University, Murfreesboro, TN.

The purpose of this presentation is to review the effect a series of five 10-week wellness programs on changes in client fitness, blood lipids, and exercise adherence among university employees (N=362) in the southeastern U.S. who paid a registration fee of $25.00 for the 10-week program. The conceptual framework of this study was the Disconnected Values Model (DVM) which posits: (1) that persons are motivated to change health behavior based on their willingness to acknowledge an inconsistency between their unhealthy behavioral patterns (e.g., lack of regular exercise, poor diet) and their deepest values (e.g., health, faith, family), and (2) given the undesirable long-term consequences of maintaining these unhealthy habits, they wish to live a life consistent with their values. The wellness program included components consistent with the model. The results of separate MANOVAs comparing pre- and posttest scores combining the five programs indicated significant improvements on selected measures of fitness and blood lipids (all ps<.01). Univariate tests indicated significantly improved strength, aerobic fitness, and percent body fat (ps<01). For blood lipids, total cholesterol and LDL were markedly reduced, while HDL was significantly improved (ps<.01). Short-term adherence (i.e., program completion) rates averaged 86%, while long-term adherence was 74%. Finally, the results of changes in mental well-being (i.e., anxiety, depression, positive, control, health, and vitality), using MMM analysis, indicated a significant time effect (p<.001); engaging in the wellness program resulted in improved mental well-being. The MMM analysis results reflected a large association of eta-square, .564, which demonstrated the meaningful significant effect for the time factor. Univariate tests showed that anxiety, positive affect, health, and vitality contributed to the results (ps<.01). Taken together, the results lent credence to the DVM provided a strong framework for changing health behavior in a 10-week campus wellness program.

CORRESPONDING AUTHOR: Mark H. Anshel, PhD, Health and Human Performance, Middle Tennessee State University, Murfreesboro, TN, 37132; manshel@mtsu.edu

Symposium #12B 3012

FITNESS, FATNESS, COGNITION AND ACHIEVEMENT AMONG OVERWEIGHT CHILDREN

Catherine L. Davis, PhD[1] and Phillip D. Tomporowski, PhD[2]

[1]Pediatrics, Medical College of Georgia, Augusta, GA and [2]Kinesiology, University of Georgia, Athens, GA.

Childhood overweight is an epidemic with important health consequences. Overweight and low fitness have each been linked with poor achievement in children. An exercise program with overweight children has shown improvements in executive function and achievement outcomes. This study examined associations of fitness and fatness with cognitive processes and academic achievement, independent of demographic factors, at baseline of an exercise trial. Overweight (BMI-for-age ≥ 85th percentile) but otherwise healthy 7–11 yr olds (N=158, M±SD=9.3±1.0 yrs, 56% female, 60% black, BMI z-score 2.1±0.4, 40±6% body fat) participated in a study of health, cognition and achievement. Children underwent anthropometry, dual-energy x-ray absorptiometry (% body fat), MRI evaluation of visceral adipose tissue (VAT), a graded treadmill test (time on treadmill (TT), peak VO2), and psychological assessments of cognitive processes (Cognitive Assessment System, CAS) and academic achievement (Woodcock-Johnson Tests of Achievement III, WJ-ACH-III). Partial correlations examined associations of fitness and fatness with cognitive and achievement scores, controlling for race, gender, and primary caregiver's education level. Fitness measures were positively related to cognition and achievement measures. Fatness was negatively related to these outcomes. Measures of executive function (Planning), resistance to distraction (Attention), and math and reading achievement were related to both fitness and fatness in overweight children. A measure of simultaneous processing showed some relations with adiposity. Successive processing was unrelated to fitness or fatness. These results extend prior studies by providing reliable, standardized measures of cognitive processes and achievement in relation to detailed measures of fitness and fatness. Health promotion efforts to address the obesity epidemic may yield dividends in academic domains.

CORRESPONDING AUTHOR: Mark H. Anshel, PhD, Health and Human Performance, Middle Tennessee State University, Murfreesboro, TN, 37132; manshel@mtsu.edu

Symposium #12C 3013

TRANSLATING THE PRINCIPLES FROM THE PSYCHOLOGY OF PHYSICAL ACTIVITY INTO PRACTICE

Paul Estabrooks, PhD,[1] Fabio Almeida, PhD[2] and Joan Wages, MS[3]

[1]Virginia Tech University, Blacksburg, VA; [2]Virginia Tech University, Blacksburg, VA and [3]Virginia Tech University, Blacksburg, VA.

An emerging area of physical activity intervention research is the use of an integrated research practice-partnership that collaboratively develops and implements strategies that align with evidence-based principles (i.e., mediators of behavior change) rather than translating a specific evidence-based program into practice. However, little is known about the longer term fidelity to, and understanding of, the underlying evidence-based principles by those implementing the strategies once the effectiveness research is complete. The purpose of this presentation is to describe an integrative research-practice approach to translating evidence-based principles from the psychology of physical activity into practical clinical and community interventions. We will describe a clinical intervention, CardiACTION, and a community intervention, Walk Kansas—both developed by research-practice partnerships using Protection Motivation Theory and Group Dynamics Theory, respectively. Data from a randomized controlled trial of CardiACTION (N=452) demonstrated that a practical clinical intervention could be developed and was received by 38% of the eligible population within a large HMO. Further, approximately 75% of the sample used all of the interactive technology-based intervention strategies and strategy use was related to changes in Protection Motivation Theory variables. Data from the community practitioners (n=94) delivering the group dynamics program indicated that, after 5 years, over 85% could identify the evidence-based principles when responding to the open-ended question 'Why do you think the program works?' We conclude that research-practice integration in the development of physical activity interventions can successfully translate the principles from the psychology of physical activity into practice.

CORRESPONDING AUTHOR: Mark H. Anshel, PhD, Health and Human Performance, Middle Tennessee State University, Murfreesboro, TN, 37132; manshel@mtsu.edu

Symposium #12D 3014

SYMPOSIUM ON PHYSICAL ACTIVITY INTERVENTIONS: ANTECEDENTS, MECHANISMS, AND OUTCOMES

Mark H. Anshel, PhD[1] and Lise Gauvin, PhD[2]

[1]Health and Human Performance, Middle Tennessee State University, Murfreesboro, TN and [2]Social and Preventive Medicine, University of Montreal, Montreal, QC, Canada.

For many years researchers have attempted to understand ways to promote physical activity in the population. The purpose of this symposium is to examine the effectiveness of applying theory into practice within the framework of applied exercise psychology. The presenters will examine the antecedents and mechanisms that partially explain factors that lead to improved rates of physical activity. The presentations will consist of: (1) reviewing studies examining the role of self-worth and self-esteem as antecedents to long-term exercise adherence based on Sonstroem and Morgan's Exercise and Self-Esteem Model among women; (2) examining childhood obesity with respect to the associations between fitness and fatness, as opposed to cognitive processes and academic achievement, of children ranging in age from 7 to 11 years; (3) describing the effects of applying evidence-based principles into practical clinical and community interventions, and (4) determining the effectiveness of the Disconnected Values Model, an intervention based on attempting to overcome the inconsistency between one's values (e.g., family, health, faith, work quality) and one's unhealthy habits that impede energy and quality of life, on changes in exercise and dietary habits over a series of similar 10-week wellness programs. Taken together, the symposium is intended to examine innovative and contemporary approaches for improving health and quality of life.

CORRESPONDING AUTHOR: Mark H. Anshel, PhD, Health and Human Performance, Middle Tennessee State University, Murfreesboro, TN, 37132; manshel@mtsu.edu

Symposium #13 8:45 AM -10:15 AM 3015

SMOKING CESSATION AND WEIGHT GAIN ISSUES: EVIDENCE TO PRACTICE AND POLICY

Terry M. Bush, PhD,[1] Michelle D. Levine, PhD,[2] Amy L. Copeland, PhD,[3] Bonnie Spring, PhD[4] and Tracey Strater, NA[5]

[1]Free&Clear, Seattle, WA; [2]University of Pittsburgh, Pittsburgh, PA; [3]Louisiana State University, Baton Rouge, LA; [4]Northwestern University, Chicago, IL and [5]Oklahoma Tobacco Settlement Endowment Trust, Oklahoma City, OK.

Weight gain and related concern pose significant challenges to smokers trying to quit. Smokers gain 10–15 pounds after quitting, and many avoid quitting due to fear of gaining weight or relapse due to weight gain. Research aimed at improving cessation rates and limiting weight gain is mixed and is generally based on intensive, highly controlled efficacy trials not easily disseminated. Research is needed to improve our understanding of what might increase the reach and effectiveness of tobacco treatments for smokers concerned about post cessation weight gain. Goals of this symposium are to describe the prevalence, impact and possible mechanisms of weight gain concerns, and to discuss promising interventions. Each speaker will discuss their research on weight and smoking. Dr. Levine will present data on eating patterns after quitting from a cessation trial testing bupropion for women with weight concerns. She will discuss the association between cessation treatments, calorie intake and abstinence as well as the implications of findings on intervention development. Dr. Copeland will present initial findings from a clinical trial testing a smoking cessation and weight gain prevention program for postmenopausal, weight-concerned women. She will discuss the impact of treatment (group vs. individual) and weight concerns on cessation and weight gain. Dr. Bush will present the translation and implementation of an intensive CBT cessation intervention for smokers with weight concerns for delivery via a telephone quitline. She will discuss the challenges of translating efficacious behavioral treatments into practice and is joined by the funding agency who will describe the public-private partnership so important for accelerating translational science to have a broad population impact. Dr. Spring and Tracey Strader will serve as discussants.

CORRESPONDING AUTHOR: Terry M. Bush, PhD, Free and Clear, Seattle, WA, 98104; terry.bush@freeclear.com

Symposium #13A 3016

POSTCESSATION CALORIE AND MACRONUTRIENT INTAKE IN WEIGHT CONCERNED WOMEN SMOKERS

Michele D. Levine, phd, Yu Cheng, PhD, Melissa A. Kalarchian, PhD, Patricia Houck, MS and Marsha D. Marcus, PhD

Psychiatry, University of Pittsburgh, Pittsburgh, PA.

Smokers gain weight with successful cessation. This weight gain relates to increases in hunger and calorie intake and decreases in metabolism and physical activity after quitting. Although bupropion may attenuate short term cessation-related weight gain, this effect does not persist, and little is known about the effect of bupropion on calorie and macronutrient intake after quitting. We examined the relationship among cessation, bupropion and intake in women smokers concerned about weight gain. In a randomized trial, weight-concerned women smokers (N=349) received a smoking cessation intervention to address weight concerns or a standard cessation group and either bupropion or placebo. Cessation intervention was provided for 3 months and medication for 6 months. Women were interviewed about 3 day food intake prior to cessation and at 1 and 6 months after their quit date. Food recall data were summarized using the Nutrient Data System. Women were 42.0±10.1 years old, smoked 20.7±8.4 cigarettes/day, had smoked for 24.1±10.2 years, and had a pretreatment BMI of 27.3±5.5. Most were white (86.1%), married (74.4%), and had some college education (85%). At 6 months, 23.7% had maintained continuous abstinence and there were no differences in weight gain by group. As expected, calorie intake significantly increased over time (p=.03) and with cessation (p=.03) across all treatment groups. However, women who maintained abstinence did not increase percent of intake from protein, carbohydrates and fat relative to those who did not remain quit. Moreover, among those who maintained abstinence (n=81), treatment was not related to differential increases in total calories or percent of calories from protein, fat or carbohydrate. These data suggest that women do not preferentially increase consumption of one macronutrient after cessation, and that bupropion does not alter self-reported calorie or macronutrient intake. Given that women do not alter macronutrient intake, increases in weight after quitting may reflect more frequent eating episodes or larger servings at each episode.

CORRESPONDING AUTHOR: Michele D. Levine, phd, psychiatry, university of pittsburgh, Pittsburgh, PA, 15217; levinem@upmc.edu

Symposium #13B 3017

TRANSLATION AND IMPLEMENTATION OF AN INTENSIVE WEIGHT CONCERNS INTERVENTION FOR SMOKERS VIA A STATE QUITLINE

Terry M. Bush, PhD,[1] Michele D. Levine, PhD,[2] Laura Beebe, PhD,[3] Mona Deprey, MPH[1] and Tracey Strader, NA[4]

[1]Free and Clear, Seattle, WA; [2]University of Pittsburgh, Pittsburgh, PA; [3]University of Oklahoma, Oklahoma City, OK and [4]Oklahoma Tobacco Settlement Endowment Trust, Oklahoma City, OK.

Post cessation weight gain concerns are common among smokers and a significant factor in relapse. Weight control programs delivered during cessation treatment can undermine quit attempts, but an intensive cognitive behavioral therapy (CBT) program addressing weight concerns while quitting can improve quit rates and reduce weight gain. No studies have tested the effectiveness of this approach. This study describes the translation and implementation of this weight concerns intervention adapted for integration within a state quitline. Participants were randomized to the standard tobacco program (5 proactive counseling calls with a cessation specialist, nicotine patch or gum and mailed support materials) or the integrated CBT weight concerns intervention (standard program plus 3 calls with a weight coach). Among 5697 screened for weight concerns, 3032 (53%) were eligible of whom 1980 (65%) were interested and 1420 (72%) were randomized; 33.2% were obese, 30.1% overweight and 36.7% normal or under weight; most experienced weight gain in prior quit attempts. To date, 532 have completed the program; 59% of intervention vs. 68% of controls completed at least 3 of the 5 tobacco calls averaging 3.6 calls among controls and 3.4 calls among intervention. In addition, 56% of the intervention group completed 2+ weight calls (Mean=1.87) for a total of 5.3 counseling calls. We discuss predictors of treatment adherence and the challenges of translating a multi-session, highly intensive clinical trial into the 'real-world' setting of a quitline. This project demonstrates that: 1) intense in-person cessation treatments for weight concerned smokers can be adapted for brief telephone administration, 2) smokers with weight concerns call state quitlines and are interested in receiving extra calls from a weight coach, and 3) a public-private partnership between researchers and quitline funders can facilitate dissemination of research.

CORRESPONDING AUTHOR: Terry M. Bush, PhD, Free and Clear, Seattle, WA, 98104; terry.bush@freeclear.com

Symposium #13C 3018

TEST OF A SMOKING CESSATION AND WEIGHT GAIN PREVENTION PROGRAM FOR POSTMENOPAUSAL WEIGHT-CONCERNED WOMEN

Amy L. Copeland, PhD,[1,2] Megan R. Apperson, MA,[1] Claire E. Adams, MA,[1] Lauren E. Baillie, MA,[1] Pam D. Martin, PhD[2] and Paula J. Geiselman, PhD[2]

[1]Pennington Biomedical Research Center, Baton Rouge, LA and [2]Louisiana State University, Baton Rouge, LA.

Cigarette smoking has antiestrogenic properties, which may worsen the symptoms and health risks associated with menopause. Menopause is associated with weight gain and redistribution to an android (abdominal) adiposity pattern. Older or postmenopausal women appear get particular weight control benefits from smoking and older women gain more weight postcessation than younger women. Weight gain and an android weight gain pattern present a risk to cardiovascular health. The present study was designed to sustain abstinence and minimize postcessation weight gain in this population with followup relapse prevention sessions comprising tailored psychological, dietary, and exercise components. Postmenopausal smokers who endorsed postcessation weight gain concerns and smoked > 10 cigarettes per day (CPD), received 2 weeks of behavioral counseling and 8 weeks of the nicotine transdermal patch. They were then randomly assigned to receive followup relapse prevention sessions at 1, 3, 8, 16, 24, and 38 weeks postcessation in either group or individual format. The sample (N=98), was 67% Caucasian; 33% African-American, mean age=52.3(7.8) years, mean follicle stimulating hormone=42.6 (25.7); mean body mass index (BMI)=27.4(6.2), mean CPD=20.3(11.5), for a mean of 29.4(10.7) years, mean Fagerström Test for Nicotine Dependence (FTND)=6.4(2.1), and mean carbon monoxide=23.8(13.0) ppm. Abstinence rates for group vs. individual were 90.2%/96.6% at week 1, 95.2 %/75% at week 3, 87.2%/64% at week 8, 82.1%/66.7% at week 16, 76.5%/83.3% at week 24, and 80%/60% at week 38 postcessation. Session format significantly predicted abstinence rates at 3, 8, 16, 24, and 38 weeks while controlling for age, race, BMI, CPD, years smoking, FTND, and weight concern. Among abstainers, mean weight gain was 9.1 (individual) vs. 15.4 (group) lbs. at 38 weeks and did not differ by session format at any time point. Baseline weight concern, however, significantly predicted weight change at 3, 8, and 16 weeks postcessation.

CORRESPONDING AUTHOR: Amy L. Copeland, PhD, Psychology, Louisiana State University, Baton Rouge, LA, 70803; copelan@lsu.edu

Symposium #14 8:45 AM -10:15 AM 3019

METHODOLOGICAL CHALLENGES IN DISSEMINATION RESEARCH: MOVING CHRONIC DISEASE PREVENTION TO THE PUBLIC

Deborah J. Bowen, PhD

Social and Behavioral Sciences, Boston University, Boston, MA.

Dissemination is an emerging and important issue in the field of cancer prevention and control. Most agree that we currently do not adequately disseminate key findings and programs to the practitioners that need them. One key reason is that dissemination so rarely occurs is that we simply do not know how to effectively disseminate programs once they are found to be effective, due to lack of research in this area. Recent publications and conferences (e.g., have begun to move us toward development of the science of dissemination, but we have a long way to go. Research is needed into how we can most effectively disseminate evidence-based programs. However, methodological issues have interfered with research progress in this area.

The purpose of this symposium is to provide researchers in chronic disease prevention with methodological challenges in dissemination and ideas for solutions in research studies. We hope that this approach will serve as a springboard to formulate future dissemination research. This symposium is populated by investigators in the Cancer Prevention and Control Research Network, a national network of investigators formed with one of its purposes to increasing research on the dissemination of programs and interventions that have been found efficacious but have not been adopted as part of best practices. Dr. Bowen will outline methodological difficulties experienced by dissemination researchers. Empirical presenters include Dr. Shin-Ping Tu at the University of Washington, who will speak on the use of electronic medical records versus paper charts in assessing outcomes in dissemination research, Dr. Bryan Weiner at the University of North Carolina, who will provide examples of measuring organizational readiness for change, and Dr. Cam Escoffery at Emory University, who will present data on concordance of process evaluation data from differing sources. Dr. Roy Cameron of the University of Waterloo will provide a context-setting discussion for this symposium.

CORRESPONDING AUTHOR: Deborah J. Bowen, PhD, Social and Behavioral Sciences, Boston University, Boston, MA, 02118; dbowen@ bu.edu

Symposium #14A 3020

MEASURING ORGANIZATIONAL READINESS FOR CHANGE

Bryan J. Weiner, PhD and Shoou-Yih D. Lee, PhD

UNC Chapel Hill, Chapel Hill, NC.

Organizational readiness for change is a critical precursor to the successful implementation of evidence-based interventions. When organizational leaders overestimate the degree to which they have prepared the organization for change, a predictable range of undesirable outcomes occurs: (a) the change effort experiences a false start from which it might or might not recover; (b) the change effort stalls as resistance grows; or (c) the change effort fails altogether. Despite the recognized importance of organizational readiness for change, a comprehensive review of the literature reveals little consistency in terminology or conceptualization and limited evidence of reliability or validity for most currently available instruments. In this session, we will describe our efforts to develop a reliable, valid, practical instrument for assessing organizational readiness for change. Specifically, we will offer a conceptual definition of organizational readiness, outline a theory of its determinants and consequences, describe the item pool, and discuss our empirical assessment of the content validity, factor structure, and internal consistency of the emerging instrument. Finally, we will describe current efforts to establish construct and predictive validity. A reliable, valid, and practical instrument for assessing organizational readiness for change would be useful for both research and practice. For researchers engaged in implementation research, a psychometrically robust instrument would accelerate the testing and refinement of theories about the determinants of effective implementation of evidence-based interventions in organizations. For researchers conducting efficacy or effectiveness trials of promising but complex interventions, a robust instrument could be used to increase implementation fidelity in intervention sites and thereby reduce Type III error. For managers, practitioners, and other change agents, a robust instrument could be useful as a diagnostic tool for guiding an implementation effort.

CORRESPONDING AUTHOR: Bryan J. Weiner, PhD, UNC Chapel Hill, Chapel Hill, NC, 27599-7411; bryan_weiner@unc.edu

Symposium #14B 3021

TAPPING THE POTENTIAL OF ELECTRONIC HEALTH RECORDS FOR DISSEMINATION RESEARCH

Shin-Ping Tu, MD, MPH,[1] Mei-Po Yip, PhD,[1] Alison Shigaki, MD,[1] Alan Chun, MD,[2] Luong An, BA[2] and Yutaka Yasui, PhD[3]

[1]Department of Medicine, University of Washington, Seattle, WA; [2]International Community Health Services, Seattle, WA and [3]Department of Public Health Sciences, University of Alberta, Edmonton, AB, Canada.

Background:-Medical record documentation has served as the gold standard for many health outcomes. With the growing adoption of electronic health records (EHR) the implications of using EHR holds tremendous potential for dissemination research, as well as potential pitfalls. Lessons learned from our study “Cancer Control Dissemination to Asian Americans” provides valuable insights to extracting reliable and valid data from EHR. Results:-Over the course of our grant’s submission to implementation, our community partner, International Community Health Services converted from medical records to EHR over several phases. As new patient data was directly entered into the EHR, prior records were extracted from the paper charts into EHR or scanned into the EHR system. Implementation of EHR presented many advantages. Instead of resource intense paper chart audits, our study is now tapping into EHR to determine colorectal cancer screening rates. We will now download data of all age eligible patients instead of auditing charts from a random sample (25%). EHR data extraction will require significantly less time than paper chart audits and Fecal Occult Blood Test results will not be subject to data transfer errors. However, given the complexity of our outcome measure (three screening modalities with different time intervals) the EHR system also presents potential limitations: 1) incomplete data extraction of sigmoidoscopy (FS) and colonoscopy (CS) into EHR; and 2) textual documentation of FS and CS in EHR that prevents direct data extraction. Lessons Learned:-Detailed understanding of EHR formats is essential to tapping their potential for dissemination research. To optimally apply EHR data for research purposes, knowledge and expertise of EHR clinical uses and data formats are crucial to ensure effective communication and collaboration with partner clinic personnel.

CORRESPONDING AUTHOR: Shin-Ping Tu, MD, MPH, Medicine, University of Washington, Seattle, WA, 98104; shinping@u.washington.edu

Symposium #14C 3022

CONCORDANCE BETWEEN DATA SOURCES IN PROCESS EVALUATION DATA FOR THE POOL COOL DIFFUSION TRIAL

Cam Escoffery, PhD, Karen Glanz, PhD and Eric Nehl, MS

Rollins School of Public Health, Atlanta, GA.

The accuracy of process evaluation data may be a function of the data collection method and informants' involvement in an intervention. The purpose of this study was to examine the concordance between responses to process evaluation interviews and site visits with key informants and pool manager surveys in a diffusion trial.

We report on data from the Pool Cool Diffusion Trial (NCI R01 CA92505), which was conducted over a four-year period from 2003 to 2006. Each summer, independent evaluators assessed pool-level program implementation and satisfaction through telephone interviews (80) and site visits (40) at 120 locations. Pool coordinators also completed surveys about implementation at the end of each summer. Comparable questions were asked in interviews, site visits and surveys about the teaching of the Pool Cool lessons, use of a Leader's Guide and other program materials, conduct of poolside activities, posting of sun safety signs, and the use of sunscreen. Across all four years, percent agreement between surveys and telephone interviews ranged from 55 to 74% and was from 41 to 67% between the surveys and site visit data. The highest levels of agreement across interview/site visit observation data and pool manager surveys were for the conduct of the lessons (69.1%) and use of sunscreen (68.9%). Additionally, agreement improved across the methods after the first year of program implementation, especially in the areas of conduct of lessons (50–89%), posting sun safety signs (47–68%), and use of sunscreen (51–73%).

The findings indicate moderate agreement between process evaluation site visits and telephone interviews and pool manager data. These findings also suggest that in dissemination research, secondary data collection methods may be used to validate reports of program implementation from different administrative levels. An important finding related to practical research constraints is that telephone surveys may suffice as a primary data source for process evaluation and that site visit observations may not be necessary.

CORRESPONDING AUTHOR: Cam Escoffery, PhD, Rollins School of Public Health, Atlanta, GA, 30322; cescoff@sph.emory.edu

Symposium #15 8:45 AM -10:15 AM 3023

INNOVATIVE APPROACHES TO OBESITY TREATMENT IN RURAL COMMUNITIES

Ann McGrath Davis, PhD, MPH,[1] Christie Befort, PhD[1] and Michael Perri, PhD[2]

[1]University of Kansas Medical Center, Kansas City, KS and [2]University of Florida, Gainsville, FL.

Over 20% of the US population resides in a rural community. Rural populations suffer from many health disparities, including poorer access to healthcare, higher mortality rates, and higher rates of cardiovascular disease, obesity, and physical inactivity compared with their suburban counterparts. In addition, rural settings often have limited environmental resources that promote physical activity and healthy eating and poor access to trained health educators. This symposium highlights innovative approaches for delivering state-of-the-art behavioral obesity treatment to rural populations. Dr. Janicke will discuss findings from a randomized trial examining family-based and parent-only weight management interventions, versus a wait-list control, delivered through the Florida Cooperative Extension Office to underserved rural children and their families. He will also report the costs of family versus parent-only approaches. Dr. Befort will present results from a randomized study examining phone-based counseling for weight management delivered either individually or to a group via conference call to rural Kansas women, and she will include a discussion of cost-effectiveness for these two approaches. Dr. Rejeski will present results from a randomized translational study intervening on physical activity and weight management through Cooperative Extension Centers among older rural adults in North Carolina. Dr. Perri will present findings from the Treatment of Obesity in Underserved Rural Settings (TOURS), a trial conducted within the Florida Cooperative Extension Office venue examining extended care treatment for weight loss maintenance delivered via telephone counseling or face-to-face sessions, compared to an education control group. Dr. Jakicic, the discussant, will comment on barriers to providing sustainable obesity treatment programs to rural populations, strengths of the current state of the literature, and future directions.

CORRESPONDING AUTHOR: Christie Befort, PhD, University of Kansas Medical Center, Kansas City, KS, 66160; cbefort@kumc.edu

Symposium #15A 3024

GROUP VERSUS INDIVIDUAL PHONE-BASED WEIGHT MANAGEMENT FOR RURAL WOMEN

Christie Befort, PhD,[1] Joseph Donnelly, EdD,[2] Debra K. Sullivan, PhD[1] and Angela Banitt, MS[2]

[1]University of Kansas Medical Center, Kansas City, KS and [2]University of Kansas, Lawrence, KS.

Women of the most rural counties have the highest prevalence of obesity compared to their urban and suburban counterparts, yet few studies have tested weight control interventions in this population. Obesity treatment typically includes frequent face-to-face group meetings, which presents a barrier for rural residents who may have long travel distances to the clinic site and where availability of trained health educators may be limited. Phone-based treatment appears to be the best alternative for rural populations of whom only half have home internet access and where tele-video capacity is limited to a few sites. Group phone-based treatment holds great promise because it is cost efficient and capitalizes on the same mechanisms of face-to-face treatment by allowing participants to interact with each other in real time. Although evidence suggests that group treatment is more effective than individual treatment for promoting weight loss, it is unknown whether group treatment is more effective when delivered by phone. In this pilot study, overweight/obese rural women are randomized to a 6-month phone-based weight control intervention delivered either individually or to group via conference call. The intervention components are the same across arms and include instruction in diet, physical activity (PA), and behavioral modification and provision of prepackaged food. Individual calls last 30–45 minutes and group calls last 60 minutes. At the time of this abstract (week 12 of the intervention), participants ($n=33$; 47.4±11.4 years old; $BMI=33.8\pm4.3$) had achieved a 9.0% and 9.3% weight loss in individual and group arms, respectively. In addition, individual and group participants had increased their fruit and vegetable consumption to 36.6 and 37.5 servings per week, and increased their PA to 237 and 272 minutes per week, respectively. Preliminary results suggest that individual and group treatment by phone produce similar changes in weight, diet, and PA. Final results will include cost-effectiveness of group vs. individual treatment.

CORRESPONDING AUTHOR: Christie Befort, PhD, University of Kansas Medical Center, Kansas City, KS, 66160; cbefort@kumc.edu

Symposium #15B 3025

THE TREATMENT OF OBESITY IN UNDERSERVED RURAL SETTING (TOURS) TRIAL: LONG-TERM CHANGES IN BODY WEIGHT AND DIETARY INTAKE

Michael G. Perri, PhD,[1] Lesley D. Lutes, PhD,[2] Patricia E. Durning, PhD,[1] David M. Janicke, PhD,[1] Marian C. Limacher, MD,[1] Linda B. Bobroff, PhD[1] and A. D. Martin, PhD[1]

[1]University of Florida, Gainesville, FL and [2]East Carolina University, Greenville, NC.

The TOURS Trial examined the effectiveness of extended-care programs for the management of obesity in rural communities. Cooperative Extension Service offices in six rural counties served as the venue for the trial; 234 obese women, ages 50 to 75 years, who completed an initial 6-month weight-loss program were randomized to extended-care, delivered via telephone counseling or face-to-face sessions, or to an education control group. Both extended-care programs entailed problem-solving counseling delivered in 26 biweekly sessions. Control group participants received 26 biweekly newsletters containing weight-control advice. Mean weight loss during the initial 6-month lifestyle intervention was 10.0 kg. One year after randomization, participants in the telephone and face-to-face extended-care conditions regained less weight ($means\pm SE=1.2\pm0.7$ and 1.2±0.6 kg, respectively) than those in the education control group (3.7±0.7 kg; $ps<.05$). An examination of food frequency data collected at the start and completion of the one-year extended-care period showed that participants in the face-to-face and telephone conditions sustained significantly lower levels of both total energy intake and dietary fat intake as compared with women in the education control group ($ps<.05$). The analyses also showed that the significant between-group differences in energy intake during the extended-care period were due to increased meat consumption in the control group as compared to the other conditions ($ps<.05$). These findings indicate that extended-care programs delivered either by telephone counseling or by face-to-face sessions can have beneficial effects on the maintenance of long-term changes in body weight and dietary patterns.

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CORRESPONDING AUTHOR: Michael G. Perri, PhD, University of Florida, Gainesville, FL, 32610-0165; mperri@phhp.ufl.edu

Symposium #15C 3026

WEIGHT AND COST OUTCOMES FROM PROJECT STORY (SENSIBLE TREATMENT OF OBESITY IN RURAL YOUTH)

David Janicke, PhD,[1] Bethany J. Sallinen, PhD,[2] Michael G. Perri, PhD,[1] Lesley D. Lutes, PhD,[3] Janet H. Silverstein, MD[1] and Babette Brumback, PhD[1]

[1]University of Florida, Gainesville, FL; [2]Children's Hospital of Michigan, Ann Arbor, MI and [3]East Carolina University, Greenville, NC.

Children living in rural areas of the U.S. are 25% more likely to be overweight or obese than their metropolitan peers. Rural areas represent one of the largest medically underserved populations in the country. Behavioral family-based interventions have demonstrated success in producing weight loss in children. The existing research is limited, however, with respect to its generalizability to diverse community settings, and the necessity of including children as "active agents of change." Project STORY entailed a 3 arm randomized controlled trial to test the effectiveness of interventions to promote weight management in overweight children and their parents in medically underserved, rural settings. Participants included 93 overweight children and their parents. Participants are randomly assigned to 1 of 2, 4-month intervention programs that are delivered in rural communities through Cooperative Extension Offices, or to a Waitlist Control group. The Family-Based Intervention involved simultaneous, but separate groups for both the child and their parent. The Parent-Only Intervention involved groups for only the parents. Assessments occurred at baseline, post-treatment (month 4), and follow-up (month 10). Seventy-one children completed all 3 assessments. At month 10 follow-up, children in both the parent-only and family intervention demonstrated greater decreases in BMI z-score from pre-treatment, compared with those in the control group (MD=.115, CI=.003 - .220; MD=.136, CI=.018 - .254, respectively). There was no difference in weight status change between the parent-only and family treatments. Total costs for group leader time, materials, and travel for the parent and family interventions were $13,546 and $20,928, respectively. Total cost per child in the parent and family groups were $521 and $872, respectively. Results may have significant implication for medical underserved rural settings with limited resources and access to health promotion services.

CORRESPONDING AUTHOR: David Janicke, PhD, Clinical and Health Psychology, University of Florida, Gainesville, FL, 32611; djanicke@ufl.edu

Symposium #15D 3027

ENHANCING THE FUNCTIONAL HEALTH OF AT-RISK OLDER ADULTS: A PARTNERSHIP WITH COOPERATIVE EXTENSION

W. Jack Rejeski, PhD,[1] Walter Ambrosius, PhD,[2] Beverly Nesbitt, MA,RD, LDN,[1] Jill Gaukstern, MS,[1] Christie Fain, BS,[1] Elizabeth Chmelo, MS,[1] Jacquelyn McClelland, PhD,[3] Lucille Bearon, PhD[3] and Michael Perri, PhD[4]

[1]Wake Forest University, Winston-Salem, NC; [2]Wake Forest University School of Medicine, Winston-Salem, NC; [3]North Carolina State University, Raleigh, NC and [4]University of Florida, Winston-Salem, NC.

It is well known that both sedentary behavior and obesity are risk factors for the decline of functional health in aging. For the past 20 years, our research group has been studying the independent and combined effects that increased physical activity and weight management have on mobility disability in various at-risk populations of older adults. The Cooperative Lifestyle Intervention Program (CLIP) is an 18-month three arm translational study—health education control (C), physical activity only (PA), and physical activity + weight management (PA +WM)—that builds on findings from our controlled clinical trials. CLIP is being delivered through Cooperative Extension Centers in North Carolina to older adults that are overweight or obese and have evidence of cardiovascular disease or the metabolic syndrome. The advantage of this community infrastructure is that it is well known to older adults who live in rural settings. To date we have randomized 258 participants in 7 waves from three different counties in North Carolina to the interventions. Of these participants, 148 have now completed the 18-month assessments. These participants, 32 Men and 116 women, have a mean (±SD) age of 67.4 (±4.9) yr. The mean (±SE) weight loss for the C and PA group has been 1.0% (0.44%), whereas it has been 7.58% (0.56%) in the PA + WM group. The self-report levels of physical activity in both the PA and PA+WM groups have been similar, ~200 min/wk. These findings demonstrate that Cooperative Extension Centers are effective venues for promoting physical activity and weight management in at-risk older populations.

CORRESPONDING AUTHOR: W. Jack Rejeski, PhD, Wake Forest University, Winston-Salem, NC, 27109; rejeski@wfu.edu

Symposium #16 8:45 AM -10:15 AM 3028

NEW, INNOVATIVE APPLICATIONS OF COMPLEMENTARY / ALTERNATIVE MEDICINE (CAM) IN LIFE-THREATENING ILLNESS

Melanie A. Greenberg, PhD[1] and Jean Kristeller, PhD[2]

[1]Research Services, VA San Diego Healthcare System, San Diego, CA and [2]Psychology, Indiana State University, Terre Haute, IN.

Two divergent trends exist in 21st century U.S. healthcare. Technological innovation has improved understanding of genetic, inflammatory, and neural processes, enhancing detection and treatment of biomedical anomalies. Despite this progress, biomedicine ignores the innate self-healing ability of humans, given right circumstances. Recognizing this, consumers spend billions out of pocket annually on CAM practitioner visits, seeking treatments with historical traditions and interpretative systems widely divergent from the Biomedical paradigm. This symposium helps define Behavioral Medicine's (BM) role in relation to these paradigmatic trends. Because BM has a holistic, biopsychosocial model, yet is grounded in rigorous empirical traditions and methods, it may bridge the conceptual and methodological divide between CAM and Biomedicine. We present three randomized, controlled studies linking CAM approaches to clinical and immune outcomes in life-threatening disease. Dr Redwine describes a pilot study comparing the relative effects of Tai Chi and waitlist control on inflammatory cytokines in individuals with heart failure. Dr Jain describes a well-controlled study comparing effects of Hands-on Healing, a Biofield Therapy (BT), and Mock Healing with a wait-list control on inflammatory and hormonal markers, mood, and life quality in fatigued breast cancer patients. Dr Lutgendorf discusses a methodologically rigorous, NIH-funded study comparing another BT, Healing Touch, with relaxation and standard care in advanced cervical cancer patients undergoing chemotherapy and radiation. Together, these studies provide preliminary support for the efficacy of these CAM modalities in improving immune markers of inflammation and host resistance, and clinical symptoms in life-threatening illness. Dr Greenberg discusses conceptual and methodological issues, including consistency and replicability of effects, expectancy and placebo, dosage and timing of intervention, choice of populations and outcomes, and need for future research integrating CAM and BM.

CORRESPONDING AUTHOR: Melanie A. Greenberg, PhD, Research Services, VA San Diego Healthcare System, San Diego, CA, 92130; melanie.greenberg@va.gov

Symposium #16A 3029

A PILOT STUDY ON EFFECTS OF TAI CHI TRAINING ON DEPRESSION SYMPTOMS, HEART FAILURE SYMPTOM SEVERITY AND FREQUENCY, AND INFLAMMATORY CYTOKINES

Laura Redwine, PhD, Stephanie Cammarata, BS, Ines Pandzic, BS and Paul J. Mills, PhD

Psychiatry and Medicine, University of Califonia, San Diego, CA.

Tai Chi emphasizes a holistic approach, both mind and body. It is a meditative exercise originating from China, and with its moderate intensity and relative ease of performance it is well-suited even for those with significant physical impairments. Tai Chi has been shown to reduce depression symptoms in various populations, however has not been examined in heart failure (HF). HF produces debilitating symptoms and reduces quality of life, often leading to depressive symptoms. Depression can increase risk for future cardiac events and mortality in HF patients. The influence of depressive symptoms on inflammatory cytokines and subsequent cardiac remodeling may be one path. The present study evaluated HF patients ($n=29$; 37–81 years old; mean age=58.8, SD=4.2) that either received Tai chi training twice per week ($n=19$) for 12 weeks or were in a waitlist control group ($n=10$). At baseline and after the 12-week intervention period, patients in both groups received blood draws for stimulated intracellular cytokine IFN gamma and IL-4 expression in CD3+ T cell percentages and completed the Beck Depression Inventory (BDI) and Minnesota Living with Heart Failure Questionnaire (MLHFQ). Repeated measures analysis of covariance (ANCOVA) revealed decreased depressive symptom scores on the BDI ($p=0.05$) and reduced heart failure symptom frequency ($p<.05$) and severity ($p<0.05$), as measured by the MLHFQ. Also, percentages of CD3+ cells positive for IFN gamma were reduced after 12 weeks of practicing Tai Chi ($F=9.3$, $p=.018$). IL-4 expression did not significantly change over the 12 week period. Results suggest that Tai Chi training reduced depressive symptoms, HF symptom severity and frequency, and inflammatory cytokine IFN gamma. Future studies with a larger cohort are needed to determine mediator and moderator relationships between Tai Chi associated reductions in depressive symptoms and inflammatory markers. NCCAM 1-R21-AT-001910-01A2.

CORRESPONDING AUTHOR: Laura Redwine, PhD, Medicine and Psychiatry, UCSD, San Diego, CA, 92161; lredwine@vapop.ucsd.edu

Symposium #16B 3030

BIOFIELD HEALING FOR CANCER-RELATED FATIGUE: AN RCT

Shamini Jain, MS,[1,2] Desiree Pavlik, BA[2] and Paul Mills, PhD[2]

[1]SDSU/UCSD JDP, San Diego, CA and [2]UC, San Diego, CA.

Biofield therapies, considered one of the more controversial complementary therapies, are often sought out by cancer patients. This RCT examines the effects of 4 weeks (8 1-hr sessions) of hands-on healing biofield therapy (H) compared to mock healing (M) & a wait list control (C) on fatigue, immune, & hormonal function in fatigued breast cancer survivors ($N=75$; current $n=53$). Outcomes included self-report (MFSI-sf, POMS, FACT-B, & CESD), plasma cytokines & receptors (IL-1Ra, IL-6, IL-6r, IL-4, & TNF-RII), & salivary cortisol (4 timepoints/day). Treatment guess was rated after each session. Data were analyzed via RMANCOVA & HLM. Significance levels for group x time interactions were $p<.05$.

There were no significant differences between H & M participants on treatment guess; 75% thought they received H. Significant interactions indicated that H showed significant decreases in fatigue & depression vs. M & C. However, both H & M showed significant & comparable decreases in mood disturbance vs. C. When controlling for expectation, results for fatigue, depression, & mood disturbance were consistent. However, expectation & not group membership predicted QOL.

Significant interactions for cytokines indicated decreases for H vs. M in IL-4, and increases for M vs. H for IL-1Ra and IL-6. Significant interactions indicated H had more negative slopes (more variability) & lower mean cortisol over time, vs. M. Treatment expectation did not alter outcomes.

Results suggest benefits reported by biofield healing may be due to both specific & non-specific effects. QOL increases seem more due to expectation, & decreases in mood disturbance due to general aspects (e.g., rest & interaction with practitioner). However, decreases in fatigue & depression found only in H are not consistent with a placebo hypothesis. Moreover, differential patterns of response in immune & hormone data for H vs. M suggest that physiological effects of biofield therapies may differ from those of a placebo. There is a need to further examine specific effects of biofield healing for cancer related fatigue and inflammation. NCCAM F31-AT003021.

CORRESPONDING AUTHOR: Shamini Jain, MS, Clinical Psychology, SDSU/UCSD Joint Doctoral Program, San Diego, CA, 92103; sjain@ucsd.edu

Symposium #16C 3031

HEALING TOUCH, RELAXATION, AND IMMUNITY IN CERVICAL CANCER PATIENTS

Susan K. Lutgendorf, PhD,[1,2] Elizabeth Mullen, MA,[1] Koen DeGeest, MD,[2] Geraldine Jacobson, MD,[3] Anil Sood, MD,[5] Laura Hart, EdD,[7] Dan Russell, PhD[6] and David Lubaroff, PhD[4]

[1]Psychology, U. of Iowa, Iowa City, IA; [2]OB/Gyn, U. of Iowa, Iowa City, IA; [3]Radiation Oncology, U. of Iowa, Iowa City, IA; [4]Urology, U. of Iowa, Iowa City, IA; [5]Gynecologic Oncology, UT MD Anderson Cancer Center, Houston, TX; [6]Inst. for Social Sciences Research, IA State University, Ames, IA and [7]Nursing, U. of Iowa, Iowa City, IA.

Complementary and alternative medicine (CAM) therapies, including energy-based therapies are commonly used by cancer patients. However, there are little data establishing efficacy and putative mechanisms of energy therapies. Healing touch (HT) is classified by NIH as a “biofield” therapy as its effects are thought to be secondary to manipulation of hypothesized “energy fields”. Although cervical cancer incidence is decreasing in the US, many cervical cancer patients experience acute and delayed side effects of treatment including severe immune compromise. This randomized study examined effects of HT, relaxation (R), and standard care (SC) on cellular immunity, mood, and treatment side effects in 60 advanced cervical cancer patients receiving 6 weeks of chemotherapy and radiation. Interventions were delivered 4 days/wk for 5 weeks, immediately after radiation. Immune and psychological assessments were performed pre-treatment at weeks 1, 4 and 6. Growth curve analyses (using all available data) analyzed changes in outcome variables over time. HT patients had significantly higher mean natural killer cell activity (NKCC) at week 6 ($M=32.68\%$ lysis) than either R ($M=16.54\%$ lysis, $p=0.014$) or SC patients ($M=14.04\%$ lysis, $p=0.004$), and NKCC decreased more in these two groups over time compared to the HT group (SC: $p=0.01$; R: $p=0.07$). No group differences in NK (CD3-CD56+) number or white blood cell count were seen. Physician-rated local pain was lower in the HT group ($p=0.056$). Changes in distress between groups were less marked. Findings suggest a preservation of innate immunity during cancer treatment among HT patients. This study provides a biological rationale by which HT may improve outcomes in cervical cancer patients. Limitations and challenges in research methodology will be discussed.

CORRESPONDING AUTHOR: Melanie A. Greenberg, PhD, Research Services, VA San Diego Healthcare System, San Diego, CA, 92130; melanie.greenberg@va.gov

Symposium #17 8:45 AM -10:15 AM 3032

AGING AND CANCER: PSYCHOLOGICAL RESPONSES TO DIAGNOSIS, TREATMENT, RECOVERY, AND WHAT LIES AHEAD

Stephen Lepore, PhD

Temple University, Philadelphia, PA.

This symposium will elucidate important similarities and differences in reactions to cancer across the age spectrum, and, importantly, spark discussion and interest in potential interventions that will meet the differential needs of younger versus older individuals affected by cancer. Empirical research is fairly limited in this area, but there is suggestive evidence that cancer has less of a psychological impact on older than younger persons. The purpose of this symposium is to examine the relation between age and psychological adjustment more closely, by discussing how and under what circumstances age influences psychological outcomes in various cancer populations. Symposium participants test theoretic models about age and psychological adjustment to cancer and discuss how underlying physical, social, and psychological aging processes might contribute to age-related variations in psychological adjustment to cancer.

CORRESPONDING AUTHOR: Stephen Lepore, PhD, Temple University, Philadelphia, PA, 19122; slepore@temple.edu

Symposium #17A 3033

DOES IT GET EASIER? AGE, LIFE STAGE,AND TIME SINCE DIAGNOSIS AS PREDICTORS OF FEAR OF RECURRENCE TRAJECTORIES AMONG BREAST CANCER SURVIVORS

Tracey A. Revenson, PhD[1] and Ronni M. Greenwood, PhD[2]

[1]Psychology, Graduate Center of the City University of New York, New York, NY and [2]Psychology, University of Limerick, Limerick, Ireland.

After initial treatment has ended, 40–99% of women with breast cancer report ongoing fears that their disease will recur. Age has consistently been correlated with fear of recurrence (FoR), with younger women reporting greater fears, but this is often studied in the year or two after diagnosis. As events that are “off-time” vs. “on-time” in the adult life span have different meanings for psychosocial adjustment and quality of life, it is important to understand the relation of age to FoR within the treatment context. Using growth curve modeling, we describe fear of recurrence trajectories over a four-year period. Data from 169 women with breast cancer were collected at 1–7 years post-diagnosis and again one ($n=99$) and three ($n=67$) years later. The overall trajectory of fear of recurrence showed great stability over time, with a small decline at Times 2 and 3 (corresponding to 4 and 5 years post-diagnosis). The estimate for intercept variance, 1.53, was significant but the slope variance was not, indicating that the growth curves for women at different points since diagnosis are not different from each other. Age was a significant predictor of FoR, with younger women reporting greater FoR on all three measurement occasions (fixed effects, $t=-3.09$, $p<.003$); fear of recurrence did not change at different rates for older and younger women. Women who had undergone chemotherapy had greater FoR at all three times (fixed effects $t=-2.17$, $p<.003$) and there was a trend ($t=-1.64$, $p<.10$) for women who had breast-conserving surgery to have greater FoR. Younger women were more likely to have had breast-conserving surgery than older women. The data suggest that fears of recurrence are specific to and shaped by age/life stage as well as the illness context.

CORRESPONDING AUTHOR: Tracey A. Revenson, PhD, Psychology, Graduate Center of the City University of New York, New York, NY, 10012; Trevenson@gc.cuny.edu

Symposium #17B 3034

GENDER AND AGE PREDICT DIFFERENTIAL PSYCHOLOGICAL RESPONSES TO A DIAGNOSIS OF COLORECTAL CANCER

Stacey Hart, PhD,[1] Jenna J. Belanger, BA,[1] Laura Katz, BA,[1] Danielle Culp, BA[1] and Madhulika G. Varma, MD[2]

[1]Psychology, Ryerson University, Toronto, ON, Canada and [2]Surgery, University of California San Francisco, San Francisco, CA.

Colorectal cancer is the third most common malignancy in both men and women. While it primarily affects older adults, a substantial minority of patients are diagnosed under the age of 50. However, few studies have examined whether age and gender predict psychological outcomes in colorectal cancer. Using 3-panel longitudinal data from 108 newly diagnosed colorectal cancer patients assessed prior to surgery, and 6 and 12 months post-surgery, we conducted mixed model linear analyses to describe differential patterns of adjustment across gender and age. Mixed models controlled for education, type of cancer (rectal vs. colon), and stage of disease. Outcomes included posttraumatic stress (PTS), posttraumatic growth (PTG), and quality of life; predictors included age (less than age 49 vs. greater than age 50), gender (male vs. female), and an age X gender interaction term. On the Posttraumatic Stress Checklist-Civilian Version, PTS remained stable over time; fixed effects were found for age ($F=4.2$, $p<.05$), with younger reporting higher PTS than older patients, and for gender ($F=7.6$, $p<.01$) with women reporting greater PTS than men. The age X gender interaction approached significance ($F=3.1$, $p=.08$), with younger women reporting the highest PTS. On the Posttraumatic Growth Inventory, PTG remained stable over time; fixed effects were found for gender ($F=16.6$, $p<.001$) with women scoring more PTG than men; no age or age X gender interactions emerged. On the SF-36 Physical Health Composite, a fixed effect was found for age ($F=4.2$, $p<.05$), with older patients reporting worse QOL than younger patients; no gender or age X gender interactions emerged. Finally, on the SF-36 Mental Health Composite, no age, gender, or interaction effects were found. Our data suggest that age and gender shape the subjective experience of diagnosis and treatment for colorectal cancer, and add to the literature on the psychological resiliency of older adults.

CORRESPONDING AUTHOR: Stacey Hart, PhD, Psychology, Ryerson University, Toronto, ON, M5B 2K3; stacey.hart@psych.ryerson.ca

Symposium #17C 3035

TRAJECTORIES OF RECOVERY IN GENITOURINARY FUNCTION AND MENTAL HEALTH IN YOUNGER VERSUS OLDER MEN TREATED FOR LOCALIZED PROSTATE CANCER

Katherine J. Roberts, EdD,[1,2] Stephen Lepore, PhD[1] and Alexandra Hanlon, PhD[1]

[1]Temple University, Philadelphia, PA and [2]Columbia University, New York, NY.

In the literature on cancer, relative to younger survivors, older cancer survivors have been shown to have relatively good mental health in the context of poorer physical health outcomes. This paper evaluates age-related difference in recovery from prostate cancer treatments using 4-panel longitudinal data from 234 men over two years after their treatment for localized prostate cancer. Data were analyzed using generalized estimating equations controlling for type of cancer treatment. On average, older men (> or=65.5 years) had poorer urinary and sexual functioning than younger men (< 65.5 years) (p's<.01). The rate of improvement in sexual functioning also varied by age: younger men improved at each time wave (all p's<.01), whereas older men improved only by the two year follow-up wave ($p<.05$). Mean levels of depressive symptoms and intrusive thoughts were low in both groups, with slight variations over time ($p<.01$). Analyses of the relation between genitourinary functioning and mental health outcomes revealed that younger men with low sexual functioning had more depressive symptoms ($p<.05$) and more intrusive thoughts ($p<.01$) than older men with low functioning. Younger men with low urinary functioning also had more intrusive thoughts ($p<.05$) than older men with low functioning. There were no differences in levels of depressive symptoms or intrusive thoughts between younger and older men with relatively high levels of sexual or urinary functioning. In sum, older age appears to dampen some of the adverse mental health outcomes associated with poorer physical functioning among prostate cancer survivors. Two theoretical explanations of this outcome are: (a) older men may attribute some illness-specific symptoms to normal aging and (b) older men may have had more experience coping with adverse health issues prior to their cancer.

CORRESPONDING AUTHOR: Stephen Lepore, PhD, Temple University, Philadelphia, PA, 19122; slepore@temple.edu

Symposium #18 8:45 AM -10:15 AM 3036

ENHANCING QUALITY OF LIFE AND HEALTH IN CANCER SURVIVORS: LESSONS LEARNED AND NEXT STEPS

Annette L. Stanton, PhD

Psychology, UCLA, Los Angeles, CA.

Over the past three decades, the number of people living with a history of cancer in the United States has tripled, rising from 3 million in 1971 to 11.1 million in 2005. Large, prospective studies convincingly demonstrate that the experience of cancer produces marked psychological impact and life disruption. A number of meta-analyses also document the efficacy of behavioral medicine interventions to address sequelae of the cancer experience. Yet, progress is uneven, and research documents persistent unmet needs in cancer survivors. Moreover, meta-analyses yield heterogeneous effect sizes across trials, indicating that significant moderators of intervention effects exist and that some interventions carry robust positive effects, whereas others produce null findings. Certainly, as the population living with a history of cancer continues to increase, identification of optimal methods for promoting their health and well-being is crucial. The goal of the proposed symposium is to bring together researchers experienced in conducting randomized, controlled intervention trials for cancer survivors in order to highlight major findings across their own body of work, introduce exciting new intervention initiatives, and reflect on crucial next steps in intervention research and dissemination. Each of the four presenters has conducted multiple, controlled intervention trials in cancer populations, spanning interventions directed toward enhancing psychological, behavioral (e.g., physical activity), and biological (e.g., neuroendocrine and immune function) outcomes. The final presenter is the Director of the National Cancer Institute's Office of Cancer Survivorship. The presenters' charge is not to present detailed findings from a single study, but rather to provide a synthesis and analysis of their bodies of work, using it to illustrate lessons learned about conceptualizing and conducting intervention research. The presenters' depth of expertise uniquely positions them to illuminate directions vital to continued progress in this area, which is intended to serve as a springboard for the next generation of research.

CORRESPONDING AUTHOR: Annette L. Stanton, PhD, Psychology, UCLA, Los Angeles, CA, 90095-1563; astanton@ucla.edu

Symposium #18A 3037

STRESS MANAGEMENT EFFECTS ON PSYCHOSOCIAL AND PHYSIOLOGICAL ADAPTATION IN WOMEN BEING TREATED FOR BREAST CANCER

Michael Antoni, PhD,[1] Charles Carver, PhD,[1] Suzanne Lechner, PhD[2] and Bonnie Blomberg, PhD[2]

[1]Psychology, University of Miami, Coral Gables, FL and [2]Psychiatry, University of Miami, Miami, FL.

We summarize effects of Cognitive Behavioral Stress Management (CBSM) intervention on psychosocial and physiological adaptation in women undergoing treatment for breast cancer (BCa). We also highlight evidence for mechanisms that explain some of these effects and outline ongoing and future research. We present results of two randomized clinical trials (RCTs) testing the effects of a group-based CBSM intervention in women with BCa and progress on ongoing RCTs. In each trial women are recruited up to 8 weeks after surgery just before beginning adjuvant therapy for Stage I -III BCa, and randomized to either a 10-wk group-based CBSM intervention (relaxation techniques, cognitive restructuring, coping skills, and interpersonal skills), or a 1-day psycho-educational (PE) group seminar delivered at the mid-point of the 10-wk intervention period. Participants are monitored before randomization and at 3-mo and 9-mo follow-ups for psychosocial (positive and negative mood, quality of life, benefit finding, interpersonal disruption) and physiological (cortisol and immunologic functioning) adaptation and intervention-associated processes that may account for effects. Women assigned to CBSM revealed improvements in many indicators of psychosocial and physiological adaptation at follow-up compared to controls. Secondary analyses revealed the importance of CBSM-specific processes as well as the length of intervention. These findings led to one ongoing RCT that experimentally separates some of these CBSM intervention processes and tests them in a more time-limited version. Other ongoing work tests the efficacy of this intervention delivered at different points in the medical treatment process and in forms that are tailored for delivery in lower-income community settings. Future work should seek to illuminate the active ingredients of CBSM that account for its effects on adaptation and to develop briefer tailored interventions that can be delivered to the wider population of women with BCa.

CORRESPONDING AUTHOR: Annette L. Stanton, PhD, Psychology, UCLA, Los Angeles, CA, 90095-1563; astanton@ucla.edu

Symposium #18B 3038

WHAT TREATMENT, BY WHOM, IS MOST EFFECTIVE FOR THIS INDIVIDUAL WITH THAT SPECIFIC PROBLEM, UNDER WHICH SET OF CIRCUMSTANCES, AND HOW DOES IT COME ABOUT?

Barbara L. Andersen, PhD,[1] Rebecca A. Shelby, PhD[2] and Lisa M. Thornton, PhD[1]

[1]Psychology, The Ohio State University, Columbus, OH and [2]Psychiatry, Duke University, Durham, NC.

Psychological and behavioral interventions for cancer patients are largely effective in reducing the burdens and sequelae of the disease and treatment. Interventions can improve mood, quality of life, social adjustment, health behaviors, immune functioning, and, under some circumstances, survival. Outcome studies provide information for the intervention as a whole, but there are limited data regarding how change occurs, patients for whom intervention strategies are beneficial, and the circumstances under which interventions are effective. Data from an RCT with breast cancer patients, which yielded robust biobehavioral and health outcomes, is used to illustrate how these follow up questions can be addressed. The combination of process and outcome data can be used, for example, as evidence in choosing among components for a second generation of intervention trials. Compared to the cost of multiple outcome measures, assessment of process variables and individual differences is low and the yield of useful information is high. We encourage examination of therapeutic processes with data available from previous trials and recommend their inclusion in new trials. Doing so is a complimentary effort to determine the most efficacious psychological treatments for cancer patients.

CORRESPONDING AUTHOR: Annette L. Stanton, PhD, Psychology, UCLA, Los Angeles, CA, 90095-1563; astanton@ucla.edu

Symposium #18C 3039

STEPS TOWARD RECOVERY AFTER CANCER TREATMENT

Bernardine M. Pinto, PhD

[1]Miriam Hospital, Providence, RI and [2]W. Alpert Medical School of Brown University, Providence, RI.

With the growing number of cancer survivors and a better understanding of the late effects of cancer, there are many opportunities for behavioral researchers to contribute to promoting cancer recovery. Cancer patients experience treatment sequelae that include increased fatigue, mood disturbances, changes in body esteem and physical functioning. Physical activity adoption has been shown to ameliorate some of these late effects thereby improving patients' recovery and QOL. This paper will present an overview of randomized controlled trials testing the feasibility and effects of home-based aerobic exercise programs offered to breast cancer patients. An on-going trial tests the feasibility and effects of a similar intervention among colorectal cancer patients. The interventions are based on Social-Cognitive theory and the Transtheoretical model of behavior change. To extend reach, the interventions are primarily delivered by telephone. Outcomes of these trials include assessments of fitness, physical activity, mood, QOL, fatigue and body esteem conducted at baseline, posttreatment and follow-up. Challenges in patient recruitment and retention, patient safety and intervention delivery will be discussed. The potential for dissemination of this type of intervention and directions for future work will be addressed.

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CORRESPONDING AUTHOR: Bernardine M. Pinto, PhD, Miriam Hospital, Providence, RI, 02903; BPinto@lifespan.org

Symposium #18D 3040

OPTIMIZING CANCER SURVIVORSHIP OUTCOMES: WHERE DO WE NEED TO GO AND HOW ARE WE GOING TO GET THERE?

Julia H. Rowland, PhD

Office of Cancer Survivorship, National Cancer Institute, Bethesda, MD.

As the field of cancer survivorship research enters its adolescence, a number of important lessons have been learned. Among these are that while most survivors manifest remarkable resilience in the face of life-threatening illness, many suffer long-term and late consequences of their disease and its treatment that diminish quality of life; a definable subset may be at particular risk for adverse outcomes. These effects can influence all aspects of a survivors' life: physical and physiologic, psychological, social, economic, existential. Several recent national reports find that although cancer treatments themselves have improved, and in the future will be increasingly tailored and hopefully less toxic, attention to mitigating cancer's harmful impact long-term on the whole patient, not just the tumor, has not kept pace. At the same time, over the past twenty years a number of educational, behavioral and psychosocial interventions have been shown to significantly improve the health and function of survivors and their family members. The sophistication of this science has matured markedly over time. Further, this body of work has revealed that survivors are often open to making major life changes to reduce their risk of future cancer-related morbidity and mortality and look to their healthcare team to advise them about and help them make these changes. The pressing questions have thus become to better understand: Who needs what kind of psychosocial/behavioral interventions? When this should be delivered in the course of illness, in what setting and by whom? And at least for US populations, who is going to pay for this? This presentation will review some of the current patient, provider and system barriers to applying interventions shown to optimize survivors' health outcomes, and discuss new directions needed to ensure that these become part of standard care for all those touched by cancer.

CORRESPONDING AUTHOR: Annette L. Stanton, PhD, Psychology, UCLA, Los Angeles, CA, 90095-1563; astanton@ucla.edu

Friday
April 24, 2009
10:30 AM -12:00 PM

Paper Session #19 10:30 AM -10:45 AM 3041

CONSPIRACY BELIEFS ARE RELATED TO ANTIRETROVIRAL THERAPY USE AMONG HIV-POSITIVE AFRICAN-AMERICANS

Rebecca Wald, PhD, Stephen J. Synowski, PhD and Lydia R. Temoshok, PhD

Institute of Human Virology, University of Maryland School of Medicine, Baltimore, MD.

Surveys of the general African-American population have found widespread endorsement of HIV-related conspiracy theories. Although the U.S. HIV epidemic is increasingly centered in the African-American population, the prevalence and consequences of conspiracy beliefs among HIV-positive African-Americans have not been previously studied.

111 African-American adults with HIV (45% female; mean age 43) attending an outpatient HIV clinic completed a questionnaire assessing endorsement of common HIV conspiracy theories, hostile or cynical beliefs about HIV treatment, and positive views of HIV research and treatment. Participants' antiretroviral therapy (ART) status and ART adherence were assessed via structured interview. Those reporting 95% ART adherence in the past week were classified as adherent.

Conspiracy beliefs endorsed by a significant minority of the sample include belief that the government created HIV (34.7%), that a secret cure exists (25.6%), that drug companies are not interested in curing HIV (35.5%), that HIV is a genocidal plot against minorities (18.2%), and that HIV has not been proven to cause AIDS (14.7%). The 47% of the sample who were not taking ART were significantly more likely to believe that the government created HIV ($t=2.08$, $p=.04$), that a secret cure exists ($t=3.31$, $p=.001$), that HIV doctors unfairly experiment on minorities ($t=2.60$, $p=.011$), and that HIV has not been proven to cause AIDS ($t=2.84$, $p=.006$). Participants not taking ART were significantly less likely to report that they could trust their doctor ($t=-2.01$, $p=.047$). Among the 53% of the sample taking ART, conspiracy beliefs were not related to medication adherence.

HIV conspiracy beliefs are endorsed by a significant minority of patients receiving HIV treatment, despite presumed exposure to accurate information. These beliefs are more common among persons not on ART. Further research is necessary to discover whether conspiracy beliefs lead some patients to reject or delay ART, and to develop interventions to address these beliefs.

CORRESPONDING AUTHOR: Rebecca Wald, PhD, Institute of Human Virology, University of Maryland School of Medicine, Baltimore, MD, 21201; rwald@ihv.umaryland.edu

Paper Session #19 10:45 AM -11:00 AM 3042

NEUROCOGNITIVE FACTORS IN THE INTERSECTION OF SUBSTANCE USE AND HIV RISK

Sarit A. Golub, PhD, MPH,[1,2] Julia C. Tomassilli, MA,[2,3] William J. Kowalczyk, MA[2,3] and Jeffrey T. Parsons, PhD[1,2]

[1]Psychology, Hunter College, City University of New York, New York, NY; [2]Center for HIV/AIDS Education Studies and Training, New York, NY and [3]CUNY Graduate Center, New York, NY.

In neuropsychological research, a link has been made between substance use and executive functioning deficits (e.g. decision-making, impulsivity), while behavioral research has linked similar deficits to HIV risk behavior. The present study integrates these two lines of research by examining the role of executive function in the intersection of substance use and risky sex. Active substance users completed two neuropsychological assessments, the Iowa Gambling Task (IGT) and its variant. Factorial ANOVA revealed that those who fit a neurocognitive profile characterized by "insensitivity to future consequences" (i.e. impaired on both tasks) were significantly different from all other groups. These participants reported: a) an average of 8 high-risk acts in the past 30 days, almost 3 times higher than any other group, $p=.02$; b) having sex under the influence an average of 6 times in the past 30 days, almost twice as high as any other group, $p<.05$; c) that 89% of their sex acts were unprotected, compared to 38% for the other participants, $p=.05$; and d) that 93% of their sex while drunk or high was unprotected, compared to 35% for the other participants, $p<.01$. Analyses also revealed a new neurocognitive profile, previously unseen in research with the IGT. These participants, impaired on the IGT variant only, may be described as "hypersensitive to punishment." Participants who fit this new neurocognitive profile reported the least risk behavior, including the fewest number of drug use days ($p<.05$), the lowest percentage of sex acts that were unprotected ($p<.02$), and the lowest percentage of unprotected sex acts while drunk or high ($p<.05$). These results demonstrate that neurocognitive measures of decision-making deficits are important predictors of HIV risk behavior and must be considered in the design and implementation of prevention programs.

CORRESPONDING AUTHOR: Sarit A. Golub, PhD, MPH, Psychology, Hunter College, City University of New York, New York, NY, 10065; sarit.golub@hunter.cuny.edu

Paper Session #19 11:00 AM -11:15 AM 3043

PREVALENCE AND CLINICAL IMPLICATIONS OF INTERACTIVE TOXICITY-BELIEFS REGARDING MIXING ALCOHOL AND ANTIRETROVIRAL THERAPIES AMONG PEOPLE LIVING WITH HIV/AIDS

Seth Kalichman, PhD

Psychology, University of Connecticut, Storrs, CT.

Background: Alcohol use is a barrier to medication adherence. Beyond the effects of intoxication on cognition and memory, people living with HIV/AIDS who believe that alcohol should not be mixed with their medications may temporarily stop taking medications when drinking. Purpose: To examine the effects of alcohol-treatment beliefs on HIV treatment adherence. Methods: People living with HIV/AIDS who were receiving treatment ($N=145$) were recruited from community and clinical services to complete measures of substance use and alcohol-antiretroviral (ARV) interactive toxicity-beliefs (e.g., alcohol breaks down HIV medications so they will not work). Medication adherence was monitored using unannounced telephone-based pill counts. Results: Forty percent of participants were currently using alcohol and nearly one in four drinkers reported stopping their medications when drinking. Beliefs that mixing alcohol and medications is toxic were common among drinkers and non-drinkers, with most beliefs endorsed more frequently by non-drinkers. Hierarchical regression analysis showed that stopping ARVs when drinking was associated with treatment non-adherence over and above quantity, frequency, and problems associated with drinking alcohol. Conclusions: Beliefs that alcohol and ARVs should not be mixed are common among people living with HIV/AIDS and these beliefs can lead to HIV treatment interruptions. Clinicians should educate patients about the necessity of continuing to take ARV medications without interruption even if they are drinking alcohol.

CORRESPONDING AUTHOR: Seth Kalichman, PhD, Psychology, University of Connecticut, Storrs, CT, 06269; seth.k@uconn.edu

Paper Session #19 11:15 AM -11:30 AM 3044

BRINGING RISK ASSESSMENT INTO THE BEDROOM:SEX MOTIVES AND RISKY BEHAVIORS IN MEN WHO HAVE SEX WITH MEN

Eli Puterman, MA, Anita DeLongis, PhD and Mark Lam, BA

Psychology, University of British Columbia, Vancouver, BC, Canada.

We are well into the third decade of HIV disease, and risky sexual behaviors continue to be the primary mode of transmission. The limited success of research and interventions that focus on the cognitive determinants of precautionary and risky sexual behaviors has been attributed to the possibly erroneous presumption that HIV and health protection are most salient in the minds of those having sex when they are having sex (Levinson et al.,1995). Increasing evidence supports this contention - that our understanding of sexual risk taking is enhanced by examining the reasons people generally have sex, such as enhancing intimacy with one's partner, attaining sexual pleasure, or to cope with a negative mood state. The present study sought to investigate sex-related motives and their associations with the most risky sexual behavior in those most at risk for transmission in developed nations - single men who have sex with men. We considered the relevance of two important contextual factors that have previously been documented to be associated with condom use behaviors, namely HIV status and partner type. Methods: Two hundred participants completed eight weeks of a daily online questionnaire containing items related to sex-related motives (Cooper et al., 1998), discussions of condom use and HIV risk, and a checklist of sexual if sexual contact occurred. Results/Discussion: Logistic Multilevel Modeling was applied to the data. Results confirmed our hypotheses - that having sex to enhance intimacy and to cope with a negative affective state significantly decreased the likelihood of engaging in condom use for anal intercourse. Further, the study confirmed that having sex to enhance sexual pleasure, to attain partner approval, and to confirm to oneself a sense of sexual esteem significantly increased the odds that single gay men will use a condom for anal intercourse. As predicted sex motives were differentially related to condom use as a function of both their HIV serostatus and type of partner, yet in more complex ways than initially considered. Clinical implications are discussed.

CORRESPONDING AUTHOR: Eli Puterman, MA, Psychology, University of British Columbia, Vancouver, BC, V6T1Z4; eli@psych.ubc.ca

Paper Session #19 11:30 AM -11:45 AM 3045

STREET WORKERS AND INTERNET ESCORTS: CONTEXTUAL AND PSYCHOSOCIAL FACTORS SURROUNDING HIV RISK BEHAVIOR AMONG MEN WHO ENGAGE IN SEX WORK WITH OTHER MEN

Matthew J. Mimiaga, ScD, MPH,[1,2] Sari L. Reisner, MA,[2] Jake P. Tinsley, BS,[2] Kenneth H. Mayer, MD[3,2] and Steven A. Safren, PhD[1,2]

[1]Harvard Medical School/Massachusetts General Hospital, Boston, MA; [2]The Fenway Institute, Boston, MA and [3]Brown Medical School, Providence, RI.

Background: Sex work is associated with elevated risk for HIV infection among MSM. This mixed methods study examined HIV risk behavior by sex worker type to better understand how to tailor prevention interventions to high-risk MSM.
Methods: Two groups of MSM sex workers were recruited between January and March 2008: street workers (n=19) and Internet escorts (n=13). Participants completed a semi-structured qualitative interview and quantitative psychosocial assessment battery; interviews were conducted until redundancy in responses was achieved.
Results: Almost 1/3 (31%) were HIV-infected. Compared to Internet escorts, street workers were more likely to be less educated (OR=4.17; $p<0.01$), have unstable housing in the past 12 months (OR=7.25; $p<0.05$), be unemployed (OR=8.3; $p<0.01$), and report crack use during sex (OR=10.8; $p<0.05$). The majority of participants (69%) reported at least one episode of either insertive or receptive unprotected anal sex with a mean of 10.7 male sex partners of different HIV serostatus in the past 12 months (SD=42.2). Internet sex workers reported being paid substantially more for sex than street sex workers. Both groups reported inconsistent condom use, high rates of unprotected sex, infrequent HIV status disclosure, and being offered more money for unprotected sex. Internet sex workers reported that they were more likely to engage in sexual risk with noncommercial sex partners than paying sex partners. Two street workers became infected in the context of sex work, and 25% of the entire sample had never been tested for STIs. Motivations for doing sex work included the "lucrativeness" of sex work, and as a means to obtain drugs.
Conclusions: These findings can be used to generate hypotheses for designing and providing tailored primary/secondary prevention interventions for this subgroup of MSM who appear at increased risk of HIV transmission or acquisition.

CORRESPONDING AUTHOR: Matthew J. Mimiaga, ScD, MPH, Harvard Medical School / The Fenway Institute, Boston, MA, 02199; mmimiaga@partners.org

Paper Session #19 11:45 AM -12:00 PM 3046

TRANSLATION OF A SEXUAL RISK REDUCTION INTERVENTION IN ZAMBIA

Deborah L. Jones, PhD,[1] Stephen M. Weiss, PhD, MPH,[1] Drenna Waldrop-Valverde, PhD,[1] Ndashi Chitalu, MD,[2] Miriam Mumbi, RN[2] and Szonja Vamos, BS[1]

[1]Psychiatry & Behavioral Sciences, University of Miami Miller School of Medicine, Miami, FL and [2]University of Zambia School of Medicine, Lusaka, Zambia.

Translation is the aim of the successful clinical trial. This study presents preliminary data from the translation of a group sexual risk reduction intervention to Community Health Centers (CHC) from the University Teaching Hospital (UTH) in Lusaka, Zambia. Data is presented from the first two CHCs. A pilot of the intervention was conducted at a CHC (n=200), in which UTH staff implemented the intervention while CHC staff provided logistic and administrative support. Six additional CHCs were identified and randomly selected for implementation of the intervention. CHC staff, patients and Community Advisory Board (CAB) members participated in focus group discussions, and CHC staff completed baseline organizational assessments. Focus group results were reviewed for revisions needed to the intervention and CHC staff training conducted. At 12 months post baseline, both pilot CHC and UTH sites (n=612) had improved on all measures of condom attitudes and self efficacy, and both sites had increased condom use at 6 and 12 months post baseline. The majority of inconsistent users increased to consistent use at both sites over time (UTH, 82%, CHC, 94%) and CHC participants maintained higher levels of condom use in comparison with UTH participants (F=7.17, p=.001). CHC staff qualitative themes included work load, facilities, compensation, logistics; patient themes included communication, HIV/STI transmission, family planning; CAB themes included Satanism, trust, space, compensation. Themes were used to tailor the project to specific CHCs. Audio computer assisted survey instruments (ACASI) were used to conduct assessments of patients and CHC staff; recruitment was conducted through existing CHC Voluntary Counseling and Testing (VCT) programs. Results illustrate the process, feasibility and pilot efficacy of implementing a group sexual risk reduction intervention in a Zambian CHC setting. Group interventions in conjunction with VCT are discussed.

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CORRESPONDING AUTHOR: Deborah L. Jones, PhD, Psychiatry & Behavioral Sciences, University of Miami Miller School of Medicine, Miami, FL, 33136; djones@med.miami.edu

Paper Session #20 10:30 AM -10:45 AM 3047

HOPE, EDUCATION, AND THE IMPORTANCE OF HEALTH BEHAVIOR AMONG ASIAN AND LATINO IMMIGRANT POPULATIONS

Jonathan R. Sills, PhD and David B. Feldman, PhD

Counseling Psychology, Santa Clara University, Santa Clara, CA.

This study investigates the ability of hope to prospectively predict health behavior change and knowledge regarding Cardiovascular Disease (CVD) risk. Snyder et al. (1991) defined hope as the combination of cognitive planning to meet goals (i.e., pathways) and motivation to pursue those plans (i.e., agency). Snyder (1994) theorized that high-hope people, vs. those with low-hope, are more knowledgeable about their environments. They are believed to seek out and retain such knowledge because it aids in goal pursuits. Thus, high-hope individuals may be especially likely to benefit from health education.

We surveyed 391 immigrant Latino and Asian individuals participating in free public CVD risk factor screening. Data were gathered at three time points. Prior to CVD screening, demographic and Hope Scale (Snyder et al., 1991) data were obtained. Immediately post-screening, participants received brief CVD risk reduction education and were invited to attend several additional educational "booths" focusing on diet and exercise; they also were surveyed about the perceived importance of diet and exercise change. Follow-up data regarding health behavior change (i.e., fat intake, exercise, seeking additional CVD information, seeing a physician) and knowledge of CVD risk factors were gathered one month later by telephone.

As expected, regression analyses revealed a hope x attendance interaction, such that the combination of attending more education booths and higher hope predicted higher CVD knowledge at follow-up. In comparing Asian and Latino samples, a series of interactions also were found. Among Asians, a hope x knowledge interaction was identified, such that the combination of higher CVD knowledge and higher hope predicted behavior change at follow-up (fat intake, CVD information-seeking, and seeing a physician). Among Latinos, this interaction was not found. However, a hope x perceived importance of diet change interaction predicted decreased fat intake, and a hope x perceived importance of exercise change interaction predicted increased exercise in the Latino sample.

CORRESPONDING AUTHOR: David B. Feldman, PhD, Counseling Psychology, Santa Clara University, Santa Clara, CA, 95053; dbfeldman@scu.edu

Meritorious Student Paper

Paper Session #20 10:45 AM -11:00 AM 3048

INSULIN RESISTANCE, DYSLIPIDEMIA, & INFLAMMATION IN ADOLESCENTS WITH ELEVATED BLOOD PRESSURE

Stephanie L. Fitzpatrick, MS, Patrice G. Saab, PhD, Judith R. McCalla, PhD and Neil Schneiderman, PhD

Psychology, University of Miami, Coral Gables, FL.

Past research indicates that insulin resistance (IR) is associated with the development of type 2 diabetes and cardiovascular disease risk in children and adolescents. The purpose of this study was to examine the prevalence of IR and its association with body size, lipids, and inflammation in adolescents with elevated blood pressure (blood pressure $\geq$ 90th percentile for age, height, and gender).

The sample consisted of 141 (24% girls; 82% minority) adolescents, 15–17 years old. Using the homeostasis model assessment of insulin resistance (HOMA-IR), four groups were created based on HOMA quartiles (I: 0.37–1.33; II: 1.34–1.94; III: 1.95 - 3.40; IV: 3.41–18.53). IR was defined as a HOMA value $\geq$ 3.41 (i.e., top quartile, group IV). Blood pressure, total cholesterol, triglycerides, LDL, HDL, body mass index (BMI), waist circumference, IL-6, and fibrinogen were also assessed and compared across HOMA groups.

Thirty-five adolescents met criteria for IR (HOMA group IV). Adolescents in HOMA group IV had significantly higher IL-6 and body size compared to adolescents in HOMA groups I, II, and III ($ps<.05$). IR adolescents also had significantly higher triglycerides and lower HDL compared to groups I and II ($ps<.05$). There were no significant differences between the HOMA group IV and the other groups for mean blood pressure, LDL, total cholesterol, and fibrinogen. Prevalence of clinically meaningful levels of BMI, triglycerides, LDL, and fibrinogen distinguished the HOMA group IV from HOMA groups I and II (all $ps<.05$). Among IR participants, 83% had a BMI$\geq$95th percentile, 17% had triglycerides > 150 mg/dl, 43% had LDL>110 mg/dl, and 66% had fibrinogen > 300 mg/dl.

Findings from this study suggest that IR in adolescents is associated with increased prevalence of clinically significant values for obesity, dyslipidemia, and inflammation. Future health interventions should target adolescents with both IR and elevated blood pressure given the increased risk for cardiovascular disease and diabetes.

CORRESPONDING AUTHOR: Stephanie L. Fitzpatrick, MS, Psychology, University of Miami, Coral Gables, FL, 33124-0751; fitzpatrickorama@gmail.com

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Citation Paper

Paper Session #20 11:00 AM -11:15 AM 3049

CLINICAL PROGNOSIS AND LEFT VENTRICULAR EJECTION FRACTION DURING MENTAL STRESS AND EXERCISE IN PATIENTS WITH CAD

Michael Babyak, PhD,[1] James Blumenthal, PhD,[1] Andrew Sherwood, PhD,[1] Benson Hoffman, PhD[1] and Robert Waugh, MD[2]

[1]Psychiatry, Duke University Medical Center, Durham, NC and [2]Medicine, Duke University Medical Center, Durham, NC.

A reduction in left ventricular ejection fraction (LVEF) during laboratory mental stress (EFR-MS) has been shown to predict clinical prognosis in patients with coronary artery disease (CAD). In the present study, we examined the prospective relation between EFR-MS and subsequent myocardial infarction (MI) or all-cause death in 138 CAD patients (median age=62, IQR=55–70, 70% male) followed for up to 8.8 years after assessment. We also examined the relation between LVEF change during an exercise challenge (EFR-EX) and the same endpoints. Patients underwent a battery of laboratory tests including bicycle exercise testing, a public speaking task, and mirror-trace test. Radionuclide ventriculography was used to determine LVEF at rest and during exercise and mental stress. EFR-MS was calculated as the average LVEF change over the two mental stress tasks. Cox regression with a flexible curve-fitting algorithm was used to estimate the association between LVEF change and time to event. EFR-MS was positively associated with events (Hazard Ratio [HR]=1.7, 95%CI=1.1–2.6, p=.011, adjusted for age, previous MI, and resting LVEF. EFR-EX also was associated with increased event risk (HR=3.2, 95%CI=1.7–6.0, p=.01). When included in the Cox model together, the effect of both LVEF measures was attenuated but EFR-EX remained statistically significant (p=.01) while EFR-MS did not (p=.188). The curve-fitting algorithm suggested that the relation between events and both LVEF measures was linear, and that it extended well outside the range of LVEF change values that are typically interpreted as evidence of ischemia (i.e., LVEF reductions not greater than 5 or 8%). We conclude that EFR-MS is predictive of clinical events in a linear fashion, but may not add independent information over and above EFR-EX. The linear functional form of the association suggests that the mechanism underlying the relation may be not be explained solely by myocardial ischemia, but also involve more general vascular changes.

CORRESPONDING AUTHOR: Michael Babyak, PhD, Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC, 27710; michael.babyak@duke.edu

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Paper Session #20 11:15 AM -11:30 AM 3050

HEALTH STATUS AND EXERCISE AFTER CARDIAC REHABILITATION

Bernardine M. Pinto, PhD,[1,2] Nancy Farrell, MPH, CHES,[1] Michael Goldstein, MD,[1,2] Bess Marcus, PhD[1,2] and George Papandonatos, PhD[3]

[1]Miriam Hospital, Providence, RI; [2]Alpert Medical School of Brown University, Providence, RI and [3]Brown University, Providence, RI.

Maintenance of regular exercise among patients who complete Phase II cardiac rehabilitation (CR) is a challenge. Yet, regular exercise may help to reduce risk of cardiac events and repeat surgery. We offered a home-based telephone counseling program to help patients adhere to exercise prescriptions provided at CR discharge. To date, 110 patients (mean age=62.8 years, SD=9.2; 23% female, 75% married/partnered, 50% employed, 95% White), have been enrolled in *Keeping the Beat*, an on-going randomized controlled trial. At CR discharge and at 6 and 12 month follow-ups, participants completed sub-maximal exercise tolerance tests, self-reported measures of physical activity (7 Day PAR), exercise self-efficacy, mood and QOL. Using regression analyses, we examined the effects of age, gender, BMI, cardiac risk status (Low vs. Intermediate/High Risk), history vs. no history of myocardial infarction (MI) and exercise self-efficacy on minutes/week of exercise participation and METs achieved on exercise tests at CR discharge. Regression analyses showed that in the final model ($F_{3,104}=6.14$, $p<.0001$, $R^2=0.15$), female gender (t=-2.68, p<.01) and Intermediate/High Risk were negative predictors (t=-2.39, p=.02), whereas exercise self-efficacy was a positive predictor (t=2.42, p=.02) of minutes/week of exercise participation. Similar analyses showed that, in the final model ($F_{5,96}=16.15$, $p<.001$, $R^2=0.45$), age (t=-6.64, p<.001), female gender (t=-2.85, p<.001), BMI (t=-3.88, p<.001) and Intermediate/High Risk (t=-2.76, p<.01) were negative predictors and exercise self-efficacy was a positive predictor (t=2.46, p=.02) of METs achieved on exercise tests. These key variables that are associated with exercise adoption in CR can inform interventions promoting maintenance of exercise on CR discharge.

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CORRESPONDING AUTHOR: Bernardine M. Pinto, PhD, Miriam Hospital, Providence, RI, 02903; BPinto@lifespan.org

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Citation Paper

Paper Session #20 11:30 AM -11:45 AM 3051

BEHAVIOURAL MEDIATION OF THE ASSOCIATION BETWEEN MASTERY AND CARDIOMETABOLIC RISK

Catherine Paquet, PhD,[1,2] Mark Daniel, PhD,[1,2] Lise Gauvin, PhD[2] and Laurette Dubé, PhD[3]

[1]University of South Australia, Adelaide, SA, Australia; [2]Université de Montréal, Montréal, QC, Canada and [3]McGill University, Montréal, QC, Canada.

BACKGROUND: Higher sense of mastery (perceived control over life circumstances) has been associated with better cardiometabolic outcomes. The objective of this study is to assess the mediating role of health behaviours (fast-food consumption (FFC), physical activity (PA), fruit and vegetable consumption (FVC)) in the relationship between mastery and cardiometabolic risk. METHODS: Blood samples, anthropometric measures, and self-reports were obtained from 344 individuals (49.7% men) aged 18–57 years (M=34.8, SD=8.7) sampled from 7 Montreal census tracts representing the spectrum of socio-economic status and language (French/English). Cardiometabolic risk was operationalised as the number of clinically elevated risk factors among waist circumference, body mass index, HbA1C, triglycerides, high-density lipoprotein, and total cholesterol. Mastery was self-reported using a validated scale. FVC was based on the sum of 8 items assessing frequency of consumption of different forms of fruits and vegetables. PA (walking and vigorous activity) was expressed in metabolic equivalent (MET)-minutes/week based on IPAQ items. FFC was assessed by asking participants if they had visited a fast-food restaurant at least once in the previous week. All analyses accounted for participants' age, gender, education, and income. Regression models with Generalized Estimating Equations estimators were used to account for clustering of observations. Mediation was independently tested for all behaviours using the product of coefficient approach. RESULTS: Mastery was positively associated with FVC (β=.17, p=.00) and PA (β=.12, p=.00), and inversely with FFC (OR=.81, p=.01). FFC and PA were respectively positively (RR=1.23, p=.00) and inversely (RR=.88, p=.00) associated with cardiometabolic risk and each partially mediated the inverse association between mastery and cardiometabolic risk (p<.05). CONCLUSION: Active living and less frequent fast food consumption partly explain the association of greater sense of control to lower risk of cardiometabolic disease.

CORRESPONDING AUTHOR: Catherine Paquet, PhD, School of Health Sciences, University of South Australia, Adelaide, SA, 5001; catherine.paquet@unisa.edu.au

Paper Session #20 11:45 AM -12:00 PM 3052

METABOLIC SYNDROME AND CARDIOVASCULAR RISK IN LONG-TERM CANCER SURVIVORS

Samantha B. Artherholt, PhD,[1,2] Karen L. Syrjala, PhD,[2,1] Jean C. Yi, PhD,[2] Mary Flowers, MD[2,1] and Paul J. Martin, MD[2,1]

[1]University of Washington, Seattle, WA and [2]Fred Hutchinson Cancer Research Center, Seattle, WA.

Little research has investigated the prevalence or characteristics of late cardiovascular effects of high dose chemotherapy and hematopoietic cell transplantation (HCT) for malignancies using standardized, objective tests. Rates of the metabolic syndrome, a constellation of cardiovascular risk variables, in long-term cancer survivors are also not well-defined. To examine whether objective indicators of cardiovascular risk are elevated in otherwise healthy, relatively young survivors we conducted onsite testing of N=57 (46% male) 5–20 year HCT survivors (M=11.5, SD=4.2), age 18–50 (M=39.6, SD=9.2) without known comorbidities. Testing included waist circumference (WC), blood pressure (BP), body fat percent (BFP), fasting glucose, lipid panel, and C-reactive protein (CRP; an objective indicator of cardiac risk). Healthy survivors had high rates of the five elements of metabolic syndrome: 25% had high BP (systolic $\geq$130 or diastolic $\geq$85), 40% had elevated triglycerides ($\geq$150), 18% had low HDL cholesterol (<40 for males, <50 for females), 18% had high fasting glucose ($\geq$100) and 19% had high waist circumference (WC >102 cm for males, >88 cm for females). Using these standard cutoffs, 16% met the definition of metabolic syndrome. CRP levels were elevated in 42% of survivors and nearly all with metabolic syndrome also had elevated CRP (78%; $\chi^2=5.58$, P=.02). Of note, healthy survivors had alarmingly elevated BFP, particularly given 81% with healthy WC; 62% were defined as obese by BFP. When BFP was substituted for WC as a cardiac risk factor, 26% of survivors met criteria for metabolic syndrome. In these survivors, selected for their young age and lack of comorbidities, cardiovascular risks were often elevated despite seemingly good health. Surveillance guidelines for survivors should mandate routine cardiovascular risk testing at younger-than-usual ages, and clinical trials should target these complications. Behavioral methods to address cardiovascular risks, such as diet and exercise, are particularly important for these cancer survivors.

CORRESPONDING AUTHOR: Samantha B. Artherholt, PhD, Biobehavioral Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA, 98109; sartherh@fhcrc.org

Paper Session #21 10:30 AM -10:45 AM 3053

INCREASING PHYSICAL ACTIVITY THROUGH A STATE-WIDE CAMPAIGN

Melissa M. Crane, MA,[1] Rajiv Kumar, BA,[2] Brad Weinberg, BA,[2] Angela Marinilli Pinto, PhD,[3] Amy A. Gorin, PhD,[4] Joe Fava, PhD,[1] Tricia M. Leahey, PhD[1] and Rena R. Wing, PhD[1]

[1]Weight Control and Diabetes Research Center/ The Miriam Hospital, Providence, RI; [2]Shape Up RI, Providence, RI; [3]Baruch College/CUNY, New York, NY and [4]University of Connecticut, Storrs, CT.

A variety of different approaches have been used to increase physical activity. Recently, state-wide campaigns have become a popular approach to improve this health behavior. We report results from the Shape Up RI (SURI) 2007 campaign to increase physical activity by increasing number of steps. SURI is an internet based program involving team competition open to all adult residents of Rhode Island. A total of 5333 individuals (84% female; mean age=43, BMI=29.3) enrolled in the 16 week campaign. Participants were given pedometers and reported their steps at 2-week intervals using an online reporting system. During the first round of the competition, participants averaged 7,029 steps/day with greater steps in men (7647 vs. 6907; p<.001), younger adults (under 50=7165, over 50=6697; p<.001), and normal weight participants (7506 vs. 6433; p<.001). At the start of the campaign, 28% of SURI participants were sedentary (<5,000 steps/day), 30% were low active (5–7,500), 26% were somewhat active (7,500–10,000) and only 16% were active or highly active (>10,000). A total of 4087 (77%) completed the SURI program (entered data at weeks 12, 14, or 16). On average, these participants increased their activity by 3085±5640 steps/day (p<.001). Using intent-to-treat (ITT), assuming no change in non-completers, participants increased by 2364±5107 steps/day (p<.001). Moreover, at the end of SURI only 14% were sedentary, 15% were low active, 24% were somewhat active, and 48% were active or highly active (40% with ITT; both p's<.001). These findings show that state-wide physical activity campaigns can produce marked increases in activity and dramatically shift the proportion(from 16% to greater than 40%) achieving the 10,000 steps/day health goal.

CORRESPONDING AUTHOR: Melissa M. Crane, MA, Weight Control and Diabetes Research Center/ The Miriam Hospital, Providence, RI, 02903; mcrane@lifespan.org

Paper Session #21 10:45 AM -11:00 AM 3054

BINGE EATING, SOCIAL ANXIETY, AND RESPONSE TO INTERNET-BASED WEIGHT LOSS TREATMENT

Claire E. Adams, MA,[1] Edwin Fisher, PhD[3] and Jeanne M. Gabriele, PhD[2]

[1]Psychology, Louisiana State University, Baton Rouge, LA; [2]Pennington Biomedical Research Center, Baton Rouge, LA and [3]University of North Carolina, Chapel Hill, NC.

Approximately a third of individuals seeking weight loss treatment report binge eating. Some studies report that binge eating is associated with poorer outcomes whereas other studies report that binge eating is associated with greater weight loss. The purpose of this study was to assess whether social anxiety moderates the relationship between binge eating and weight loss in women in a 12-week weight loss intervention. Overweight women (n=58, 69% Caucasian, M age=45, M BMI=32) completed the Binge Eating Scale (BES), Brief Fear of Negative Evaluation Scale (BFNE), and Social Anxiety (SA) and Public Self-Consciousness (PSC) subscales of the Self-Consciousness Scale. Because factor analysis indicated that BFNE, SA, and PSC subscales loaded onto a single factor, standardized scores on these scales were summed to create an overall social anxiety index (SAI). Hierarchical regression analyses were conducted predicting amount of weight loss from BES, SAI, and the interaction between BES and SAI, controlling for baseline BMI, age, minority status, support condition, and education. Results indicated a significant interaction between BES and social anxiety, p<.05. Post-hoc analyses indicated that in those with low BES scores, social anxiety was not related to weight loss. However, in those with moderate to severe BES scores, SAI was related to greater weight loss, partial r=-.67, p<.05. These findings indicate that in individuals with binge eating symptoms, social discomfort may improve weight loss outcomes and support research on anxiety and performance, which indicates that in some situations anxiety may improve performance. Noting that the results were obtained within an e-coaching intervention, perhaps exchanges via the Internet remove much of the stress associated with in-person services, allowing those with anxiety that might otherwise curtail weight loss to be successful in this medium.

CORRESPONDING AUTHOR: Claire E. Adams, MA, Psychology, Louisiana State University, Baton Rouge, LA, 70808; cadams44@gmail.com

Paper Session #21 11:00 AM -11:15 AM 3055

WEB-BASED GUIDE TO HEALTH: PROJECT ENROLLMENT AND PRELIMINARY RESULTS

Eileen S. Anderson, EdD and Richard A. Winett, PhD

Psychology, Virginia Tech, Blacksburg, VA.

Guide to Health (GTH) is a web-based intervention focusing on nutrition, physical activity, and weight gain. Participants are healthy, inactive, 18–63 years old, in the BMI range 23.5 - 39. Of 3955 individuals logging into the GTH site, 1199 (30%) met inclusion criteria and 595 (15%) completed enrollment requirements; 2704 were excluded (45% outside BMI range – 75% > 39; 34% medical conditions; 20% too active). Recruits completing enrollment were similar in age (42.3±11.1 years)and BMI (29.7±3.9), but reported higher education (17.1±3.2 vs. 16.3±3.3; p<.01) and annual household income levels (~$70 k vs. ~$60 k; p<.05)than qualified recruits who did not (n=599). Recruits from non-Caucasian backgrounds (58% African American, 21% other, 14% Asian, 7% Native American) where less likely than Caucasian recruits to complete enrollment (37.8% vs 51.1%; p<.01) with the final sample being 93% Caucasian, 4% African American, and 3% other. Individuals were randomly assigned to receive the GTH intervention or the GTH intervention with enhanced self-regulation tools. In both groups, the first wave of participants (n=208) demonstrated significant decreases in weight (176.12±26.7 lbs vs 169.63±26.4 lbs), BMI (28.69±3.6 vs 27.78±3.9), and percent calories from fat (36.18±5.4 vs 34.11±6.4)at six months after baseline. Both groups significantly increased daily steps (5995.4±1934.7 vs 7685.5±2810.3), minutes walked for exercise (12.4±12.2 vs 23.8±15.7), servings of fruits and vegetables (4.1±2.5 vs 5.8±3.2), and dietary fiber consumed (17.58±7.09 vs 20.02±8.20). Although the web-based version of GTH has been successful attracting mainly educated, middle class, overweight to slightly obese sedentary Caucasian women, there is evidence that it is very successful in moving participants to healthier patterns of diet and exercise resulting in 4% weight loss at six month. Preliminary results need to be replicated the next two (ongoing) waves of participants, but maintenance of program outcomes and differentiation between treatments are hypothesized at the planned longer-term follow-up (18 months after baseline).

CORRESPONDING AUTHOR: Eileen S. Anderson, EdD, Psychology, Virginia Tech, Blacksburg, VA, 24061; eileen@vt.edu

Paper Session #21 11:15 AM -11:30 AM 3056

SOCIAL SUPPORT FOR WEIGHT LOSS IN A PUBLIC INTERNET COMMUNITY

Kevin O. Hwang, MD, MPH,[1] Allison J. Ottenbacher, MS,[2] Oneka Richardson, MD[1] and Eric J. Thomas, MD, MPH[1]

[1]University of Texas Medical School at Houston, Houston, TX and [2]University of Texas School of Public Health, Houston, TX.

BACKGROUND: Internet weight loss communities are popular, yet little is known about how members of these communities share social support for weight loss. We conducted a mixed method study to explore themes relevant to social support for weight loss as exchanged among members of SparkPeople.com, a large public Internet weight loss community. METHODS: First, we analyzed 1924 messages posted on the discussion forums. Second, we surveyed 214 members (age 37.1±11.5 years, BMI 30.9±7.5, female 94.0%), most selected randomly, with one open-ended and several Likert-style questions about social support for weight loss provided by other SparkPeople members. Lastly, we conducted telephone interviews with 13 survey respondents. Two investigators independently reviewed the forum and survey data and met with a third investigator to reach consensus on the themes. RESULTS: SparkPeople members interact through discussion forums, blogs, and private messaging. Supportive interactions include (1) advice and information; (2) encouragement in dealing with barriers; (3) exhortation to persist with lifestyle changes; (4) empathy for difficult situations; (5) affirmation of shared experiences; (6) positive reinforcement for successes; (7) testimony of effective weight loss strategies; (8) sharing of common goals; (9) friendly competition; and (10) boosting of self-efficacy for weight loss. Some members have also arranged face-to-face meetings for exercise. Many members strongly agreed that other members are available for help (49.5%), respond quickly to questions (45.8%), understand what they are going through (71.5%), make them feel part of a group (54.2%), and are more helpful than other people in their lives (22.4%) with regard to weight loss. CONCLUSIONS: Members of this public Internet weight loss community exchange a wide variety of social support for weight loss. Our findings justify prospective studies to evaluate public Internet weight loss communities as a weight loss resource.

CORRESPONDING AUTHOR: Kevin O. Hwang, MD, MPH, University of Texas Medical School at Houston, Houston, TX, 77030; kevin.o.hwang@uth.tmc.edu

Paper Session #21 11:30 AM -11:45 AM 3057

TAILORING TREATMENTS FOR SMOKING, BODY IMAGE AND WEIGHT AMONG COLLEGE FEMALES

Melissa Napolitano, PhD,[1] Joseph Fava, PhD,[4] Elizabeth Richardson, PhD[3] and Bess Marcus, PhD[2,4]

[1]Kinesiology and Public Health, Temple University, Philadelphia, PA; [2]Brown University, Providence, RI; [3]UMass-Dartmouth, Dartmouth, MA and [4]Miriam Hospital, Providence, RI.

Tobacco use is the leading cause of premature morbidity and mortality in the United States. Females (18–24) have the highest smoking prevalence among all age groups of female smokers. They report smoking for weight maintenance and social factors, and have trouble quitting due to fear of weight gain. We conducted a two phase trial to investigate these factors and develop an intervention. Phase I consisted of five focus groups with 43 college females (mean age=19.2; 75% Caucasian; 16% African American; 5% other minority; 4% other) to understand smoking behaviors and refine an efficacious smoking cessation intervention. Qualitative data revealed this population: 1)smokes for social and body image reasons, 2)desired campus-based information about healthy eating and how to manage peers/social events, 3) preferred electronic information integrated into traditional treatment. Phase II was a small pilot study with 24 college-aged females (mean age=19.08; 16% African American, 4% Asian American, 80% Caucasian) randomly assigned to receive: a) Group and Internet smoking cessation plus body image (Body Image) or b) Group and Internet smoking cessation plus exercise (Exercise). Traditional face-to-face group sessions were supplemented with technology (i.e., Internet, text messaging, email). Following 8 weeks of intervention, descriptive data showed the Body Image treatment arm had greater smoking cessation rates, compared with the Exercise treatment arm for 7 day point prevalence abstinence (18% vs. 8%) and for 24 hour quit rates (36% vs. 8%). Also, the Body Image group lost more weight than the Exercise group (3.3 pounds vs. 0.9 pounds). This study addresses limitations of previous studies by focusing on females at a critical developmental time period for intervention: the transition to college and emerging adulthood. It also integrates technology as key intervention components. Implications of both the qualitative data and intervention development will be discussed.

CORRESPONDING AUTHOR: Melissa Napolitano, PhD, CHP-Kinesiology, Temple University, Philadelphia, PA, 19140; napolita@temple.edu

Paper Session #21 11:45 AM -12:00 PM 3058

EFFECTS OF THE MYSTEPS™ WEB- AND PHONE-BASED INTERVENTION FOR OVERWEIGHT TEENS ON BMI

Sheri Thompson, PhD,[1] Khalisa Bolling, MPH,[1] Karen Calfas, PhD[2,1] and Gregory Norman, PhD[3]

[1]Santech, Inc., La Jolla, CA; [2]San Diego State Univ., San Diego, CA and [3]Univ. of California San Diego, La Jolla, CA.

MySteps™ was a 12-month weight control program supported by SBIR grant funding from the National Cancer Institute for adolescents ages 12–16 who were at risk for overweight, or currently overweight or obese (BMI>85th percentile for age and gender). Primary behavioral targets were increasing consumption of fruits, vegetables and fiber; decreasing consumption of saturated fats; increasing total physical activity (PA); and decreasing optional sedentary activities. The intervention included weekly web-based content and activities (evaluation, dietary and PA educational content, behavioral content/tips and goal-setting), pedometers with automated pedometer uploading, telephone counseling, e-counseling, and a tailored Parent web site for supporting parents/guardians. Data from MySteps™ participants (n=63) were compared to that from a matched historical control group of 61 teens drawn from an earlier study. The Primary outcome was BMI z-score change at 12 months. The ANCOVA model with missing end point dated imputed by last observation carrying forward (LOCF) indicated a statistically significant different group difference in BMI z-scores at 12-months (F (1, 119)=7.57, p=.007, partial eta2=.06). Estimated adjusted least squares means for BMI z-score were 1.96 (SE .02) for MySteps™ and 2.04 (SE .02) for controls. More MySteps™ participants decreased their BMI z-score compared to controls (60.3% vs. 31.1%, $\chi 2(1)=10.62$, p=.001). More specific analyses addressing “dose” effects indicated that MySteps™ participants set intervention goals between 0 and 47 of the possible 49 weeks (M=24.27, SD=12.9). There was a linear decrease in BMI z-score across dose quartiles from 2.02 (SE=.043) for quartile 1 to 1.84 (SE=.039) for quartile 4 (F(3, 56)=3.39, p=.024, partial eta2=.15). Overall, MySteps™ participants were more successful in stabilizing or reducing their BMIs than control participants, despite the increases in height and weight that are expected over the course of a year for growing adolescents.

CORRESPONDING AUTHOR: Sheri Thompson, PhD, Santech, Inc., La Jolla, CA, 92037; sthompson@santechhealth.com

Paper Session #22 10:30 AM -10:45 AM 3059

A RANDOMIZED TRIAL OF THE DIFFUSION OF AN EFFECTIVE SKIN CANCER PREVENTION PROGRAM

Karen Glanz, PhD, Dawn Hall, MPH and Eric Nehl, MS

Behavioral Science and Health Education, Emory University, Atlanta, GA.

Successful diffusion and continuation of effective health interventions can maximize their impact. The Pool Cool program is a nationwide multi-component educational and environmental skin cancer prevention program, systematically developed, pilot tested and evaluated. This study evaluated the effects of Basic and Enhanced strategies for program diffusion on program implementation, maintenance, and sustainability and sun safe policies and environments.

The diffusion trial took place from 2003–2006 and used a three-level nested experimental design. Pools were clustered by Field Coordinator who were stratified by latitude and size of pool and randomized into two treatment groups. Basic group pools received the standard intervention. The Enhanced group received the standard intervention plus additional sun safety resources, environmental intervention components and incentives. Pool managers (n=390) completed surveys at the beginning and end of the summer. Surveys asked about program implementation, sun safe policies and environments, obstacles and supporting factors, and demographics. In 2006, follow-up surveys also asked about the sustainability of Pool Cool. Implementation increased from first to second follow-up across both groups [F=6.52, p=.01], but increases were greater for the Enhanced group [F=4.11, p=.04]. From first to last follow-up, implementation increased in the Enhanced group only [F=7.13, p=.008], suggesting a higher level of program maintenance within the Enhanced group. Sun safe policies and environments increased across both groups with each year of participation, but there was a greater increase in policies and environments from baseline to last follow-up in the Enhanced group [F=8.88, p=.003]. In 2006, sustainability scores were higher among Enhanced pools [F=3.10, p=.08]. The Enhanced strategy for program diffusion had greater effects on implementation, maintenance and sustainability, and sun safe policies and environments over time. These results show increased reinforcements and incentives can improve the success of efforts to disseminate health interventions.

CORRESPONDING AUTHOR: Dawn Hall, MPH, Emory University, Atlanta, GA, 30322; dmhall@sph.emory.edu

Paper Session #22 10:45 AM -11:00 AM 3060

THE SUN LESS STUDY: A RANDOMIZED TRIAL OF A SKIN CANCER PREVENTION INTERVENTION PROMOTING SUNLESS TANNING

Sherry Pagoto, PhD,[1] Kristin Schneider, PhD,[1] Jessica Oleski, MA,[1] Jamie Bodenlos, PhD,[1] Yunsheng Ma, PhD[1] and Alan Geller, RN, MPH[2]

[1]Medicine, University of Massachusetts Medical School, Worcester, MA and [2]Boston University, Boston, MA.

Sunless tanning products (i.e., self-tanners and spray tans) are a safe, alternative way to achieving a suntan and might be an acceptable behavioral substitute for sunbathers seeking a tan. The present study examined the effects of a comprehensive skin cancer prevention intervention that included sunless tanners on tanning behavior, burns, and sun protection among beach visitors. Female beach visitors (N=250) were recruited from public beaches during the summer of 2006 in Massachusetts and randomized to either an intervention or questionnaire only control condition. The intervention included sun damage imaging, sun safety education, and free samples of both sunscreen and sunless tanning products with instructions for proper use and education about the benefits of sunless tanning as a substitute for sunbathing. Suntanning and sun protection behaviors were measured at baseline and one-month following the intervention. Conditions were compared over time using mixed linear models adjusted for age. A total of 70% of participants provided follow-up data (mean age=31.2; SD=12.4). The majority of participants were Caucasian (84.4%) and 55% had fair skin. Results revealed that the intervention condition decreased suntanning behavior (t=-2.20, p=.03), had fewer sunburns (t=-2.03; p=.04), and more frequently used protective clothing (t=2.38, p=.02) compared to the control condition. Also, more participants in the intervention condition reported use of sunless tanning [$\chi 2(1)=6.01$, p=.01] and fewer reported use of indoor tanning [$\chi 2(1)=4.39$, p=.04]. However, no significant differences emerged between conditions on change in sunscreen use (t=0.60; p=.55). Results suggest that a comprehensive sun safety intervention promoting sunless tanning positively impacts outdoor and indoor tanning, sunburns, and use of protective clothing. This study provides evidence that sunless tanning could be a useful component of a skin cancer prevention intervention.

CORRESPONDING AUTHOR: Sherry Pagoto, PhD, Medicine, University of Massachusetts Medical School, Worcester, MA, 01701; sherry.pagoto@umassmed.edu

Paper Session #22 11:00 AM -11:15 AM 3061

ADDICTED TO THE SUN OR THE TAN? SUN AND SUNLESS TANNING HABITS OF TANNING “ADDICTS”

Sherry Pagoto, PhD, Kristin Schneider, PhD and Jamie Bodenlos, PhD

Medicine, University of Massachusetts Medical School, Worcester, MA.

Preliminary evidence suggests that tanning might be a form of addictive behavior. Ultraviolet (UV) light has been associated with mood enhancement among tanners, and tanners who experience enhanced moods while tanning have difficulty quitting. UV light might have reinforcing properties (i.e., mood enhancement) similar to addictive substances. However, other research suggests that among tanners who show signs of abuse (as defined by positive scores on the tanning-modified CAGE Alcohol Disorder Screener), the vast majority said they tan to look better, while less than half said they tan to relax. The cosmetic effect of tanning might be more important than a mood-enhancing effect, which is not entirely consistent with an addiction paradigm. It remains unclear if tanners who endorse symptoms of abuse engage in higher rates of both UV and non-UV “sunless” tanning (self-tanners and spray tans) than tanners who do not endorse symptoms of abuse. Greater use of all forms of tanning (UV and non-UV) points to the suntan as the primary motivator, but greater use of UV tanning only points to the importance of UV exposure. We compared tanners who scored positively on the modified CAGE to those who scored negatively on UV and non-UV tanning habits. Female visitors (N=245) to Massachusetts public beaches in July 2006 completed the modified CAGE and a survey about suntanning habits. About 40% of beach visitors scored positively on the CAGE and they reported greater frequency of outdoor tanning [F(1,237)=27.14,p<.001]), indoor tanning [F(1,225)=12.35,p=.001], and less sun protective behavior [F(1,239)=4.24, p=.04], but were not more likely to use sunless tanning [F(1,238)=0.77,p=.38] than participants scoring negatively on the CAGE. They also reported more barriers to sunless tanning [F(1, 236)=4.37, p=.04], and greater enjoyment of UV tanning [F(1, 238)=9.94, p=.002]. Beach visitors who report tanning behavior that resembles a substance abuse disorder engage in higher rates of UV but not sunless tanning, which has implications for skin cancer prevention interventions.

CORRESPONDING AUTHOR: Sherry Pagoto, PhD, Medicine, University of Massachusetts Medical School, Worcester, MA, 01701; sherry.pagoto@umassmed.edu

Paper Session #22 11:15 AM -11:30 AM 3062

ACCULTURATION AND SUN-SAFE BEHAVIORS AMONG U.S. LATINOS: PRELIMINARY EVIDENCE FOR MEDIATION BY HEALTH STATUS, EDUCATION LEVEL, AND INVOLVEMENT WITH SOCIAL NETWORKS

Valentina A. Andreeva, PhD,[1] Myles G. Cockburn, PhD,[1] Amy L. Yaroch, PhD,[2] Jennifer B. Unger, PhD,[3] Robert Rueda, PhD[4] and Kim D. Reynolds, PhD[1]

[1]Keck School of Medicine, University of Southern California, Los Angeles, CA; [2]Health Promotion Research Branch, National Cancer Institute, Bethesda, MD; [3]School of Community and Global Health, Claremont Graduate University, Claremont, CA and [4]Rossier School of Education, University of Southern California, Los Angeles, CA.

Recent findings suggest that acculturation might have adverse effects on skin cancer risk-related practices. To elucidate the relationship between acculturation and sun safety, we explored the mediating role of healthcare access, health status, education and social networks. We tested structural equation models using data from 496 adult Latino respondents to the 2005 Health Information National Trends Survey, implemented by the National Cancer Institute to monitor health communication and health behavior trends. We assessed acculturation using a four-item index. Applying sunscreen, seeking shade, and wearing protective clothing when outdoors on sunny days were the primary outcomes, assessed by frequency scales. The results revealed that the hypothesized mediators had the strongest explanatory potential for sunscreen use and the weakest for seeking shade. Education level was a potential mediator for sunscreen use and wearing protective clothing (both p<0.05). Perceived physical health status and involvement with social networks showed mediating effects only for sunscreen use (p<0.05). Our findings have descriptive importance and could inform public health research and intervention efforts for improving the sun-safe behaviors of U.S. Latinos. Interventions for increasing sunscreen use, for example, might need to account for self-perceptions of health, education levels, and involvement in health-related organizations. The findings could also inform future mediation analyses with longitudinal datasets encompassing a variety of psychosocial measures and large samples of Latinos and other acculturating populations.

CORRESPONDING AUTHOR: Valentina A. Andreeva, PhD, University of Southern California, Alhambra, CA, 91803; andreeva@usc.edu

Paper Session #22 11:30 AM -11:45 AM 3063

CORRELATES OF SKIN CANCER SCREENING AMONG U.S. ADULTS

Elliot J. Coups, PhD,[1] Alan C. Geller, MPH, RN,[2] Martin A. Weinstock, MD, PhD,[3] Carolyn J. Heckman, PhD[1] and Sharon L. Manne, PhD[1]

[1]Fox Chase Cancer Center, Cheltenham, PA; [2]Boston University School of Medicine, Boston, MA and [3]Brown University, Providence, RI.

Melanoma incidence has been rising for more than 50 years and skin cancer is the most common malignancy in the United States. A total body examination by a physician allows detection of early-stage malignancies. We report the prevalence and correlates of skin cancer screening reported by U.S. adults. The study data came from the nationally representative 2005 National Health Interview Survey. We focused on individuals who reported being white and at least 50 years of age (N=10,486, 58% female, median age=63 years), because mortality rates are highest among this group. Participants completed a survey regarding their past receipt of physician skin cancer screening and we examined multiple potential screening correlates, including demographics (region of residence, age, education, marital status), self-reported health and health care access (source of preventive care, health care coverage), receipt of screening for colorectal, breast (women only), and prostate (men only) cancers, personal and family skin cancer history, and sun sensitivity. Past year skin cancer screening was reported by 15.7% of men and 13.3% of women. Multiple logistic regressions stratified by sex indicated that skin cancer screening rates were lower for men aged 50–59 years (p<.001) and for individuals with a lower level of education (men and women, ps<.0001), and higher for individuals reporting past screening for colorectal (men and women, ps<.0001), breast (women, p <.0001), or prostate (men, p<.0001) cancer, and among those with a personal skin cancer history (men and women, ps<.0001). Overall, past year physician screening rates were low even for those with a personal history of melanoma (men, 64.8%; women, 40.6%) or a family history of melanoma (men, 29.1%; women, 17.9%). Improved screening efforts must begin with these most at-risk groups. Also, the link between lack of skin cancer screening and not being screened for other cancers suggests the need to promote screening for multiple cancers.

CORRESPONDING AUTHOR: Elliot J. Coups, PhD, Fox Chase Cancer Center, Cheltenham, PA, 19012; elliot.coups@fccc.edu

Paper Session #22 11:45 AM -12:00 PM 3064

AGE AND GENDER INFLUENCES ON PARTNER ASSISTED SKIN EXAMINATION

Sara Ortiz, BA,[1] Susan L. Boone, MD,[1] Jerod Stapleton, BS,[2] Kimberly Mallett, PhD,[2] Rob Turrisi, PhD[2] and June Robinson, MD[1]

[1]Department of Dermatology, Northwestern University, Chicago, IL and [2]Biobehavioral Health and Prevention Research Center, PennPennsylvania State University, University Park, PA.

Patients at melanoma risk use total body skin self-examination (SSE) to facilitate their screenings with a dermatologist. Subjects were randomized into receiving a SSE intervention alone or as a couple with their cohabiting partner and recorded concerning lesions on body maps. At the follow-up visit, subjects received a total body skin examination by a dermatologist blinded to the subjects' recorded responses. The primary point of comparison was the difference between those lesions recorded by subjects and the dermatologist, divided into three body site categories: 1.) Not hard to see (NHS) 2.) Hard to see (HS), and 3.) Sexually sensitive (SS). Among the 130 participants, 56 subjects reported partner assistance (SPA) while performing SSE. The proportion of missed concerning lesions was calculated as number of missed concerning lesions by SPA divided by total number as found by SPA and the dermatologist. As age increased, the number of missed lesions in HS and SS decreased. The p-values of age relationship calculated with the average number and proportion of missed concerning lesions for each category are, respectively: 1.) NHS, p=0.08, 0.011, 2.) HS, p=0.002, 0.04 and 3.) SS, p=0.0001, 0.0001. The age relationship is nearly identical for both these variables. As determined by proportions of missed concerning lesions, male patients assisted by their female partners missed fewer lesions in all three categories than female patients assisted by male partners. There was a significant difference between males and females in NHS (p=0.001) and a marginally significant difference between males and females in SS (p=0.07). Thus, age correlates with the completeness of partner assisted SSE in all body areas. Also, there was a significant gender difference in the completeness of partner assisted SSE in NHS. Addressing HS and SS areas during patient SSE education of those at risk to develop melanoma may increase their willingness to enlist a partner.

CORRESPONDING AUTHOR: Sara Ortiz, BA, Department of Dermatology, Northwestern University, Chicago, IL, 60611; s-ortiz@northwestern.edu

Paper Session #23 10:30 AM -10:45 AM 3065

HPV VACCINATION AMONG AFRICAN-AMERICAN ADOLESCENT GIRLS: PREVALENCE, CORRELATES, AND PSYCHOSOCIAL BARRIERS

Peter Vanable, PhD,[1,2] Michael P. Carey, PhD,[1,2] Jennifer L. Brown, MS,[1,2] Rebecca A. Bostwick, MPH[2] and Courtney R. Kraus, BA[2]

[1]Psychology, Syracuse University, Syracuse, NY and [2]Center for Health and Behavior, Syracuse University, Syracuse, NY.

The HPV vaccine offers hope that the incidence of cervical cancer can be dramatically reduced worldwide. In the U. S., cervical cancer has become primarily a disease of low-income minority women, but HPV vaccination remains low among African-American youth. To improve understanding about barriers to vaccination among minority youth, we assessed the prevalence of HPV vaccination and the association of HPV vaccine uptake (and intent) to demographic, health behavior, and psychosocial variables among African-American girls enrolled in a multi-city HIV prevention trial (N=291; M age= 15). Girls completed an audio computer-assisted self-interview (ACASI) that assessed HPV vaccination intent and uptake, HPV knowledge, physician trust, STD history, sexual behavior, and exposure to Gardasil ads. Nearly two-thirds (61%) had heard of Gardasil and 25% reported having received the vaccine. Vaccination rates were considerably higher among adolescents in two northern cities relative to youth from two southern cities (38% vs. 16%, p<.001). Univariate analyses also indicated that vaccine uptake was associated with higher grade level (p<.005), past history of oral sex (p<.05), exposure to Gardasil ads (p <.01), and HPV knowledge (p<.005). Among those not yet vaccinated, higher grade level (p<.05) and physician trust (p<.001) were associated with vaccination intent. In multivariate analyses, being from a northern city was a significant correlate of past vaccination, whereas higher grade level (p<.05) and physician trust (p<.001) remained significantly related to vaccination intent. Findings highlight regional differences in vaccine uptake and suggest that distrust in providers and pharmaceuticals may serve as vaccination barriers. Research should clarify regional differences in vaccine uptake and test innovative approaches to enhancing trust and vaccine acceptance among African-American teens.

CORRESPONDING AUTHOR: Peter Vanable, PhD, Psychology, Syracuse University, Syracuse, NY, 13244; pvanable@syr.edu

Paper Session #23 10:45 AM -11:00 AM 3066

DEVELOPMENT OF A SCALE TO ASSESS PARENTS' ATTITUDES ABOUT HPV VACCINATION

Annie-Laurie McRee, MPH,[1] Noel T. Brewer, PhD,[1] Jennifer Smith, PhD,[1] Paul L. Reiter, PhD[1] and Sami Gottlieb, MD, MPH[2]

[1]University of North Carolina School of Public Health, Chapel Hill, NC and [2]Centers for Disease Control and Prevention, Atlanta, GA.

Background. Despite over 50 published studies of HPV vaccine acceptability, no standardized instruments, to our knowledge, exist to assess attitudes toward the vaccine. We developed a scale to assess parents' attitudes about HPV vaccination, examining its psychometric properties and association with intentions to vaccinate.

Methods. We interviewed parents (n=783) who had not vaccinated their adolescent daughters against HPV and were residents of North Carolina counties with high cervical cancer mortality. We oversampled African Americans and rural areas. Respondents evaluated 16 statements about HPV vaccine that were either modified from previous studies or newly developed. We conducted an exploratory factor analysis of these items using principal components analysis with direct oblimin rotation. Simultaneous linear regression was used to examine the relationship of factors and intentions, controlling for sociodemographic characteristics. We report standardized regression coefficients.

Results. Analyses identified four factors: vaccine effectiveness (2 items), barriers to vaccination (5 items), perceived vaccine harms (6 items) and uncertainty about the vaccine (3 items). All factors had acceptable reliability (Cronbach's α>.60). Higher intentions to vaccinate were associated with believing HPV vaccine is more effective (β=.06) or has fewer harms (β=-.42), reporting more barriers to access (β=.12), and having less uncertainty about the vaccine (β=-.28) (all p<.05).

Conclusions. Contrary to a recent systematic review (Brewer & Fazekas, 2007), perceived effectiveness and barriers played only a small role in HPV vaccination intentions. Beliefs about harms and uncertainty were more important factors, in keeping with the previous review. The positive association of perceived barriers with vaccination intention was unexpected and may be due to greater awareness of barriers among those planning to vaccinate. Future research with actual vaccine uptake over time is needed to validate these findings.

CORRESPONDING AUTHOR: Annie-Laurie McRee, MPH, University of North Carolina School of Public Health, Chapel Hill, NC, 27599-7440; almcree@email.unc.edu

Paper Session #23 11:00 AM -11:15 AM 3067

COMPARING THE HEALTH BELIEF MODEL AND THEORY OF PLANNED BEHAVIOR IN PREDICTING INTENTION TO VACCINATE AGAINST THE HUMAN PAPILLOMAVIRUS IN COLLEGE-AGE WOMEN

Juli Buchanan, PsyD[1] and Kymberley K. Bennett, PhD[2]

[1]Chase Brexton Health Services, Inc, Baltimore, MD and [2]Department of Psychology, University of Missouri - Kansas City, Kansas City, MO.

Human Papillomavirus (HPV), a group of viruses that currently infect approximately 25 million American women, is a serious health threat that has been directly linked to cervical cancer, as well as to other gynecological, sex organ, and oropharyngeal cancers (Syrjanen, 2007). In 2006, the FDA approved a vaccine that prevents two of the strains most often linked to HPV-related cancers, but the vaccine must be administered to pre-sexual girls between the ages of 9 and 12 to be most effective. Little attention has been paid to college-age women who also are at risk for dangerous HPV strains, and who will likely benefit from the vaccine. This study examined predictors of intention to vaccinate among a sample of 143 Midwestern college-age women. Data were collected to compare the Health Belief Model (HBM) and the Theory of Planned Behavior (TPB) in predicting college women's intention to vaccinate. Results showed that the HBM explained 43% of the variance in intention to vaccinate, with perceived susceptibility, benefits, and self-efficacy significant predictors (after controlling for whether participants had ever engaged in sexual intercourse and for the use of a condom during one's last sexual experience). The TPB explained 39% of the variance in intention, with only subjective norms emerging as a significant predictor. An integrative model was tested utilizing both models' significant predictors and it explained 57% of the variance in participants' intention to vaccinate. These findings suggest that an integrative model may be a more effective method for examining college-age women's intention to vaccinate than employing either the HBM or the TPB individually. Furthermore, an integrative model may provide valuable information for future development of public health interventions to improve HPV vaccination among college-age women.

CORRESPONDING AUTHOR: Kymberley K. Bennett, PhD, Department of Psychology, University of Missouri - Kansas City, Kansas City, MO, 64110; bennettkk@umkc.edu

Paper Session #23 11:15 AM -11:30 AM 3068

HUMAN PAPILLOMAVIRUS VACCINE DECISION MAKING IN DA NANG, VIETNAM: ANTICIPATED SPOUSAL AND ADOLESCENT-PARENT CONCORDANCE

Carmen Radecki Breitkopf, PhD,[1] Heidi Pearson, PhD,[1] G.A. Bao Phan, MD,[2] Quang V. Ngo, MD MPH,[4] Susan Rosenthal, PhD[1] and Vinh D. Tran, MD[3]

[1]University of Texas, Galveston, TX; [2]Methodist Hospital, Houston, TX; [3]Da Nang Hospital, Da Nang, Viet Nam and [4]Da Nang Center for Reproductive Care, Da Nang, Viet Nam.

Introduction: In developing countries such as Vietnam, cervical cancer remains a significant health threat. Two vaccines have been developed that provide protection against human papillomavirus (HPV) types 16 and 18, which are responsible for 70% of all cervical cancers. Little is known about how parents arrive at a decision regarding HPV vaccination for their daughters or the role that fathers play. This study examined: (1) parents' perceptions of the role of mothers, fathers, and daughters in the decision to have their daughter receive the HPV vaccine; (2) anticipated concordance between spouses and between parents and daughters; and (3) the relationship between vaccine decision making and: a) who takes the daughter to the doctor and b) daughter's age.

Method: Participants were 139 Vietnamese health care workers at Da Nang General Hospital and Da Nang Center for Reproductive Health Care in central Vietnam who had a daughter 9-21 years old. Participants completed a self-administered questionnaire including demographic and HPV vaccine-related questions (e.g., intent to vaccinate daughter, discuss vaccination decision with spouse).

Results: Most (73%) parents favored having their daughter receive the HPV vaccine and 84% would consult their spouse about having their daughter vaccinated. Sixty-six percent of parents believed that HPV vaccination should be a joint decision involving both parents and the daughter. Parents anticipated concordance between themselves and their spouse (91%) and themselves and their daughter (77%). Most (87%) mothers and 62% of fathers would consider his/her spouse's opinion in the decision regarding HPV vaccination when accompanying the daughter to a health care visit in the absence of the spouse. Anticipated spousal concordance was particularly high (94%) for parents of daughters under 16 years of age.

Conclusions: Decisions regarding HPV vaccination will likely be made jointly by parents and adolescents. Efforts to educate fathers about HPV vaccination may be important.

CORRESPONDING AUTHOR: Carmen Radecki Breitkopf, PhD, University of Texas, Galveston, TX, 77555-0587; cmradeck@utmb.edu

Paper Session #23 11:30 AM -11:45 AM 3069

HPV VACCINATION ACCEPTABILITY: UNDERSTANDING ETHNIC DIFFERENCES

Laura A. Marlow, MSc, Jo Waller, PhD and Jane Wardle, PhD

Epidemiology & Public Health, University College London, London, United Kingdom.

Willingness to accept HPV vaccination is vital to its public health impact. In the UK, lower uptake has been reported in schools with higher proportions of ethnic minority children but acceptability studies have been limited to mostly white parents. We collected data as part of an omnibus survey which uses quota sampling to target ethnic minority groups in the UK. Home-based interviews with multilingual interviewers assessed acceptability of HPV vaccination and reasons for this decision. A total of 950 women completed the survey (including 200 white British women). Ethnic minority women were less likely to have heard of HPV ($p<.001$) and to say they would accept the vaccine for a daughter ($p<.001$). Highest acceptability was in white women (62%) followed by Caribbean and African women (50% and 52%), with much lower levels among Chinese, Indian, Pakistani and Bangladeshi women (35%, 29%, 22% and 19%). The most common reasons for 'accepting' were: belief that the vaccine would offer protection (42%), health reasons (17%) and positive feelings about prevention in general (10%). The most common reasons for 'not accepting' were: needing more information (24%), concerns about promiscuity (23%), religious/cultural reasons (12%) and concerns about safety (11%). In comparison to the white women, all ethnic minorities (except Bangladeshis) were more likely to cite concerns about sex/promiscuity ($p<.001$) and all ethnic minorities (except Chinese) were less likely to say they felt the vaccine would offer protection ($p<.001$). Among mothers who would not accept HPV vaccination (n=224), Indian, Pakistani, African and Chinese mothers were more likely to say they would never want their daughter to have HPV vaccination, whereas White, Caribbean and Bangladeshi mothers were more likely to say they would let their daughter have the vaccine at a later stage ($p<.001$).

It is important to include ethnic minority parents in psychosocial research surrounding HPV to ensure culturally specific barriers are identified and targeted, and any potential inequalities are minimised.

CORRESPONDING AUTHOR: Laura A. Marlow, MSc, Epidemiology & Public Health, University College London, London, WC1E 6BT; l.marlow@ucl.ac.uk

Paper Session #23 11:45 AM -12:00 PM 3070

I'M A GUY: DO I REALLY NEED A "CERVICAL CANCER VACCINE?"

Mary A. Gerend, PhD and Tricia Sias, MS

Florida State University College of Medicine, Tallahassee, FL.

Background: Persistent infection with human papillomavirus (HPV)—the most common sexually transmitted infection in the United States—can lead to cervical cancer, anogenital cancers, and genital warts. A vaccine to prevent infection by four types of HPV was recently approved for females aged 9–26. Greater reductions in HPV-related disease will be achieved if HPV vaccination is also extended to males. Efficacy trials in men are still ongoing, but it is likely that the HPV vaccine will be licensed for males in the near future. The purpose of the present study was to identify predictors of men's interest in HPV vaccination.

Methods: Male college students (n=221) completed a self-administered survey assessing demographic and sexual history information, HPV-related awareness and knowledge, health beliefs, and intentions to receive the HPV vaccine once it is available for men. Men also reported attitudes pertaining to possible presentations of the vaccine (e.g., calling it the "cervical cancer vaccine").

Results: Men reported moderate interest in HPV vaccination. Higher vaccine acceptability was associated with younger age, gay or bisexual orientation, having ever had sex, having a current sexual partner, and higher perceived risk to HPV/HPV-related disease. Men reported strongest interest in receiving a vaccine called "the HPV vaccine," relative to one called the "cervical cancer vaccine" or "genital wart vaccine." When indicating their preferred name for the vaccine, less than 3% selected the "cervical cancer vaccine," with the majority (76%) preferring the more general name: "HPV vaccine."

Conclusion: Predictors of HPV vaccine acceptability among men were generally consistent with those identified in previous studies conducted among women. Men appear to be favorable toward HPV vaccination; however, marketing the vaccine as the "cervical cancer vaccine" (as has been done to promote HPV vaccination among girls and young women) may not be the most effective strategy for promoting uptake of the vaccine among men. Findings have important implications for future HPV vaccination campaigns targeting young adult men.

CORRESPONDING AUTHOR: Mary A. Gerend, PhD, Florida State University College of Medicine, Tallahassee, FL, 32306-4300; mary.gerend@med.fsu.edu

Paper Session #24 10:30 AM -10:45 AM 3071

IMPACT OF WV LEGISLATION TO IMPROVE PHYSICAL ACTIVITY & EDUCATION

Andrew S. Bradlyn, PhD,[1] C. V. Harris, PhD,[1] L. Moore, EdD,[1] N. O'Hara Tompkins, PhD,[4] M. Purkey, MS,[2] D. Chapman, MS,[2] L. Abildso, MS,[1] J. Coffman, MA,[1] K. Kennedy, MPH[3] and K. Blower, MS[3]

[1]Health Research Center, West Virginia University, Morgantown, WV; [2]WV Office of Healthy Schools, Charleston, WV; [3]WV Office of Healthy Lifestyles, Charleston, WV and [4]Community Medicine, West Virginia University, Morgantown, WV.

The WV Healthy Lifestyles Act (HB2816) was enacted in 2005, mandating school-based policies to combat childhood obesity. We report PE teacher perceptions of the bill and its impact on their practices and schools.

Methods: A Robert Wood Johnson Foundation-funded statewide survey of PE teachers (n=696) and other school personnel was conducted as part of a multiyear evaluation. 398 teachers (57%) responded with quantitative and qualitative perceptions of: HB2816, BMI & fitness assessments, student physical activity, and other obesity topics.

Results: BMI and fitness assessments were rated as important by 90% and 99%, respectively, of PE teachers. 31% reported the bill had impacted their delivery of PE courses, and 54% believed the law will lead to changes in student fitness. Qualitative analysis yielded 10 themes. PE teachers perceived: (1) the law increased PE time for many students, (2) even more PE was needed to ensure adequate fitness/skill development; (3) improvements were needed to implement the law as intended; (4) innovation and creativity were required to overcome obstacles to PE; (5) students needed more physical activity throughout the day, improved nutrition, and encouragement from parents; (6) difficulties associated with body composition assessment & reporting; (7) concerns about the use of FITNESSGRAM to determine student fitness; (8) concerns about adequate space/equipment; (9) Dance, Dance, Revolution (DDR) was a welcome addition to the PE program; and (10) although DDR has many benefits, there are concerns and challenges associated with its use.

Conclusions: PE teachers were generally favorable in their assessments of HB2816 and reported minimal negative impact. However, qualitative data suggest that more efforts are needed to improve student fitness and reduce obesity.

CORRESPONDING AUTHOR: Andrew S. Bradlyn, PhD, Health Research Center, West Virginia University, Morgantown, WV, 26506-9136; abradlyn@hsc.wvu.edu

Paper Session #24 10:45 AM -11:00 AM 3072

INFORMING POLICY INITIATIVES TO ADDRESS DISPARITIES IN COLORECTAL CANCER

Paul Greene, PhD, Zoran Bursac, PhD, Karen Kim, PhD, Paulette Mehta, MD, Glen Mays, PhD, Jianjun Zhang, MD, PhD and Ronda Henry-Tillman, MD

University of Arkansas for Medical Sciences, Little Rock, AR.

African Americans and medically underserved populations bear a disproportionate burden of colorectal cancer (CRC) and report low use of screening tests known to decrease incidence and mortality. The University of Arkansas for Medical Sciences is collaborating with the Arkansas Department of Health to identify health system variables associated with disparities and develop sustainable policies promoting equitable use of effective preventive services. A random digit dialed survey assessed demographics, access to primary care, screening advice and CRC screening in a sample of Arkansas residents age 50 years and older (N=2021). Screening was associated with having an identified primary care provider (p<.0001) and with provider advice to screen (p<.0001). Lower screening rates were seen among African Americans (p<.006), as well as among individuals with limited income (p<.008) and less than a high school education (p<.001). In a multivariable model controlling for patient demographics and provider advice to screen, advice remained a predictor of screening (OR 258; p<.0001), but Caucasians were less likely to be screened than African Americans (OR .59; p<.03). Regional variation in screening was consistent with demographic profiles of the state's five public health regions and distribution of health services. Results suggest lower screening rates among African Americans may reflect a lack of appropriate recommendations.These and related findings inform briefings presented to the Committee on Public Health, Labor, and Welfare of the Arkansas State Legislature and ongoing initiatives to develop an evidence-based public health program addressing disparities in CRC screening, incidence, and mortality. Given the strong association of physician advice with screening uptake, recommendations presented in a primary care setting will be an important component of a state-sponsored program to enhance screening and reduce disparities.

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CORRESPONDING AUTHOR: Paul Greene, PhD, College of Public Health, University of Arkansas for Medical Sciences, Little Rock, AR, 72205; pggreene@uams.edu

Paper Session #24 11:00 AM -11:15 AM 3073

A STATEWIDE EXAMINATION OF BEST PRACTICE POLICIES TARGETING CHILDHOOD OBESITY

Carole V. Harris, PhD,[1] A. S. Bradlyn, PhD,[1] N. O. Tompkins, PhD,[1] L. Abildso, MS,[1] J. Coffman, MA,[1] M. Purkey, MS,[2] D. Chapman, MS,[2] K. Kennedy, MPH,[3] K. Blower, MS[3] and L. Moore, EdD[1]

[1]West Virginia University, Morgantown, WV; [2]Office of Healthy Schools, Charleston, WV and [3]Office of Healthy Lifestyles, Charleston, WV.

Background: West Virginia has the 2nd highest rate of youth obesity in the nation. In response to this health crisis, the WV Legislature passed the Healthy Lifestyles Act establishing: time requirements for physical education, school beverage restrictions, fitness assessments, and BMI measurements for students. A multi-method, multi-informant evaluation of the legislation, conducted in partnership with state health and education agencies, was funded by the Robert Wood Johnson Foundation. This paper provides information on supplemental county and school-level best practice policies to address student nutrition and physical activity.

Methods: We conducted statewide surveys of all WV public school superintendents (N=56) and principals (N=696). Surveys assessed nutrition and physical activity policies (reported here), barriers to implementing the mandates, and impact on staffing and finances.

Results: Surveys were received from 95% of superintendents and 84% of principals. Physical activity policy findings include: 55% of counties require recess for elementary students and 76% of these require > 20 minutes/day. At the school level, 95% of all schools prohibit use of physical activity to punish misbehavior, and 24% of elementary schools prohibit excluding students from recess. Nutrition policy findings include: < 20% of counties prohibit using food or food coupons as rewards, 60% prohibit junk food in vending machines, and 30% have a fundraising policy that includes nutrition guidelines. At the school level, 73% of elementary schools but only 31% of high schools have policies regarding food allowed at parties, and 45% prohibit advertising by food/beverage companies.

Conclusions: Legislation is an important but insuffficent strategy in the fight against childhood obesity. County school boards and individual schools must adopt additional policies to improve the nutrition and physical activity environments in schools.

CORRESPONDING AUTHOR: Carole V. Harris, PhD, Health Research Center, West Virginia University, Morgantown, WV, 26506; charris@hsc.wvu.edu

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Paper Session #24 11:15 AM -11:30 AM 3074

PUBLIC OPINION FOR NUTRITION POLICIES TO PREVENT AND TREAT OBESITY

Courtney A. Robert, MHK, Paul A. Estabrooks, PhD and K. Jill Kiecolt, PhD

Virginia Tech, Blacksburg, VA.

The recent report "F as in Fat: How obesity policies are failing America" proposes numerous public health policies related to nutrition (e.g., requiring restaurants to list food content). Federal support for such obesity prevention policy is strongly influenced by public opinion. This study (1) assessed the current level of public concern about the severity of obesity as a public health issue and (2) investigated how attributions of individual versus system-level responsibility for obesity were related to endorsing nutrition policies to combat the problem, using a randomly selected and representative sample of United States adults (N=1,202). Respondents were more likely to rate obesity as a very or extremely serious health threat (79%) than smoking (72%) or alcohol use (67%). Further, a large proportion of respondents ascribed a great deal of responsibility for the current prevalence of obesity to individual choice (67%), fast food (43%), schools' allowing high calorie snacks (40%), and food manufacturers (37%). Few respondents strongly supported taxing high calorie foods (21%) or setting legal limits on portion sizes (11%). A larger proportion strongly supported banning advertising for high calorie foods (36%), requiring restaurants to list calorie and fat content (38%), and putting warning labels on high calorie foods (49%). The regression analyses revealed that those who attributed responsibility for obesity to more individualistic sources supported the obesity policies more. Specifically, individualistic attributions were significant predictors of favoring banning advertising (R2=0.09; p<.01), taxing high calorie foods (R2=0.13; p<.01), requiring restaurants to list calorie content (R2=0.16; p<.01), adding warning labels (R2=0.15; p<.01), and limiting portion sizes (R2=0.15; p<.01). These results are consistent with the dominant media messages that obesity is an individual problem, but they contradict previous findings that persons who perceive obesity as an individual problem are less supportive of public policy for preventing it.

CORRESPONDING AUTHOR: Courtney A. Robert, MHK, Human Nutrition Foods and Exercise, Virginia Tech, Roanoke, VA, 24016; crobert@vt.edu

Paper Session #24 11:30 AM -11:45 AM 3075

RESEARCH EVIDENCE TO PRACTICE: EARLY CHILD DEVELOPMENT AS A DETERMINANT OF HEALTH

Hope Beanlands, PhD (c), RN,[1] Francois Benoit, MSc[2] and Margo Greenwood, PhD (c)[3]

[1]National Collaborating Centre for Determinants of Health, St Francis Xavier University, Antigonish, NS, Canada; [2]National Collaborating Centre for Healthy Public Policy, Institut national de santé publique du Québec, Montréal, QC, Canada and [3]National Collaborating Centre for Aboriginal Health, University of Northern British Columbia, Prince George, BC, Canada.

Prenatal and early child experiences have a powerful influence on subsequent health, well-being, coping skills and competence. Home visiting by public health nurses is an intervention designed to promote nurturant environments to enhance healthy child development. Available research evidence and program information regarding the effectiveness of these programs to influence health outcomes is disconnected, sporadic and often not readily available to practitioners, policy-makers and decision- makers.

The mandate of the National Collaborating Centres is knowledge synthesis, translation and exchange of the evidence about the social and economic factors that influence the health of Canadians. For the past year, the NCCDH and NCCAH have been focusing on early child development as a social determinant of health, synthesizing the research evidence regarding early child development, home visiting practices and health equity.

In order to support public health practitioners and policy-makers in making evidence-based decisions about early child home visiting, the NCCDH and NCCAH invited front-line practitioners, medical officers of health, senior decision-makers, and representatives from non-governmental organizations to take part in a pan-Canadian knowledge exchange forum. The forum was designed to profile select early child public health home visiting programs and explore the relationship between home visiting and health equity, to identify and prioritize policy and practice issues which can be addressed by knowledge synthesis, translation and exchange; and, to explore the utility of stories and scenarios as tools for knowledge synthesis, translation and exchange. This presentation will report on the "Early Child Development Forum" as a method of translating research to practice.

CORRESPONDING AUTHOR: Philip Girvan, BA, NCC Determinants of Health, Antigonish, NS, B2G 2W5; pgirvan@stfx.ca

Paper Session #24 11:45 AM -12:00 PM 3076

A SYSTEMATIC REVIEW OF BEHAVIORAL TREATMENTS FOR CHILDHOOD OBESITY: EVALUATING EVIDENCE FOR PRACTICE AND POLICY DECISION-MAKING

Lisa M. Klesges, PhD,[1,2] Kara Davis, BS,[2] Joanna Buscemi, MS[3] and Katherine M. Kitzmann, PhD[3]

[1]School of Public Health, University of Memphis, Memphis, TN; [2]Epidemiology and Cancer Control, St. Jude Children's Research Hospital, Memphis, TN and [3]Department of Psychology, University of Memphis, Memphis, TN.

Despite decades of increasing prevalence of childhood obesity, we lack clear evidence on relevant and effective treatment approaches. Recent consensus bodies have underscored the need to consider designing, evaluating, and reporting research that aids decision-making and enhances the translation of evidence to practice.

The childhood obesity intervention was reviewed to evaluate the extent to which studies reported information relevant for the translation of research to practice. Controlled studies published between 1980–2004 and meeting selection criteria (n=56) were evaluated along external validity dimensions from Green & Glasgow (2006).

There were no studies providing full reports of external validity elements; the most complete paper included 27 of 55 elements. Only 43% of studies reported participation rates and fewer (9%) reported on representativeness characteristics of those participating. While most studies were conducted in clinical or research environments, only 18% included any setting-level descriptions, 2% reported on setting participation, and none reported site-based representativeness. Implementation data were sparse with only 11% reporting whether the intervention was consistently delivered and none on whether implementation varied by interventionists. Very few studies (2%) reported costs of the intervention. While 45% of the studies reported testing for a robust effect between subgroups, <20% reported on potential negative outcomes. A majority of studies (79%) reported attrition estimates; far fewer (9%) compared characteristics of those leaving and remaining in the study.

Discussion will focus attention on contextual elements and external validity issues needed to improve the reporting of research evidence. Recommendations and suggestions to improve the future translation of intervention research to practice in addressing childhood obesity will be offered.

CORRESPONDING AUTHOR: Lisa M. Klesges, PhD, School of Public Health, The University of Memphis, Memphis, TN, 38152; lklesges@memphis.edu

Paper Session #25 10:30 AM -10:45 AM 3077

0PTIMIZING DIET AND EXERCISE CHANGES IN CHRONICALLY STRESSED ADULTS: MAJOR RESULTS OF THE CALM TRIAL

Abby C. King, PhD, Cynthia M. Castro, PhD, Leslie A. Pruitt, PhD, David Ahn, PhD, Carolyn Prosak, PhD, Matt Buman, PhD and Eric Hekler, PhD

Stanford, Stanford, CA.

While healthful dietary and physical activity (PA) patterns represent key health behaviors, little evidence exists concerning how best to combine dietary and PA interventions to optimize both behavioral outcomes for people with challenging and hectic schedules. 200 chronically stressed adults ages 50+ yrs not meeting national PA and dietary recommendations were randomized to 1 of four 12-mo phone interventions: PA 1st (4 mos) then Diet added, Diet 1st (4 mos) then PA added, Simultaneous Diet + PA, or stress management Control. Primary measurement occurred at baseline, 4, and 12 mos for PA (7-Day PA Recall, CHAMPS questionnaire) and Diet (Block Food Frequency Questionnaire).

For dietary intake, intent-to-treat analysis (ANCOVA) indicated significant 4-mo improvements in fruit and vegetable (F&V) intake and percentage of calories from saturated fats (SatFat) for Diet 1st and Simultaneous arms relative to Control and PA 1st ($p<.0009$). By 12 mos, all 3 interventions showed significant improvements in F&V and SatFat relative to Control ($p<.05$). For PA, ANCOVA indicated significant 4-mo increases in PA 1st compared to the other 3 arms ($p<.04$). By 12 mos, both PA 1st and Simultaneous arms had significantly greater PA relative to Control ($p<.02$), while Diet 1st did not improve on PA.

Results suggest that the timing of intervention delivery (sequential vs. simultaneous) may differentially impact these 2 key health behaviors. For PA, the PA 1st sequential arm had the highest PA levels across the initial adoption and longer-term maintenance periods, although the Simultaneous program also showed significant PA increases by 12 months. However, starting with dietary advice first may not be optimal for promoting regular PA across 12 mos. In contrast, all 3 intervention approaches led to significant improvements in both F&V intake and SatFat by 12 months (although it took the PA 1st Sequential arm more time to show improvements in SatFat relative to the other 2 interventions). In sum, Simultaneous intervention produced significant 12-mo changes in both health behaviors, although it took longer to achieve PA changes. Meanwhile, while sequencing may promote early as well as longer-term PA and Dietary outcomes, the choice of which behavior to target first may be important.

CORRESPONDING AUTHOR: Abby C. King, PhD, Stanford, Stanford, CA, 94305-5705; king@stanford.edu

Paper Session #25 10:45 AM -11:00 AM 3078

SYSTEMCHANGE: USING SYSTEM IMPROVEMENT FOR HEALTH BEHAVIOR CHANGE

Shirley M. Moore, RN, PhD,[1] Jacqueline Charvat, MS,[1] Sharon Andrisin, RN,[1] Frances Lissemore, PhD,[1] Tonia Primm, AS,[1] Ibrahim Salami, MS[1] and Farrokh Alemi, PhD[2]

[1]School of Nursing, Case Western Reserve University, Cleveland, OH and [2]Georgetown University, Washington, DC.

Assisting people to maintain healthy behaviors such as exercise remains a challenge. A new intervention, SystemCHANGE, focuses on building habitual exercise into the immediate environment (day-to-day routines) so people succeed despite wavering motivation. People are taught to apply a set of strategies associated with system improvement: identify a measurable goal, identify a chain of steps within a system where the desired change is to occur, keep data about the system to better understand it, design and implement short trials of possible improvement solutions, evaluate success by reviewing data, and make provisions for holding gains. A pilot test was conducted to determine the initial effectiveness of SystemCHANGE as compared to a cognitive behavioral intervention (CHANGE+ {focus on motivation and problem solving}) and Usual Care (UC) in cardiac patients. Both intervention groups had five 1½ hr. small-group education sessions followed by three monthly booster calls. In this prospective longitudinal pilot study, subjects completing cardiac rehabilitation (n=30, 10/study arm) were randomly assigned to one of the three study arms. All subjects wore heart rate monitors during exercise for 6 months to measure exercise amount (# hours exercised) and frequency (# sessions). Using ANOVA, we found that across all study months the SystemCHANGE group had greater exercise frequency and amount than either the CHANGE+ or UC group. In Month 6, the SystemCHANGE group had more exercise sessions than CHANGE+ or UC (16.0 sessions vs. 13.0 and 6.7, respectively; $p=.07$). Exercise amount showed a similar trend with the SystemCHANGE group having 15.4 hrs. of exercise, whereas the CHANGE+ and UC groups had 8.2 hrs. and 6.4 hrs., respectively ($p=.08$). While not all of these differences reached statistical significance due to the small sample size in this pilot study, the directions of the findings are promising and a randomized clinical trial with 420 subjects is currently underway.

CORRESPONDING AUTHOR: Jacqueline Charvat, MS, Case Western Reserve University, North Olmsted, OH, 44070; jmc31@case.edu

Paper Session #25 11:00 AM -11:15 AM 3079

A PEER-ASSISTED SOCIAL COGNITIVE BASED PHYSICAL ACTIVITY INTERVENTION FOR OLDER ADULTS

Matthew P. Buman, PhD,[1,3] Peter R. Giacobbi, PhD,[2,3] Michael Marsiske, PhD,[3] Joseph M. Dzierzewski, MS,[3] Adrienne T. Aiken Morgan, PhD,[4,3] Christina S. McCrae, PhD[3] and Beverly L. Roberts, PhD[3]

[1]Stanford Prevention Research Center, Stanford University, Stanford, CA; [2]University of Arizona, Tucson, AZ; [3]University of Florida, Gainesville, FL and [4]Rush University Medical Center, Chicago, IL.

The Active Adult Mentoring Program (Project AAMP) was a 16-week intervention using peer mentors in a group-based format designed to increase physical activity and fitness parameters. Participants were randomized to intervention or health hygiene control groups matched in social contact and peer mentorship. Experimental group sessions focused on creating physical activity plans, goals, and using mental imagery. Participants were 81 previously sedentary adults age 50 and older ($M=63.42$, $SD=8.62$), primarily female, white, college-educated, and free of disease or disability preventing physical activity participation. Sixty-nine participants completed baseline and posttest assessments (85% retention). Social cognitive outcomes were mixed; the intervention did not increase self-efficacy in either group, yet the intervention group had improved intrinsic motivation that approached significance, $F(1)=2.48$, $p=0.12$, Cohen's $F=0.19$. A self-report of minutes of moderate-to-vigorous physical activity and an objective measure of pedometer steps showed positive, curvilinear growth such that activity monotonically increased for the first eight weeks, was sustained for an additional four weeks, and had modest declines in the final four weeks when the intervention was withdrawn ($ps<.001$). Group assignment did not moderate this time trend. Small improvements in cardiorespiratory fitness were observed in both groups, $F(1)=10.17$, $p=.002$, $\eta 2=0.15$. These findings provide initial support to continue to explore the use of peer-assisted interventions in the physical activity domain and perhaps more broadly in other behavioral and health domains. Future research should explore ways to increase physical activity behavior in older adult populations through the use of peer mentors and theory-driven models that can be easily and inexpensively delivered to a wide range of population subgroups.

CORRESPONDING AUTHOR: Matthew P. Buman, PhD, Stanford Prevention Research Center, Stanford University, Stanford, CA, 94305-5705; mbuman@hhp.ufl.edu

Paper Session #25 11:15 AM -11:30 AM 3080

MAINTENANCE OF PHYSICAL ACTIVITY CHANGE IN THE ACTIVE FOR LIFE INITIATIVE

Sara Wilcox, PhD,[1] Stacy Wegley, MS,[2] Marcia G. Ory, PhD[3] and Marsha Dowda, DrPH[1]

[1]University of South Carolina, Columbia, SC; [2]Hamilton County General Health District, Cincinnati, OH and [3]Texas A&M Health Science Center, College Station, TX.

BACKGROUND. This study examined the 6-month maintenance of increased physical activity (PA), reduced body mass index (BMI), and satisfaction with body function (SBF) in Active for Life (AFL), a translational research initiative. METHODS: Participants from 7 of 12 sites in Yrs 3 and 4 were surveyed 6 months after completion of the 6-mo telephone-based Active Choices (AC, 1 site) or group-based (20-wk in Yr 3, 12-wk in Yr 4) Active Living Every Day (ALED, 6 sites) behavior change program. Repeated measures analyses controlled for site clustering and covariates and tested time trends. RESULTS: For the AC (n=339) and ALED (n=1822) programs, respectively, participants averaged 71.9 and 70.7 years, 71% and 79% were non-Hispanic white, 72% and 84% were women, and 6 month follow up survey response rates were 50% and 59%. For AC, significant pretest to posttest increases in meeting PA recommendations, reductions in BMI, and improvements in SBF were found and maintained at follow up. For ALED Yr 3, meeting PA recommendations and SBF increased significantly from pretest to posttest but then decreased significantly from posttest to follow up. BMI decreased (p=.07) from pretest to posttest and was maintained at follow up. For ALED Yr 4, significant increases in meeting PA recommendations and reductions in BMI from pretest to 12-wk posttest were maintained at all later time points. SBF increased from pretest to 12-wk posttest, declined significantly at 20 wks, and was maintained at follow up. CONCLUSION: Improvements in the AFL initiative were generally maintained at a 6-month follow up. When behavioral decay occurred, the 6-month follow up values remained significantly more favorable than pretest values. Given the broad reach of this translational initiative, the results suggest the viability of evidence-based programming as a public health practice.

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CORRESPONDING AUTHOR: Sara Wilcox, PhD, Department of Exercise Science, University of South Carolina, Columbia, SC, 29208; swilcox@sc.edu

Paper Session #25 11:30 AM -11:45 AM 3081

IMPACT OF LIVE WELL! LIFE BEYOND CANCER ON HEALTH-RELATED QUALITY OF LIFE AND LIFESTYLE CHANGE AMONG CANCER SURVIVORS

M. F. Miller, PhD, MPH,[1] M. Golant, PhD,[1] J. Taylor, CAE,[1] I. Ahmed, MPH, CHES,[1] H. Justice, MPH, CHES[2] and C. Neal, MPH, CHES[2]

[1]The Wellness Community, Washington, DC and [2]Lance Armstrong Foundation, Austin, TX.

Introduction: There is an urgent need for research and programming addressing medical, physical and emotional challenges that cancer survivors face post-treatment. Phase I of the Live Well! Life Beyond Cancer pilot study was conducted at 5 Wellness Communities nationwide in 2007 (n=67). Participating cancer survivors experienced positive changes in health-related quality of life (HRQOL), physical activity and fat-related dietary habits. Methods: Phase II of the pilot study was carried out at 5 additional Wellness Communities in 2008. The intervention was a six week, community-based program that included exercise, nutrition, education and support. Pre- and post-test written questionnaires included the SF-12, an impact of cancer scale (Zebrack, et al.), the International Physical Activity Questionnaire and a fat-and fiber-related dietary habits questionnaire. Three and 6 month follow-up questionnaires were mailed. Results: A total of 84 survivors of various cancers participated in Phase II. At 6 weeks, there was an increase in HRQOL across all subscales of the SF-12 with significant increases ($p<0.05$) in the role physical and vitality and in physical and mental summary scores. There was a reduction in all scales measuring the negative impact of cancer with a significant decrease in health-related worry ($p<0.05$). There was a significant increase in physical activity (difference=282 min/week, p=0.046, paired t-test) and an improvement in all subscales measuring fat- and fiber-related dietary habits. Three and 6 month follow-up results from Phase II will also be presented. Conclusion: Live Well! is an easily translatable intervention that can be seamlessly delivered within community-based programs for meeting post-treatment needs of cancer survivors. The program will be disseminated after completion of this pilot phase under a new name, "Cancer Transitions: Moving Beyond Treatment," to 9 additional Wellness Communities and 11 other community cancer sites across the United States and Canada.

CORRESPONDING AUTHOR: Melissa F. Miller, PhD, MPH, The Wellness Community, Fairfax, VA, 22033; melissa@thewellnesscommunity.org

Citation Paper

Paper Session #25 11:45 AM -12:00 PM 3082

PHYSICAL ACTIVITY AND QUALITY OF LIFE IN MULTIPLE SCLEROSIS: LONGITUDINAL STUDY OF POSSIBLE INTERMEDIARY VARIABLES

Robert Motl, PhD and Edward McAuley, PhD

University of Illinois at Urbana-Champaign, Urbana, IL.

Physical activity has resulted in a small improvement in quality of life (QOL) among those with multiple sclerosis (MS). Recent cross-sectional analysis suggests that depression, fatigue, pain, self-efficacy, and social support are intermediaries of the relationship between physical activity and QOL in MS. This longitudinal study examined those same variables as possible intermediaries of the relationship between changes in physical activity and QOL across a six-month period of time in persons with MS. The sample (N=292) included individuals with a diagnosis of MS. On 2 occasions separated by 6 months, the participants wore an accelerometer for 7 days and then completed a self-report measure of physical activity and measures of depression, fatigue, pain, self-efficacy, social support, and QOL. The data were analyzed using panel analysis in Mplus 3.0. The initial model examined the relationship between change in physical activity as a predictor of change in QOL and it provided an excellent fit for the data (SRMr=0.01, CFI=0.99). Those who had an increase in physical activity over the six-month period had a statistically significant and small improvement in QOL (γ=.07). The subsequent model examined changes in depression, fatigue, pain, social support, and self-efficacy as intermediaries of the relationship between change in physical activity and QOL. The model provided a good fit for the data (SRMr=0.04, CFI=0.95). Those who had an increase in physical activity reported decreases in fatigue (γ=−.17) and pain (γ=−.13) and increases in social support (γ=.07) and self-efficacy (γ=.11). In turn, those who reported decreases in fatigue (β=−.13) and pain (β=−.098) and increases in social support (β=.18) and self-efficacy (β=.10) reported improvements in QOL. The observed pattern of relationships further supports the possibility that physical activity is indirectly associated with improved QOL via fatigue, pain, social support, and self-efficacy in individuals with MS.

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CORRESPONDING AUTHOR: Robert Motl, PhD, University of Illinois at Urbana-Champaign, Urbana, IL, 61801; robmotl@uiuc.edu

Paper Session #26 10:30 AM -10:45 AM 3083

SUICIDE SCREENINGS FOR VETERANS IN PRIMARY CARE: AN INTEGRATIVE APPROACH

Hani Shabana, PhD, Laura Clevinger, LCSW and David Buyck, PhD

Veterans Affairs Medical Center Salem, Salem, VA.

Introduction: Due to concerns over potential increases in suicides rates among veterans treated in the Veterans Health Administration, the Salem VA Medical Center evaluated the potential for screening veterans for suicide risk in primary care (PC) as a means of accessing at-risk veterans. A pilot study was conducted and, based on the findings, routine suicide screenings were extended to all of the PC clinics that serve the thousands of veterans at this medical center yearly. This presentation describes the process of screening, risk assessment, and providing interventions to patients endorsing suicidal ideation in PC as well as an analysis of mental health utilization by newly screened veterans at this hospital.

Method: During every visit in PC, patients are asked by support staff (during routine check-in) about suicidal ideation during the past 2 weeks. When patients screen positively, either the primary care provider (PCP) or one of the primary care-mental health (PCMH) providers located in PC complete a full risk suicide assessment during that visit. Based on level of risk, veterans are offered immediate interventions such as patient education about suicide, safety follow-up checks, referrals to specialty mental health (MH), and/or hospitalization that day for acute care.

Findings: Based on a sample of 1266 visits in PC, less than 1% screened positive. A separate analysis also found that of 178 positive screens, 90% were evaluated during that visit by a PCMH provider. From those seen by the PCMH team, 12% were followed by PCMH, 8% were followed by their PCP for psychotropic medication management, 32% were all ready being seen by a MH specialty clinic, and 32% were referred to MH specialty. Of those referred to MH specialties, 67% were new referrals to MH and 25% were previous MH clients not seen by MH for 1 year or more.

Implications: Suicide screenings in PC allow for greater access to at-risk veterans regularly treated in PC, particularly veterans with no prior mental health treatment. Findings suggest that positively-screened veterans now have greater access to evaluation and intervention of their suicidal ideation.

CORRESPONDING AUTHOR: Hani Shabana, PhD, Salem Veterans Affairs Medical Center, Salem, VA, 24153; hanimac@yahoo.com

Paper Session #26 10:45 AM -11:00 AM 3084

SPIRITUAL WELL-BEING AND PTSD SYMPTOMS IN VETERANS: A PREDICTIVE MODEL

Jill E. Bormann, PhD, RN,[1,2] Steven Thorp, PhD,[1,3] Madeline Gershwin, MA, RN,[1] Ann Kelly, MSN, RN[1,4] and Dale Glaser, PhD[2]

[1]VA San Diego Healthcare System, San Diego, CA; [2]San Diego State University, San Diego, CA; [3]University of California San Diego, San Diego, CA and [4]National University, San Diego, CA.

This study tested an a priori predictive model of war-related posttraumatic stress disorder (PTSD) symptom severity in combat veterans. Existential spiritual well-being was hypothesized to add significant, incremental variance over and beyond demographic, clinical, and treatment predictor variables. A hierarchical approach to regression analysis was used. Order of entry was 1-demographics, 2-clinical variables, 3-treatment variables and 4-existential spiritual well-being measured by Functional Assessment of Chronic Illness Therapy-Spirituality Expanded (FACIT-SpExv4). PTSD was measured by Clinician-Administered PTSD Scale (CAPS). The sample consisted of 150 outpatient veterans (97% male, 60% Caucasian, average age 58 + 9.70). Findings demonstrated that significant explained variance (R2=.093, p=.014) was obtained at the first step of entry for demographic variables (age, race, marital status). There was significant incremental variance with the subsequent set of clinical variables (symptom duration, drug/alcohol abuse) (ΔR2=.074, p=.007), but not treatment variables (anti-depressants and focused breathing) (ΔR2=.019, p=.198). The hypothesis was supported as significant incremental variance was obtained for spiritual well-being variables (meaning/peace, faith/assurance, spiritual connectedness) (ΔR2=.183, p<.05). The full model (k=13 predictors) accounted for 36.8% of the variance. At the final step of entry, predictors that were significant (i.e., p<.05) included age, dummy coded vector for African-Americans, symptom duration, meaning/peace, and spiritual connectedness. Conclusions suggest that the set of existential spiritual well-being predictors significantly predicted PTSD symptom severity.

CORRESPONDING AUTHOR: Jill E. Bormann, PhD, RN, Nursing & Patient Care, VA San Diego Healthcare System, San Diego, CA, 92161; jill.bormann@va.gov

Paper Session #26 11:00 AM -11:15 AM 3085

PHYSICAL ACTIVITY IN A NATIONAL SAMPLE OF VETERANS

Alyson Littman, PhD, MPH,[2,1] Thomas D. Koepsell, MD, MPH[2] and Christopher W. Forsberg, MS[2,1]

[1]Epidemiology, University of Washington, Seattle, WA and [2]Seattle Epidemiologic and Information Center, Department of Veterans Affairs, Seattle, WA.

Veterans are unique in part because they have a history of high levels of physical activity (PA) and physical fitness due to their military service. This study sought to describe and compare the prevalence of PA in veterans and non-veterans, and among VA users and non-users. Data were obtained from the 2003 Behavioral Risk Factor Surveillance System surveys. Veteran status, VA health care use, and PA were determined in 245,564 adults. Individuals were classified as inactive, insufficiently active, or meeting recommendations for moderate or strenuous PA. We used model-based direct adjustment to the distribution of all veterans, as estimated from the original weighted sample and chi-square tests corrected for the survey design. After adjusting for age and gender, the prevalence of inactivity was significantly lower (16.2% vs. 20.5%), and meeting PA recommendations was significantly greater (46.0% vs. 42.0%) in veterans than in non-veterans (p<0.0001). VA users were more likely to be inactive than VA non-users (20.8% vs. 14.7%) and less likely to be insufficiently active or meet recommendations (p<0.0001). Differences in PA levels between veterans and non-veterans did not change substantially after additional adjustment for education, race/ethnicity, and comorbidities, while differences in inactivity between VA users and VA non-users largely disappeared (16.8% vs. 15.2%) and the difference in meeting PA recommendations reversed, with a higher prevalence in VA users (49.5%) than in non-users (46.5%) (p=0.009). Despite the high level of PA required of active duty military personnel, years or decades after the completion of their military service, a minority of veterans met PA guidelines, and the prevalence of inactivity was particularly high in VA users. Lack of longitudinal information precludes inferring whether lower PA in VA users was a consequence or precursor of comorbidities. These findings suggest a large potential to increase PA and improve health in veterans generally, and VA users in particular.

CORRESPONDING AUTHOR: Alyson Littman, PhD, MPH, Epidemiology, University of Washington, Seattle, WA, 98101; alyson@u.washington.edu

Paper Session #26 11:15 AM -11:30 AM 3086

LIFESTYLE BEHAVIORS AND PREVENTIVE CARE IN VETERANS WITH DISABILITIES

Alyson Littman, PhD, MPH,[1,2] Christopher Forsberg, MS,[1] Edward Boyko, MD, MPH,[1] Jodie Haselkorn, MD[1] and Thomas Koepsell, MD, MPH[1,2]

[1]Epidemiologic Research and Information Center, Veterans Affairs, Seattle, WA and [2]Epidemiology, University of Washington, Seattle, WA.

Being physically activity, eating a healthy diet, quitting smoking, drinking in moderation and receiving preventive care can substantially reduce morbidity and mortality. In those who already have a disability, these health promotion and disease prevention activities are also important and can mitigate further disability. Military veterans make up a sizable proportion of the US population and have unique life experiences and health care needs that are important to measure and track over time. The aim of this study was to estimate and compare the prevalence of selected behavioral lifestyle factors and receipt of preventive health services, using data from a national sample, in veterans with and without disabilities. We examined data from the 2003 and 2004 Behavioral Risk Factor Surveillance System surveys of US adults. Veteran status, disability status, behavioral lifestyle factors and preventive care were determined in over 550,000 adults. Compared to veterans without a disability, veterans with a disability were less likely to meet physical activity recommendations (40.0% vs. 51.6%) and more likely to be current smokers (28.6% vs. 21.2%) and obese (32.0% vs. 21.4%). However, compared to veterans without disabilities, veterans with disabilities were more likely to receive an influenza vaccine in the previous 12 months (52.8% vs. 47.3%), pneumococcal vaccine (49.5% vs. 35.7%), fecal occult blood test (37.5% vs. 32.3%), cholesterol test (80.7% vs. 77.6%) and advice from their health provider to lose weight if they were obese (49.8% vs. 34.2%). Overall, we found the prevalence of preventive health services to be greater, but the practice of healthy lifestyle behaviors to be lower in veterans with disabilities compared to veterans without disabilities. These findings suggest a large potential to reduce chronic disease and secondary disability by modifying lifestyle behaviors in veterans with disabilities.

CORRESPONDING AUTHOR: Alyson Littman, PhD, MPH, Epidemiology, University of Washington, Seattle, WA, 98101; alyson@u.washington.edu

Paper Session #26 11:30 AM -11:45 AM 3087

A PHONE-BASED PROGRAM PROMOTING SMALL CHANGES IN NUTRITION AND PHYSICAL ACTIVITY IN VETERANS

Lesley D. Lutes, PhD,[1] Laura Damschroder, MPH,[2] David Goodrich, EdD[2] and Julie Lowery, PhD[2]

[1]Psychology, East Carolina University, Greenville, NC and [2]HSR&D Center for Clinical Management Research, VA Ann Arbor Healthcare System, Ann Arbor, MI.

Overweight and obesity rates among veterans (70%) poses a significant threat of obesity-related chronic disease and disability to patients in the Veterans Healthcare Administration (VHA). While the VHA developed a 5-level MOVE! Weight Management Program for Veterans to mitigate this threat, questions remain as to the effectiveness of some levels of treatment and degree to which it is implemented at facilities - particularly Level 1 of the program which outlines a phone follow-up for self-management of weight loss. Therefore, the purpose of the present study was to examine the feasibility and impact of a small-change weight loss intervention, delivered over the phone, to veterans. Fourteen sedentary (M step counts=3702 per day), obese (M BMI=37.56), middle aged (M=53.87) male (67%) and female (33%) participants enrolled in our 12-week phone-based lifestyle change intervention. Participants met face-to-face with the interventionist during their baseline assessment, where they received a pedometer, a food record book, and a treatment manual outlining the small change program. Participants then scheduled weekly phone calls with the interventionist for approximately 30 minutes, during which they reviewed food and activity records, weekly topics from the treatment manual, and problem-solved issues related to nutrition and physical activity goals. Midway through treatment, participants had an on-site clinic visit which consisted of an objective weight measurement and download of their pedometer data. At the 6-week assessment, participants exhibited significant decrease in weight (M=-2.67 kg; p <.01) and a trend toward increase in physical activity (M=+ 1973 steps; p=.12) using intention-to-treat analyses. In addition, phone-visit adherence rates were above 90%. Results suggest that a phone-based small change program is both feasible and beneficial for promoting positive changes for overweight/obese veterans. Implications for future treatment will be discussed.

CORRESPONDING AUTHOR: Lesley D. Lutes, PhD, Psychology, East Carolina University, Greenville, NC, 27858; lutesl@ecu.edu

Paper Session #26 11:45 AM -12:00 PM 3088

SELF-MANAGEMENT INTERVENTIONS FOR VETERANS WITH HEPATITIS C

Erik J. Groessl, PhD,[1,2] Kimberly R. Weingart, MA,[2] Micki Shieh, BA,[2] Allen Gifford, MD,[3,4] Steve Asch, MD[5] and Samuel B. Ho, MD[1,2]

[1]HSR&D, VA San Diego, San Diego, CA; [2]University of California San Diego, San Diego, CA; [3]Bedford VA, Bedford, MA; [4]Boston University, Boston, MA and [5]West Los Angeles VA, Los Angeles, CA.

Chronic hepatitis C (HCV) infection affects almost 2% of the US population and 5 - 6% of veterans receiving care at VA facilities. Antiviral treatment is available for chronic HCV but it has side effects, is not offered to everyone, and is successful less than half the time. Self-management interventions are one option for improving the health-related quality of life of HCV-infected individuals. We present data on the efficacy of a self-management intervention.

83 VA patients were recruited via healthcare providers and flyers. Participants (mean age of 54) were 95% male, 59% Caucasian, 17% married, 68% attended some college, 70% unemployed or disabled. They were randomized to either usual care or a weekly self-management workshop lasting 6 weeks. The six 2-hour self-management sessions were co-led by a peer-leader and a health care professional. The intervention is based on cognitive-behavioral principles and was adapted from an existing self-management framework that has been efficacious with other chronic diseases. HCV-specific modules were added. Outcomes including generic and disease-specific HRQOL, HCV knowledge, self-efficacy, depression, energy, and health distress were measured at baseline and again 6 weeks later. Data were analyzed using repeated measures ANOVA.

Results indicate that when compared to the usual care comparison group, participants randomized to the self-management program had better outcomes on HCV knowledge (F(1,81)=14.10, p<.01), health distress (F(1,81)=4.44, p<.05), and SF-36 physical functioning (F(1,81)=8.49, p<.01).

HCV-infected VA Patients attending the Hepatitis C Self-Management Program had better outcomes than the comparison group in a number of different areas. Plans for implementing the intervention at other VA and community settings are being developed. Results on additional outcomes such as health care utilization and antiviral treatment are forthcoming.

CORRESPONDING AUTHOR: Erik J. Groessl, PhD, HSR&D, VA San Diego, San Diego, CA, 92161; egroessl@ucsd.edu

Paper Session #27 10:30 AM -10:45 AM 3089

TAPPING INTO THE CONTRIBUTION OF NEIGHBORHOOD FACTORS TO SUCCESSFUL AGING

Lise Gauvin, PhD,[2,1] Lucie Richard, PhD,[3] Mélanie Levasseur, PhD,[1] Hélène Payette, PhD[4] and Lawrence Brawley, PhD[5]

[1]Social & Preventive Medicine, Université de Montréal, Montreal, Quebec, QC, Canada; [2]CRCHUM, Centre de recherche du Centre Hospitalier de l'Université de Montréal, Montreal, QC, Canada; [3]Faculté des sciences infirmières, Université de Montréal, Montreal, QC, Canada; [4]Centre de recherche sur le vieillissement, Université de Sherbrooke, Sherbrooke, QC, Canada and [5]College of Kinesiology, University of Saskatchewan, Saskatoon, SK, Canada.

Studies have shown relationships between neighborhood living conditions and health outcomes. Although some of the studies have examined these associations among seniors, the body of knowledge is still sparse. In this symposium, we report initial findings from a project which is nested within a major Canadian research initiative, the Quebec Longitudinal Study: Nutrition as a Determinant of Successful Aging (NuAge). The NuAge study design involves longitudinal data collection (4 repeated measures over 5 years) on a variety of social, psychological, functional, and biological variables related to health and nutrition in a sample of older adults whereas the nested study (VoisiNuAge) involves integration of assessments of social and neighbourhood factors to the measurement protocol and analysis of data from participants living at the same address in the Montreal metropolitan area. First, Gauvin provides an overview of the symposium objectives and presentations. Then, Payette describes the conceptualization, design, and conduct of the NuAge study. Next, Levasseur provides a detailed profile of the nature and extent of social participation over two repeated measurements among VoisiNuAge participants. Richard follows-up by examining the direction and magnitude of associations between neighborhood and individual characteristics and changes in social participation over a two-year period among VoisiNuAge participants. Gauvin also identifies individual- and neighbourhood-level determinants associated with changes in energy expenditure across a 3-year period in men and women. Finally, Brawley, who will act as a discussant, highlights the strengths and weaknesses of the overall approach and points to promising research and intervention directions.

CORRESPONDING AUTHOR: Lise Gauvin, PhD, Social & Preventive Medicine, Université de Montréal, Montreal, Quebec, QC, H3C 3J7; lise.gauvin.2@umontreal.ca

Paper Session #27 10:45 AM -11:00 AM 3090

NUTRITION AS A DETERMINANT OF SUCCESSFUL AGING: THE NUAGE LONGITUDINAL STUDY

Hélène Payette, PhD,[1] Pierrette Gaudreau, PhD,[2] Katherine Gray-Donald, PhD,[3] Jose A. Morais, PhD[3] and Bryna Shatenstein, PhD[1]

[1]Université de Sherbrooke, Sherbrooke, QC, Canada; [2]Université de Montréal, Montreal, QC, Canada and [3]McGill University, Montreal, QC, Canada.

Good nutrition is essential for well-being, maintenance of functional autonomy, prevention of chronic diseases, and optimal social participation. Nevertheless, little is known about determinants of changes in nutritional status with aging or the mechanisms whereby such changes contribute to successful aging. NuAge is the first Canadian interdisciplinary research initiative focussing on the impact of nutrition on the quality of aging. It stems from the concerted effort of the members of the Québec Research Network on Aging (RQRV-FRSQ) having expertise in the biology of aging, nutrition, geriatrics, epidemiology, and the social sciences. The NuAge study aims to assess the influence of past, current, and changes in dietary intakes, energy metabolism and body composition, on changes in markers of physical and cognitive status, functional autonomy and social functioning. A cohort of 1,793 generally healthy subjects, born between 1921 and 1935 (68–82 yrs at baseline) was established in 2003–2004 for a follow-up of 4 years. A multi-method approach including fundamental, clinical, epidemiological, and social research was adopted. Nutritional (diet, food habits, sensory/physiological functions, anthropometry and body composition), functional (muscle strength, physical activity and performance), medical (physical, mental and cognitive health) and social data (network, support, neighbourhood, participation) were collected annually by questionnaires or direct measurements using a computer-based data collection system. Blood, saliva and urine have been collected yearly, processed, aliquoted, and frozen at -80°C. Understanding the aging process as regulated by a modifiable factor such as nutrition will allow the development of population-based strategies for promoting healthy aging and preventing disability.

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CORRESPONDING AUTHOR: Lise Gauvin, PhD, Social & Preventive Medicine, Université de Montréal, Montreal, Quebec, QC, H3C 3J7; lise.gauvin.2@umontreal.ca

Paper Session #27 11:00 AM -11:15 AM 3091

NATURE AND EXTENT OF SOCIAL PARTICIPATION OVER A ONE-YEAR PERIOD AMONG A COHORT OF COMMUNITY-DWELLING OLDER ADULTS

Mélanie Levasseur, PhD,[1,2] Lucie Richard, PhD,[1] Lise Gauvin, PhD,[3,1] Yan Kestens, PhD,[3,1] Bryna Shatenstein, PhD,[1] Martin Brochu, PhD,[2] Mark Daniel, PhD,[4,3] Carole Després, PhD,[5] Céline Gosselin, MA,[7] Sophie Laforest, PhD,[1] Spencer D. Moore, PhD,[6] Hélène Payette, PhD[2] and Mahamane Ibrahima, MA[1]

[1]Université de Montréal, Montreal, QC, Canada; [2]Université de Sherbrooke, Sherbrooke, QC, Canada; [3]CRCHUM, Montreal, QC, Canada; [4]University of South Australia, Adelaide, SA, Australia; [5]Université Laval, Québec, QC, Canada; [6]Queen's University, Kingston, ON, Canada and [7]Direction de santé publique de Montréal, Montreal, QC, Canada.

Social participation, or the extent of an individual's involvement in activities that allow for connections to others, is a key determinant of successful aging. This study provides a detailed profile of the nature and extent of social participation among community dwelling adults living in Montreal. Participants were from a larger study called "Nutrition as a Determinant of Successful Aging" (NuAge). This study's subsample included 444 adults aged 75.8 years (SD=4.1 years; 56% women) who participated in two interviews at 1-year interval during which self-reported information about socioeconomic status, health, lifestyle, and frequency of 10 social activities were collected. Results show that activities most frequently engaged in by seniors were: visiting family members/friends, going shopping, practicing a hobby outside of the home, and going to the restaurant, pub or café. More than half of respondents indicated never participating in discussion/self-help groups, taking courses, doing some volunteer work, attending activities at a community/leisure centre or going to a public library or a cultural centre. Seniors living alone (p=0.01), reporting 14 years of education or more (p=0.01) and not owning their residence (p=0.02) reported greater social participation. On average respondents engaged in social activities 26.1 days in the previous month (SD=15.3) at intake and 25.2 days in the previous month (SD=14.2) one year later. No change over time in social participation mean score was observed (p=0.16), however visiting family members/friends significantly decreased over the year (p=0.02). Social participation among seniors includes diverse activities and remains stable over a one-year period.

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CORRESPONDING AUTHOR: Lise Gauvin, PhD, Social & Preventive Medicine, Université de Montréal, Montreal, Quebec, QC, H3C 3J7; lise.gauvin.2@umontreal.ca

Paper Session #27 11:15 AM -11:30 AM 3092

INDIVIDUAL AND NEIGHBORHOOD DETERMINANTS OF CHANGE IN OLDER ADULTS' ENERGY EXPENDITURE ACROSS TIME

Lise Gauvin, PhD,[2,1] Lucie Richard, PhD,[1] Yan Kestens, PhD,[2,1] Bryna Shatenstein, PhD,[1] Mélanie Levasseur, PhD,[1,5] Martin Brochu, PhD,[5] Mark Daniel, PhD,[7,2] Carole Després, PhD,[6] Céline Gosselin, MA,[3] Sophie Laforest, PhD,[1] Spencer D. Moore, PhD,[4] Hélène Payette, PhD[5] and Mahamane Ibrahima, MA[1]

[1]Université de Montréal, Montreal, Quebec, QC, Canada; [2]CRCHUM, Montreal, QC, Canada; [3]Direction de santé publique de Montréal, Montreal, QC, Canada; [4]Queens University, Kingston, ON, Canada; [5]Université de Sherbrooke, Sherbrooke, QC, Canada; [6]Université Laval, Québec, QC, Canada and [7]University of South Australia, Adelaide, SA, Australia.

Increasing physical activity among older adults is a public health priority. Identifying factors associated with greater energy expenditure holds promise for identifying intervention targets. The purpose of this paper was to identify individual- and neighbourhood-level determinants associated with changes in energy expenditure across a 3-year period. This study is nested in the Quebec Longitudinal Study: Nutrition as a Determinant of Successful Aging (commonly referred to through the French acronym NuAge). The sample is based on those participants who lived in the Montreal area, who provided assessments of physical activity and resided at the same address at years 1, 2, 3 of follow-up (n=427, 56% women). Data were collected via an interviewer-administered questionnaire assessing energy expenditure with the PASE (Physical Activity Scale for the Elderly) as well as various neighborhood- (social aspects, transportation, and services and amenities) and individual-level (e.g., health status as assessed through the SF-36 and socio-demographic characteristics) variables. As expected, participants showed a decline in energy expenditure across the 3-year period ($p<.05$) and the strongest predictors of energy expenditure in year 3 were previous levels of energy expenditure ($p<.05$) and better health status ($p<.05$). More interestingly, although greater perceived user-friendliness of transportation amenities in the neighborhood and feeling more secure in one's home were associated with greater energy expenditure among women, these variables were not associated with energy expenditure among men. These findings suggest that environmental interventions to increase physical activity may influence men and women differently.

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CORRESPONDING AUTHOR: Lise Gauvin, PhD, Social & Preventive Medicine, Université de Montréal, Montreal, Quebec, QC, H3C 3J7; lise.gauvin.2@umontreal.ca

Paper Session #27 11:30 AM -11:45 AM 3093

INDIVIDUAL AND NEIGHBORHOOD DETERMINANTS OF CHANGES IN OLDER ADULTS' SOCIAL PARTICIPATION OVER TIME

Lucie Richard, PhD,[1] Lise Gauvin, PhD,[2,1] Yan Kestens, PhD,[2,1] Bryna Shatenstein, PhD,[1] Mélanie Levasseur, PhD,[1,3] Martin Brochu, PhD,[3] Mark Daniel, PhD,[7,2] Carole Després, PhD,[6] Céline Gosselin, MA,[4] Sophie Laforest, PhD,[1] Spencer D. Moore, PhD,[5] Hélène Payette, PhD[3] and Mahamane Ibrahima, MA[1]

[1]Université de Montréal, Montreal, Quebec, QC, Canada; [2]CRCHUM, Montreal, QC, Canada; [3]Université de Sherbrooke, Sherbrooke, QC, Canada; [4]Direction de santé publique de Montréal, Montreal, QC, Canada; [5]Queen's University, Kingston, ON, Canada; [6]Université Laval, Québec, QC, Canada and [7]University of South Australia, Adelaide, SA, Australia.

Studies in gerontology show that engagement in social and occupational activities generate a positive impact on a variety of health outcomes. From a public health standpoint, it is therefore critical to identify the factors that influence social participation by seniors. The objective of this paper is to investigate the role of neighbourhood and individual characteristics in explaining changes in social participation over a two-year period among a sample of older adults living in an urban environment. This study is nested within the Quebec Longitudinal Study: Nutrition as a Determinant of Successful Aging (commonly referred to through the French acronym NuAge). The sample is based on those participants who lived in the Montreal area, who provided assessments of social participation at Year 2 and Year 3 of follow-up and remained at the same location (n=433). Data were collected via an interviewer-administered questionnaire assessing social participation as well as various neighborhood- (social aspects, transportation, and services and amenities), and individual-level (e.g., health status and socio-demographic characteristics) variables. In addition to social participation at Yr 2 that accounted for 43% of the variance in participation at Yr 3, 6.4% of the variance was explained by the following characteristics: proportion of services/amenities located within a five-minute walk of the respondent's residence and the SF-36 Physical Component Score (R2 of the final model=0.49). Implications of the findings for research and action pertaining to ecological interventions for older adults are identified.

Study supported by CIHR#MOP-173669.

CORRESPONDING AUTHOR: Lise Gauvin, PhD, Social & Preventive Medicine, Université de Montréal, Montreal, Quebec, QC, H3C 3J7; lise.gauvin.2@umontreal.ca

Friday
April 24, 2009
3:15 PM -4:45 PM

Citation Paper
Paper Session #28 3:15 PM -3:30 PM 3094

THE INFLUENCE OF PSYCHOSOCIAL STRESS ON THE EXPRESSION OF THE CLOCK GENES PER1 AND PER2

Elvira A. Abbruzzese, licphil,[1] Thomas Birchler, Dr,[2] Jovita Schuler, student,[1] Noëlle Amstad, student,[1] Muriel Meyer, student,[1] Annina Klingmann, student,[1] Magdalena Skupnjak, student,[1] Adriano Fontana, Prof Dr[2] and Ulrike Ehlert, Prof Dr[1]

[1]Clinical Psychology and Psychotherapy, Psychological Institute of the University of Zurich, Zurich, Switzerland and [2]Clinical Immunology, University Hospital of Zurich, Zurich, Switzerland.

The Circadian Clock is an endogenous zeitgeber-system which strongly influences behavioral, biochemical and physiological circadian processes. It is controlled by the suprachiasmatic nucleus (SCN) of the hypothalamus, which coordinates the timing of transcriptional and translational feedback loops involving several clock genes. The SCN acts as central pacemaker in mammals. The neurons of the SCN oscillate self-sustainingly and synchronize the equally oscillative expression of clock genes in the peripheral cells. Amongst others, light acts as the main zeitgeber for the SCN and thus interconnects the outside world with the pacemaker. The synchronization seems to be effected by neuronal and/ or hormonal signalling. Because of difficulties in monitoring the oscillation of the SCN in humans, there have been few studies with human subjects. But since many psychological/ psychiatric disturbances are associated with disruptions of circadian rhythm (e.g. major depression) a more detailed knowledge about coherences of environmental cues and gene expression would be essential. Hence we carried out a pilot study with 9 healthy young men in order to measure the daily expression of the clock genes Per2, Bmal1 and Dbp and to investigate their coherence with the morningness or eveningness of the subjects. In a second step we conducted a follow-up study to pursue, whether psychosocial stress is capable of influencing gene expression, especially in the field of circadian rhythm. Therefore we analyzed gene expression of the above mentioned clock genes in thirty healthy men before, during and after a psychosocial stress test as well as in a control situation at the same time of the day. First data show that the amount of cortisol and the expression of Per1 and Per2 show a coherence not only in the morning (morning peak of cortisol), but also 30 min after a psychosocial stress test (peak of cortisol after psychosocial stress).

CORRESPONDING AUTHOR: Elvira A. Abbruzzese, licphil, Clinical Psychology and Psychotherapy, Psychological Institute of the University of Zurich, Zurich, 8005; e.abbruzzese@psychologie.uzh.ch

Paper Session #28 3:30 PM -3:45 PM 3095

INCIDENCE AND RISK FACTORS OF INSOMNIA COMORBID WITH CANCER OVER A 10-MONTH PERIOD

Josée Savard, PhD,[1,2] Julie Villa, MPs,[1,2] Aude Caplette-Gingras, BA[1,2] and Hans Ivers, MPs[1,2]

[1]Psychology, Université Laval, Québec, QC, Canada and [2]Laval University Cancer Research Center, Québec, QC, Canada.

The goal of this longitudinal study was to document the incidence and risk factors of insomnia comorbid with cancer over a 10-month period. All patients scheduled to undergo surgery after a first diagnosis of non-metastatic cancer at L'Hôtel-Dieu de Québec were approached at their pre-operative visit. Among the 3196 patients approached, 1681 were found eligible and 966 (58%) accepted to participate. The participants completed a semi-structured interview and questionnaires at baseline (T1), 2 (T2), 6 (T3), and 10 months (T4). The prevalence of the insomnia syndrome (T1: 29%; T2: 26%; T3: 25%; T4: 22%) and of insomnia symptoms (T1: 31%; T2: 23%; T3: 21%; T4: 18%) decreased progressively and significantly over the 10-month period, F(3,2315)=6.30, p<.01 and F(3,231=18.06, p<.001, respectively. The incidence of insomnia among good sleepers was 18% at T2, 19% at T3, and 16% at T4. Factors that were associated with the incidence of insomnia included the presence of physical symptoms, hot flashes, psychological distress, and fatigue, as well as the administration of hormone therapy, radiation therapy and chemotherapy. Hot flashes (T2: Or=0.94–1.09; T2-T3: Or=1.08–2.01), anxiety (T2: Or=1.08; T3-T4: OR: 1.01–1.23), and radiation therapy (T2: Or=0.68; T3-T4: Or=1.95–2.31) were significantly more influential in the development of insomnia at 6 and 10 months than at 2 months. Insomnia is particularly prevalent at the time of cancer surgery. Insomnia incidence is explained by several factors, but the influence of hot flashes, anxiety, and radiation therapy varies as a function of time. Further analyses of this ongoing study will document the course of insomnia over two additional time points (14 and 18 months). Insomnia is highly prevalent in cancer patients and could probably be prevented by offering an appropriate management of the physical and psychological symptoms associated with cancer.

CORRESPONDING AUTHOR: Josée Savard, PhD, Laval University Cancer Research Center, Université Laval, Québec, QC, G1R 2J6; josee.savard@psy.ulaval.ca

Paper Session #28 3:45 PM -4:00 PM 3096

RELATIONSHIP BETWEEN ALCOHOL USE AND SLEEP IN HEAVY DRINKERS

Jeanne M. Gabriele, PhD,[1] Patricia M. Dubbert, PhD[2] and Kathryn A. Roecklein, PhD[3]

[1]Pennington Biomedical Research Center, Baton Rouge, LA; [2]G.V. (Sonny) Montgommery VA Medical Center, Jackson, MS and [3]University of Pittsburgh, Pittsburgh, PA.

In studies of social drinkers, alcohol use has been found to influence sleep by initially increasing sleep onset and disrupting sleep later in the night. The current study assessed relationships between alcohol consumption and sleep in male veterans (N=613; M age=56.96; 75% Caucasian) prior to starting an alcohol treatment intervention for heavy drinkers. Participants completed interviews and self-report questionnaires assessing sleep duration, sleep difficulties, and alcohol use. Participants slept an average of 6.79 hrs a night. Twenty-four percent reported difficulty falling asleep; 71% reported waking during the night; and 70% reported sometimes or always snoring. On average, participants drank alcohol 24.54 days a month with 44% consuming alcohol daily. On drinking days, mean alcohol consumption was 5.96 drinks a day. Sleep duration was positively related to days per month alcohol was consumed (r=0.13, p<.01) and negatively related to quantity of drinks consumed in a drinking day (r=-0.10, p<.05). Those reporting difficulty falling asleep consumed alcohol on fewer days per month (22.41 vs. 25.23 days, t (219.17)=4.32, p<.01) and consumed more drinks per drinking day (6.74 vs. 5.72 drinks, t(606)=3.37, p<.01) than those reporting no difficulty falling asleep. Those who reported waking during the night consumed more drinks per drinking day (6.17 vs. 5.45 drinks, t(607)=2.50, p<.05) than those not reporting waking at night. Contrary to hypotheses, snoring was not related to frequency or amount of alcohol. Thus, in heavy drinkers, the average amount of alcohol consumed in a day was related to greater sleep disturbance; whereas, days alcohol was consumed was related to longer sleep duration and quicker sleep onset. These findings indicate that even among heavy drinkers, greater quantities of alcohol consumed increases sleep disruption. This information may be useful to heavy drinkers who perceive the beneficial effects of alcohol on sleep as a barrier to reducing their drinking.

CORRESPONDING AUTHOR: Jeanne M. Gabriele, PhD, Pennington Biomedical Research Center, Baton Rouge, LA, 70808; Jeanne.Gabriele@pbrc.edu

Meritorious Student Paper
Citation Paper
Paper Session #28 4:00 PM -4:15 PM 3097

THE ASSOCIATION BETWEEN CENTRAL APNEA AND ANXIETY AMONG MIDDLE AGED ADULTS

Leon Tourian, MD, BSc & MSc,[1] Sok S. Lee, MSc,[2] Brian J. Murray, MD[3] and Nancy C.P. Low, MD, MSc,[1]

[1]Psychiatry, Mcgill University, Montreal, QC, Canada; [2]Mills College, Oakland, CA and [3]Neurology, University of Toronto, Toronto, ON, Canada.

Background: Sleep disordered breathing includes central (CSA) and obstructive sleep apnea (OSA). OSA is characterised by obstruction of the upper airway during sleep causing oxygen desaturation, frequent arousals and poorly restorative sleep, while CSA is triggered by hypocapnia induced by hyperventilation during sleep. Clinical and population based studies show that OSA and anxiety or depression frequently co-occur in middle aged adults, however the association between CSA and anxiety is not yet delineated. Moreover, studies demonstrate that patients suffering from anxiety present heightened sensitivity to hyperventilation supporting evidence for the investigation of hyperventilation- driven CSA and anxiety.

Objective: To examine the association between CSA and anxiety versus depression.

Method: 314 patients referred to a sleep laboratory (1) completed a questionnaire about basic medical information including the presence of depression and anxiety and (2) underwent a respiratory polysomnogram (PSG). Linear regression analyses were conducted with anxiety and depression as independent variables to predict the outcome of central apnea. Relevant confounders were also considered.

Results: A strong association between increasing episodes of central apnea and anxiety (P=0.008) but not depression (P=0.893) was found. Relevant confounders such as gender, age, BMI and alcohol use did not change this association.

Conclusion: The association between CSA and anxiety is a novel finding. It shows that patients who hyperventilate and hence experience increasing central apneic events during sleep are more likely to self report anxiety rather than depression. This finding reflects the need to increase awareness of clinicians and further investigate the impact and association of CSA on mental health especially in the aging population who are increasingly at risk to suffer from central apnea.

CORRESPONDING AUTHOR: Leon Tourian, MD, BSc & MSc, Psychiatry, McGill University, Montreal, QC, H3A 1A1; leontourianjr@videotron.ca

Paper Session #28 4:15 PM -4:30 PM 3098

SELF-HELP INTERVENTION FO CANCER-RELATED INSOMNIA: RESULTS OF A PILOT STUDY

Josée Savard, PhD,[1,2] Julie Villa, MPs,[1,2] Sébastien Simard, PhD[1,2] and Charles Morin, PhD[1]

[1]Psychology, Université Laval, Québec, QC, Canada and [2]Laval University Cancer Research Center, Québec, QC, Canada.

Professionally administered cognitive-behavioral therapy (CBT) treats insomnia efficaciously in breast cancer survivors. However, given the limited accessibility to CBT for insomnia in cancer clinics, there is a need to develop other delivery formats for this intervention. This pilot study aimed at assessing patients' acceptability and satisfaction with a self-help intervention for insomnia comorbid with cancer and at providing some preliminary data on its efficacy. Eleven patients currently receiving treatment for breast cancer and reporting insomnia symptoms (Insomnia Severity Index [ISI] score ≥ 8 or use of a hypnotic medication ≥ 3 nights/week) received the 6-week intervention composed of a 60-min video using an animated cartoon format and 6 short booklets. Patients completed a semi-structured interview, the ISI, the Treatment Perception Questionnaire (TPQ) and a daily sleep diary (14 days) at post-treatment and 3-month follow-up. Open comments about the treatment material were uniformly positive at the interview. Scores obtained on the TPQ indicated that patients were highly satisfied with the treatment overall (M=2.8 where 3=a lot; and 4=extremely), the video content (M=3.0), the booklets' content (M=3.2) and their sleep improvement at post-treatment (M=2.6). Sleep diary data indicated that their sleep-onset latency decreased from 49.8 to 31.4 min, their nocturnal awakenings decreased from 72.5 to 36 min, their sleep efficiency increased from 72.6 to 83.2% and their ISI score decreased from 13.4 to 8.0 from pre- to post-treatment. Data on the 3-month follow-up will be available at the time of the presentation. Patients were highly satisfied with the treatment received. Moreover, these preliminary findings suggest clinically meaningful improvements. The efficacy and cost-effectiveness of this self-administered treatment is being assessed in a larger randomized clinical trial.

CORRESPONDING AUTHOR: Josée Savard, PhD, Laval University Cancer Research Center, Université Laval, Québec, QC, G1R 2J6; josee.savard@psy.ulaval.ca

Meritorious Student Paper

Citation Paper

Paper Session #28 4:30 PM -4:45 PM 3099

IMPROVEMENT IN INSOMNIA WITH TELEPHONE ADMINISTERED PSYCHOTHERAPY FOR DEPRESSION IN PATIENTS WITH MULTIPLE SCLEROSIS

Kelly G. Baron, PhD,[1] Marya Corden, BS,[2] Ling Jin, MS[2] and David C. Mohr, PhD[2]

[1]Institute for Healthcare Studies, Feinberg School of Medicine, Northwestern University, Chicago, IL and [2]Preventive Medicine, Northwestern University, Chicago, IL.

This study investigated the impact of telephone administered psychotherapy for depression on insomnia symptoms in patients with MS. Participants included 127 patients with MS with >=one area of MS-related impairment, scores >=16 on the Beck Depression Inventory-II (BDI-II), >=14 on the Hamilton Rating Scale for Depression (HRSD). Participants were randomized to 16 weeks of telephone administered cognitive behavioral therapy (T-CBT) or supportive emotion focused therapy (T-SEFT). Depression was measured by the HRSD and BDI-II, with sleep items removed and Major Depressive Disorder (MDD) was evaluated using the Structured Clinical Interview for DSM-IV (SCID). Insomnia was measured by the insomnia subscale of the HRSD, which evaluated early, middle, and late insomnia. MS-related symptoms were measured by Guy's Neurological Disability Scale. At baseline, 70.1% met criteria for MDD and 77.8% reported insomnia >=3 times per week. The insomnia subscale was positively correlated with MS-related mood symptoms, and the HRSD. Middle insomnia was positively correlated with swallowing problems and the HRSD. Post-treatment, 22.7% met criteria for MDD and 43.4% reported insomnia >=3 times per week. Of the participants without MDD post treatment, 33% reported insomnia >=3 times per week. There was a significant interaction between improvement in depression and time, such that greater improvement in depression was associated with greater improvement in insomnia. This was significant for the insomnia subscale, early insomnia and a trend for middle insomnia. The psychotherapy group by time interaction was not significant. Results indicate insomnia is prevalent in depressed MS patients and improves with telephone administered psychotherapy. However, insomnia continues to be more prevalent than the general population even in patients who no longer meet criteria for MDD. Additional intervention is needed to improve sleep in patients with MS.

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CORRESPONDING AUTHOR: Kelly G. Baron, PhD, Institute for Healthcare Studies, Feinberg School of Medicine, Northwestern University, Chicago, IL, 60611; k-baron@northwestern.edu

Paper Session #29 3:15 PM -3:30 PM 3100

MINDFULNESS AND WELL-BEING IN ENGLISH- AND SPANISH-SPEAKING INDIVIDUALS: A PRELIMINARY MODEL

Christopher J. Johnson, PhD,[1,2] John S. Wiebe, PhD[2] and Osvaldo F. Morera, PhD[2]

[1]Psychology, Utah State University, Logan, UT and [2]Psychology, University of Texas at El Paso, El Paso, TX.

Based on the work of Brown and Ryan (2003) and Baer et al. (2004), we examined the relationships among mindfulness, 3 theoretically important constructs (rumination, alexithymia, and emotional intelligence), and negative affect and life satisfaction to determine how mindfulness may have an influence on well-being. Utilizing SEM, we tested models informed by current theory and guided by previous research (e.g., Morera et al., 2005; Moulds et al., 2008; Nolen-Hoeksema, 2000; Shapiro et al., 2006; Teasdale, 1988) to determine whether theorized pathways among these constructs hold in a multi-language, multicultural sample. The sample consisted of 644 meditation-naïve English- (n=304) and Spanish-speaking (n=340) participants recruited at a university in Texas (59% female; 82% Hispanic, 11% White, non-Hispanic). Participants completed an extensive online assessment battery of psychosocial instruments. SEM was conducted using a two-step modeling approach with LISREL 8.80. Fit indices supported a model with rumination and alexithymia mediating the association between mindfulness and negative affect; while emotional intelligence mediated the association between mindfulness and life satisfaction (χ2=(343)1341.65, p<.001, RMSEA=.06, SRMR=.06, CFI=.96, NNFI=.96). The model accounted for 50% of the variance in negative affect and 34% in life satisfaction. Results were consistent with current theory regarding proposed mechanisms of mindfulness. Additionally, results may partly speak to the "universal" nature of mindfulness as proposed by Kabat-Zinn (2005) and others (e.g., Germer et al., 2005) given the multi-language, multicultural sample. This study represents a first step toward developing an empirically-supported model that may elucidate mechanisms through which mindfulness can improve well-being.

CORRESPONDING AUTHOR: Christopher J. Johnson, PhD, Psychology, Utah State University, Logan, UT, 84322-2810; christopher.johnson@usu.edu

Paper Session #29 3:30 PM -3:45 PM 3101

PET DOGS AND MUSIC DIMINISH CARDIOVASCULAR RESPONSES AND DEPRESSION AMONG CAREGIVERS OF SPOUSES WITH ALZHEIMER'S DISEASE

Karen M. Allen, PhD

Medicine, SUNY at Buffalo, Buffalo, NY.

Research on family caregiving has documented great burden and stress among spouses of individuals with Alzheimer's disease (AD). Previous studies about stress reactivity have found that heart rate (HR) and blood pressure (BP) responses to stressful situations can be moderated by the presence of a pet dog. Other research has focused on how cardiovascular responses can be influenced by listening to music. The current study compares the effect of adopting a pet dog with that of listening to one's favorite music. Participants included 80 caregiver spouses of people with AD (40 males and 40 females) who were randomized into two experimental groups. Group 1 adopted dogs in the first month and started listening to music in the third month. Group 2 began listening to music in the first month and adopted a dog in the third month. In addition, there were two wait-list control groups who entered the study at month five, mirroring the procedures described for the experimental groups. Data collection took place in participants' homes over the period of one year (baseline and at the end of months 2,4,6,8,10 & 12). BP and HR were recorded while participants talked about the challenges of caring for their spouses. In addition, ambulatory BP monitors were worn by participants for 24 hours at the beginning of each month of the study. The Beck Depression Inventory (BDI) and the Caregiver Stress Test were completed twice. Repeated measures ANOVA revealed a significant (p<.05)reduction in BDI scores as well as a significant (p<.05)BP & HR effect for both music and dogs, suggesting a therapeutic role for these interventions.

CORRESPONDING AUTHOR: Karen M. Allen, PhD, Medicine, SUNY at Buffalo, Buffalo, NY, 14214; kmallen@buffalo.edu

Paper Session #29 3:45 PM -4:00 PM 3102

MIND-BODY INTERVENTION FOR ADULTS AT HIGH RISK FOR TYPE 2 DIABETES: A 6-MONTH PILOT STUDY

Kyeongra Yang, PhD, MPH,[1] Lisa M. Bernardo, PhD,[1] Molly B. Conroy, MD,[2] Susan M. Sereika, PhD,[1] Judith L. Balk, MD[2] and Lora E. Burke, PhD[1]

[1]School of Nursing, University of Pittsburgh, Pittsburgh, PA and [2]School of Medicine, University of Pittsburgh, Pittsburgh, PA.

There is limited evidence that yoga, as a mind-body intervention, may be effective in mitigating cardiometabolic risk (impaired fasting glucose, pre-hypertension, abnormal cholesterol level or overweight/obesity) in adults. This pilot study aimed to test the feasibility of administering a yoga program and to examine its effects on cardiometabolic risk among persons at high risk for type 2 diabetes. This pilot study employed a 6-month, two-group, randomized, controlled trial design. Twelve adults (mean age: 50.5 years, mean body mass index: 29.98±5.94 kg/m^2) were randomly assigned to a yoga intervention group or an educational control group. The yoga group participated in a 3-month yoga intervention with sessions twice per week and the educational group received general health educational materials every two weeks, with 3-month follow-up. Measurements at baseline, 3, and 6 months included a blood draw and completion of questionnaires. Due to a small sample size, effect sizes were computed based on the strength of variables' associations. All participants (83% female, 17% Black) completed the yoga program without complications; attendance ranged from 58.3% to 92%. Participants in the yoga group expressed 100% satisfaction with yoga program. At 3 months, compared to the educational group, the yoga group experienced improvement in systolic blood pressure (effect size d=.35), fasting glucose level (d=.39), insulin (d=.81), total cholesterol (d=.27), and triglycerides (d=1.23). Four participants in the yoga group (66%) continued to practice yoga after the 3-month intervention. At 6 months, there were small to medium effect sizes still shown in systolic blood pressure (d=.57) and insulin (d=.26). Yoga holds promise as an approach to reducing cardiometabolic risk among adults at high risk for type 2 diabetes. Additional research with a larger sample is warranted to further evaluate the beneficial effects of yoga practice in this population.

CORRESPONDING AUTHOR: Kyeongra Yang, PhD, MPH, University of Pittsburgh, School of Nursing, Pittsburgh, PA, 15261; yangk@pitt.edu

Paper Session #29 4:00 PM -4:15 PM 3103

EFFICACY OF MANTRAM REPETITION ON LIFESTYLE PROFILE AND URINARY STRESS HORMONES: A RANDOMIZED TRIAL

Jill E. Bormann, PhD, RN,[1,2] Juliann Pierson, MA,[2,3] Ann Kelly, MSN, RN,[1,4] Madeline Gershwin, MA, RN,[1] Sheryl Becker, MSN, RN[1] and Patricia Bone, BS, RN[1]

[1]VA San Diego Healthcare System, San Diego, CA; [2]San Diego State University, San Diego, CA; [3]University of California San Diego, San Diego, CA and [4]National University, San Diego, CA.

Purpose: Spirituality has been associated with well-being in HIV+ adults. This study explored the effects of a spiritually-based mantram intervention—repeating a sacred word or phrase to train attention—on healthy lifestyle and 24-hour urinary stress hormone variables.
Design: Randomized clinical trial.
Methods: Sample consisted of 57 HIV-infected adults, 81% men, 65% white, average age of 44+6.37 years and living with HIV for average of 10 + 6.14 years. Participants were randomly assigned to mantram intervention (n=27) or attention control (n=30) groups that met for 5-weeks (90 minutes/week) followed by 4 weekly phone calls and a booster meeting at week 10. The experimental group received mantram repetition training; the control group received videotaped HIV education. Subscales from the Health Promoting Lifestyle Profile-II were analyzed using 2 (group) by 3 (time) mixed design ANOVA with time as repeated measure. 24-hour urinary cortisol and catecholamines were analyzed using a 2 (group) by 2 (time) mixed ANOVA. Pearson r correlations to explore relationships among lifestyle variables and stress hormones were calculated at pre- and post-intervention by group.
Findings: There were significant group by time interaction effects indicating mantram improvements in stress management, F (2, 110)=7.15 p=.01. No group by time differences were found in stress hormones. At post-intervention, there were significant inverse correlations between urinary epinephrine and lifestyle scores of spiritual growth (r=-.39, p=.047), interpersonal relationships (r=-.55, p=.003), and health responsibility (r=-.40, p=.04) in mantram group but not in controls.
Conclusion: Mantram intervention demonstrated significant improvements in stress management compared to an educational control group but no differences in urinary stress hormones. Larger sample may be needed.

CORRESPONDING AUTHOR: Jill E. Bormann, PhD, RN, Nursing & Patient Care, VA San Diego Healthcare System, San Diego, CA, 92161; jill.bormann@va.gov

Paper Session #29 4:15 PM -4:30 PM 3104

MINDFULNESS AS A MEDIATOR OF PSYCHOLOGICAL WELLBEING IN A STRESS REDUCTION INTERVENTION FOR CANCER PATIENTS - REPORT FROM A RANDOMIZED STUDY

Richard Branstrom, PhD,[1,2] Pia Kvillemo, MSc,[1] Yvonne Brandberg, PhD[1] and Judith T. Moskowitz, PhD, MPH[3]

[1]Department of Onchology-Pathology, Karolinska institute, Stockholm, Sweden; [2]Center for Clinical Epidemiology & Biostatistics, University of Pennsylvania, Philadelphia, PA and [3]Osher Center for Integrative Medicine, University of California San Francisco, San Francisco, CA.

Background: There is increasing recognition of mindfulness and mindfulness training as a way to decrease stress and increase psychological functioning.
Purpose: The aim of this study was to examine the effects of mindfulness stress reduction training on perceived stress, depression, anxiety, post-traumatic stress symptoms, and positive states of mind in a sample of cancer patients, and to examine if changes in mindfulness mediate intervention effects on these outcomes.
Methods: This study used data from a randomized controlled trial. The interventions consisted of an 8 week training course. Overall effects of the intervention on perceived stress, depression, anxiety, post-traumatic stress symptoms, and positive states of mind were measured as well as the mediating effect of mindfulness skills on outcomes. The current study reports on findings from the measurement at baseline and 3 month follow-up.
Results: Compared to participants in the control group, participants in the mindfulness training group had significantly decreased perceived stress, depression, anxiety, and post-traumatic symptoms, and increased positive states of mind. Those who participated in the mindfulness group reported significant increase in mindfulness when compared to controls.
The increase in mindfulness completely mediated the effects of the intervention on perceived stress, depression, anxiety, post-traumatic intrusive thoughts, and positive states of mind.
Conclusions: The results from this study strongly suggest that the improvements in psychological wellbeing resulting from mindfulness stress reduction training could be explained by increased levels of mindfulness. The importance of these findings for future research in the field of mindfulness is discussed.

CORRESPONDING AUTHOR: Richard Branstrom, PhD, University of Pennsylvania, New York, NY, 10065; richard.branstrom@ki.se

Paper Session #29 4:30 PM -4:45 PM 3105

HOW DOES MINDFULNESS-BASED STRESS REDUCTION REDUCE DEPRESSIVE SYMPTOMS IN WOMEN WITH CANCER?

Laura E. Labelle, MSc,[1] Tavis S. Campbell, PhD[1] and Linda E. Carlson, PhD[2,3]

[1]Psychology, University of Calgary, Calgary, AB, Canada; [2]Oncology, University of Calgary, Calgary, AB, Canada and [3]Psychosocial Resources, Tom Baker Cancer Centre, Calgary, AB, Canada.

Reducing depressive symptoms through the delivery of psychosocial interventions is of particular importance for cancer patients, as these symptoms often impact quality of life. Mindfulness-Based Stress Reduction (MBSR) is an 8-week group intervention consisting of meditation and gentle yoga that has shown to improve psychological functioning in cancer patients. The program's impact on depressive symptoms and its mechanisms of action have yet to be adequately explored. In the present study, a longitudinal waitlist-controlled design was used to investigate the impact of MBSR on depressive symptoms and rumination in women with cancer. Practicing mindfulness meditation is thought to reduce patterns of over-engagement with negative thoughts, resulting in improved mood. It was therefore hypothesized that decreased rumination would mediate the impact of MBSR on depressive symptoms. Participants were recruited from the waitlist for the MBSR program offered through the Tom Baker Cancer Centre. Rumination and depressive symptoms were assessed before and after participation in the MBSR program (n=25), or the 8-week waiting period (n=12). Mediation analyses based on linear regression were conducted. Results indicate that all conditions of mediation were met. Study group (treatment versus control) was a significant predictor of decreased depressive symptoms, with MBSR participants endorsing fewer symptoms at post-treatment (R=.34, F=4.43, p<.05). Study group was a significant predictor of decreased rumination (R=.42, F=7.27, p<.05), and rumination was a significant predictor of decreased depressive symptoms (R=.37, F=5.70, p<.05). When study group and decrease in rumination were entered simultaneously as predictors of decreased depressive symptoms, the regression coefficient for group status dropped from -.34 to -.22 (n.s.). Results indicate that the MBSR program may reduce depressive symptoms in women with cancer, and that this effect appears to be mediated by decreases in rumination.

CORRESPONDING AUTHOR: Laura E. Labelle, MSc, Psychology, University of Calgary, Calgary, AB, T2N 1N4; laura.labelle@ucalgary.ca

Citation Paper
Paper Session #30 3:15 PM -3:30 PM 3106

THE IMPACT OF AFRICAN AMERICAN PATIENTS' PERCEPTIONS OF PAST RACIAL DISCRIMINATION IN HEALTHCARE ON SUBSEQUENT PATIENT-PROVIDER COMMUNICATION

Leslie Hausmann, PhD,[1] Barbara H. Hanusa, PhD,[1] Ming Geng, MS[1] and Said A. Ibrahim, MD, PMH[1,2]

[1]VA Pittsburgh Healthcare System, Pittsburgh, PA and [2]University of Pittsburgh, School of Medicine, Pittsburgh, PA.

Although patients' perceptions of racial discrimination in healthcare settings have been linked with poor health outcomes, their potential impact on patients' interactions with providers has not been explored. We therefore examined the relationship between patients' perceptions of past racial discrimination in healthcare and subsequent patient-provider communication.
The sample included African American patients (N=100, 96% male, aged 50–89) who were seen for knee or hip osteoarthritis at orthopedic clinics in two Midwest VA medical centers. Prior to a clinic visit, patients completed a survey that assessed their past experiences with racial discrimination while seeking healthcare. Visits were then audiotaped. After the visit, patients rated the informativeness of the visit, provider warmth/respectfulness, and ease of communicating with the provider. Tapes were coded using the Roter Interaction Analysis System, which yielded measures of patient-centeredness, physician verbal dominance, and positive patient and doctor affect. We used logistic and linear regression to test the association between perceived past discrimination and each outcome, adjusting for patient characteristics, study site, and clustering by provider.
We found that perceived past discrimination was significantly associated with lower scores on patient-rated provider warmth/respectfulness and ease of communication (ps<.03), but not informativeness of the visit (p=.38). It was also associated with less positive coder-rated patient and doctor affect (ps<.02), but was unrelated to patient-centeredness or physician verbal dominance (ps>.15).
In this study, patients' past experiences with racial discrimination in the healthcare system negatively impacted several aspects of patient-provider communication during their current visit. Efforts to improve patient-provider communication should be sensitive to the possible vestigial effects of past discriminatory experiences.

CORRESPONDING AUTHOR: Leslie Hausmann, PhD, Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, Pittsburgh, PA, 15206; leslie.hausmann@gmail.com

Paper Session #30 3:30 PM -3:45 PM 3107

RESIDENTIAL SEGREGATION, HEALTH BEHAVIOR, AND HEALTH STATUS AMONG BLACKS: A MULTI-LEVEL ANALYSIS

Luhua Zhao, MS, Jenelle Mellerson, MPH, Dexter Cooper, MPH, Hope Landrine, PhD and Yongping Hao, PhD

American cancer society, Atlanta, GA.

Fruit and vegetable consumption (FVC) and physical activity (PA) levels among Blacks are significantly lower than Whites, and associated rates of overweight are significantly higher. Demographic and cultural variables contribute to these differences but do not account for them. One neglected variable that may explain these disparities is residential segregation. Segregated Black neighborhoods contain 2–3 times fewer supermarkets and are 3 times more likely to have no recreational facilities than White neighborhoods of comparable SES; these disparities might contribute to disparities in FVC, PA, and prevalence of overweight. Hence, we explored the role of residential segregation in these outcomes among Blacks for the first time. Data on exercise, ≥ 5 servings of fruits/vegetables per day, and prevalence of overweight/obesity among the 11,142 Black adults ($\geq$ age 18) in the 2000 Behavioral Risk Factor Surveillance Survey (BRFSS) were linked to 2000 Census data for the 322 cities in the BRFSS. Segregation was measured by the Isolation Index (ISO). ISO indicates the distribution of Blacks vs. Whites across the neighborhoods of a city, and ranges from 0 to100, where >=50=High and < 50=Low-segregated cities. MSA Poverty was included and measured as the percentage of people below the poverty line, with < 9.5%=Low, 9.5–12%=Moderate, and >12%=High city-poverty. Multilevel modeling was used to predict Any Exercise in the past month, 5+ Daily FVC, and Overweight/Obesity prevalence ($BMI \geq 25$) from individual- and city-level variables. Results revealed that each individual-level variable contributed significantly to Exercise, 5+ FVC, and Overweight/Obesity. MSA Poverty did not contribute to any outcome, whereas Segregation contributed only to weight, with Blacks residing in high-segregated cities significantly more likely to be Overweight/Obese. These findings highlight the need for further study of the role of segregated-Black neighborhood built-environments in Black health behavior and health status.

CORRESPONDING AUTHOR: Luhua Zhao, MS, American cancer society, Atlanta, GA, 30303; luhua.zhao@cancer.org

Paper Session #30 3:45 PM -4:00 PM 3108

DEVELOPMENT OF A DECISIONAL BALANCE SCALE FOR BLOOD DONATION AMONG AFRICAN AMERICANS

Caitlin Burditt, MA,[1] Mark Robbins, PhD,[1] Andrea Paiva, PhD,[1] Wayne Velicer, PhD,[1] Beryl Koblin, PhD[2] and Debra Kessler, RN, MS[2]

[1]Psychology, University of Rhode Island, Kingston, RI and [2]New York Blood Center, New York, NY.

Despite specific need for transfused blood among African Americans due to higher incidence of Sickle Cell Disease, African Americans are underrepresented in the nation's donor pool. Interventions to increase blood donation rates particularly among African Americans are needed and require valid measures to guide their development. The Transtheoretical model was used to develop measures of Stage of Change and Decisional Balance for donating blood in an African American adult sample. Using factor analytic and structural modeling procedures, the internal and external validity of the blood donation Decisional Balance scale was evaluated. Participants were 315 African Americans in the New York Metropolitan Area (60.4% female, M=40.9 years). Distribution of participants' readiness to donate blood was 32% precontemplation (PC), 28.4% contemplation (C), 30% preparation (P), and 9.6% action/maintenance (A/M). Exploratory PCA yielded a 3 factor 12-item decisional balance scale (60.6% variance) including one pros and two cons factors: disease cons and physical cons. Confirmatory analysis supported this structure (X2 (51)=81.27, CFI=.95, AASr=.04). Coefficient alphas for the pros, physical cons, and disease cons scales were .83, .71, and .75 respectively. Multivariate analyses revealed that individuals in different stages of change differed significantly on the pros (F (3, 242)=7.49, p<.001, $\eta 2$=.085) and physical cons of blood donation (F(3, 242)= 6.14, p<.001), $\eta 2$=.072). Post-hoc analyses revealed that the pros were significantly lower in PC and C than in P. The physical cons were significantly higher in PC and C than in P and A/M. The disease cons did not differ significantly by stage, but showed an expected downward trend. These results are consistent with decisional balance scale patterns across more than 40 content areas (Hall & Rossi, 2008). Results support application of the TTM to blood donation and provide new measures that can be used in tailored interventions to increase blood donation among African Americans.

CORRESPONDING AUTHOR: Caitlin Burditt, MA, Psychology, University of Rhode Island, Kingston, RI, 02881; cburditt@mail.uri.edu

Paper Session #30 4:00 PM -4:15 PM 3109

MINORITY PARTICIPATION IN COMMUNITY CLINICAL ONCOLOGY PROGRAM (CCOP) RESEARCH STUDIES

Colmar D. Figueroa-Moseley, PhD,[1,2] Gary R. Morrow, PhD, MS,[2] Pascal Jean-Pierre, PhD[2] and Jason Purnell, PhD[2]

[1]Human & Community Development, University of California at Davis, Davis, CA and [2]Radiation Oncology, University of Rochester Medical Center, Rochester, NY.

Background: Low minority participation in clinical research is concerning for both research and for the public health.

Objective: The aim of this project was to investigate barriers and successes in minority participation in cancer medical research and cancer clinical trials. More specifically to: (1) determine major environmental, cultural, and economic barriers confronted by minority patients with cancer; and (2) determine the components of an environment that supports greater recruitment and retention of minorities to Clinical Community Oncology Practice (CCOP) cancer studies.

Methods: 6 focus groups consisting of 8–12 current of former minority cancer patients and 18 health care practitioners, from geographically diverse areas, were recruited to participate in this qualitative study. Focus group participants were asked questions about their attitudes and beliefs concerning their cancer and medical research. Health care practitioners were questioned on site recruitment and retention practices.

Results: Two major thematic areas emerged for providers: barriers minority recommendation to trials and reasons for why minorities are underrepresented in trials. The several thematic areas for focus group participants were found including perceptions of medical research, reasons for participation or nonparticipation, and effects of Tuskegee Syphilis Study on participation.

Conclusions: The Tuskegee Syphilis Study may have been a major impetus for why many Blacks in this sample do not participate in medical research. Providers seem to state what was obviously important in connecting with the community, however, their actions in the community varied. This qualitative study gives voice to communities which mistrust the medical community in general and medical research in particular as well as highlight the need for interventions bridging the community and research.

CORRESPONDING AUTHOR: Colmar D. Figueroa-Moseley, PhD, Human & Community Development, University of California at Davis, Davis, CA, 95616; cfigueroamoseley@ucdavis.edu

Paper Session #30 4:15 PM -4:30 PM 3110

HOW DOES ACCULTURATION RELATE TO METABOLIC SYNDROME INDICES IN HISPANIC POST-MYOCARDIAL INFARCTION PATIENTS?

William Arguelles, BS, Frank J. Penedo, PhD, Marc Gellman, PhD and Neil Schneiderman, PhD

University of Miami, Coral Gables, FL.

Studies examining how acculturation impacts cardiometabolic risk factors in Hispanics have yielded mixed results, possibly due to the heterogeneity of measures used to assess this complex construct. This study examined how acculturation level, as measured by two distinct proxies, relates to prevalence rates of Metabolic Syndrome (MSX) indices in a sample of 145 (71% male) immigrant Hispanic post-myocardial infarction (MI) patients (Age: M=53.19 years, SD=8.38; Time since MI: M=108.82 days, SD=90.37; 64.8% Cuban, 35.2% Other Central/South American). Years of residence in the US (M=18.59, SD=13.78) and a 5-item acculturation scale assessing language preference, ethnic experience, and ethnic pride (M=7.94, SD=3.18) were used as separate measures of acculturation. For each acculturation measure, patients were stratified into either a high or low acculturation group. YEARS IN US: compared to less acculturated patients, highly acculturated patients had significantly higher rates of abdominal obesity, 59% vs. 42.9%, $\chi 2(1,N=145)=3.69$, p=.04, and hyperglycemia, 45.9% vs. 28.6%, $\chi 2(1, N=145)=4.61$, p=.024. ACCULTURATION SCALE: compared to less acculturated patients, highly acculturated patients had significantly higher rates of hyper-triglyceridemia, 39.5% vs. 24.1%, $\chi 2(1, N=145)=3.70$, p=.04, but in contrast to the above finding, had significantly lower rates of hyperglycemia, 29.1% vs. 45.8%, $\chi 2(1,N=145)=4.24$, p=.03. Prevalence rates of hypertension and low high-density lipoprotein cholesterol did not significantly differ between groups across both measures, nor did sex, education, smoking history, or previous MI history. Age significantly differed between the high (M=55.69 years, SD=6.74) and low (M=51.37 years, SD=9) acculturation groups when defined as a function of years in US, but not when defined using the acculturation scale. Results support previous findings suggesting worse cardiovascular health outcomes in Hispanics as a function of years in US, but also indicate that other acculturative processes, i.e., ethnic identity, may have differential health effects.

CORRESPONDING AUTHOR: William Arguelles, BS, Psychology, University of Miami, Hialeah Gardens, FL, 33018; warguelles@psy.miami.edu

Paper Session #30 4:30 PM -4:45 PM 3111

FAMILY DISCUSSION ABOUT DESIGNATED ORGAN DONOR STATUS ON FIRST DRIVER'S LICENSE: ROLE OF KNOWLEDGE, RELIGION, AND GENDER IN ETHNIC MINORITY TEENS

Cheryl L. Albright, PhD, MPH,[1] Linda Wong, MD[2] and MayRose Dela Cruz, BS[1]

[1]Cancer Research Center of Hawaii, University of Hawaii, Honolulu, HI and [2]Department of Surgery, University of Hawaii, Honolulu, HI.

Over 100,000 critically ill Americans are on transplant waiting lists; but nearly 6,000 will die each year before receiving a transplant. There is a shortage of deceased organ donors, especially ethnic minority donors. We can potentially improve this by encouraging adolescents to become a "designated organ donor (DOD)" on their first driver's license. This may be the only time in their lives teenagers are faced with making a decision about organ donation. Previous studies have shown improvements in teens' knowledge and attitudes about organ donation; however, ethnic minority teens, especially Asian-Americans have been underrepresented in such studies. Filipino teens in Hawaii were recruited from high schools and church groups to participate in a focus group or complete a survey (n=208). Mean age was 16±2 years, 53% females, 42% immigrants, 53% Catholic, and 60% juniors or seniors. About a third (34%) currently had a Hawaii driver's license and of these, 18% were a DOD. About 20% had talked to their parents about becoming a DOD, and 46% of those who had not yet talked to parents intended to in the future. Of teens without a license, 28% intended to become a DOD on it. Gender, age, and immigrant status were not significantly associated with DOD status. Significantly fewer Catholic teens were a DOD (4%), compared to non-Catholic teens (12.8%) (p <.03). Key barriers to becoming a DOD included a lack of knowledge about choice to be DOD on license, having a parent complete the license application form, myths/ urban legends about organ donation, and not wanting to have their body cut up after death. Future school-based interventions should educate Filipino-American teens about organ donation; however, these should focus on the decision teens must make on the driver's license application. Guidelines on how to initiate family discussions about organ donation should address cultural issues relevant to Filipino youth and their parents.

CORRESPONDING AUTHOR: Cheryl L. Albright, PhD, MPH, Cancer Research Center of Hawaii, University of Hawaii, Honolulu, HI, 96822; calbright@crch.hawaii.edu

Paper Session #31 3:15 PM -3:30 PM 3112

THE INFLUENCE OF HEALTH LITERACY ON SEEKING AND PROCESSING INFORMATION ABOUT COLORECTAL CANCER SCREENING

Christian von Wagner, PhD, Claudia Semmler, MSc, Anna Good, MSc and Jane Wardle, PhD

Epidemiology and Public Health, UCL, London, United Kingdom.

To better understand the well-documented impact of health literacy (HL) on health outcomes we need to identify routes through which HL affects motivational and volitional determinants of health actions. For this study we developed an innovative, computerised information seeking paradigm to examine associations between health literacy (as measured by the UK-TOFHLA) and responses to information about the UK Faecal Occult Blood Test Colorectal Screening Programme. Adults aged 50 to 69 years (n=96) used an interactive menu to select from 11 information links on *why* and *how* to take part in screening. Health literacy scores were related (albeit weakly) to the amount of information accessed about the screening programme (r =.18, p=.07), and (inversely) with the average amount of time spent inspecting individual information links (r=-.57, p<.001). In other words, participants with lower HL accessed less information but took longer reading those links they had accessed from the menu. Health literacy was also associated with greater self-efficacy for completing the test and participating in screening (r=.34, p<.001). Multivariable regression models controlling for age, employment status, ethnicity and sex showed that HL predicted number of information links accessed (Beta= 0.24, p=.05, R^2=0.13), reading time (Beta=-0.39, p<.001, R^2=0.46), and self-efficacy for completing the test (Beta=-0.39, p<.001, R^2=0.46). The greater effort associated with reading demonstrated by participants with lower HL may act as a motivational obstacle to engaging with health education materials and is likely to reduce confidence in participating in novel health technologies.

CORRESPONDING AUTHOR: Christian von Wagner, PhD, Epidemiology and Public Health, UCL, London, WC1E6BT; c.wagner@ucl.ac.uk

Paper Session #31 3:30 PM -3:45 PM 3113

DEFINING WHAT WORKS IN TAILORING: A META-ANALYSIS OF COMPUTER-TAILORED INTERVENTIONS FOR CANCER PREVENTION AND CONTROL BEHAVIORS

Paul Krebs, PhD,[1] James O. Prochaska, PhD,[2] Joseph S. Rossi, PhD[2] and Syncia Sabain, PhD[1]

[1]Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY and [2]University of Rhode Island, Kingston, RI.

Computer-tailored interventions have become increasingly common for facilitating change in cancer-preventive behaviors. Prior reviews of tailoring to date have not used adequate meta-analytic techniques nor have they examined intervention effects longitudinally. This meta-analysis combines data from 86 computer-tailored interventions published from 1989-August 2008 and examines intervention-specific and demographic moderators of effect size(ES). Clinically and statistically significant effects were found across each of four behaviors: smoking cessation (point prevalence g=.17, 95%CI=.13-.21; prolonged abstinence g=.24, CI=.18-.30), increase in physical activity (g=.17, CI=.11-.23), dietary improvement (fruits and vegetables g=.19, CI=.15-.23; dietary fat reduction g=.23, CI=.19-.27), and receiving regular mammography screening (g=.13, CI=.07-.19). Mean ES for mammography, diet, physical activity behaviors declined six months post-baseline yet remained statistically significant for up to one year, while the ES for smoking cessation remained consistent for 2 years post-baseline. Dynamic tailoring (repeated assessment and feedback) resulted in higher ES for all behaviors except mammography screening. Relationships between use of specific behavioral constructs and ES varied across behaviors. Computer-based interventions outperformed print-based for fruit/vegetable consumption and physical activity. Significant relationships between ES and the demographic moderators of age, gender, and minority representation for each behavior suggest that certain groups may benefit differentially from these interventions. This study demonstrates that tailored interventions have the potential to impact health behaviors and provides data for improving the content of future tailored interventions.

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CORRESPONDING AUTHOR: Paul Krebs, PhD, Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY, 10022; krebsp@mskcc.org

Paper Session #31 3:45 PM -4:00 PM 3114

ATTITUDES TOWARD INFORMATION ABOUT GENETIC RISK FOR COGNITIVE IMPAIRMENT AFTER CHEMOTHERAPY: BREAST CANCER SURVIVORS VS. HEALTHY CONTROLS

Michael Andrykowski, PhD,[1] Erin Walsh, MS,[1] Brent Small, PhD[2] and Paul Jacobsen, PhD[2]

[1]University of Kentucky, Lexington, KY and [2]University of South Florida, Tampa, FL.

Research suggests a link between the ε4 allele of the apolipoprotein E gene and risk for cognitive impairment (CI) after cancer chemotherapy. Whether cancer patients want personalized information about genetic risk for CI and whether this information might affect their decision to undergo adjuvant chemotherapy is unknown. Breast cancer (BC) survivors (n=161) and healthy controls (n=207) were randomized to respond to 1 of 4 clinical scenarios representing combinations of CI Risk (little likely vs. very likely) and CI Severity (little problem vs. moderate problem) when a gene linked to CI was present. Ratings of the importance of being told this information before chemotherapy (Information Importance) and likelihood this information would affect a decision to undergo chemotherapy (Information Impact) were dependent variables. Ratings of genetic knowledge and ability to imagine the scenario were also obtained. Self-perceived CI was assessed in BC survivors 6 mos post-tx completion. 2 x (Group) x 2 (CI Risk) x 2 (CI Severity) ANCOVA analyses (covariates: age, education, genetic knowledge) showed a Risk x Severity interaction for Information Importance (p <.05) and a main effect for Group for Information Impact (p<.001). The importance of being told genetic risk information for CI was highest when CI Risk and CI Severity were both high or both low. BC survivors were less likely than controls to say genetic risk information for CI would affect their decision about chemotherapy (p<.001; ES=.44 SD). Survivors and controls did not differ in understanding the scenario (p>.05). In BC survivors, self-rated CI was correlated with Information Importance ratings (r=.17; p<.05) but uncorrelated with Information Impact ratings (r=.03; p>.65). Results suggest some resistance to being told of personalized genetic risk for CI when information is conflicted (e.g., high CI Risk, low CI Severity) and suggest this information might have little impact on a woman's decision to undergo adjuvant chemotherapy.

CORRESPONDING AUTHOR: Michael Andrykowski, PhD, Department of Behavioral Science, University of Kentucky, Lexington, KY, 40536-0086; mandry@email.uky.edu

Paper Session #31 4:00 PM -4:15 PM 3115

RECEIPT OF A FALSE POSITIVE TEST RESULT DURING ROUTINE SCREENING FOR OVARIAN CANCER: A TEACHABLE MOMENT?

Andrea Floyd, PhD, Rachel Steffens, BA, Edward Pavlik, MD and Michael Andrykowski, PhD

University of Kentucky College of Medicine, Lexington, KY.

The term "teachable moment" (TM) has been used to describe naturally occurring life transitions or health events that have the potential to motivate individuals to adopt risk-reducing or health-protective behaviors. Using the proposed key characteristics of the TM, the current study sought to examine whether receipt of an abnormal ovarian cancer (OC) screening result may represent a TM. Women (N= 403) participating in an OC screening program completed questionnaires assessing demographic, clinical, behavioral, and psychosocial information at baseline and follow-up assessment. The TM was operationalized as expressed interest in receiving additional health-related information. We hypothesized that women receiving an abnormal screening test result and experiencing greater personal perceived risk for OC as well as distress would be more interested in receiving additional health-related information than women receiving a normal result. Analyses revealed that women in the normal screening group (N=124) expressed interest in a mean of 5.8 (SD=3.1) health information topics compared to a mean of 5.2 (SD=3.0) in the abnormal screening group (N=279) (t(400)=1.79;p=.075). For women receiving an abnormal result, expressed interest in receipt of additional health-related information was only modestly related to distress (for 6 of 10 health information topics correlations ranged from .12-.24, p<.05) and related even less to perceptions of OC risk. While our data do not support viewing an abnormal OC screening result as a TM, there is a pressing need for a more precise and careful consideration of what types of events may or may not represent a TM. Furthermore, more work needs to be done to identify the size and timing (relative to a triggering event) of the window of opportunity that represents the TM. The concept of the TM has important theoretical implications for our understanding of factors that enhance or impede successful health behavior change. Research is needed to further characterize the TM and understand its limitations and potential.

CORRESPONDING AUTHOR: Andrea Floyd, PhD, Department of Behavioral Science, University of Kentucky, Lexington, KY, 40536-0086; andrea.floyd@uky.edu

Paper Session #31 4:15 PM -4:30 PM 3116

EVALUATION OF A THEORY-DRIVEN NAVIGATOR PROGRAM TO IMPROVE PSYCHOSOCIAL WELLBEING AND ELIMINATE BARRIERS TO CARE AMONG NEWLY DIAGNOSED CANCER PATIENTS

Linda Fleisher, MPH,[1] Kuang Yi Wen, PhD,[2] Suzanne Miller, PhD,[2] Theresa Berger, MBE[2] and Venk Kandadai, MPH[1]

[1]Health Communications and Health Disparities, Fox Chase Cancer Center, Cheltenham, PA and [2]Behavioral Research, Fox Chase Cancer Center, Philadelphia, PA, PA.

Patient navigation is an important component of quality cancer care, especially for the underserved. Yet, evaluation is needed to understand how these programs address barriers and impact patients.

This demonstration project evaluated the impact of a theory-guided patient navigation program funded by the Pennsylvania Department of Health. The program relied on community participatory research principles and was adapted to meet the unique needs of each hospital serving urban-minority and rural populations. A“lay” navigator model was used to address more practical barriers to care. Newly diagnosed cancer patients were recruited and followed to assess their satisfaction and impact on affective variables. Process data were collected on barriers addressed including number of barriers, type of barriers and time duration for completion.

The majority of patients (N=72) in this study had a diagnosis of breast cancer (56.4%) and were low-income (62.8% <$15,000). Patients reported high satisfaction with the navigational service, especially in the areas of cancer information, answering medical concerns, and scheduling appointments. Descriptive analyses were conducted for cognitive-affective measures at baseline, 4 and 12 week follow-ups. The most frequent barriers addressed were transportation and insurance issues. The number of barriers addressed ranged from one to seven, with the majority (58%) of patients reporting one barrier over the 12 weeks of the study. According to the process data in the case management system, assistance in insurance and transportation, as well as housing, required the most time to resolve.

The results suggest that a lay navigational program not only has a positive affect on patient satisfaction, but also reduces barriers to care. These findings suggest that navigational programs may be enhanced by addressing cognitive-emotional barriers, as well as practical barriers.

CORRESPONDING AUTHOR: Linda Fleisher, MPH, Fox Chase Cancer Center, Cheltenham, PA, 19012; linda.fleisher@fccc.edu

Paper Session #31 4:30 PM -4:45 PM 3117

CANCER WORRY: CONSTRUCT VALIDITY OF FOUR COMMONLY USED INSTRUMENTS

Joshua L. Ruberg, MA[1,3] and Jamie L. Studts, PhD[2,3]

[1]University of Louisville, Louisville, KY; [2]University of Kentucky, Lexington, KY and [3]James Graham Brown Cancer Center, Louisville, KY.

There is considerable inconsistency in the cancer control literature regarding the relationship between worry and cancer screening. Worry has been shown to both promote and inhibit use of various cancer screening modalities, including ovarian cancer screening. Additionally, worry has been observed to be both a significant, long term effect and a minor, transient response to participation in ovarian cancer screening. One explanation for these discrepant findings is the lack of consistency among self-report instruments used to assess cancer worry. While reliability data has been published on some of these instruments, validity data is almost entirely absent. As part of a larger study exploring the relationship between worry and ovarian screening, this project examined the construct validity of four self-report instruments of cancer worry. Women attending an annual ovarian screening clinic (N=221) completed four measures assessing cancer worry: the Cancer Worry Scale, the Impact of Events Scale, and two single-item instruments. Instruments assessing trait and state anxiety, pathological worry, perceived cancer risk, and information seeking coping style were also completed. Using the method for assessing construct validity described by Campbell and Fiske (1959), a multitrait-monomethod correlation matrix was produced. Hypothesized differences between correlations were assessed using t-tests. Results indicated that cancer worry instruments did not demonstrate similar correlational patterns, and are thus unlikely to assess a single, unique construct. Rather, the instruments seemed to assess at least two separate constructs —pathological worry that is chronic and stable, and repetitive thought that is transient and more reactive to stressful events. Results indicate that commonly used instruments for assessing cancer worry are not interchangeable, possibly explaining the inconsistent results observed in the literature. Future research is needed to develop a cohesive set of reliable and valid cancer worry instruments.

CORRESPONDING AUTHOR: Joshua L. Ruberg, MA, Department of Psychological and Brain Sciences, University of Louisville, Ocean Beach, CA, 92107; joshua.ruberg@louisville.edu

Paper Session #32 3:15 PM -3:30 PM 3118

PSYCHOSOCIAL PREDICTORS OF WEIGHT MAINTENANCE: RESULTS FROM THE WEIGHT LOSS MAINTENANCE TRIAL

Phillip Brantley, PhD,[1] Valerie H. Myers, PhD,[1] Jamy Ard, MD,[2] Janelle Coughlin, PhD,[3] Christina Gullion, PhD,[4] Gerald Jerome, PhD[5] and Carmen Samuel-Hodge, PhD[6]

[1]Pennington Biomedical Research Center, Baton Rouge, LA; [2]University of Alabama, Birmingham, AL; [3]John Hopkins University School of Medicine, Baltimore, MD; [4]Kaiser Permanente Center for Health Research, Portland, OR; [5]Towson University, Towson, MD and [6]University of North Carolina School of Medicine and Public Health, Chapel Hill, NC.

Overweight and obesity are a leading public health concern. Despite success with short-term weight loss, weight regain remains a concern. Data suggest that psychosocial variables may significantly relate to changes in weight status. Notably, social support, the ability to handle life stress, and overall psychological strength and stability are associated with weight loss and maintenance success. Identifying significant predictors of weight maintenance can contribute to understanding individual differences in successful weight re-gain prevention, and may lead to improved treatment models based on individual needs.

The Weight Loss Maintenance Trial (WLM) is a multi-center, NHLBI-funded controlled trial comparing two lifestyle interventions (personal counseling vs. internet based) to promote weight maintenance, to a control group. Participants were overweight or obese individuals at high risk for cardiovascular disease. Eligibility criteria include medication treatment of hypertension and/or dyslipidemia, BMI of 25–45 kg/m2, and over 25 years in age.

We examined whether psychosocial variables measured at baseline were associated with weight change 12 and 30 months during the maintenance phase of the trial. Quality of life (SF-36), social support for eating and exercise habits (friends and family), perceived stress, and depression (PHQ-8) were examined as predictors. Results were based on imputed weights (n=1027). Preliminary modeling results indicate that at 12 months, a higher reported vitality subscale score on the SF36 was associated with less weight regain (p<.026). At 30 months, a higher reported mental health composite score on the SF36 was associated with less weight regain (<.036), whereas a higher level of encouragement for healthy eating by friends was associated with more weight regain (<.0001). These preliminary results suggest that certain psychological variables such as fatigue, overall emotional well-being, and social support are associated with weight maintenance outcomes. Gender and race effects will be presented.

CORRESPONDING AUTHOR: Phillip Brantley, PhD, Pennington Biomedical Research Center, Baton Rouge, LA, 70808; brantlpj@pbrc.edu

Paper Session #32 3:30 PM -3:45 PM 3119

EFFECT OF LIFESTYLE TREATMENT FOR OBESITY ON RISK FOR HEART DISEASE

Lori K. Buhi, MPH, Kathryn M. Ross, BS, Vanessa A. Milsom, MS, Valerie J. Hoover, BA, Lisa M. Nackers, MS, Rachel André, MS, Patricia E. Durning, PhD and Michael G. Perri, PhD

Clinical and Health Psychology, University of Florida, Gainesville, FL.

Most clinical trials examining the effects of lifestyle treatment for obesity focus on weight loss as the primary outcome. Few studies have examined the impact of such programs on risk for heart disease. The purpose of this study was to investigate the long term (18 month) effect of lifestyle treatment for obesity on relative risk (RR) for heart disease. We examined this issue in the context of a randomized control trial in which 234 women, with a mean age of 59.4 years and mean BMI of 36.8 kg/m^2, received 6 months of initial treatment followed by 12 months of extended care. The initial treatment included weekly group sessions and extended care included bi-weekly contacts by mail, phone or in person. On average, participants achieved a mean (± SE) weight loss of 10.0±0.4 kg at 6 months and sustained a mean (± SE) loss of 7.9±0.7 kg at 18 months. RR for heart disease was calculated at 0 and 18 months using the 1998 Framingham Heart Study Prediction Score Sheet for Women. A paired sample t-test indicated a statistically significant decrease in RR from 0 to 18 months (means±SE=1.04±0.03 and 0.95±0.03, respectively, p=.001). Hierarchical linear regression revealed a reduction in systolic blood pressure (mean change=-5.2 mm Hg) accounted for 41% of the variance in risk reduction, and a change in total cholesterol (mean change=1.2 mg/dl) accounted for an additional 9% (*ps*<.001). At 18 months, study participants had a lower 10-year risk for coronary heart disease than low-risk women of the same age in the Framingham Study. These findings suggest that the beneficial effects of lifestyle treatment for obesity in middle-aged and older women may include a significant reduction in risk for heart disease.

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CORRESPONDING AUTHOR: Lori K. Buhi, MPH, University of Florida, Tampa, FL, 33617; lbuhi@phhp.ufl.edu

Paper Session #32 3:45 PM -4:00 PM 3120

THE IMPACT OF MOTIVATIONAL TREATMENT ON EARLY MOTIVATION AND WEIGHT LOSS

Kelly H. Webber, MPH, PhD[1] and Deborah F. Tate, PhD[2]

[1]University of Kentucky, Lexington, KY and [2]University of North Carolina, Chapel Hill, NC.

Mechanisms of motivational treatments are unclear. This study sought to determine if motivational sessions would increase autonomous motivation and enhance early weight loss. Eighty females, 91% Caucasian, with mean(SD)age 48.7(10.6)years and BMI 32.0(3.7)kg/m2 were randomized to two groups, Minimal or Enhanced. Both received an initial and 4-week group session. The Minimal group sessions focused on weight loss. The Enhanced group sessions included weight loss guidelines, a discussion of the pros and cons and reasons for weight loss, and an expressive writing session. Both groups were given access to an identical study website with weekly weight loss lessons, online diary form, separate message boards, and web links. Weight was measured in the clinic at baseline and four weeks. Motivation was measured using the autonomous motivation subscale of the Treatment Self-Regulation Questionnaire at the baseline assessment visit, after the initial session, and before and after the 4-week session. Motivation levels did not change between baseline and the end of the first session for either group (Minimal, p=0.22; Enhanced, p=0.12). Motivation levels increased between the end of the initial session and the 4-week session for the Enhanced group (p=0.05), but not for the Minimal group (0.50); however average weight loss at four weeks did not differ between the two groups (Minimal 3.27 lbs; Enhanced 3.16 lbs; p=0.87). Weight at four weeks was not correlated with motivation at baseline (p=0.37), but correlated with motivation at four weeks (r=0.43, p<0.001) and logins to website (r=0.24, p=0.04) and completion of self-monitoring diaries (r=0.38, p=0.001). Baseline motivation did not predict 4-week weight loss, which confirms earlier studies that motivation measured at four weeks may be a better predictor of long-term weight loss than baseline motivation. In this intervention, the additional motivational component at baseline appears to have had an impact on 4-week motivation but not 4-week weight loss. Long-term impacts of the motivational intervention should be investigated.

CORRESPONDING AUTHOR: Kelly H. Webber, MPH, PhD, University of Kentucky, Lexington, KY, 40506-0054; kelly.webber@uky.edu

Paper Session #32 4:00 PM -4:15 PM 3121

WEIGHT LOSS GOALS OF PATIENTS IN A HEALTH MAINTENANCE ORGANIZATION

Gareth R. Dutton, PhD,[1] Melissa Dancer-Brown, RD,[2] Krystin Reuter, BS,[1] Michelle Harper, BS,[1] Erika O'Neil, BS,[1] Mary Goble, RN,[2] Nancy Van Vessem, MD[2] and Michael G. Perri, PhD[3]

[1]Florida State University College of Medicine, Tallahassee, FL; [2]Capital Health Plan, Tallahassee, FL and [3]University of Florida, Gainesville, FL.

Individuals often endorse unrealistic expectations regarding weight loss, although most of this research has been conducted in tertiary settings (i.e., obesity clinics). This study examined the weight loss goals of a general medical sample participating in a behavioral weight loss program implemented in a managed care setting. Prior to beginning the weight loss program, participants (N=154; mean age=46.7; mean weight=99.5 kg; 65% Caucasian; 89% female) were asked to complete a survey assessing the amount of weight loss required to achieve "dream", "happy", "acceptable", and "disappointed" weights. The mean ideal weight was 67.8±11.3 kg (31.8% loss); mean happy weight was 73.8±13.5 (25.8% loss); mean acceptable weight was 79.9±17.3 (19.7% loss); and mean disappointed weight was 89.4±21.4 (10.2% loss). Weight losses required to achieve these goals ranged from 31.7 kg for dream weight to 10.1 kg for disappointed weight. Consistent with previous findings among patients in obesity specialty clinics, the current sample of general medical patients demonstrated weight loss goals that were unrealistic and inconsistent with outcomes from existing behavioral and pharmacological interventions. A weight loss of 10%, which is considered a successful treatment response, was viewed as disappointing by participants. It is important that weight loss programs implemented in a variety of clinical settings address participants' weight loss expectations and work with them to establish realistic goals. This may be particularly salient in applied clinical settings, since weight loss may be less pronounced in such environments as compared to well-controlled, university-based settings, and significant discrepancies between expectations and actual weight loss may influence treatment retention and success.

CORRESPONDING AUTHOR: Gareth R. Dutton, PhD, Medical Humanities/ Social Sciences, Florida State University College of Medicine, Tallahassee, FL, 32306-4300; gareth.dutton@med.fsu.edu

Paper Session #32 4:15 PM -4:30 PM 3122

DOES INITIAL SHORT-TERM WEIGHT LOSS INFLUENCE SUCCESS IN A 24-MONTH BEHAVIORAL WEIGHT LOSS PROGRAM?

Christine Dutton, MS and John Jakicic, PhD

University of Pittsburgh, Pittsburgh, PA.

Previous research has shown that initial weight loss may influence future weight loss; however, most of these studies have been relatively short in duration. Purpose: To examine the influence of initial weight loss achieved in the first 5 weeks of a behavioral weight loss program on weight loss achieved at 6 and 24 months. Methods: Data were analyzed from 164 overweight women (age: 38.3±5.4 yrs, BMI: 32.7±4.2 kg/m2) who provided an objectively measured body weight at week 5, months 6 and 24 during a behavioral weight loss intervention. Subjects were instructed to decrease energy intake to 1200–1500 kcal/d and to progressively increase physical activity energy expenditure to 1000 to 2000 kcal/wk. Subjects attended in-person group meetings and received individual telephone calls. Results: Weight significantly decreased at 5 weeks (-2.1±1.8 kg; 2.4%), 6 months (-8.9±4.7 kg; 10.3%), and 24 months (-4.8± 7.6 kg; 5.7%) (p<.001). Weight loss (kg) at week 5 was significantly correlated with weight loss at 6 (r=.60, p<0.001) and 24 months (r=.27, p<0.001). Percent weight loss at week 5 was significantly correlated with percent weight loss at 6 (r=.56, p<0.001) and 24 months (r=.30, p<0.001). Subjects were divided into 2 groups based on a median split of percent weight loss at 5 weeks (<2.3% or ≥2.3%). The ≥2.3% weight loss group lost significantly more weight than the <2.3% weight loss group at both 6 months (-11.1 kg vs. -6.7 kg, p<.001) and 24 months (-6.8 kg vs. -2.8 kg, p=.001). Conclusion: Weight loss and percentage weight loss achieved within the initial 5 weeks of a behavioral weight loss program appears to be predictive of weight loss achieved at 6 and 24 months. Thus, intervention strategies to improve initial weight loss may be beneficial at improving longer-term weight loss outcomes. Moreover, research appears to be necessary to identify participant characteristics and psychosocial constructs that may influence the magnitude of initial weight loss, which may assist in improving longer-term weight loss.

CORRESPONDING AUTHOR: Christine Dutton, MS, University of Pittsburgh, Pittsburgh, PA, 15202; cad55@pitt.edu

Paper Session #32 4:30 PM -4:45 PM 3123

INTERNALIZED WEIGHT STIGMA AND WEIGHT LOSS TREATMENT OUTCOMES IN TREATMENT-SEEKING ADULTS

Robert A. Carels, PhD, MBA, Kathleen M. Young, MA, Carissa B. Wott, MA, Jessica Harper, MA, Amanda Gumble, BA, Marissa Oehlhof, MA and Anna Marie Clayton, MA

Psychology, Bowling Green State University, Bowling Green, OH.

Background: There are significant economic and psychological costs associated with the negative weight-based social stigma that exists in American society. This pervasive anti-fat bias has been strongly internalized among the overweight/obese. No studies have explored the relationship between internalized weight stigma and weight loss treatment outcomes. This investigation examined the relationship between implicit and explicit weight stigma and (a) self-monitoring frequency, (b) exercise level and caloric expenditure, (c) caloric intake, (d) caloric deficit/surplus, (e) program attrition, and (f) weight loss among overweight/obese treatment-seeking adults.

Methods: Forty-six overweight/obese adults (BMI>27 kg/m2) participating in an 18-week, stepped-care, behavioral weight loss program completed implicit (Implicit Associations Test) and explicit (Obese Persons Trait Survey) measures of weight stigma. Participants were instructed to self-monitor and electronically report daily energy intake, exercise, and energy expenditure.

Results: Greater weight stigma was associated with inconsistent self-monitoring, greater caloric intake, lower energy expenditure and exercise, creation of a smaller caloric deficit, higher program attrition as well as less weight loss during the self-help phase of the stepped-care treatment (all ps<.05).

Conclusions: Higher levels of weight stigma were associated with diminished performance on behaviors that are often critical for successful weight loss (e.g., self-monitoring, exercise, energy intake). Also, higher levels of weight stigma at baseline were associated with greater program attrition, less weight loss during the stepped-care phase of treatment, and a greater likelihood of being eligible for stepped-care. Internalized weight stigma may interfere with overweight/obese treatment-seeking adults' ability to achieve optimal health.

CORRESPONDING AUTHOR: Robert A. Carels, PhD, MBA, Bowling Green State University, Bowling Green, OH, 43403; rcarels@bgsu.edu

Paper Session #33 3:15 PM -3:30 PM 3124

COMPREHENSIVE BEHAVIORAL COUNSELING AND VARENICLINE FOR SMOKING CESSATION IN A MANAGED CARE SETTING: OUTCOMES FROM A RANDOMIZED EFFECTIVENESS TRIAL

Gary E. Swan, PhD,[1] Lisa Jack, MA,[1] Jennifer B. McClure, PhD,[2] Sheryl Catz, PhD,[2] Susan Zbikowski, PhD,[3] Tim McAfee, MD MPH,[3] Mona Deprey, MS,[3] Harold Javitz, PhD[1] and Julie Richards, MPH[2]

[1]SRI International, Menlo Park, CA; [2]Group Health, Seattle, WA and [3]Free & Clear, Inc., Seattle, WA.

The COMPASS trial aimed to determine cessation rates associated with varenicline when coupled with either a proactive telephone-based, a Web-based, or a combined telephone/Web-based program. COMPASS is the first large-scale effectiveness trial completed in a real-world setting following FDA approval of varenicline. Smokers ready to quit were recruited from Group Health, a large regional health care organization. After screening, eligible smokers (n=1202) were randomized to one of three treatment groups with all participants receiving varenicline by mail (standard 12-week course; 1 mg BID after titration). Smoking status and other relevant characteristics were assessed at 21 days, 3 months, and 6 months following the target quit date. Treatment groups were equivalent with respect to sex, age, education, nicotine dependence, and quitting history as well as participation at each of the 3 follow-ups (about 85% at 21 days, 76% at 3 months, and 74% at 6 months). At 21 days a significantly higher percentage of Phone-only participants reported that they were still taking varenicline (87.5%) compared to the Web-only group (77.9%; P =0.005) but not when compared to the Web-Phone Combined group (83.2%). Intention-to-treat analyses revealed relatively high rates of 7-day point prevalence of nonsmoking at 3 months (38.9%, 48.5%, 43.4%) and at 6 months (30.7%, 34.3%, 33.8%) for the Web-only, Phone-only, and Web-Phone Combined groups, respectively. Pairwise comparisons revealed that the Phone-only group had a significantly higher rate of nonsmoking than the Web-only group at 3 months, P=0.023, but no group differences in nonsmoking rates were seen at 6 months. The observed nonsmoking rates in this effectiveness trial were consistent with those seen in the varenicline efficacy trials at similar follow-up time points, regardless of which behavioral program was used, although Phone counseling appeared to offer participants some treatment advantage.

CORRESPONDING AUTHOR: Gary E. Swan, PhD, Center for Health Sciences, SRI International, Menlo Park, CA, 94025; gary.swan@sri.com

Paper Session #33 3:30 PM -3:45 PM 3125

MOOD CHANGE, SIDE-EFFECTS, AND SMOKING OUTCOMES ASSOCIATED WITH VARENICLINE USE: A COMPARISON OF PERSONS WITH AND WITHOUT PROBABLE DEPRESSION HISTORY

Jennifer McClure, PhD,[1] Gary Swan, PhD,[2] Lisa Jack, MA,[2] Sheryl Catz, PhD,[1] Susan Zbikowski, PhD,[3] Tim McAfee, MD, MPH,[3] Mona Deprey, MS,[3] Harold Javitz, PhD[2] and Julie Richards, PhD[1]

[1]Group Health, Seattle, WA; [2]SRI, Menlo Park, CA and [3]Free & Clear, Seattle, WA.

Since its release to market, questions have arisen about the safety of varenicline (aka, Chantix), particularly among smokers with psychiatric history. We examined change in depression, prevalence and intensity of side-effects associated with varenicline and nicotine withdrawal, and non-smoking rates among people with a probable history of lifetime major depression (DH+) or not (DH-). Smokers (n= 1202) were recruited from a large health plan to join the COMPASS study, a randomized effectiveness trial of three behavioral interventions, and treated with varenicline. Participants were assessed at baseline, 21 days post-target quit date and three months post-target quit date. Adverse events were also monitored during treatment contacts. Outcomes were compared between DH+ and DH- participants. Nonsmoking rates did not differ at 21 days (48.6% vs. 47.3%, p=.66) or three months (44.9% vs. 42.8%, p=.47). DH+ participants were more likely to endorse depression, anxiety, tension/agitation, difficulty concentrating, and confusion at follow-up (p<.05). Differences in symptom severity ratings were less pronounced and on average all side-effects were rated by patients as mild to moderate intensity. Depression and stress scores improved over time with improvement greater among DH- participants in adjusted analyses (p<.05). One case of suicidal ideation was reported in a participant with undisclosed, untreated bipolar disorder. In sum, severe or worsening neuropsychiatric symptoms and differential smoking outcomes were not associated with probable lifetime depression, but DH+ participants were more likely to report the presence of many side-effects associated with varenicline and nicotine withdrawal. Additional research on varenicline safety is needed among persons with psychiatric history.

CORRESPONDING AUTHOR: Jennifer McClure, PhD, Group Health, Seattle, WA, 98115; mcclure.j@ghc.org

Paper Session #33 3:45 PM -3:45 PM 3126

UTILIZATION OF SERVICES IN A RANDOMIZED TRIAL TESTING PHONE- AND WEB-BASED BEHAVIORAL INTERVENTIONS FOR SMOKING CESSATION

Susan M. Zbikowski, PhD,[1] Mona Deprey, MS,[1] Tim McAfee, MD MPH,[1] Gary E. Swan, PhD,[2] Jennifer B. McClure, PhD,[3] Lisa Jack, MA,[2] Sheryl Catz, PhD,[3] Jennifer Cinnamon, BA,[1] Harold Javitz, PhD[2] and Julie Richards, MPH[3]

[1]Clinical & Behavioral Sciences, Free & Clear, Inc., Seattle, WA; [2]SRI International, Menlo Park, CA and [3]Center for Health Studies, Group Health, Seattle, WA.

The relative effectiveness of phone- and web-based programs for smoking cessation has not been evaluated in the extant literature. COMPASS is the first head-to-head trial of 3 behavioral treatments using different delivery modalities: An online program (W), phone counseling (P), and a novel integrated Phone/Web program (P/W). The P group received up to 5 counseling calls. The W group received an online program which contained quit plan tools, a progress tracker, an email tool, discussion forums, and an online library. The P/W group received 5 counseling calls and the online program. All participants received printed Quit Guides, varenicline (Chantix), a 10-minute orientation call, and could call in for additional support. This paper describes utilization of behavioral treatments studied in the COMPASS trial.

Nearly all participants (99%) used some level of services provided. In general, participant engagement in the phone program was higher than the online program. Calls completed were similar across groups (P=4.1, P/W=4.2) receiving proactive counseling (P=NS). Participants in the P/W program were more likely to take calls than use the web; 22% did not log into the online program compared to 1% not taking any calls. Contrary to expectations, most participants used the online program less than 30 minutes (W: 49%, P/W: 72%) and logged on <6 times (W: 80%, P/W: 89%). Although web use was statistically higher among W than P/W participants (P<.05), level of use was not substantially different. That is, W participants logged in only 1 time more and for 12 minutes more than P/W participants (based on median logins and duration).

Utilization of services will be discussed in the context of cessation outcomes, including correlates of use and for whom the services were most effective. Understanding patterns of use may shed light on the most effective types/components of behavioral treatments.

CORRESPONDING AUTHOR: Susan M. Zbikowski, PhD, Free & Clear, Inc., Seattle, WA, 98104; Susan.Zbikowski@freeclear.com

Paper Session #33 3:45 PM -4:00 PM 3127

TEEN TOBACCO USE AND DEPRESSION IN PRIMARY CARE

Virginia P. Quinn, PhD, MPH,[1] Lisa S. Meredith, PhD,[2] Audrey Burnam, PhD,[2] Lisa H. Jaycox, PhD,[2] Ellenie D. Tuazon, MPH[1] and Su-Jau Yang, PhD[1]

[1]Research & Evaluation, Kaiser Permanente Southern California, Pasadena, CA and [2]RAND Corporation, Santa Monica, CA.

Tobacco use is the number one cause of preventable morbidity and death in the nation. Despite the ever growing list of harmful effects associated with smoking, tobacco use is common among children and adolescents and approximately half who try smoking will progress to regular use and dependence. Of concern, the great progress achieved between 1997 and 2003 in reducing teen smoking has stalled with overall rates holding stable at just under 22%. There is only limited evidence of the effectiveness of smoking cessation interventions in teen populations and the low probability that adolescents will stop smoking on their own highlights the importance of prevention and early detection. Depression in teens is also associated with a broad range of negative health effects. We examined the association of smoking and depression in a large, diverse population of teens seeking primary care from 7 health care organizations in Los Angeles and Washington, D.C. Subjects and their parents were recruited from January, 2005 through March, 2006 to participate in the Teen Depression Awareness Project (TDAP). Among the 4722 teens eligible and interested in participation, 4529 completed a structured telephone interview which assessed depression using the Diagnostic Interview Schedule for Children and queried smoking status. Smoking prevalence varied significantly among teens who scored “non-depressed”, “sub-threshold”, and “depressed” (3.2%, 9.3%, and 15%, respectively). Multivariable analyses controlling for gender, race/ethnicity, age, BMI percentile, and site found that compared with non-depressed teens, teens with sub-threshold depression were almost three times as likely to smoke (OR=2.9, CI=1.6,5.2) and depressed teens were more than 5 times as likely to smoke (OR=5.4, CI=3.4,8.7). Primary care visits represent an important opportunity to identify teens at risk for and from depression and smoking. Effective treatments for smoking and depression need to address the co-occurrence and interaction of these serious threats to adolescent health.

CORRESPONDING AUTHOR: Virginia P. Quinn, PhD, MPH, Kaiser Permanente Southern California, Pasadena, CA, 91101; virginia.p.quinn@kp.org

Paper Session #33 4:00 PM -4:15 PM 3128

THE ROLE OF SCHOOL ENVIRONMENT IN SMOKING INITIATION AMONG ADOLESCENTS IN THE NICOTINE DEPENDENCE IN TEENS (NDIT) STUDY

Roman A. Pabayo, MSc,[1] Lise Gauvin, PhD[1,2] and Jennifer O’Loughlin, PhD[1,2]

[1]Department of Social and Preventive Medicine, Université de Montréal, Montréal, QC, Canada and [2]Centre de recherche CHUM, Montréal, QC, Canada.

Intrapersonal factors (personality traits, self-esteem), socio-environmental factors (friends and family influences), and broader contextual factors (school environment) all influence youth smoking behaviour). Many studies investigate the role of intrapersonal and socio-environmental factors, but further investigation of the role of contextual factors is warranted. Although cross-sectional associations between school-smoking policies and youth smoking behaviour have been reported, longitudinal studies can establish the temporality of this association. This study examined the longitudinal association between school environments and patterns of smoking initiation across time in a cohort of students followed from grade 7 through 11. NDIT data collected from 1293 students in 10 high schools in Montreal were examined using multilevel analysis. Schools were classified as “tolerant” or “intolerant” of smoking based on school smoking policies and presence of anti-tobacco programs. The main outcome was smoking initiation across time. Cross-sectional analyses indicate that in grade 7, boys who attended a tolerant school were 1.4 (95% Confidence Interval [CI]: 1.2, 1.6) times more likely to initiate smoking compared to boys attending intolerant schools. In grade 7, girls were less likely to have initiated smoking than boys (OR=0.33, 95%CI: 0.12, 0.89). However girls attending tolerant schools were more likely to initiate smoking than girls attending an intolerant school. Longitudinal analyses indicate that after grade 7, girls were more likely than boys to initiate smoking (ORs ranging from 2.8 to 21.3). However, boys who attended tolerant schools were significantly less likely to initiate smoking (ORs ranging from 0.80 to 0.90) compared to boys attending smoking intolerant schools. School environment interacts with sex to produce a variety of unique patterns of smoking initiation across time.

CORRESPONDING AUTHOR: Roman A. Pabayo, MSc, Public Health, Universite de Montreal, Montreal, QC, H2V 4P3; roman.pabayo@umontreal.ca

Citation Paper

Paper Session #33 4:15 PM -4:30 PM 3129

ADHERENCE TO SCHEDULED REDUCED SMOKING INTERVENTION AMONG NEWLY DIAGNOSED CANCER PATIENTS

Mariya Shiyko, Doctorate Candidate, MA,[1] Jamie Ostroff, PhD,[1] Jack Burkhalter, PhD,[1] Yuelin Li, PhD,[1] Paul Cinciripini, PhD,[2] Susan Holland, MA, MPS[1] and Ruth Manna, MPH[1]

[1]Memorial Sloan-Kettering Cancer Center, New York, NY and [2]MD Anderson Cancer Center, Houston, TX.

We randomly assigned 74 newly diagnosed cancer patients to use a Personal Digital Assistant (PDA), which delivered a Scheduled Reduced Smoking (SRS) intervention. SRS involves a gradual reduction in daily smoking rate by increasing inter-cigarette intervals over days. Patients were prompted to smoke by the PDA, which recorded real-time adherence. We tested whether or not adherence to daily SRS was associated with biochemically-verified smoking abstinence before hospitalization (AH).

Two adherence measures were defined: the daily adherence to SRS treatment (dTx) was the percentage of daily cigarettes smoked on schedule, and daily adherence to Tapering (dTp) was the difference between the observed and scheduled reduction in daily smoking, representing how well the observed tapering matched the prescribed daily tapering. The dTx and dTp were tested as predictors of AH. The sample was 49% female, mean age 56 years. The median baseline rate of smoking was 18 cpd, with a median 17 days to AH, yielding 1003 real-time records of SRS cigarettes. The median dTx was 58% with daily fluctuation of ±24%. About 40% of patients tapered down as much as or more than scheduled by the program, with daily fluctuation of ±82%. Thirty seven patients (50%) abstained prior to hospitalization. Based on logistic regression results, dTx was not a significant predictor of AH ($p=.14$), while dTp was (Or=.0006, CI=[~ 0; .20], $p=.01$). Additional covariates such as patient demographics, nicotine dependence, motivation to quit and self-efficacy did not predict AH. Despite the demands of this intervention delivered in acute cancer care, we found overall good adherence. Patients are more likely to attain smoking abstinence before cancer surgery if they reduce more than prescribed by the SRS. Conversely, exceeding the prescribed daily cigarette allowance is detrimental to SRS success. Real-time data capture allows researchers to give a nuanced interpretation of adherence in SRS.

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CORRESPONDING AUTHOR: Mariya Shiyko, Doctorate Candidate, MA, Psychiatry & Behavioral Sciences, Sloan Kettering Institute, Brooklyn, NY, 11201; shiykom@mskcc.org

Paper Session #34 3:15 PM -3:30 PM 3130

RELIABILITY AND VALIDITY OF THE CANCER PROBLEM-BASED BIOPSYCHOSOCIAL SCREENING INSTRUMENT (CPBBSI)

Amy E. Lowery, MS,[1] Melanie Greenberg, PhD,[2] Sharon L. Foster, PhD,[1] Matthew Loscalzo, MSW,[3] Karen Clark, MS,[3] Danielle Casden, PhD[4] and Wayne A. Bardwell, PhD[4,5]

[1]Alliant International University, San Diego, CA; [2]UCSD Department of Veteran Affairs, La Jolla, CA; [3]City of Hope, Duarte, CA; [4]Moores UCSD Cancer Center, La Jolla, CA and [5]Psychiatry, University of California, San Diego, La Jolla, CA.

Comprehensive screening of cancer patients with clinically-significant distress can facilitate timely triage and intervention. In research, such an instrument can be used for needs and risk assessment or to assess clinical outcomes. The CPBBSI is a 39-item self-report measure of cancer distress. Patients rate each item (1=‘Not a problem,’ 5=‘Very severe problem’) and indicate if they want to speak with a healthcare professional. A sample of 100 cancer patients (73 female, 23 male; stages I-IV) attending the Moores UCSD Cancer Center completed the CPBBSI along with established measures of mood (Hospital Anxiety and Depression Scale; HADS), quality of life (Functional Assessment of Cancer Therapy - General; FACT-G), distress (Brief Symptom Inventory; BSI), and social desirability (Paulhus Deception Scale; PDS). Half of these patients ($n=50$) completed the CPBBSI a second time within one week. Statistical analyses established that the CPBBSI total score had excellent test-retest reliability ($r=.99$, $p<.01$), was highly correlated with the HADS ($r=.62$, $p<.01$) and FACT-G ($r=.74$, $p<.01$), was moderately correlated with the BSI ($r=.55$, $p<.01$) and was minimally confounded by social desirability ($r=.21$, $p<.05$). Further, content-based brief subscale scores assessing depression, anxiety, fatigue, and sleep also showed excellent test-retest reliability ($r>.99$, $p<.01$) and were correlated with related measures as predicted. Subscale scores of the CPBBSI varied by demographic groups (gender, ethnicity, age) in predicted ways. Using ROC curves, we established a total cutoff score for clinically significant distress and subscale scores for severe depression and anxiety, which provided high sensitivity and specificity. Overall, these promising initial results suggest the CPBBSI may be a useful addition to cancer patient screening, research, and clinical care.

CORRESPONDING AUTHOR: Amy E. Lowery, MS, California School of Professional Psychology at Alliant International University, Piscataway, NJ, 08854; amylowery@yahoo.com

Paper Session #34 3:30 PM -3:45 PM 3131

DEVELOPMENT OF A BLOOD DONATION MYTHS SCALE IN AN AFRICAN AMERICAN SAMPLE

Caitlin Burditt, MA,[1] Mark Robbins, PhD,[1] Andrea Paiva, PhD,[1] Beryl Koblin, PhD,[2] Debra Kessler, RN, MS[2] and Cerissa Creeden, BA[1]

[1]University of Rhode Island, Kingston, RI and [2]New York Blood Center, New York, NY.

Interventions to increase blood donation rates must not only enhance awareness of the benefits (pros) and decrease the costs (cons) of donating blood, they must also counter negative myths or misperceptions about blood donation. Unlike cons, which are "true" consequences of donation, the myths represent a set of false beliefs. For example, some participants endorse beliefs such as "Police will have access to my blood to test my DNA to see if I committed a crime" when in actuality this outcome is unlikely or impossible. The negative impact of belief in myths on the decision to donate blood is of particular concern among African Americans for two primary reasons: (1) there is race-specific need for blood due to sickle cell disease incidence and (2) despite increased need, AA are underrepresented in the donor pool. Measurement of belief in myths is essential in designing interventions that will counter them. Using factor analytic and structural modeling procedures, the internal and external validity of the Myths of Blood Donation scale was assessed. Participants were 315 African Americans in the New York Metropolitan Area (60.4% female, M=40.9 years). Exploratory PCA produced a one factor 7 item myths scale (41.9% variance). Confirmatory analysis supported this structure (X2 (14)=85.761, CFI=.761, GFI=.868, AASr =0677, alpha=.78). External validity was assessed by examining the relationship between myths and stage of change for blood donation. Participants were placed into categories based on readiness to donate blood: Precontemplation(32%), Contemplation(28.4%),Preparation (30%),and Action/Maintenance(9.6%). ANOVA revealed significant differences in myths scale scores by stage of change, F(3, 241)=2.76, p>.05. As expected, belief in myths showed a linear decrease from earlier to later stages of change. Results provide a psychometrically valid measure of the myths of blood donation applicable to African Americans which could aid in better understanding of the role these myths play in blood donation decision-making and improve interventions.

CORRESPONDING AUTHOR: Caitlin Burditt, MA, Psychology, University of Rhode Island, Kingston, RI, 02881; cburditt@mail.uri.edu

Paper Session #34 3:45 PM -4:00 PM 3132

THE ASSESSMENT OF CONCERNS ABOUT CANCER RECURRENCE AMONG PEOPLE TREATED FOR BREAST AND COLORECTAL CANCER

Gozde Ozakinci, PhD,[1] Evelyn Watson, RGN,[1] Michael Sharpe, PhD[2] and Gerry M. Humphris, PhD[1]

[1]Bute Medical School, University of St Andrews, St Andrews, United Kingdom and [2]School of Molecular and Clinical Medicine, University of Edinburgh, Edinburgh, United Kingdom.

Fear of recurrence (FoR) is often most frequently ranked concern for people treated with various types of cancer and has been related to psychological distress. This study aimed to develop a brief measure of FoR (14 items) from existing measures of FoR/distress to determine its relationship with emotional distress, perceived risk of cancer recurrence and validate it against existing measures of emotional distress and illness perceptions. The FoR scale was based on following constructs: anxiety/fear, intrusion, avoidance, rumination, and symptom vigilance to identify those with high FoR. 259 cancer survivors (226 women, 33 men) from breast (N=206; mean age=62.9, SD=10.1) and colorectal cancer (N=53 mean age=67.3, SD=10.6) nurse-led follow-up clinics completed the FoR scale and the Hospital Anxiety and Depression Scale (HADS). To validate our FoR measure, a second questionnaire containing Impact of Event Scale (IES) and Brief Illness Perception Questionnaire was sent to 150 existing participants (response rate=71%) selected randomly on the basis of their FoR scores. We found a strong correlation between FoR and HADS total score (r=.62, p<.001), between FoR and perceived risk of cancer recurrence (r=.55, p<.001) and between FoR and IES (r=.77, p<.001). Also, there was a strong relationship between symptom experience from cancer and FoR (r=.48, p<.001). We have also developed a shorter screening tool selecting items that have good internal consistency and relate well with existing measures of distress and illness perceptions.

CORRESPONDING AUTHOR: Gozde Ozakinci, PhD, University of St Andrews, St Andrews, KY16 9TS; go10@st-andrews.ac.uk

Paper Session #34 4:00 PM -4:15 PM 3133

PSYCHOMETRIC PROPERTIES OF THE DISABILITY RELATED STRESS SCALE (DRSS)

Paula Rhode, PhD,[1] Katherine Froehlich-Grobe, PhD,[2] Jill R. Hockemeyer, PhD[3] and Jordan A. Carlson, BA[4]

[1]Health & Human Performance, University of Houston, Houston, TX; [2]University of Kansas, Lawrence, KS; [3]VA Palo Alto Health Care Systems, Palo Alto, CA and [4]San Diego State University, San Diego, CA.

People with disabilities likely experience stress related to living with a disability in addition to common stressors experienced by the general population. The present study furthers our previous work introducing a new stress measurement scale for people with physical disabilities by piloting the measure on a diverse group of individuals with various disabilities (n=168). Psychometric properties of the measure were evaluated, including scale reduction and factor analyses, calculating scale reliability coefficients and descriptive characteristics, and examining associations with various demographic and disability-related variables reported by the sample. Analyses resulted in the scale being reduced and separated into 2 parts, a 55-item subscale assessing the frequency and impact of minor life events occurring in the past week, and a 22-item subscale assessing the frequency and impact of minor life events occurring in the past 6 months. Confirmatory maximum-likelihood (ML) factor analyses for both scales revealed that a one-factor solution described the data best, accounting for 68% and 65% of the variance, respectively. Cronbach's alpha and Guttman's lambda coefficients were calculated for both Part 1 (α=.94; λ =.91) and Part 2 (α=.85; λ=.87) of the DRSS, indicating adequate internal consistency and split-half reliabilities. Scale means, standard deviations and range statistics were calculated, and correlational coefficients computed between subscales and the following variables: sex, age, ethnicity, education, employment status, self-rated SES, annual income, number of disabilities, years living with a disability, and self-rated severity of disability. Results indicated that age was inversely correlated with the stress score of each of the scales (r=-.19-.21, $p\leq.05$) and number of disabilities was directly correlated with the stress score of each of the scales (r=.22-.25, $p\leq.05$). Finally, stepwise hierarchical regression models were constructed in order to predict the amount of variance in each of the stress scale scores accounted for by lower age and a greater number of disabling conditions, and results revealed significant contributions in each model (ΔR^2.=.07-.096, $p\leq.05$-.01). Further refinement of the Disability-Related Stress Scale (DRSS) and a large-scale validation study using a nationally representative sample are planned in the future.

CORRESPONDING AUTHOR: Paula Rhode, PhD, Health & Human Performance, University of Houston, Houston, TX, 77204; pcrhode@uh.edu

Paper Session #34 4:15 PM -4:30 PM 3134

CONCORDANCE BETWEEN THREE MEASURES OF IDENTIFYING DEPRESSION IN A POST-STROKE POPULATION

Cynthia Dolezsar, BA,[1] Sydney Miller, PhD,[1] Nancy Mayo, PhD,[2] Lois Finch, PhD,[2] Lisa Koski, PhD,[2] Lesley Fellows, PhD[2] and Robert Cote, MD[3,4]

[1]Department of Psychology, Concordia University, Montreal, QC, Canada; [2]Faculty of Medicine, McGill University, Montreal, QC, Canada; [3]Department of Neurology, McGill University Health Center, Montreal, QC, Canada and [4]Montreal General Hospital, Montreal, QC, Canada.

Depression is a critical factor in stroke recovery. Studies investigating prevalence rates and the time course of post-stroke depression (PDS) have yielded conflicting results partly because of methodological issues and timing of assessment. Reliably measuring PSD is a crucial issue in both research and clinical application. The objective of the current study was to analyze the concordance between 3 methods of identifying depression in a community-dwelling post-stroke population: the Geriatric Depression Scale (GDS), the Mental Health Inventory (MHI) of the Medical Outcomes Study 36-item Short Form (SF-36) and the Structured Clinical Interview for DSM-IV-TR (SCID) depression. Participants (n=89) were from an ongoing prospective study carried out to ascertain the dynamic pattern of depressive symptomology post-stroke. The sample included 39 women and 50 men, ranging from 27 to 94 years of age (X=71). Depression was assessed at 5 time points: 8 days, 3, 6, 9 and 12 months post-stroke. Over the five time points, the prevalence of depression was 7.6% using the SCID, 26.5% using the MHI and 28% using the GDS. Kappa agreement between the 3 measures over the 5 time points was also calculated. Results indicated a higher level of concordance between the MHI and the GDS than between the SCID and the MHI or between the SCID and the GDS. Specifically, the agreement between the MHI and the GDS was moderate (Cohen's kappa=0.41), between the SCID and the MHI fair (K=0.36), and between the SCID and the GDS was also fair (K=0.32). These results suggest that the three measures capture different aspects of mood disturbance post-stroke and a harmonized method for measuring this construct will facilitate detection and research on interventions.

CORRESPONDING AUTHOR: Cynthia Dolezsar, BA, Concordia University, Montreal, QC, H4B 1R6; cindy_dolezsar@hotmail.com

Paper Session #34 4:30 PM -4:45 PM 3135

RIDING A HEAT WAVE OF MEASUREMENT: ESTABLISHING THE VALIDITY OF THERMOGRAPHY AS A PHYSIOLOGICAL MEASURE OF SEXUAL AROUSAL

Tuuli M. Kukkonen, BA, Yitzchak M. Binik, PhD, Rhonda Amsel, MSc and Serge Carrier, MD

McGill University, Montreal, QC, Canada.

Current physiological measures of sexual arousal are intrusive, hard to compare between genders, quantitatively problematic and not clinically useful. Data from 3 studies examining the reliability and validity of thermographic imaging provide support for this technology as a solution to these problems. In the first two studies, 157 healthy participants (78 men, 79 women, age range=18–45 years) viewed a neutral film clip after which they were assigned to view one of four other videos: 1) neutral (n=39); 2) humor (n=39); 3) anxiety provoking (n=40); 4) sexually explicit (n=40). Genital and thigh temperature were continuously recorded using a TSA ImagIR thermographic camera. Subjective measures after each film, and a continuous recording of subjective sexual arousal, provided indications of convergent validity. In a third study, participants (N=20, m age=24.05 years) viewed neutral films on three separate sessions over three months while genital and thigh temperature were recorded. RM ANOVAs followed by trend analyses on the data from the first two studies demonstrated that both men and women viewing the sexually arousing film had significantly greater ($p<.05$) genital temperature (m=33.36°C) than those in the humor (m=32.05°C), anxiety (m=32.02°C) or neutral (m=32.03°C) conditions. Furthermore, genital temperature was significantly correlated with subjective sexual arousal (range r=0.25-0.65, $p<.05$). There were no significant differences in thigh temperature throughout testing, indicating that temperature increases during sexual arousal were specific to the genitals. RM ANOVAs on the participants from the third study show that there were no significant differences in baseline genital temperature across the three testing sessions. These results provide evidence for the convergent and discriminant validity of thermal imaging as a measure of physiological sexual arousal as well the reliability of genital temperature measurement. Current research is examining thermography as a tool for the diagnosis and treatment evaluation of sexual arousal difficulties.

CORRESPONDING AUTHOR: Tuuli M. Kukkonen, BA, Psychology, McGill University, Montreal, QC, H3A 1B1; kukkonen@ego.psych.mcgill.ca

Paper Session #35 3:15 PM -3:30 PM 3136

ASSOCIATION OF MOOD AND ANXIETY DISORDERS WITH OBESITY AMONG AFRICAN AMERICANS FROM A NATIONALLY REPRESENTATIVE SAMPLE

Jamie S. Bodenlos, PhD, Stephenie C. Lemon, PhD, Kristin L. Schneider, PhD and Sherry L. Pagoto, PhD

Preventive and Behavioral Medicine, University of Massachusetts Medical School, Worcester, MA.

Obesity appears to be associated with comorbid psychological conditions such as depression and anxiety disorders. Despite the high prevalence of obesity among African Americans, comorbid psychological conditions have largely been unexplored. The present study aimed to examine the association between past year diagnosis of mood and anxiety disorders and obesity among African American adults sampled from the general U.S. population. Data were from two datasets within the Collaborative Psychiatric Epidemiology Survey: the National Comorbidity Survey Replication (NCS-R) and the National Study of American Life (NSAL). These are cross-sectional surveys conducted between 2001 and 2003. We included African Americans (N=4,746) enrolled in these studies in the current analysis. Data analyses were weighted to represent the general U.S. adult African American population.

Multivariate logistic regression models, controlling for socio-demographic factors and psychotropic medication status assessed the relationships between DSM-IV diagnoses of mood (major depression and bipolar disorder) and anxiety disorders (generalized anxiety disorder, social phobia, panic disorder, and agoraphobia)in the past year and obesity (body mass index >=30 kg/m2). Approximately 56% of the sample was female, and the average age was 42.3 years (SE=0.44). Overall, 33% of the population was obese. Diagnoses associated with greater likelihood of being obese included past year generalized anxiety disorder (OR=1.65; 95% CI=0.98–3.00), panic disorder (OR=1.50; 95% CI=0.99- 2.42) and agoraphobia (OR=1.95; 95% CI=1.1-3.46). Unlike research with Caucasians, major depression was not associated with obesity among African Americans. Results suggest that anxiety disorders are related to obesity among African Americans but given the cross-sectional nature of this work, causality cannot be determined. The presence of anxiety disorders among African Americans may inhibit treatment seeking as well as success in weight loss programs.

CORRESPONDING AUTHOR: Jamie S. Bodenlos, PhD, Preventive and Behavioral Medicine, University of Massachusetts Medical School, Worcester, MA, 01605; jamie.bodenlos@umassmed.edu

Paper Session #35 3:30 PM -3:45 PM 3137

ADULT ADHD IS A RISK FACTOR FOR OBESITY AND BINGE EATING AMONG COLLEGE WOMEN

Karen Saules, PhD[1] and Amy S. Collings, MS[1,2]

[1]Psychology, Eastern Michigan University, Ypsilanti, MI and [2]Henry Ford Health Systems, Detroit, MI.

As rates of overweight and obesity increase at a societal level (Levi et al., 2008), so does our need to better identify those most at risk for experiencing weight problems and related disordered eating behaviors. An emerging literature suggests that those with Attention-Deficit/Hyperactivity Disorder (ADHD), particularly those with untreated ADHD, may be at risk for overweight/obesity and disordered eating behavior (Biederman et al., 2007, Cortese, et al., 2007; Holtkamp et al., 2004; Waring & Lapane, 2008). The present study hypothesized that, relative to their non-ADHD counterparts, college women who met Adult ADHD screening criteria (which includes meeting ADHD criteria in childhood) would have elevated BMI's and be more likely to engage in binge eating. Data were obtained from a web-based screening survey designed to recruit participants into a study to evaluate eating behavior, but participants were told that the primary aim was to understand the effects of hunger on attention. As such, a measure of attentional deficits, the Assessment of Hyperactivity and Attention (AHA, Mehringer, et al., 2002) was administered, permitting classification into probable ADHD diagnostic groups. Of 524 respondents, 513 provided valid AHA data, of whom 101 (19.7%) met screening criteria for ADHD. Relative to those not classified as ADHD, women with Adult ADHD had significantly higher BMI's (25.8 vs. 24.3, $p<.05$) and were more likely to binge eat (28.4% vs. 39.6% engaged in binge eating behavior, $p<.05$; 14.1% vs 24.8% met binge eating symptom criteria, $p<.01$; and 3.2% vs. 11.9% met BED criteria, $p<.001$). ADHD women also had significantly poorer body image, higher depression scores, and greater sensitivity to food cues than their non-ADHD counterparts. In a regression model, ADHD diagnosis and binge eating symptom were independent predictors of BMI, but depression and food sensitivity were not. Results suggest that ADHD may be an independent but often neglected risk factor for the development of weight problems.

CORRESPONDING AUTHOR: Karen Saules, PhD, Eastern Michigan University, Ypsilanti, MI, 48197; ksaules@emich.edu

Paper Session #35 3:45 PM -4:00 PM 3138

BEHAVIORAL RISK PROFILES OF YOUTH WITH AND WITHOUT ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (ADHD)

Susanna N. Visser, MS,[1] Robert E. McKeown, PhD[2] and Mark L. Wolraich, MD[3]

[1]Division of Human Development and Disability, Centers for Disease Control and Prevention, Atlanta, GA; [2]Univ. of South Carolina, Columbia, SC and [3]Univ. of Oklahoma HSC, Oklahoma City, OK.

Surveillance of health risk behaviors (HRBs) among youth is an important public health activity that allows for the detection of trends in behavior linked to suboptimal health and psychosocial outcomes. Youth with ADHD are more likely to engage in HRBs, resulting in higher rates of smoking, substance abuse, and injury. However, few studies utilize community-drawn, elementary-age samples to identify HRBs. Data from the Project to Learn about ADHD in Youth (PLAY) were analyzed to assess risk behaviors among 844 youth from 4 elementary school districts in OK (n=363) and SC (n=481), selected from a screened sample stratified by gender and probable ADHD status. Parental reports of injury, tobacco use, and prevention and sleep behavior were modeled as a function of strict ADHD DSM-IV case criteria, using complex sampling analytic procedures and controlling for child race, ethnicity, gender, grade, and current ADHD medication status. Cases in both sites were significantly more likely to engage in self-injurious behavior (SC: 7.2% vs. .5%; OK: 31.1% vs. .6%; pooled OR: 68.1, 95% CI: 19.6, 236.8). Cases in SC suffered more burns and animal bites, compared to controls. Parents of cases in OK reported supervision of TV/Internet use about 4 times more often ($p=.04$). Cases reported more restless sleep and difficulty staying awake during the day at both sites, and greater difficulty falling asleep in SC only. Significant group differences were not noted for recreational injuries, broken bones, poisoning, needing stitches, or tobacco use. In these data youth with ADHD were more likely to suffer unintentional injuries and sleep problems. Importantly, elementary-aged cases in both sites were much more likely to engage in self-injurious behavior, which has received limited attention in the literature. The findings suggest the opportunity and need for intervention and anticipatory guidance within primary care and community settings for youth with ADHD.

CORRESPONDING AUTHOR: Susanna N. Visser, MS, Division of Human Development and Disability, Centers for Disease Control and Prevention, Atlanta, GA, 30340; svisser@cdc.gov

Paper Session #35 4:00 PM -4:15 PM 3139

BODY MASS INDEX IS ASSOCIATED WITH NEUROPSYCHOLOGICAL PERFORMANCE IN COLLEGE STUDENTS

Kristin L. MacGregor, MS, Laura Fonken, BS, Megan Robottom, BS (in progress), Margaret Huynh, BS (in progress) and Randall S. Jorgensen, PhD

Center for Health and Behavior, Syracuse University, Syracuse, NY.

Obesity is a growing problem in the United States and has been implicated in many medical conditions including cardiovascular disease and type 2 diabetes. There is an expanding body of research that has also demonstrated a relationship between obesity and neuropsychological deficits in adults, with the most significant impairment observed in the domain of executive function. This relationship has been shown to be independent of age in middle-aged and older adults. Research has yet to find evidence of this relationship in the college-aged population. The purpose of this study was to examine the relationship between body mass index (BMI) and neuropsychological function in college students (M =18.98 years, SD=1.10). Seventy-seven students from a university in central New York (32 males and 45 females) completed a two-session assessment of health variables (e.g. height, weight, blood pressure) and neuropsychological functioning. Students participated as part of a larger study and were given a neuropsychological battery to assess the following cognitive domains: memory, executive function and mental flexibility, attention, and psychomotor speed. Stepwise multiple regression analyses (step 1=BMI and gender; step 2=BMI and gender interaction) found only BMI to significantly predict ($p<.05$) the symbol search [$\beta(74)=.23$] and digit symbol coding [$\beta(74)=.31$] subtests of the WAIS-III, thereby showing an association, independent of gender, between elevated BMI and decreased neuropsychological performance in the domain of psychomotor speed. This finding suggests that research could benefit from further examination of the effects of obesity in a young population, especially with respect to treatment and early intervention. It is possible that this population is not only at risk for health problems, but neurocognitive deficits as well. Given that this study was conducted on a group of middle class, highly educated students, further research should be conducted to see if this relationship is demonstrated in a more demographically diverse sample.

CORRESPONDING AUTHOR: Kristin L. MacGregor, MS, Department of Psychology, Syracuse University, Syracuse, NY, 13210; kmacgreg@syr.edu

Paper Session #35 4:15 PM -4:30 PM 3140

EVALUATION OF A PYSCHOEDUCATIONAL PROGRAM FOR WOMEN WITH DIABETES

Sue M. Penckofer, PhD,[1] Carol Ferrans, PhD,[2] Mary Byrn, BSN,[1] Patricia Mumby, PhD[1] and Patrick Lustman, PhD[3]

[1]School of Nursing, Loyola University Chicago, Maywood, IL; [2]College of Nursing, University of Illinois, Chicago, IL and [3]School of Medicine, Washington University St. Louis, St. Louis, MO.

Depression is a serious comorbidity which affects more women then men with diabetes. The Study of Women's Emotions and Evaluation of a Psychoeducational (SWEEP) Program is a randomized clinical trial to determine whether a group psychoeducational program improves depression, quality of life, and glycemic control in women with type 2 diabetes who have significant depressive symptoms. Recognition of depression symptoms, stress relaxation, changing negative thoughts, and learning communication skills are addressed over 8 weeks. Thus far, 48 women (control=26, treatment=22) have completed the baseline and three month follow-up measurements. The program has had a significant impact (p=.041) on depressive symptoms for the treatment group (Center for Epidemiologic Studies Depression Scale: 23.95 to 14.86) as compared to the control group (26.11 to 22.35). There are significant improvements in the treatment group on: anxiety (State Trait Anxiety: 48.38 to 40.29, p =.003), anger (State Trait Anger: 18.63 to 16.59, p=.005), mental functioning (SF-12: 40.41 to 44.32, p=.023), quality of life (Ferrans and Powers Quality of Life Index: 16.31 to 18.32, p=.012), and perceived stress (Perceived Stressor Scale: 22.86 to 18.50, p=.002). There was also less diabetes distress (Problem Areas in Diabetes Distress Scale: 48.03 to 40.00, p=.065). No significant changes in these measurements were noted for the control group. Although HbA1c decreased (Treatment: 7.6 to 7.3, Control: 8.0 to 7.8), the difference was not statistically significant. Six month follow-up data is being collected to determine the sustainability of the intervention over time. These results provide preliminary evidence for the efficacy of SWEEP as a promising therapy for women with diabetes who have significant depressive symptoms.

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CORRESPONDING AUTHOR: Sue M. Penckofer, PhD, School of Nursing, Loyola University Chicago, Maywood, IL, 60153; spencko@luc.edu

Paper Session #35 4:30 PM -4:45 PM 3141

EFFECTIVENESS OF BEHAVIORAL INTERVENTIONS FOR THE PREVENTION AND TREATMENT OF WEIGHT GAIN AND METABOLIC RISK ASSOCIATED WITH ATYPICAL ANTIPSYCHOTICS

Jeanne M. Gabriele, PhD,[1] Patricia M. Dubbert, PhD[2] and Roy R. Reeves, PhD[2]

[1]Pennington Biomedical Research Center, Baton Rouge, LA and [2]G.V. (Sonny) Montgomery VA Hospital, Jackson, MS.

Individuals with schizophrenia are at increased risk for cardiovascular disease and diabetes. Adding to this risk, atypical antipsychotics (AA) are associated with substantial weight gain and changes in insulin sensitivity. This systematic review evaluated research on the effectiveness of behavioral weight loss interventions (BI) for the treatment and prevention of weight gain and metabolic risk associated with AAs. A computer search of Pubmed and Psychinfo was conducted and 16 studies were identified (10 RCTs and 6 non-RCTs). Interventions ranged in duration from 10 weeks to 18 months. The number of participants in studies ranged from 11 to 130 (Mdn=52 participants) and the number of participants in BI conditions ranged from 8 to 59 (Mdn=30 participants). Three studies assessed the efficacy of BIs for preventing weight gain in individuals beginning treatment with an AA. All three reported significant between-group differences with BI conditions gaining less weight than control conditions (CC; range of group differences=2.9 to 4.0 kg; M= 3.5 kg). Thirteen studies assessed the effects of BIs on weight loss in patients already taking AAs. Eight reported that a BI resulted in significant weight loss (range=-1.4 to -6.0 kg; M=-3.1 kg). Six of 10 studies containing BI conditions and CCs reported significant between-group differences for weight loss (range of group differences=1.2 to 6.7 kg; M=3.76 kg). Compared to studies with significant findings, studies with null findings had smaller sample sizes (M=40 patients vs. M= 71 patients) and shorter interventions (M=13 weeks vs. M=32 weeks). Five studies assessed the effects of a BI on insulin sensitivity or HbA1c. All reported that BIs significantly improved these outcomes. These findings suggest that BIs can reduce weight and metabolic risk in individuals taking atypical antipsycotics. Additionally, adding BIs at the beginning of AA treatment may prevent weight gain and reduce metabolic side effects.

CORRESPONDING AUTHOR: Jeanne M. Gabriele, PhD, Pennington Biomedical Research Center, Baton Rouge, LA, 70808; Jeanne.Gabriele@pbrc.edu

Paper Session #36 3:15 PM -3:30 PM 3142

EFFECTS OF A HOME-BASED PHYSICAL ACTIVITY AND NUTRITION PROGRAM FOR PRESCHOOL CHILDREN AND PARENT PERCEPTIONS OF BARRIERS

Susan P. Harvey, PhD,[1] Cheryl A. Gibson, PhD,[1] J. Leon Greene, PhD[2] and Debra K. Sullivan, PhD[3]

[1]Medicine, University of Kansas, Kansas City, KS; [2]Health, Sport, & Exercise Sciences, University of Kansas-Lawrence, Lawrence, KS and [3]Dietetics and Nutrition, University of Kansas, Kansas City, KS.

The prevalence of overweight among preschool children nearly doubled from 1994 to 2004. Evidence suggests that the family is an important influence on promoting healthy behaviors. The primary purpose of this study was to investigate the effects of a 4-week home-based program for preschoolers and their families. A calendar and weekly newsletters were developed in order to promote healthy behaviors in 5 areas: 1) increase fruit and vegetable servings; 2) increase low-fat dairy servings; 3) reduce soda consumption; 4) decrease fast food visits; and 5) increase minutes of physical activity (PA). Parents completed a baseline survey and tracked their child's progress on specially designed weekly calendars. Upon completion of the program, parents were invited to participate in a focus group discussion to explore perceptions about the program and to assess challenges and barriers to adopting and maintaining healthy behaviors.

Twenty-five families with preschoolers enrolled at a Head Start program participated. Servings for fruits and vegetables increased 178% from baseline to week 4 ($p<.01$) and servings for low-fat dairy increased 45% from baseline to week 4 ($p<.01$). Twelve parents attended the focus group discussions in which 3 themes emerged: 1) the weekly calendar created an awareness of what parents were feeding their children; 2) the weekly newsletters and recipes helped parents to improve health behaviors; and 3) the calendars were simple to complete and easy to understand.

The findings for this study suggest that a simple strategy helped to increase servings for fruit and vegetables and low-fat dairy with little burden to parents. In addition, parents reported that their children served as messengers for healthier eating. However, soda consumption, fast food visits, and minutes of PA seem to be more resistant to change suggesting that future studies need to place more emphasis on these components.

CORRESPONDING AUTHOR: Susan P. Harvey, PhD, Medicine, University of Kansas Medical Center, Kansas City, KS, 66160; sharvey@kumc.edu

Paper Session #36 3:30 PM -3:45 PM 3143

CHANGES IN PSYCHOSOCIAL FACTORS AND PHYSICAL ACTIVITY FREQUENCY AMONG 3RD TO 8TH GRADE GIRLS WHO PARTICIPATED IN A DEVELOPMENTALLY FOCUSED YOUTH SPORT PROGRAM

Rita D. DeBate, PhD, MPH,[1] Kelley Pettee, PhD,[2] Marissa Zwald, BS,[1] Jennifer Huberty, PhD[3] and Yan Zhang, PhD[4]

[1]Community & Family Health, University of South Florida, Tampa, FL; [2]Dept. of Health Promotion, Social & Behavioral Health, University of Nebraska Medical Center, Omaha, NE; [3]School of Health, Physical Education, and Recreation, University of Nebraska Omaha, Omaha, NE and [4]Division of Health Services Research, Texas Tech University Health Science Center, Lubbock, TX.

Background: Despite the numerous physiological, psychological, and academic benefits of physical activity, declines in physical activity levels among girls have been observed over the last decade. The purpose of this study was to assess the short-term impact of Girls on the Run and Girls on Track developmentally focused youth sport programs (DYS) on global self-esteem, body image, commitment to physical activity, and physical activity frequency. Methods: A non-experimental pre- and post-intervention study design using a 29-item paper-pencil assessment tool was employed to examine intervention effects (n=1034). Results: Paired sample t-tests from pre- to post-intervention revealed statistically significant increases in self-esteem (p<.001), body size satisfaction (p<.001), and vigorous physical activity frequency (p<.001). Stratification by the number of times participating in the intervention observed the greatest mean difference from pre- to post-intervention among first time participants, followed with continued improvements in self-esteem (p=.013) and body size satisfaction (p <.001) for those participating a second time. When stratifying by age categories (≤10 vs. 11–15 years) older girls were observed with significant improvements in commitment to physical activity (p=.003) when compared with younger girls. Conclusions: Findings suggest the DYS program designed exclusively for girls in 3rd-8th grades may produce beneficial changes in self-esteem, body size satisfaction, physical activity commitment and frequency. Thereby, providing the necessary structure and function for initiating and sustaining physical activity among girls across the lifespan.

CORRESPONDING AUTHOR: Rita D. DeBate, PhD, MPH, Community & Family Health, University of South Florida, Tampa, FL, 33612; rdebate@health.usf.edu

Paper Session #36 3:45 PM -4:00 PM 3144

LONGITUDINAL TRACKING OF WEIGHT STATUS AND ITS RELATIONSHIP TO DIET AND PHYSICAL ACTIVITY PATTERNS AMONG ADOLESCENTS IN DUBAI-UAE

Asma Al-Janahi, DrPH,[1] Carolyn C. Johnson, PhD,[1] Larry S. Webber, PhD,[2] Neil W. Boris, MD[3] and Jeanette Magnus, MD, PhD[1]

[1]Community Health Sciences, Tulane University School of Public Health & Tropical Medicine, New Orleans, LA; [2]Department of Biostatistics, Tulane School of Public Health & Tropical Medicine, New Orleans, LA and [3]Department of Psychiatry-Neurology, Tulane School of Public Health & Tropical Medicine, New Orleans, LA.

Background: Because obesity is now a major health issue in the United Arab Emirates (UAE), the persistence of weight status between childhood and adolescence needs to be examined. Purpose: To track weight status from 1st and 5th grades to 10th grade among students in UAE-Dubai. Method: Students were tracked from 1st (n=1710) and 5th (1882) grades to 10th grade. ANOVA was used to test differences between two groups, overweight/obese and normal. Regression analysis tested associations between tracked groups and dietary and physical activity factors. Results: Mean age was 15.7 yrs. A significant association was observed for BMI between grades 1 and 10 and between grades 5 and 10 (p< 0.001), with the association between grades 5 and 10 being the stronger. A significant percentage of boys and girls who were overweight/obese in grade 5 remained in that group in grade 10. Students who tracked in the normal weight group had significantly more visits to fast food restaurants. Those who tracked between grades in the overweight/obese group reported significantly more hours of playing electronic games (p=0.018) than the normal weight group, and snacked more frequently between lunch and dinner (p=0.015). The odds of persisting in the same weight group overtime was significantly associated with weekly hours of playing electronic games (OR=1.023, 95% CI [1.006-1.040]). Conclusions: A high level of persistence in the same weight status was found over time and the magnitude of tracking was higher as students got older, suggesting that prevention strategies should be implemented as early as possible, by 1st grade or before.

CORRESPONDING AUTHOR: Carolyn C. Johnson, PhD, Community Health Sciences, Tulane University School of Public Health & Tropical Medicine, New Orleans, LA, 70112; cjohnso5@tulane.edu

Citation Paper

Paper Session #36 4:00 PM -4:15 PM 3145

HOP, SKIP...NO! REASONS ADOLESCENT GIRLS DISENGAGE FROM PHYSICAL ACTIVITY

Kirsten K. Davison, PhD,[1] Danielle S. Downs, PhD[2] and Dorothy L. Schmalz, PhD[3]

[1]University at Albany (SUNY), Rensselaer, NY; [2]Pennsylvania State University, University Park, PA and [3]Clemson University, Clemson, SC.

OBJECTIVE: Girls' physical activity (PA) declines dramatically between ages 12 to 15 years. Research to date has not effectively explained why this decline occurs or how it can be prevented. In this study we (1) test the reliability and validity of the Physical Activity Attrition Scale (PAAS), (2) use the PAAS to identify the most common reasons girls report disliking PA, and (3) test associations between reasons for disliking PA and changes in adolescent girls' PA. METHODS: Participants were girls who were assessed at age 13 (n=151) and again at age 15 (n=98). At each age, girls completed the PAAS and the Physical Activity Enjoyment Scale and wore an accelerometer for 7 days. Accelerometer data were converted to min of moderate to vigorous PA (MVPA: VPA). Confirmatory factor analysis was used to test the factorial structure of the PAAS. Spearman rank correlations were used to test associations between PAAS scores and girls' reported PA enjoyment (concurrent validity). Multilevel modeling was used to test associations between girls' reasons for disliking PA at age 13 and their MVPA/VPA across ages 13–15. RESULTS: A 6-factor solution was identified for the PAAS with the following subscales reflecting reasons for disliking PA: low perceived competence, lack of opportunities, PA requiring too much effort, concern about physical appearance, and excessive competition and aggression. All scores on the PAAS were negatively correlated with girls' reported PA enjoyment. Girls were most likely to report disliking PA due to low perceived competence and these girls reported lower MVPA across ages 13–15. Girls who reported lack of opportunities and concern about appearance at age 13 as reasons for disliking PA exhibited the greatest decline in VPA. CONCLUSION: Findings support the factor structure and concurrent validity of the PAAS. They also suggest that reasons for disengaging in PA have an important influence on girls' MVPA/VPA and should be targeted in childhood PA promotion programs.

CORRESPONDING AUTHOR: Kirsten K. Davison, PhD, Health Policy, Management and Behavior, University at Albany (SUNY), Rensselaer, NY, 12144; kdavison@albany.edu

Meritorious Student Paper

Paper Session #36 4:15 PM -4:30 PM 3146

CHILDREN AND EXTRACURRICULAR PARTICIPATION: COMPARING HEALTH AND WELL-BEING OUTCOMES

Kelly B. Filipkowski, MS, Joshua M. Smyth, PhD, Leonard M. Lopoo, PhD and Collette P. Eccleston, PhD

Syracuse University, Syracuse, NY.

Although participation in extracurricular activities is considered beneficial, recent studies have demonstrated varied outcomes across activity types. The objective of this study was to examine physical and mental health outcomes related to sports and non-sports participation in children. A large, diverse database (n=2908 children aged 5–19 years; 40% female, 41% African American) was used to examine health and psychological outcomes among children reporting simple participation (i.e., yes or no) in sports and non-sports activities, and to test a "dose-response" effect of the total number of non-sports activities (e.g., are more activities more beneficial). Participation in sports or non-sports activities significantly predicted better reported health (ps<.01), higher overall self-acceptance (ps<.02), fewer reports of trying cigarettes (ps<.01) and less regular cigarette use (ps<.05). Children involved in only sports activities (no non-sports) tended to have lower BMI than children involved in only non-sports activities (no sports; p=.055). Furthermore, BMI increased with the number of non-sport activities reported (p<.01). Reports of non-sports involvement and higher numbers of these activities were associated with fewer reports of early sexual intercourse (ps<.01) and fewer reports of drinking (ps<.02). Higher levels of non-sport participation predicted more missed school (p<.04), but fewer missed social events (p<.02), due to health problems. Results suggest that extracurricular activities provide many health and psychological benefits for children. Participation in the two types of extracurricular involvement, however, predicted somewhat divergent outcomes. Sports involvement is associated with lower BMI, yet may be related to underage alcohol consumption. In contrast, non-sport activities don't convey risk for drinking or sexual behavior, yet are associated with increased BMI. Future investigations should focus on specific activities within sports and non-sports domains, as activity-specific social norms may serve to explain divergent health and behavioral outcomes.

CORRESPONDING AUTHOR: Kelly B. Filipkowski, MS, Syracuse University, Syracuse, NY, 13244; kbfilipk@syr.edu

Paper Session #36 4:30 PM -4:45 PM 3147

UNDERSTANDING PHYSICAL ACTIVITY MOTIVATION AND ENJOYMENT IN AFRICAN AMERICAN ADOLESCENTS IN THE ACT TRIAL

Hannah G. Lawman, BS, Dawn K. Wilson, PhD and Ben Goodlett, BS
Psychology, University of South Carolina, Columbia, SC.

Low levels of physical activity (PA) seem to be particularly prevalent among African American (AA) adolescents. However, few researchers have examined racial differences in psychosocial variables, such as motivation and enjoyment, on understanding PA behaviors in youth. Motivation has been conceptualized on a continuum with intrinsic motivation (regulated internally) at one end and extrinsic motivation (regulated externally) at the other. The purpose of this study was to examine how psychosocial (enjoyment and extrinsic motivation) and behavioral (moderate to vigorous PA; MVPA, measured by 7-day accelerometry estimates) variables relate to intrinsic motivation and race. Participants were 679 (56% female, 74% AA) underserved adolescents (low income, minorities) who comprised the first two cohorts of a randomized, school-based trial (Active by Choice Today; ACT). AAs showed somewhat weaker correlations between enjoyment and intrinsic motivation ($r=.54$, $p<.01$ vs. $r=.68$, $p<.01$, respectively), but similar correlations between extrinsic and intrinsic motivation ($r=.70$, $p<.01$ vs $r=.69$, $p<.01$, respectively) as compared to non-minorities. Linear regressions evaluating the interaction between race and intrinsic motivation on related psychosocial factors (enjoyment, extrinsic motivation) and MVPA showed, 1) a main effect for intrinsic motivation on MVPA with higher levels of intrinsic motivation being associated with greater MVPA (standardized $\beta=.69$, $p<0.001$), and 2) a significant race by intrinsic motivation interaction for enjoyment such that AAs and non-minorities who are high on intrinsic motivation reported increased enjoyment compared to those with low intrinsic motivation; however, the magnitude of this relationship was weaker in AAs (standardized $\beta=-.14$, $p<.05$) as compared to non-minorities. There was also a marginal trend ($p<.08$) indicating that AAs were higher on extrinsic motivation for PA than non-minorities. These results suggest that AAs may exhibit a more complex relationship between motivation, psychosocial, behavioral variables related to PA than non-minorities.

CORRESPONDING AUTHOR: Hannah G. Lawman, BS, Psychology, University of South Carolina, Columbia, SC, SC; hlawman86@gmail.com

Friday
April 24, 2009
6:00 PM-7:30 PM

Citation Poster

Poster Session C C-01

MAMMOGRAPHY FACILITIES: THE GOOD, THE BAD, AND THE UGLY

Kimberly Engelman, PhD,[1] Linda Jianas, BA,[1] Niaman Nazir, MPH,[1] Jon Mahnken, PhD[2] and Ed Ellerbeck, MD[1]

[1]Preventive Medicine, University of Kansas Medical Center, Kansas City, KS and [2]Biostatistics, University of Kansas Medical Center, Kansas City, KS.

Mammography facility repeat mammography rates vary considerably but it is unclear why. This study used a mixed-methods approach to examine mammography facility characteristics that may impact repeat mammography.
Centers for Medicare & Medicaid Services data were used to identify facility-level repeat mammography rates for facilities in Kansas, Missouri, Iowa, and Nebraska. We conducted 2–3 day on-site visits to 3 high and 3 low performing facilities. During the on-site visits, we conducted mammography screening patient exit surveys, facility surveys, semi-structured staff interviews, environmental audits, and screening patient timing studies.
Repeat mammography rates for the 6 participating facilities ranged from 28.2–78.2%. Exit interviews were completed by 105 women while 3-7 staff from each facility were interviewed and 8-16 timing studies were conducted in each facility. Characteristics specific to high performing facilities included shorter overall average appointment length(26 min. vs. 38 min.) and a larger proportion of the appointment time spent in the examination process vs. the waiting room), fewer instances of patient exit interview ratings indicating too long a wait in the waiting room (2% vs. 15%, $p<0.05$), and higher facility convenience ratings (means=4.26 vs. 3.74 on 5pt. scale from poor to excellent, $p<0.01$). In addition, lower performance facilities were more racially diverse with 60% white non-Hispanic exit interview respondents vs. 95% in higher performance facilities ($p<0.001$). Regardless of facility performance, screening mammography patients held the skill and approach of mammography technologists in high regard.
Reasons for disparate facility repeat mammography rates are not completely apparent. Modifiable facility characteristics and their impact on repeat mammography have received little study. Our multi-method approach to studying mammography facility characteristics serves as a spring board from which we have discovered characteristics that make higher performing facilities stand out.

CORRESPONDING AUTHOR: Kimberly Engelman, PhD, Preventive Medicine and Public Health, University of Kansas Medical Center, Kansas City, KS, 66160; kengelma@kumc.edu

C-02

KNOWLEDGE, CULTURAL, AND ATTITUDINAL BARRIERS TO MAMMOGRAPHY SCREENING AMONG NON-ADHERENT IMMIGRANT CHINESE WOMEN: EVER VERSUS NEVER SCREENED STATUS

Judy Wang, PhD, Jeanne Mandelblatt, MD, MPH, Wenchi Liang, PhD, Bin Yi, MS, I-Jung Ma, MS and Marc Schwartz, PhD

Cancer Control Program, Georgetown University, Washington, DC.

Background: Chinese-American women have much lower mammography screening rates than the general population. This study examined the collective impact of knowledge, cultural views, and health beliefs on intentions to obtain mammography among Chinese women who had not had mammograms in the previous year. Methods: Five-hundred, sixty-six immigrant Chinese women from the Washington, DC and New York metropolitan areas completed baseline assessments for a longitudinal intervention study. Validated surveys were used to measure variables of interest. The outcomes were 1) mammography screening history (ever versus never) and 2) future screening intention. Results: Only 35% of the participants reported intentions to obtain mammograms, with approximately 19% of the never users reporting intentions (vs. 44% ever users). Ever users had higher knowledge (OR 1.13, 95%CI 1.03–1.25), had less Eastern cultural views (OR 0.78, 95%CI 0.70–0.87), and perceived less barriers (OR 0.78, 95%CI 0.70-0.87) than never users, controlling for covariates. Never users were more likely to be recent immigrants, have low income and English ability, and lack regular sources of care than ever users (all $p<.001$). Logistic regression models showed different predictors of intention between ever and never groups. Ever users who were employed, received physician recommendations, had less Eastern views, and perceived higher susceptibility were more likely to have intentions. Among never users, only being age 40-49 and perceiving fewer barriers were more likely to have intentions. Conclusion: Interventions that target Chinese women's common barriers including knowledge, cultural, and attitudinal obstacles and address specific group barriers are needed to promote mammography adherence.

CORRESPONDING AUTHOR: Judy Wang, PhD, Cancer Control Program, Georgetown University, Washington, DC, 20007; jw235@georgetown.edu

C-03

PHYSICAL ACTIVITY PROMOTION AMONG ONCOLOGISTS IN THE UNITED STATES

Kristina Karvinen, PhD,[1] Katrina D. DuBose, PhD[1] and Ron R. Allison, MD[2]

[1]Exercise and Sport Science, East Carolina University, Greenville, NC and [2]Radiation Oncology, Brody School of Medicine at East Carolina University, Greenville, NC.

Introduction: Evidence suggests physical activity has many benefits for cancer survivors, yet few report sufficient levels to meet public health recommendations. Past research indicates that patients are generally receptive to guidance on health behaviors delivered by their primary care provider. The purpose of this study is to examine the degree to which oncologists recommend physical activity to their patients.

Methods: 192 practicing medical and radiation oncologists throughout the United States responded to a mailed survey (response rate=30%). Participants were asked questions about the extent to which they promote physical activity to their patients and to rate benefits of physical activity regarding cancer prevention and symptoms related to cancer treatment.

Results: Participating oncologists reported recommending physical activity, when appropriate, to 64% of on-treatment patients and 66% of post-treatment patients. Approximately 83% inquired about their patients' activity levels on most or every appointment. Aerobic exercise was most frequently recommended (47%), followed by resistance training (33%) and lifestyle activities (20%). In terms of physical activity benefits, oncologists were most likely to report that they believed physical activity could achieve mental health benefits (94%) and were least likely to report that they felt physical activity could reduce the risk of recurrence (30%).

Conclusions: The majority of respondents reported recommending physical activity to both their on- and post-treatment patients. Most oncologists felt physical activity had many benefits for cancer survivors, yet surprisingly few were aware of the benefits of physical activity for reducing the risk of recurrence. These findings suggest oncologists may be promoting physical activity to their patients, but may still need to be informed about some of the benefits, particularly about recurrence and survival.

CORRESPONDING AUTHOR: Kristina Karvinen, PhD, East Carolina University, Greenville, NC, 27858; karvinenk@ecu.edu

C-04

EFFECTS OF MEANING-CENTERED PSYCHOTHERAPY ON FACETS OF MEANING AMONG ADVANCED CANCER PATIENTS: A CLOSER LOOK AT THE FACIT-SP

Wendy G. Lichtenthal, PhD,[1] Shannon Poppito, PhD,[1] Megan Olden, MA,[2] Amy Berg, MA,[1] Kimberly Pitrelli, BS,[1] Hayley Pessin, PhD,[1] Barry Rosenfeld, PhD[2] and William Breitbart, MD[1]

[1]Department of Psychiatry & Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY and [2]Department of Psychology, Fordham University, Bronx, NY.

This study investigated the impact of individual meaning-centered psychotherapy (IMCP) for advanced cancer patients, an intervention based on the principles of Viktor Frankl. Specifically, we explored which components of meaning, a multifaceted construct, were responsive to IMCP. Advanced cancer patients (N=120) were randomized to seven sessions of either IMCP (n=63) or massage therapy (n=57). Components of meaning were measured by individual item scores from the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being Scale (FACIT-Sp). The FACIT-Sp was administered at baseline (T1), post-intervention (T2), and two month later (T3). Results showed that patients who received IMCP reported that their life had been more productive ($p=0.04$), that they felt a greater sense of meaning and purpose (p's<0.02), and that they found more comfort and strength in their faith or spiritual beliefs (p's<0.02) at the conclusion of the intervention than patients assigned to massage therapy. Treatment condition was not associated with T2 scores on items assessing having a sense of peace and harmony, a reason for living, the ability to comfort oneself, whether cancer had strengthened their faith or spiritual beliefs, or feeling that things will be okay regardless the outcome of their disease (all p's>0.10). These findings remained consistent when controlling for depression change scores. Treatment condition did not predict T3 scores. These results demonstrate the potential of IMCP to enhance patients' sense of productivity, purpose, and personal spirituality, regardless of its impact on depression. Items assessing peacefulness and self-efficacy, perhaps reflecting longer-standing anxiety and depression, were less responsive to this intervention. Findings from this study suggest that meaning-focused interventions may be appropriate for common existential issues that patients face.

CORRESPONDING AUTHOR: Wendy G. Lichtenthal, PhD, Psychiatry & Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY, 10022; lichtenw@mskcc.org

C-05

PSYCHOSOCIAL CORRELATES OF DECISIONAL CONFLICT AMONG MEN RECENTLY DIAGNOSED WITH PROSTATE CANCER: ADDITIONAL TARGETS FOR INTERVENTION

Erin W. Ulloa, PhD,[1,2] Amy K. Silberbogen, PhD[1,2] and Kirstin Brown, BS[1]

[1]VA Boston Healthcare System, Boston, MA and [2]Boston University Medical Center, Boston, MA.

Decision aids are an effective and tolerable intervention for men choosing a treatment regimen for localized prostate cancer (LPC). These aids target decisional conflict, a state of uncertainty about a course of action, by enhancing patients' understanding of risks and benefits of each treatment option and by clarifying patients' values. Psychosocial factors (e.g., depression, anxiety) that may interfere with the decision making process have been largely overlooked in these interventions. The present study seeks to identify psychosocial correlates of decisional conflict in a sample of men recently diagnosed with LPC. It was hypothesized that lower self-efficacy in communicating with providers, greater depressive symptomatology, and greater prostate cancer-specific anxiety would be associated with greater decisional conflict. A total of 24 men (mean age=64 years, range 53–81) recently diagnosed with LPC completed questionnaires prior to starting treatment; data collection for this project is ongoing. Participants completed the Decisional Conflict Scale, the Beck Depression Inventory, the Perceived Efficacy in Patient-Physician Interactions, the Memorial Anxiety Scale for Prostate Cancer, and demographics. Results indicated that greater decisional conflict was significantly associated with lower self-efficacy in communicating with doctors ($r=-.46$, $p<.02$) and greater fears of cancer recurrence ($r=.47$, $p<.02$). There was no relationship between decisional conflict and symptoms of depression. These findings demonstrate the importance of considering communication skills and cancer-specific anxiety when developing decision support interventions for men with LPC. The overall efficacy of decision aids may be improved by incorporating elements designed to enhance patients' ability to effectively communicate with their healthcare providers and reduce cancer-related anxiety.

CORRESPONDING AUTHOR: Erin W. Ulloa, PhD, VA Boston Healthcare System, Jamaica Plain, MA, 02130; erin.ulloa2@va.gov

C-06

COGNITIVE-BEHAVIORAL THERAPY FOR INSOMNIA COMORBID WITH CANCER: EFFICACY OF AN EARLY AND MINIMAL INTERVENTION

Lucie Casault, Master,[1,2] Josée Savard, PhD[1,2] and Hans Ivers, MPs[1,2]

[1]Cancer Research Center, Laval University, Quebec, QC, Canada and [2]School of Psychology, Laval University, Quebec, QC, Canada.

The goal of this study was to evaluate: 1) the efficacy of a minimal cognitive-behavioral therapy (CBT; bibliotherapy) for acute insomnia among cancer patients; and 2) the effect of this early intervention on the utilization of hypnotic medications, psychological distress, fatigue, quality of life, subjective cognitive functioning and dysfunctional beliefs and attitudes about sleep.

Thirty-eight cancer patients with insomnia symptoms for less than 6 months were randomly assigned to CBT (n=20) or to a no treatment control group (n=18). The treatment consisted of 6 booklets to read at the rate of one per week combined with three brief phone contacts (30 min), twice a month. A battery of self-report scales and daily sleep diaries were completed before and after the treatment. Follow-up evaluations were carried out at 3 and 6 months after the treatment completion.

Results showed that participants who received CBT for acute insomnia had significantly better improvements of sleep indices on the sleep diary and the Insomnia Severity Index at post-treatment compared with participants of the control group. For example, the ISI scores decreased from 12.1 to 5.3 at post-treatment for the CBT group compared to 12.1 to 11.3 for the control group, F (3,94)=6.39, p=.001. Moreover, CBT patients had significantly greater decreases in scores of anxiety and depression, fatigue, and dysfunctional beliefs about sleep and greater increases of global and cognitive dimensions of quality of life. However, no significant effect was found on the use of hypnotic medications. Treatment effects were well maintained up to 6 months after the treatment and were generally clinically significant.

These findings suggest that a minimal cognitive-behavioral therapy is effective to treat acute insomnia comorbid with cancer.

CORRESPONDING AUTHOR: Lucie Casault, Master, Cancer Research Center and School of Psychology, Laval University, Quebec, QC, G1R 2J6; lucie.casault.1@ulaval.ca

C-07

COMPLEX DECISION MAKING FOR WOMEN AT HIGH RISK OF BREAST OVARIAN CANCER: MUCH MORE THAN TO COUNSEL AND TEST

Mary Ropka, PhD,[1,2] Richard H. Steeves, PhD,[2] Susan Miesfeldt, MD[2] and Mary B. Daly, MD[1]

[1]Fox Chase Cancer Center, Philadelphia, PA and [2]University of Virginia, Charlottesvile, VA.

While improved cancer risk assessment methods for hereditary breast ovarian cancer (HBOC) have been developed, studies of decisions about HBOC risk continue to focus on two decisions about genetic counseling and testing, failing to include assessments of other decisions faced before and after genetic counseling and testing. To acquire a broader understanding of decisions and decision-making experiences of women dealing with HBOC risk, we conducted a cross-sectional study of women referred to the Cancer Genetics Service of an NCI-designated Clinical Cancer Center. Our multi-method approach involved qualitative interviews of women affected or at higher risk of breast cancer (n=11) and unaffected women at risk for ovarian cancer (n=4). We also administered a questionnaire asking what decisions were faced and which were most difficult. Decisions experienced by at least two-thirds of the women, reported in the questionnaire, were: (1) 3 of 3 cancer risk assessment decisions; (2) 3 of 3 cancer risk education/counseling decisions; (3) 4 of 9 cancer risk management decisions; and (4) 5 of 5 processes of care regarding cancer risk decisions. Regarding the number of separate decisions that each faced, most (87%) had experienced from 8 to 19. Cancer risk management decisions about risk reduction surgery and chemoprevention were among the most difficult. In addition, interviews shed light on what made the decisions difficult – differing medical opinions, overwhelming emotions, decision complexity, and decisions that involved things never thought about before. Overall these combined findings suggest that: (1) these women face many decisions and a broad range of decisions, not one or two decisions in isolation; (2) their decisions and decision-making experiences are diverse and complex; (3) assessment of decision support needs is essential to provide appropriate decision support. Development of effective patient decision support interventions must accommodate the number and complexity of decisions.

CORRESPONDING AUTHOR: Mary Ropka, PhD, Fox Chase Cancer Center, Cheltenham, PA, 19012; mary.ropka@fccc.edu

C-08

TAI CHI CHUAN ALTERS CYTOKINE LEVELS LINKED WITH MAINTENANCE OF LEAN BODY MASS IN BREAST CANCER SURVIVORS: A RANDOMIZED PILOT STUDY

Michelle C. Janelsins, Microbiology and Immunology,[1] Karen M. Mustian, PhD,[1] Jan A. Moynihan, PhD,[2] Jacqueline P. Williams, PhD,[1] Charles E. Heckler, PhD,[1] Luke J. Peppone, PhD,[1] Tom V. Darling, PhD,[1] Oxana G. Palesh, PhD[1,2] and Gary R. Morrow, PhD[1,2]

[1]Radiation Oncology, University of Rochester Cancer Center, Rochester, NY and [2]Psychiatry, University of Rochester, Rochester, NY.

Research suggests that regular exercise is associated with a reduced risk of breast cancer recurrence because it reduces obesity and maintains lean body mass in part, by regulating cytokine levels. This randomized pilot study compared the effects of Tai Chi Chuan (TCC; an aerobic mode of exercise equivalent to walking) and psychosocial support therapy (PST) for 12 weeks (3, 60 min. sessions/week) on fat mass, fat-free mass, serum insulin and immune mediators (i.e. interleukin (IL)-6 and IL-2) in 21 breast cancer survivors (mean age=52; 2–30 months post-treatment). Fat mass and fat-free mass were obtained by bioelectrical impedance analysis and serum was analyzed by Enzyme-Linked ImmunoSorbent Assay (ELISA) for presence of insulin, IL-6 and IL-2. All measurements were taken pre- and post-intervention. Post-intervention means were analyzed using ANCOVAs controlling for baseline. TCC and PST groups differed significantly for fat mass (26.6% and 28.2%,$p \leq 0.05$) and fat-free mass (41.6% and 39.1%,$p<0.05$). Levels of insulin ($p \leq 0.05$) were stable in the TCC group compared to a marked increase in the PST group. Bivariate analysis revealed significant correlations (all $p \leq 0.05$) of increased fat-free mass associated with increased IL-6 and decreased IL-2, whereas decreased fat mass was associated with increased IL-6 and decreased IL-2. These pilot results indicate that TCC contributes to maintenance of fat-free mass and insulin levels, potentially reducing likelihood of recurrence, and that IL-6 and IL-2 may be related to these processes. Funding: NCI R25CA102618 and Sally Schindel Cone Foundation.

CORRESPONDING AUTHOR: Michelle C. Janelsins, Microbiology and Immunology, Radiation Oncology, University of Rochester, Rochester, NY, 14642; michelle_janelsins@urmc.rochester.edu

C-09

DISTRESS IN CANCER SURVIVORS: THE ROLE OF PRIOR NON-CANCER TRAUMAS

Yeraz N. Markarian, MA,[1,3] Katherine N. DuHamel, PhD,[2,3] Dean McKay, PhD,[1] Gary Winkel, PhD[3] and William Redd, PhD[3]

[1]Psychology, Fordham University, New York, NY; [2]Department of Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY and [3]Oncological Sciences, Mount Sinai School of Medicine, New York, NY.

The use of hematopoietic stem cell transplantation (HSCT) in the treatment of hematological malignancies can adversely affect many aspects of a patient’s life, causing severe distress and adjustment problems similar to those associated with posttraumatic stress disorder (PTSD). Prior trauma is known to be a risk factor for developing subsequent distress, although little is known about the relation of prior trauma to current distress among HSCT survivors. The current study investigated whether prior non-cancer trauma and ongoing distress from prior trauma puts patients at risk for developing cancer-related distress, including PTSD symptoms. 102 HSCT survivors were asked to assess the stressfulness of prior traumas both “at the time they occurred” and “at the time of study entry”. Levels of distress caused by prior traumas at the time the events occurred were associated with current cancer-related distress, e.g., Anxiety ($\beta=0.269$, $t(95)=2.729$, $p=.008$) and PTSD symptoms, including PCL Total Score ($\beta=0.285$, $t(95)=2.894$, $p=.005$); Avoidance/Numbing cluster scores ($\beta=0.232$, $t(95)=2.318$, $p=.023$), irrespective of the number of prior traumas experienced. Ongoing distress from prior traumas at the time of study entry was associated with these same indicators of current distress. In addition, ongoing distress from prior traumas further associated with the following distress indicators, e.g., Depression ($\beta=0.206$, $t(95)=2.041$, $p=.044$); BSI Global Severity Index ($\beta=0.273$, $t(95)=2.825$, $p=.006$); Re-experiencing cluster scores ($\beta=0.309$, $t(95)=3.118$, $p=.002$); Hyperarousal cluster scores ($\beta=0.323$, $t(95)=3.279$, $p=.001$). Results of this study suggest that, among HSCT survivors, distress from prior trauma is a risk factor for developing distress in response to cancer events. In addition, current perception of distress related to prior trauma is further associated with increased levels and more diverse symptoms of current cancer-related distress.

CORRESPONDING AUTHOR: Yeraz N. Markarian, MA, Psychology, Fordham University, New York, NY, 10025; yerazm@gmail.com

C-10

VAGAL REGULATION, CORTISOL, AND SLEEP DISRUPTION IN WOMEN WITH METASTATIC BREAST CANCER

Oxana Palesh, PhD,[1] Jamie Zeitzer, PhD,[2] Janine Giese-Davis, PhD,[2] Karen Mustian, PhD,[1] Ansgar Conrad, PhD,[2] Luke Peppone, PhD,[1] Jason Purnell, PhD,[1] Gary Morrow, PhD[1] and David Spiegel, MD[2]

[1]University of Rochester, Rochester, NY and [2]Stanford University, Stanford, CA.

Objective: To determine the relationship between hypothalamic pituitary axis (HPA) dysregulation, vagal functioning, and sleep problems in women with metastatic breast cancer.

Design: Sleep was assessed by means of questionnaires and wrist actigraphy for 3 consecutive nights. The ambulatory, diurnal variation in salivary cortisol levels was measured at 5 time points over 2 days. Vagal regulation was assessed via respiratory sinus arrhythmia (RSA_{TF}) during the Trier Social Stress Task.

Participants: 99 women (54.6±9.62 years).

Results: All p-values <.05. Longer nocturnal wake episodes (r=0.21) were associated with a flatter diurnal cortisol slope. Sleep disruption was also associated with diminished RSA_{TF}. Higher RSA baseline scores were significantly correlated with higher sleep efficiency (r=0.39) and correspondingly lower levels of interrupted sleep (waking after sleep onset, WASO; r=−0.38), lower average length of nocturnal wake episodes (r=−0.43), and a lower self-reported number of hours of sleep during a typical night (r=−0.27). Higher RSA AUC was significantly related to higher sleep efficiency (r=0.45), and a correspondingly lower number of wake episodes (r=−0.27), lower WASO (r=−0.40), and lower average length of nocturnal wake episodes (r=−0.41). While demographics, disease severity, and psychological variables all explained some portion of the development of sleep disruption; sleep efficiency, WASO, mean number of waking episodes, average length of waking episode were best explained by RSA.

Conclusions: These data provide preliminary evidence for an association between disrupted nocturnal sleep and reduced RSA the subsequent day, confirming an association between disrupted nocturnal sleep and flattened diurnal cortisol rhythm in women with metastatic breast cancer. They suggest that the stress-buffering effects of sleep may be associated with improved parasympathetic tone and normalized cortisol patterns during the day.

CORRESPONDING AUTHOR: Oxana Palesh, PhD, University of Rochester, Rochester, NY, 14642; oxana_palesh@urmc.rochester.edu

C-11

IMPACT OF QIGONG ON COGNITIVE FUNCTION & QOL OF CANCER PATIENTS

B. Oh, ABD,[2,3] Linda K. Larkey, PhD,[1] P. Butow, PhD,[3] B. Mullan, PhD,[3] S. Clarke, PhD,[2] N. Pavlakis, PhD,[4] D. Rosenthal, PhD,[5] N. Goel, AyurMD[1] and N. Howe, MS[1]

[1]University of Arizona, Scottsdale, AZ; [2]Sydney Cancer Center, University of Sydney, Sydney, NSW, Australia; [3]Centre for Medical Psychology and Evidence-based Decision-making (CeMPED), University of Sydney, Sydney, NSW, Australia; [4]Royal North Shore Hospital, Sydney, NSW, Australia and [5]Dana-Faber Cancer Institute, Harvard Medical School, Boston, MA.

Background: Cognitive function (COG) and quality of life (QOL) of cancer patients are often diminished during and after treatment. Medical Qigong (MQ)is a gentle form of exercise with mindful breathing and meditation. Methods: Study 1: 77 patients dx'd with cancer were randomly assigned to a) usual health care control group (n=41) and b) MQ (n=36) + care at the hospital. Randomization was stratified by completion of cancer treatment (n=48) or under active cancer treatment (n=29). Study 2, in progress with 25 survivors of Stage I or II breast cancer, at least 6 months past treatment randomly assigned to 12 weeks of MQ or "sham" Qigong (similar gentle exercise without meditative states). In both studies, cognitive function was measured by FACT-Cog v3. Study 1 assessed QOL using FACT-G; Study 2 used selected subscales of SF36 and objective cognitive performance tests. Intervention periods lasted 10–12 weeks with pre- and post-intervention data collection.

Results: Study 1: The MQ intervention group reported significantly improved scores on overall perceived cognitive abilities (PCA)(t46=2.05, p=0.04, mean difference=3.61) and QOL (t46=5.46, p=0.00, mean difference=12.66) compared to usual care. There was a trend for the groups to differ in improvements in perceived cognitive impairment (PCI)(t44=1.89, p=0.06, mean difference=4.70) and impact of perceived cognitive impairment on quality of life (CIQOL)(t46=1.68, p=0.09, mean difference=1.64). Study 2. With small n (25), MQ showed more improvement than shamQ on COG and SF36 (ns). Both groups combined showed improved scores for PCI, CIQOL, and SF36 factors (p<0.01 for all), and approached significance for WAIS-III Digit Span test of cognitive performance (p=0.10).

Conclusion: MQ can improve aspects of cognitive function and QOL in cancer patients/survivors.

CORRESPONDING AUTHOR: Linda K. Larkey, PhD, University of Arizona, Scottsdale, AZ, 85258; larkeylite@msn.com

C-12

IS ATTENDING AS A COUPLE HELPFUL? AN INVESTIGATION OF CANCER PATIENTS AND THEIR PARTNERS PARTICIPATING IN MINDFULNESS-BASED STRESS REDUCTION

Kathryn Birnie, BA (Hons),[1] Sheila N. Garland, MSc[2] and Linda E. Carlson, PhD[1,3]

[1]Psychosocial Resources, Tom Baker Cancer Centre, Calgary, AB, Canada; [2]Department of Psychology, University of Calgary, Calgary, AB, Canada and [3]Department of Oncology, University of Calgary, Calgary, AB, Canada.

Cancer patients experience many negative psychological symptoms including stress, anxiety, and depression. This distress is not limited to the patient, as their partners also experience many psychological challenges. Mindfulness-based stress reduction (MBSR) programs have demonstrated clinical benefit for cancer patients, as well as benefits for caregivers of different populations, however never with partners of cancer patients. This study examines the impact of an eight-week MBSR program for 20 couples on mood disturbance, 19 couples on symptoms of stress, and 15 couples on sleep and mindfulness. Three couples were invited for qualitative interviews following the program. Couples attended the MBSR program between 2000–2008. No significant correlations were observed between patient and partner total scores on any of the measures of interest at pre-and post-intervention, respectively, nor on total change scores. After program participation, significant reductions in symptoms of stress and increases in mindfulness were observed for both groups, and decreases in mood disturbance approached significance. Change over the course of the program by either partners or patients on all measures did not predict change in the other. Overall, it appears that the program was helpful for improving psychological functioning and mindfulness for both members of the couple individually. Quantitatively, attending the program as a couple does not appear to have any impact on outcomes for either member of the couple, however insights from follow-up interviews indicate that partner participation was very valuable in terms of encouragement in program attendance and home practice, gained insight from the group experience relating to both cancer and the MBSR program, as well as positive influence on both the couples relationship and outside relationships.

CORRESPONDING AUTHOR: Kathryn Birnie, BA (Hons), Psychosocial Resources, Alberta Cancer Board, Tom Baker Cancer Centre, Calgary, AB, T2S 3C1; katiebir@cancerboard.ab.ca

C-13

MODERATING EFFECT OF HYPNOTIZABILITY ON HYPNOSIS FOR HOT FLASHES IN BREAST CANCER SURVIVORS

Gary Elkins, PhD,[1] Joel Marcus, PsyD,[2] Vered Stearns, MD,[3] Michelle Perfect, PhD,[4] M. Hasan Rajab, PhD,[5] Jacqueline Dove, PhD[1] and Jennifer Bunn, PhD[1]

[1]Baylor University, Waco, TX; [2]Cancer Treatment and Research Center, San Antonio, TX; [3]Johns Hopkins University School of Medicine, Baltimore, MD; [4]University of Arizona, Tucson, AZ and [5]Scott & White Clinic and Hospital, Temple, TX.

Hot flashes are a significant problem for breast cancer survivors affecting 78% of chemotherapy and 72% of tamoxifen recipients. Hormone therapy can reduce hot flashes but has been associated with an increased risk of breast cancer, emphasizing that alternative treatments are needed. Previous research has demonstrated that hypnosis reduced hot flashes in some breast cancer survivors (Elkins, et.al, In press). However, the moderating role of hypnosis in reducing hot flashes is unknown. The purpose of this study was to examine the moderating effects of hypnotizability. This was explored as a part of a larger study involving 60 female breast cancer survivors randomized to a hypnosis intervention or no treatment. Outcomes included daily diaries of hot flash frequency and severity. Sequential multiple regression was used to test whether hypnotizability moderated the effect of initial hot flash scores on post-test hot flash scores. Hot flash scores at post-test were regressed on pre-test scores and Stanford Hypnotic Clinical Scale Scores for participants in the hypnosis intervention group (R2=.542,F[2,21]=12.452, p<.001). A hypnosis score by pre-test crossproduct was added to the regression to investigate whether participants with higher hypnotizability scores responded more favorably to the hypnosis intervention. The increase in variance explained was statistically significant (R2=.226, F[1,20]=19.470, p<.001), indicating that hypnotizability and initial hot flashes interacted in their effect on hot flash scores at post-test. Specifically, the relation between pre-test and post-test was weaker for those participants with high Stanford Hypnosis scores. For participants with lower Hypnosis scores, the relation between pre- and post-test was stronger. These findings suggest that the hypnosis intervention was more effective for participants who were more open to hypnotic suggestion.

CORRESPONDING AUTHOR: Jacqueline B. Dove, PhD, Psychology & Neuroscience, Baylor University, Waco, TX, 76708; jacqueline_dove@baylor.edu

C-14

TIME TO DEFINITIVE DIAGNOSIS IN A MULTI-SITE BREAST CANCER SCREENING STUDY OF LATINAS IN SIX U.S. CITIES

Amelie G. Ramirez, DrPh, Edgar Munoz, MSc, Kipling J. Gallion, MA, Sandra San Miguel-Majors, MS and Luis F. Velez, PhD

Department of Epidemiology and Biostatistics, Institute for Health Promotion Research, The University of Texas Health Science Center at San Antonio, San Antonio, TX.

Introduction: Time lost after an abnormal screening mammogram may have a critical impact on tumor size, stage at diagnosis, treatment, prognosis, and survival. Methods: As part of the activities of the NCI-funded *Redes En Acción: The National Latino Cancer Research Network*, clinical records of 344 Latinas and 307 non-Latina whites who received abnormal screening mammogram results were reviewed to determine the time it took them to obtain a definitive diagnosis. Data was obtained from six clinics in San Francisco, San Diego, Miami, New York, and Harlingen and San Antonio, Texas. Cox regression was used to test differences in time to definitive diagnosis between the groups after adjusting for clinic site, insurance status, income, age, education, self-reported breast symptoms, and breast examination findings. Results: Latinas' median time to definitive diagnosis was 38 days, compared to 25 for non-Latina whites, a 41% longer lag time (Hazard Ratio=1.41; 95% CI=1.13, 1.76). The HR remained significantly higher after accounting for heterogeneity among clinic sites (Hr=1.32; 95% CI=1.02, 1.72). Discussion: Despite possible biases due to non-random selection of patients, data shows disparities affecting Latinas in the time-lag between receipt of abnormal screening result to definitive diagnosis, compared to non-Latina whites. These disparities remain important even after adjusting for insurance status, income, and other relevant variables. This work was supported by a grant from NCI (U01 CA114657).

CORRESPONDING AUTHOR: Edgar Munoz, MSc, Epidemiology and Biostatistics, University of Texas Health Science Center at San Antonio, San Antonio, TX, 78230; munoze@uthscsa.edu

C-15

UNDERSTANDING THE ROLE OF PEER SUPPORT AMONG RACIAL/ETHNIC MINORITY BREAST CANCER SURVIVORS

Grace J. Yoo, PhD, MPH,[1] Ellen G. Levine, PhD, MPH,[1] Caryn Aviv, PhD[2] and Cheryl Ewing, MD[3]

[1]Biobehavioral Research Center, San Francisco State University, San Francisco, CA; [2]University of Denver, Denver, CO and [3]University of California San Francisco Comprehensive Cancer Center, San Francisco, CA.

Women with cancer often prefer to talk with someone who has gone through the crisis of a cancer diagnosis. However, little is known on the peer support experiences of racial and ethnic minority breast cancer survivors. The goal of this study was to understand the role of both formal and informal peer support among a diverse sample of breast cancer survivors. Methods: The participants were 174 African American, Asian American, Latina, and White women residing in the San Francisco Bay Area who had been diagnosed with invasive breast cancer within the last two years and who had completed treatment. They completed an in-depth qualitative interview and questionnaires on social support, social networks, quality of life, spirituality benefit finding, and mood. Results: The qualitative findings indicate that peer support from other breast cancer survivors happened quite often through informal networks at work, among friends, and within families. Peers were most useful in providing emotional and informational support. Peer support also still plays a role in the lives of breast cancer survivors after diagnosis and treatment. Conclusion: The findings from this study illustrate that peer support, both informal and formal, are useful forms of support for women at diagnosis and after treatment. Further work needs to be done on the development of an evidence-based culturally and linguistically appropriate peer support program with racial/ethnic minority breast cancer patients.

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CORRESPONDING AUTHOR: Grace J. Yoo, PhD, MPH, San Francisco State University, San Francisco, CA, 94132; gracey@sfsu.edu

C-16

SELF-EFFICACY AND PERCEIVED BARRIERS TO SYMPTOM CARE IN ADVANCED LUNG CANCER PATIENTS

Susan Yount, PhD, Nan Rothrock, PhD, Hongyan Du, MS and David Cella, PhD

Center on Outcomes, Research & Education, NorthShore University HealthSystem, Evanston, IL.

Background: Lung cancer and its treatment often produce an array of symptoms. Symptom assessment is often non-systematic and too infrequent to facilitate timely intervention. Patients vary in their ability and willingness to report symptom information. Further, low self-efficacy in managing cancer care may contribute to poor communication with providers and greater uncertainty about caring for symptoms. This study assessed the frequency of problematic symptoms, correlates of self-efficacy and patient perceived barriers to symptom care and the relationship between self-efficacy and barriers. Methods: Data were collected as part of an ongoing randomized trial of an intervention to reduce symptom burden in advanced lung cancer patients. Weekly symptom assessments were collected via interactive voice response for 12 weeks. Symptoms meeting a predetermined threshold generated "alerts" communicated to the care team. Baseline questionnaires assessed demographics, self-efficacy, smoking status, and perceived barriers to symptom care. Results: 123 patients completed weekly surveys of 13 symptoms. Symptoms generating the most alerts were fatigue (14%), poor quality of life (13%), and reduced appetite (11%). Neither self-efficacy nor perceived barriers were related to gender, race/ethnicity, or health insurance. Lower self-efficacy and greater barriers were related to less education (all p<.01), and greater barriers was related to lower income (p<.05). Lower self-efficacy was related to current or former smoking status (all p<.05). Lower perceived barriers was also associated with greater self-efficacy (r=-.23-.36, p<.05). Discussion: Preliminary results suggest that the symptom burden of advanced lung cancer patients is substantial. Some patients, namely those with lower levels of education and income, may be less likely to seek effective care for symptoms due to higher levels of perceived barriers and lower self-efficacy. Interventions to increase self-efficacy in symptom management and reduce care barriers may also effectively reduce patients' symptom burden.

CORRESPONDING AUTHOR: Susan E. Yount, PhD, Center on Outcomes, Research & Education, NorthShore University HealthSystem, Evanston, IL, 60201; s-yount@northwestern.edu

C-17

IMPACT OF CULTURALLY-TAILORED AND GENERIC VIDEOS ON CHANGING KNOWLEDGE, CULTURAL VIEWS, AND ATTITUDINAL BARRIERS TO MAMMOGRAPHY SCREENING IN CHINESE WOMEN

Judy Wang, PhD,[1] Marc Schwartz, PhD,[1] Annette Maxwell, DrPH,[2] George Luta, PhD,[1] Wenchi Liang, PhD[1] and Jeanne Mandelblatt, MD, MPH[1]

[1]Cancer Control Program, Georgetown University, Washington, DC and [2]University of California Los Angeles, Los Angeles, CA.

Background: Chinese women face knowledge, cultural, and attitudinal barriers to mammography screening. Objective: To examine the preliminary efficacy of a culturally-tailored video in reducing screening barriers among Chinese women (age ≥40) who had never been screened or who had not been screened in the past 12 months. Methods: 506 immigrant Chinese women completing a telephone interview at baseline were randomized to three groups: 1) watched a culturally-tailored video; 2) watched a dubbed generic video; and 3) read a fact sheet (usual care). Videos, guided by the Health Belief Model, were presented in "soap opera" format, ending with physician recommendations. The tailored video featured Chinese actors and a Chinese female physician. Changes in repeated measures of knowledge, cultural views, and health beliefs before and after interventions were evaluated using T-tests and generalized linear models. Results: Participants were successfully randomized. Virtually all women (mean age=56 years) said that the video messages were clear and the storylines believable. The cultural video was not significantly different in changing women's knowledge, cultural, and attitudinal barriers from the generic video; however, compared to usual care, the culturally-tailored video was more likely to increase viewers' knowledge and lower their Eastern cultural views (both p<.01). The generic video was only significantly better than usual care at changing knowledge (p<.05). In each group, materials led to increases in knowledge only among women who had low knowledge at baseline, controlling for covariates (p<.05). Conclusions: Both tailored and generic videos reduce potential barriers to mammography among Chinese-American women. It appears that the culturally-tailored approach is superior to the generic format. It will be important to determine if this translates into impact on subsequent uptake of actual screening mammography.

CORRESPONDING AUTHOR: Judy Wang, PhD, Cancer Control Program, Georgetown University, Washington, DC, 20007; jw235@georgetown.edu

C-18

RESULTS FROM A FORMATIVE EVALUATION OF A WEB-BASED INTERVENTION FOR ETHNIC MINORITY CANCER SURVIVORS

Gabriela Layi, MA,[1] Erin Bantum, PhD,[1] Cheryl Albright, PhD[1] and Jeffrey Berenberg, MD[2]

[1]Cancer Research Center of Hawaii, University of Hawaii, Honolulu, HI and [2]Tripler Army Medical Center, Honolulu, HI.

After their cancer therapy ends cancer survivors are often interested in making positive lifestyle changes. Our objective was to conduct focus groups to help develop a web-based intervention to modify lifestyle factors and quality of life in cancer survivors.

Seven focus groups were conducted on the island of Oahu, Hawai'i. Three focus groups included health care professionals (n=24), and four included cancer survivors (n=21). The average time since cancer diagnosis was 2 ½ years.

Survivors' focus groups consisted mainly of females (86%), their mean age was 51 years, and 81% were breast cancer survivors. Ethnic make up reflected the multiethnic diversity found in Hawai'i and included 29% Chinese; 29% Japanese; 29% Caucasian; and 10% Hawaiian/Part Hawaiian. Ethnic background of the health care providers was: 50% Japanese; 25% White/Caucasian; 12% Chinese; 4% Korean; 4% Filipino, and 4% Native American. Contrary to expectation, only 17% of health care providers referred survivors to websites almost everyday; two-thirds referred patients only once a week or less than once a month; and 17% had never referred a patient to the Internet. The most prominent health behavior issues patients identified were: a) complementary therapies (e.g., finding reliable information); b) side effects of treatment (e.g., fatigue, neuropathy); c) health behavior change (e.g., diet and exercise); and d) obtaining emotional support. The most prominent health behavior issues health care providers felt that survivors needed were: a) how to deal with fear of recurrence, b) health behavior change (e.g., diet and exercise), and c) emotional support.

While survivors and health care providers report interest and need for online interventions geared towards improving health behaviors and emotional support, survivors and health care providers reported additional, unique needs for an online intervention.

CORRESPONDING AUTHOR: Gabriela Layi, MA, Prevention & Control, Cancer Research Center of Hawaii, Honolulu, HI, 96822; gabriela@crch.hawaii.edu

C-19

CONCERNS IN SERIOUS DISEASE SCALE: DEVELOPMENT AND VALIDATION

Sarah Sullivan, MA, C Phil,[1] Annette L. Stanton, PhD,[1] Carissa A. Lowe, PhD[1] and Ashley A. Moskovich, BA[2]

[1]University of California, Los Angeles, CA and [2]Duke University, Durham, NC.

Thanks to advances in biomedical treatments for serious illnesses, many patients are living with life-limiting illnesses for extended periods of time. Existing psychosocial measures designed for use in these populations have focused primarily on quality of life concerns; the current study aimed to 1) develop and validate a global measure of concerns, the Concerns in Serious Disease Scale (CSDS), in individuals coping with life-limiting illnesses and 2) investigate its predictors using a longitudinal design. Participants were women diagnosed with metastatic breast cancer (N=103) who completed 48 potential CSDS items along with measures of illness-related appraisals, coping, and psychological adjustment at study entry and 3-month follow up. Four domains of concerns (accounting for 54% of the variance in total score) emerged following factor analysis of potential CSDS items: activity restriction, social withdrawal by others, mortality concerns, and medical team concerns. To minimize questionnaire length, four thematically representative items with high factor loadings from each of these four domains were selected to form four CSDS subscales. CSDS subscales demonstrated satisfactory internal consistency ($\alpha>.70$) and moderate test-retest reliability ($r=.55$ to $.64$, $p<.05$) over the 3-month follow-up period. Moderate correlations ($p<.05$) with global measures of adjustment suggest adequate discriminant validity. Regarding predictors of CSDS scores, high or increasing cancer-related perceived stress and declining endorsement of approach-oriented coping strategies predicted increases in disease-related concerns over time ($p<.05$). The CSDS offers a brief, psychometrically sound method of concern assessment in individuals coping with life-limiting illness that is appropriate for use in both research and clinical settings. Longitudinal findings suggest that central concerns are linked to potentially useful targets of psychosocial intervention, such as coping strategies and illness-related appraisals.

CORRESPONDING AUTHOR: Sarah Sullivan, MA, C Phil, University of California, Los Angeles, Santa Monica, CA, 90403; sarah.sullivan@ucla.edu

C-20

ASSESSMENT OF DEPRESSION IN THE GERIATRIC CANCER PATIENT: WHICH OF THE COMMONLY USED DEPRESSION MEASURES ARE BEST?

Alexandra R. Berk, MA,[1] Christina Cho, BA,[3] Andrew J. Roth, MD,[2] Jimmie Holland, MD[2] and Christian J. Nelson, PhD[2]

[1]Behavioral Research Methods Core Facility, Memorial Sloan-Kettering Cancer Center, New York, NY; [2]Department of Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY and [3]College of Physicians and Surgeons, Columbia University, New York, NY.

Geriatric issues in cancer are starting to take a more prominent role as age projections suggest the numbers of geriatric cancer patients will continue to increase in the next 20 to 30 years. Depression is one of the most frequent causes of emotional distress in both the elderly and in cancer patients, and continues to be under recognized. However, little research has been conducted focusing on identifying depressive symptoms in geriatric cancer patients. We conducted a systematic review to determine whether the most commonly used self-report depression instruments are appropriate for use in geriatric adults, in cancer patients, and finally in geriatric cancer patients. We surveyed each instrument's reported conceptual framework; development process; acceptability/feasibility properties; psychometric properties, with particular attention to the criteria set forth in the FDA Draft Guidance on Patient Reported Outcome Measures; and extent of validation, in geriatric, cancer, and geriatric cancer populations. Finally, we performed a domain analysis of each instrument to determine which captured common depressive symptoms among elderly patients with cancer. Although solid validation information exits for the most common depression measures in geriatric adults and cancer patients, we found that there is no specific validation information for geriatric cancer patients. In addition, since these measures may not assess depressive symptoms of most importance in geriatric cancer patients, it may be questionable if these scales are appropriate for assessing depression in this population.

CORRESPONDING AUTHOR: Alexandra R. Berk, MA, Behavioral Research Methods Core Facility, Memorial Sloan Kettering Cancer Center, New York, NY, 10022; berka@mskcc.org

C-21

THE RELIABILITY AND VALIDITY OF THE FUNCTIONAL ASSESSMENT OF CANCER THERAPY (FACT-GA) SCALE FOR THE ASSESSMENT OF QUALITY OF LIFE IN PATIENTS WITH GASTRIC ADENOCARCINOMA

Guy Pelletier, PhD,[1,3] Sheila Garland, MSc[1,3] and Oliver Bathe, MD[2]

[1]Department of Psychology, University of Calgary, Calgary, AB, Canada; [2]Department of Surgical Oncology, University of Calgary, Calgary, AB, Canada and [3]Department of Psychosocial Resources, Tom Baker Cancer Centre, Calgary, AB, Canada.

Quality of life (QL) in patients with gastric cancer is considered an important treatment consideration and is increasingly added as an outcome measure in clinical research, despite the absence of well-validated instruments. The purpose of this study was to determine whether the FACT-Ga, a disease specific tool for the assessment of gastric cancer patients' QL, is a valid and reliable assessment tool for measuring QL changes. The FACT-Ga is comprised of the FACT-G, a general questionnaire measuring four standard aspects of QL in cancer patients and a disease specific subscale for gastric adenocarcinoma. The study enrolled 81 patients with histopathologically confirmed gastric cancer. Of the total sample, 67 patients completed the follow up assessment at two weeks which allowed us to measure the reliability of the FACT-Ga. At the two month follow up, 57 patients completed the assessment, allowing determination of clinically important variations in questionnaire scores and establishment of cutoff points. Internal consistency analyses across the sample yielded a Chronbach's alpha coefficient and an interclass correlation coefficient of .941, demonstrating excellent test-retest reliability for the two-week assessment interval. Convergent validity was demonstrated with significant positive correlations ranging from $r=.53$ for physical well-being to $r=.84$ for social well-being with another well-validated QL measure (SF-36) and significant negative correlations with negative mood indicators (BDI-II; $r=-.74$ and STAI; $r=-.57$). Divergent validity was confirmed by assessing the absence of a relationship between the FACT-Ga total score and a measure of social desirability ($r=-.02$). The estimation of minimally important differences and cut off points allow professionals to determine what constitutes meaningful changes in patient QL.

CORRESPONDING AUTHOR: Sheila Garland, MSc, Department of Psychology, University of Calgary, Calgary, AB, T2N 1N4; sngarlan@ucalgary.ca

C-22

INITIAL RESULTS FROM A DIRECT-MAIL COLORECTAL CANCER SCREENING PILOT STUDY IN AFRICAN AMERICAN CHURCHES

Jason Purnell, PhD, Joseph Roscoe, PhD, Gary Morrow, PhD, Nancy Bennett, MD, Charles Heckler, PhD, Karen Mustian, PhD, Oxana Palesh, PhD and Luke Peppone, PhD

University of Rochester Medical Center, Rochester, NY.

Research has demonstrated the importance of social networks and targeted messages regarding cancer risk in motivating African Americans (AAs) to be screened for colorectal cancer (CRC), and direct-mail interventions have had moderate success in previous studies with non-minority samples. This randomized, controlled pilot study examined initial efficacy of a direct-mail, targeted CRC screening intervention (fecal immunochemical test-FIT-kits, letter and phone messages) delivered via an important social network (3 urban churches). AAs age 50+ (N=15; Age: M=60.2, SD=5.8; 67% female) off-schedule for screening were randomized to receive: 1) FIT + targeted letter from pastor + pre-recorded telephone reminder from pastor and copy of initial letter at 7 days post-mailing (intervention), or 2) FIT + pastor letter and telephone reminder at 17 days post-mailing (control). The primary outcome was return of kits in the intervening 10-day period. At enrollment participants completed a questionnaire on demographics, screening history, and psychosocial variables, and 4 weeks post-mailing they completed feedback questionnaires assessing influence of intervention components on kit return (1=Not at all to 4=A lot). Sixty percent (n=9) of study participants returned the kits. A chi-squared test showed no significant association of kit return and study arm. Logistic regression analysis showed a trend towards a higher rate of return among those with greater levels of ethnic identity (p=.08). There was a 33% (n=5) response rate to the feedback questionnaire, in which participants rated “being approached through your church” as most influential (M=3.4, SD=.55), followed by “getting FIT kit in the mail” (M=3.2, SD=.84) and “hearing about the risk of CRC for AAs” (M=3.0, SD=1.22). These results suggest that a CRC screening intervention model involving direct mail of FIT kits and reaching participants through churches may have promise for individuals not reached through traditional methods. Supported by NCI grant R25 CA102618.

CORRESPONDING AUTHOR: Jason Purnell, PhD, University of Rochester Medical Center, Rochester, NY, 14642; jason_purnell@urmc.rochester.edu

C-23

UNWANTED SEX & PARTNER VIOLENCE: MAMMOGRAPHY AND PAP TESTING IN THE 2006 BRFSS

William Rakowski, PhD and Melissa Clark, PhD

Brown University, Providence, RI.

Even though Pap test rates are relatively high, and mammography rates have increased over the past 20 years, there is still need to identify women whose life circumstances are difficult and who are at risk of not having these exams. This report analyzes the Sexual Violence and Intimate Partner Violence state-optional modules of the 2006 Behavioral Risk Factor Surveillance System (BRFSS). Mammography in the past 2 years was examined for women aged 40–79, and Pap testing in the past year was examined for women aged 20-65. Unwanted sexual experience was defined as ever-had: Both uncompleted and completed acts forced on her, Either uncompleted or completed acts (not both), and Neither type of experience. Partner violence was defined as ever-had: Both threatened (not carried out) and actual violence, Either threatened or actual violence (not both), and Neither experience. Covariates in logistic regression analyses were: Race/Ethnicity, Age, Health insurance, Income, Usual source of care, and Marital status. Mammography was significantly lower for women with both or either of the unwanted sexual experiences (AORs=.69 & .80), and with both or either of the partner violence experiences (AORs=.80 & .63). Absolute percentages were from 10% to 16% lower than women with neither experience. Pap testing was significantly lower for women with both unwanted sexual experiences (AOR=.78), and both partner violence experiences (AOR=.79). Absolute percentages were 7%-8% lower compared to women with neither. The 95% confidence intervals did not include 1.00 for any of these associations. Pap test and mammography screening interventions often focus on increasing knowledge and perceived benefits. However, some women have life circumstances that are especially complicated and dangerous, that affect their lives in profound ways. These BRFSS questions assessed “ever had” experiences, so temporal associations can not be determined. However, the presence of associations in multivariate analyses, strongly suggests that women with abusive life histories need to be considered at-risk of lower cancer screening.

CORRESPONDING AUTHOR: William Rakowski, PhD, Brown University, Providence, RI, 02912; william_rakowski@brown.edu

Citation Poster

C-24

THE IMPACT OF AN EFFECTIVE SUN PROTECTION INTERVENTION ON THE UV EXPOSURE OF MALE OUTDOOR WORKERS

Michelle Stock, PhD[1] and Meg Gerrard, PhD[2]

[1]The George Washington University, Washington D.C., DC and [2]Dartmouth College, Hanover, NH.

Malignant melanoma is the sixth most common cancer in men and one of only three cancers with an increasing mortality rate for men (American Cancer Society (ACS), 2008, Jemal et al., 2008). Ninety percent of all skin cancers are due to sun exposure (ACS, 2008). The prevalence of nonmelanomas in outdoor workers is twice that of indoor workers (Pritchard, 1999), however little research has been conducted on sun protection interventions among this high-risk population.

The purpose of this study was to examine the impact of a sun protection intervention on the UV exposure (sunscreen use, hat, sleeves, and skin tone) of male outdoor workers. We also examined four potential mediators of this relationship: perceptions of vulnerability (PV) to skin cancer/damage, sunscreen attitudes, and sunscreen user and tanner images. Participants were 148 highway workers who work outdoors an average of 5 hours a day (M age=47, M years working outdoors=27). Over 80% of the workers indicated they never/rarely use sunscreen. All participants completed a pre-intervention survey (T1), the intervention (T2), and a one-year follow-up (T3). The intervention had two primary elements: a) a photograph that graphically highlights existing UV damage and b) an educational video on UV risk and methods of protection. The control condition saw a regular black-and-white photo only.

Structural equation modeling revealed that the intervention participants increased their PV and favorability of the typical highway worker who uses sunscreen, and decreased their favorable attitudes toward tanning and images of tanners (combined; β=.36, z= 2.41, p<.02) from T1 to T3. These mediators predicted a decrease in UV exposure (β=-.35, z=-4.92, p<.001). More importantly, the indirect effect from intervention through the mediators on T3 exposure was significant (β=-.13, z=-2.17, p<.03). The model fit the data well, $\chi 2$ (20)=31.78, p=.05. The implications of these findings for designing sun exposure reduction interventions for high-risk groups of outdoor workers will be discussed.

CORRESPONDING AUTHOR: Michelle Stock, PhD, The George Washington University, Washington D.C., DC, 20052; mstock@gwu.edu

C-25

HEALTH RISK BEHAVIORS AMONG MULTIETHNIC ADOLESCENT AND YOUNG ADULT SURVIVORS OF CHILDHOOD CANCER FROM HAWAII

Cheryl L. Albright, PhD, MPH,[1] Randal K. Wada, MD,[1,2] Darryl Glaser, MD,[2] Trina Orimoto, BA[1] and Alana Steffen, PhD[1]

[1]Cancer Research Center of Hawaii, University of Hawaii, Honolulu, HI and [2]Kapiolani Children’s Blood and Cancer Center, Kapiolani Medical Center for Women and Children, Honolulu, HI.

Survival rates for children with cancer exceed 75% up to 20 years after diagnosis. However, relative to the general population, Adolescent and Young Adult Survivors of Childhood Cancer (AYASCC) are at increased risk for chronic diseases due to their cancer therapies. Focus groups with AYASCC, parents of AYASCC, and pediatric oncologists were done to determine receptivity to changes in health behaviors. We also surveyed a multiethnic sample of 64 AYASCC 13–24 yrs old, (off therapy > 1 mo., 65% Leukemia, 75% Asian/Pacific Islanders) to measure the prevalence of unhealthy behaviors. Focus group data revealed a lack of knowledge by survivors and parents about increased risk for chronic diseases. Oncologists voiced frustration at the lack of responsiveness when advising survivors or parents to modify a risk behavior, but identified their own lack of experience with behavior change methods as a contributing factor. Physicians also reported difficulty in determining whether both parent and survivor had the same level of interest or readiness for making changes. Survey results showed that compared to a general population of teens in Hawaii, AYASCC < 18 had lower rates of smoking & alcohol use (p<0001). In contrast, AYASCC >18 had similar rates for ever smoking & had alcohol consumption patterns similar to or less than similarly aged general Hawaii sample (p<.05). Both survivor age groups had low intake of fruits/ vegetables and reported greater physical activity levels compared to non-cancer peers, however, 32% had a BMI classified as obese or overweight. Our results indicate a need for parents & survivors to be educated about AYASCC’s risks for chronic diseases. Diet and exercise are behaviors meriting additional efforts for improvement. Most importantly, determining the readiness of survivors and parents to make positive behavioral changes may be a key driver for the implementation of successful intervention strategies.

CORRESPONDING AUTHOR: Cheryl L. Albright, PhD, MPH, Cancer Research Center of Hawaii, University of Hawaii, Honolulu, HI, 96822; calbright@crch.hawaii.edu

C-26

CANCER RISK BELIEFS IN A DIVERSE PRIMARY CARE POPULATION

Samara Lipsky, BBA,[1] Jennifer Hay, PhD,[1] Soye Zaid-Muhammad, MA, MSEd,[2] Linda Bulone, RN,[3] Deborah Brennessel, MD[4] and M. Margaret Kemeny, MD[3]

[1]Memorial Sloan-Kettering Cancer Center, New York, NY; [2]Pace University, New York, NY; [3]Queens Cancer Center, Queens, NY and [4]Queens Hospital Center, Queens, NY.

Given the importance of cancer risk perception as a theoretical and empirical precursor of cancer prevention and control behaviors, we examined beliefs about cancer risk and demographic and family cancer history covariates of these beliefs in a multi-ethnic primary care population. We surveyed 127 patients aged 18 to 88 years (m age=45), who were 63% female, and of diverse race/ethnicity (31% Black/African American, 30% Caribbean Black, 12% Asian/Pacific Islander, 16% mixed race/other, 5% Caucasian, 6% no response), 73% were born outside the US, but most (98%) lived in the US for over five years. About 28% reported a family history of cancer. We utilized two factors of the Cancer Risk Beliefs Scale; Cognitive Causation (10 items, alpha=0.85) that examines superstitious beliefs about cancer risk and Negative Affect in Risk (6 items, alpha=0.88) that examines negative affect generated during risk deliberation. A significant minority endorsed superstitious cancer beliefs; there was general/strong agreement by 22% that “considering that I could get cancer might bring on bad luck.” Endorsement of negative affect in risk assessment was prevalent; there was general/strong agreement by 68% that “thinking about my chances of getting cancer makes me uncomfortable.” Endorsement of superstitions about cancer risk were reported by those who were older (r(126)=.19, p<.05), Asian/Pacific Islander or mixed race/others compared to African Americans or Caribbean Blacks (F(4,112)=4.67, p=.002), but was unrelated to gender, education, religion, family cancer or colorectal cancer history or immigrant status. Higher negative affect in risk was reported among Caucasians versus other ethnic groups (F (4,110)=2.92, p=<.05) and those with a family cancer history (t(116)=-.51, p <.05) but was unrelated to other covariates considered. The findings reported here shed light on risk perception processes that may modify the impact of cancer risk communications on behavioral outcomes in diverse communities.

CORRESPONDING AUTHOR: Samara Lipsky, BBA, Ferkauf Graduate School of Psychology, Great Neck, NY, 11023; SamaraLipsky@alum.emory.edu

C-27

DEPRESSION IN ADVANCED BREAST CANCER PATIENTS: THE ROLE OF RELATIONAL VARIABLES

Erica L. Johnston, BA,[1,2] Ann Marie Hernandez, MS,[1] George W. Sledge, MD[2] and Silvia Bigatti, PhD[1]

[1]Psychology, Indiana University Purdue University Indianapolis, Indianapolis, IN and [2]IU Simon Cancer Center, Indianapolis, IN.

Depression affects an estimated 121 million Americans and research has reported significant associations between depressive symptoms and other coexisting illnesses, such as breast cancer (BC).Limited research has been conducted on relational variables and depression in this population. We hypothesized that relational variables would directly relate to the patient’s depressive symptoms. Specifically, relationship focused coping, social constraint, marital satisfaction, and relationship communication would predict the patient’s CESD scores after controlling for impact of illness scores. Patient (n=60) average age was 52 years. Spouse (n=60) average age was 53 and most (68.2%) were employed. Most patients (87.7%) had advanced breast cancer in stage 3 or stage 4. The mean patient depression score of 8.44 (SD=5.61) was within the normal range. The sample reported high impact of illness (patient mean=7.86,SD=5.05; spouse mean=5.40, SD=3.76, cutoff score > 5), good marital satisfaction (patient mean =119.39, SD=22.46; spouse mean=115.83, SD=27.64, cutoff score > 100), and good perceived partner support (patient mean=22.43, SD=4.72; spouse mean= 20.77, SD=5.17, cutoff score > 16). The model significantly predicted depression, accounting for just over 50% of the variance in depressive symptoms among patients. However, only patients’ perceived impact of illness was a significant predictor variable in the regression model (β=.560, t=5.117, p <.001). No relational variables predicted depressive symptom scores for the patients. These findings suggest partner variables may play less of a role in advanced disease, where existential concerns about survival or death may be experienced at a more individualistic level, and where the daily interference of the illness may be more prominent. Interventions should be aimed at minimizing the distress on women with advanced breast disease and their spouses.

CORRESPONDING AUTHOR: Erica L. Johnston, BA, Psychology, IUPUI, Carmel, IN, 46032; eljohnst@iupui.edu

C-28

ASPECTS OF WORRY ASSOCIATED WITH SKIN CANCER PREVENTION IN COLLEGE-AGED FEMALES

Amanda M. Midboe, MA, Laura Zajac, MS, William Klein, PhD, Trisha Kozlowski, n/a, Beth Dugan, n/a and Katy Griffith, BS
Psychology, University of Pittsburgh, Pittsburgh, PA.

Worry has been positively related to intentions to engage in disease prevention behaviors (e.g., Hay et al. 2005). One possible reason for this finding is that worry may prompt individuals to appraise resources and initiate coping processes in an effort to reduce the threat (Myers, 2003; Peters, Lipkus, & Diefenbach, 2006) and manage negative feelings (Aspinwall & Taylor, 1997; Davey & Tallis, 1994; Mathews, 1990). However, this relationship between worry and health behaviors has not always been found (e.g., Cameron, 1997; Consedine et al., 2004), which may suggest that the construct of worry should be examined more closely. The research thus far has focused less on the specific aspects of worry that influence health prevention behaviors. As a result, it is unclear which components of worry, such as anxiety, fearfulness, concern, or vulnerability could account for this discrepancy.

The present study examined several aspects of worry in a population of college-aged females (n=44) who are at high risk for skin cancer. Some evidence suggests that worry about getting skin cancer is positively correlated with skin cancer prevention behaviors (De Rooij, Rampen, Schouten, & Neumann, 1997; Mermelstein, Weeks, Turner, & Cobb, 1999). The following study examined several dimension of worry. Participants were asked to rate their perceptions of worry, anxiety, fearfulness, concern, and vulnerability about skin cancer as well intentions to engage in sunscreen use. Perceptions of vulnerability (r=.34, p<.05) and anxiety (r=.32, p<.05) were positively related to intentions to use sunscreen; however, perceptions of worry, concern, and fearfulness were not associated with sunscreen use intentions.These findings suggest that other dimensions of worry should be assessed and single item measures of worry may not capture key intraindividual processes that can influence intentions to engage in disease prevention behaviors. Implications as well as longitudinal findings will be discussed.

CORRESPONDING AUTHOR: Amanda M. Midboe, MA, University of Pittsburgh, Palo Alto, CA, 94306; amm149@pitt.edu

C-29

QUALITY OF LIFE, MARITAL FUNCTIONING, AND EMOTIONAL DISTRESS OF THE SPOUSAL CAREGIVERS OF LOW-GRADE BRAIN TUMOR PATIENTS

Sara Beattie, BSc(hons)[1] and Guy Pelletier, PhD[2,3]

[1]Psychology, University of Ottawa, Ottawa, ON, Canada; [2]Psychosocial Resources, Alberta Cancer Board, Calgary, AB, Canada and [3]Psychology, University of Calgary, Calgary, AB, Canada.

Background: Primary brain tumors account for approximately 1.6% of the newly diagnosed cancers in Canada and will result in 2.4% of cancer-related mortalities. Low-grade brain tumors are typically localized, slow-growing and less aggressive than high-grade brain tumors. Although the prognosis for low-grade brain tumors is significantly better than it is for higher grade tumors, most patients will eventually die because of progression or recurrence in the form of a high-grade tumor. Research has demonstrated that a cancer diagnosis has a psychosocial impact on both patients and their families. Minimal research has focused on the psychosocial impact on this caregiver population. Purpose: To quantitatively investigate the QOL, emotional distress, and relationship adjustment of spousal caregivers of grade I or II brain tumor patients. Methods: 25 spousal caregivers (17 females and 8 males) of low-grade brain tumor patients (mean illness duration of 6.3 years) completed a self-report questionnaire package comprising the Caregiver Quality of Life Index - Cancer, the DAS and the BSI-18. Results: QOL scores for this population were significantly higher than those for a palliative oncology population. Relationship adjustment and emotional distress scores were comparable to those for a normal population. These findings hold true for this sample regardless of duration of illness, time since last treatment, and duration of marriage. Results indicate that relationship adjustment, emotional distress, and stability of disease are all factors that impact caregiver QOL. Conclusions: The findings suggest that spousal caregivers of low-grade brain tumor patients have minimal psychosocial impact and appear to be coping well with the challenges of their spouses’ illness. In terms of psychosocial services, the results suggest that the majority of these spousal caregivers are reasonably well-adjusted in terms of QOL, relationships and distress levels.

CORRESPONDING AUTHOR: Sara Beattie, BSc(hons), Psychology, University of Ottawa, Ottawa, ON, K2P0L1; sara_beattie@yahoo.com

C-30

PERCEIVED STRESS MEDIATES THE RELATIONSHIP BETWEEN EMOTIONAL WELL-BEING AND CHANGE IN FATIGUE IN MEN WITH ADVANCED PROSTATE CANCER

Catherine Benedict, BS,[1] Lara Traeger, PhD,[1] Mikal Rasheed, MS,[1] Eric Zhou, MS[1] and Frank J. Penedo, PhD[1,2]

[1]Psychology, University of Miami, Miami, FL and [2]UM/Miller School of Medicine, Sylvester Comprehensive Cancer Center, Miami, FL.

Advanced prostate cancer (PC) is associated with several treatment-related disruptions that can compromise quality of life (QOL). Fatigue is a common side effect of treatment but has received limited attention in PC literature. This study tested a model whereby perceived stress mediated the relationship between emotional well-being (EWB) and changes in fatigue in men with advanced PC. Men (N=34) were assessed at two time points (T1; baseline, and T2; 3-month follow-up). Participants' median time since any cancer related treatment was 2 months (Mean=10.84 months, SD=21.25) at T1. Their mean age was 70.31 (SD=9.76) and they were from ethnically diverse (73% White Non-Hispanic, 16% Black, 9% Hispanic, 1% Asian, 1% Other) backgrounds. EWB was measured with the Functional Assessment of Cancer Therapy - Emotional subscale; perceived stress was measured with the Perceived Stress Scale; fatigue was measured with the Fatigue Symptom Inventory - Disruption subscale. The results of this analysis indicated that EWB and perceived stress at T1 accounted for a significant amount of unique variance in fatigue at T2, above and beyond relevant psychosocial and medical variables, R2 change=.215, F(2, 27)=6.54, p <.01. Additionally, perceived stress was a significant mediator of the relationship between EWB and fatigue, controlling for relevant psychosocial and medical variables, β=.145, p<.01. The full mediation model was significant and accounted for 62.9% of the variance of fatigue at T2, F(7, 27)=6.54, p<.01. Results indicate that the mechanism by which EWB effects changes in fatigue is explained by levels of perceived stress. Men who experience decrements in EWB may perceive events as overly stressful or overwhelming and thus be at greater risk for experiencing fatigue. Future research should evaluate the effectiveness of psychosocial interventions that target stress management skills, particularly in patients with low EWB.

CORRESPONDING AUTHOR: Catherine Benedict, BS, Psychology, University of Miami, Miami Beach, FL, 33139; cbenedict@psy.miami.edu

C-31

A TEST OF THE BIOBEHAVIORAL MODEL IN CANCER

Eleshia Morrison, Bachelor of Science, Salene M. Wu, BS and Barbara L. Andersen, PhD

Psychology, The Ohio State University, Columbus, OH.

According to the Biobehavioral Model of cancer stress and disease course (Andersen et al, 1994), reduced quality of life (QoL) due to cancer diagnosis and treatment can negatively impact health behaviors. Engaging in positive health behaviors such as physical activity (PA) may improve immunity. The present study used a longitudinal design and mediation analyses to test the indirect effects of QoL on immunity through PA. As proposed by the model, QoL was hypothesized to positively predict PA; PA was hypothesized to positively predict immunity. Methods: Participants (N=227) were women newly diagnosed with breast cancer (Stage II/III), surgically treated, and awaiting adjuvant therapy (i.e., chemotherapy, radiation). Patients were assessed at baseline, 4, and 8 month follow-ups. Analyses examined PA (Habitual Physical Activity Scale) at 8 months as a mediator of the relationship between QoL (SF-36; KPS) at baseline and 4 months and immunity at 8 months. T cell blastogenesis to PHA, Con A and MAb measured immunity. All models included baseline immunity and relevant disease and demographic variables as controls. Results: Regression analyses indicated that both baseline functional status and SF-36 general health positively predicted PA at 4 months. Secondly, SF-36 pain scores (higher indicating less pain) at 4 months positively predicted PA at 8 months. Thirdly, PA at 8 months negatively predicted immunity at 8 months. Mediation analyses revealed that PA during leisure time mediated the effects of baseline functional status on immunity at 8 months (β=-.022; p<0.05). Leisure PA also mediated the effects of pain at 4 months on immunity at 8 months (β=-.027; p<0.05). Structured PA (i.e. sport participation) mediated the effect of baseline general health on immunity at 8 months (β=-.038; p<0.01). None of the direct effects of QoL on immunity were significant. Discussion: As expected, QoL positively predicted physical activity. Counter to expectations, PA negatively predicted immunity. As patients were still undergoing adjuvant therapy, this finding should be interpreted cautiously.

CORRESPONDING AUTHOR: Eleshia Morrison, Bachelor of Science, Psychology, Ohio State University, Columbus, OH, 43210; morrison.364@osu.edu

C-32

DOES DIABETES AFFECT CLINICALLY IMPORTANT CHANGES IN QUALITY OF LIFE OVER AND ABOVE THE IMPACT OF BREAST CANCER?

Karen Collins, PhD,[1,2] Mario Schootman, PhD,[1,2] Yan Yan, MD, PhD,[1,2] Maria Perez, MA,[1] Ying Liu, MD, PhD,[1] Rebecca L. Aft, MD, PhD[1,2] and Donna B. Jeffe, PhD[1,2]

[1]Washington University School of Medicine, St. Louis, MO and [2]Siteman Cancer Center, St. Louis, MO.

Having diabetes mellitus (DM) affects breast cancer (BC) screening, incidence, and survival. We sought to evaluate the impact of DM on changes in quality of life (QOL) over and above the impact of BC. We prospectively recruited 1096 women (mean age 58, range 40–91, 76% White) with early-stage BC (n=549; 34% in situ, 51% stage I, 15% stage IIA) and same aged women without BC (n=547). Participants completed interviews at 6 weeks and one year after definitive surgery. At enrollment, 11% of BC patients and 10% of controls reported having DM. Women were stratified into four groups: BC only, BC and DM, DM only, and controls(no DM or BC). Participants rated their QOL using the RAND 36-Item Health Survey. We defined a clinically important difference (CID) in QOL on each of the 8 subscales as a decline ≥ 0.50 standard deviation at one-year follow-up. We adjusted for education, age, income, race, marital status, body-mass index, depressed mood, social support and comorbidity using Generalized Estimating Equations; we report odds ratios (OR) and 95% confidence intervals (CI). Compared with the BC only group, the BC and DM group was not more likely to demonstrate a CID on: physical functioning (OR=1.06, CI=.52–2.13), role limitations due to physical problems (OR=.91, CI=.51-1.62), vitality (OR=1.03, CI=.56-1.90), emotional well-being (OR=.96, CI=.47-1.98), role limitations due to emotional problems (OR=.62, CI=.29-1.33), social functioning (OR=.70, CI=.65-1.43) and general health (OR= 1.34, CI=.70-2.58). Compared with the BC only group, the BC and DM group was less likely to demonstrate a CID on pain (OR=.51, CI=.27-.99) and the DM only group was less likely to demonstrate a CID on role limitations due to physical problems (OR=.28, CI=.14-.58). Controls were less likely than the BC only group to demonstrate a CID on each subscale (each p≤.003), except for general health (p= 3212). DM did not affect changes in QOL in women with BC beyond the impact of BC itself.

CORRESPONDING AUTHOR: Karen Collins, PhD, Health Behavior Research, Washington University St. Louis, St. Louis, MO, 63101; kcollins@dom.wustl.edu

C-33

SLEEP QUALITY IN SURVIVORS OF ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION(AHSCT)

S. Mitchell, PhD, M. Bevans, PhD, P. Palit, BSc, L. Wehrlen, BSN, O. Prachenko, MA and J. Barrett, MD

National Institutes of Health, Bethesda, MD.

Studies suggest sleep disturbances are prevalent in cancer survivors,yet limited prior research has evaluated sleep quality in long-term survivors of aHSCT.Our aims were to examine the characteristics of sleep quality and gauge the utility of a single item measure of sleep quality in screening for sleep problems.Measures included the Pittsburgh Sleep Quality Index(PSQI) and Rotterdam Symptom Checklist.Data were drawn from an ongoing longitudinal study. Participants(n=80)were a median of 44 years old(range 19–76),predominantly male(64%) and residing with a spouse/partner(79%).Eighty percent were in complete remission a median of 5(range 3-14) years post-transplant.Overall, 44% met criterion for impaired sleep(PSQI global score>5).Although 22% had difficulty falling asleep within 30 minutes at least 1-2 times/week,and 36% experienced sleep interruption,sleep parameters were not impaired.Mean sleep duration was 7.1 hours(±1.2);mean sleep efficiency was 87% (±13.2%).Consistent with these findings,only 9% of the sample had daytime sleepiness,and 76% had not used sleep medications in the past month.The leading cause of insomnia on at least one night during the past week was nocturia(51%). Impaired sleep was associated with age(r=0.22,p=.05),but not with other clinical or demographic characteristics.Participants with a PSQI>5 had more physical(24.7vs.9.4, t=-6.4, p<.001) and psychological(30.7vs.15.3,t=-3.8, p<.001) symptom distress, with these two aspects explaining 45% of the variation in sleep quality,controlling for age.A single item measure of sleep difficulty correlated strongly with the PSQI(r=0.7; p<.001) and had a 98% specificity in identifying participants with impaired sleep quality.However, given its low sensitivity (56%),the item may be unsuitable for screening.Results can inform strategies to evaluate and treat sleep disturbance,and underscore the importance of symptom management.Research exploring the effects of sleep problems on fatigue and functional status,and to evaluate polysomnographic characteristics in aHSCT survivors who report impaired sleep,is indicated.

CORRESPONDING AUTHOR: Sandra Mitchell, PhD, Research and Practice Development Services, National Institutes of Health, Bethesda, MD, 20892-0001; mitchellsa@cc.nih.gov

C-34

RACIAL DIFFERENCES IN DEPRESSED MOOD IN WOMEN WITH EARLY-STAGE BREAST CANCER

Maria Pérez, MA,[1] Ying Liu, MD, PhD,[1] Mario Schootman, PhD,[1,2] Rebecca L. Aft, MD, PhD,[1,2] William E. Gillanders, MD[1,2] and Donna B. Jeffe, PhD[1,2]

[1]Medicine, Washington University School of Medicine, St. Louis, MO and [2]Siteman Cancer Center, St. Louis, MO.

Depressed mood has been associated with poorer quality of life in breast cancer patients, but it is unknown whether there are racial differences in depressed mood over time in women with non-invasive (DCIS) and early invasive breast cancer (EIBC), which may lead to racial disparities in quality of life. We interviewed 549 women (33.5% DCIS, 66.5% EIBC [51.4% Stage I, 15.1% Stage IIA]; mean age 58, range 40-89; 20% non-white) a mean 6.1 weeks (T1), 6.2 months (T2), and 12.3 months (T3) following definitive surgical treatment. We used the 20-item Center for Epidemiologic Studies Depression (CES-D) Scale to measure depressive symptoms "during the past week"; scores ≥ 16 indicated higher levels of depressed mood. A marginal regression model with generalized estimating equations was used to evaluate differences in the risk of elevated depressed mood over time by race (white, non-white) and pathologic cancer stage (DCIS, EIBC). After controlling for factors associated with depressed mood (age, history of depression at enrollment, social support, BMI, surgical side effects, state anxiety, receipt of radiation and/or chemotherapy, household income, and marital, employment, and smoking status), non-white EIBC patients had a higher risk for elevated depressed mood compared with white EIBC patients at T3 only (odds ratio [OR]=4.05, 95% confidence interval [CI]=1.30-12.60); racial differences in risk among DCIS patients were not observed at any interview. Risk for elevated depressed mood decreased between T1 and T2 among white EIBC patients (OR=0.29; 95% CI=0.14-0.61) and remained stable at T3, but risk did not significantly change over time in non-white patients. Racial differences in depressed mood were observed up to one year follow-up in women with EIBC, but longer term follow-up is needed to see if these disparities persist.

CORRESPONDING AUTHOR: Donna B. Jeffe, PhD, Medicine, Washington University School of Medicine, St. Louis, MO, 63108; djeffe@wustl.edu

C-35

A TEST OF THE STRESS GENERATION HYPOTHESIS

Salene M. Wu, BS and Barbara L. Andersen, PhD

Psychology, Ohio State University, Columbus, OH.

The stress generation hypothesis (Hammen, 1991) posits that depressed individuals may generate stress, particularly interpersonal, in their lives, leading to worsening of depression. This study tested the stress generation hypothesis in women with breast cancer. Baseline depression was hypothesized to relate to the occurrence of stressful life events. Analyses test if stressful events mediate the relationship between initial depression and subsequent depression.

Method: 113 Stage II /III breast cancer patients were accrued following surgery and prior to adjuvant therapy. The CES-D (Radloff, 1977) was used to assess depression at baseline and 12 months later. The Life Events Scale (Matthews et al, 1997) was used to assess presence of 5 types of stressful events between baseline and 12 months (death/serious illness of a loved one, financial problems, divorce/break-up of oneself/family member/friend, conflict with children/grand-children and robberies/accidents). Regressions were used to predict stressful events at 12 months controlling for stressful events prior to baseline. Events were tested as mediators of further depression.

Results: Depressive symptoms at baseline significantly predicted total events at 12 months (p<.01). Financial problems (OR: 1.34, p<.05) and break-up of a relationship (OR: 1.22, p<.05) were significantly predicted by baseline depression. Total events and financial problems significantly mediated the effects of baseline depression on 12 month depression (β=.099, p<.01; β=.139, p<.01); the direct effects were still significant. Break-up of a relationship did not mediate the effect of baseline depression on 12 month depression.

Discussion: Higher depression at baseline was associated with stressful events and financial problems at 12 months, which predicted subsequent depression confirming the stress generation hypothesis. A stressful interpersonal event was associated with baseline depression (break-up), but was not associated with further depression unlike the non-interpersonal event, financial problems. Results indicate that while depression may generate stressful events, only certain events may lead to further depression.

CORRESPONDING AUTHOR: Salene M. Wu, BS, Psychology, Ohio State University, Columbus, OH, 43210; salenewu@gmail.com

C-36

ACCURACY OF PERCEIVED RISK OF RECURRENCE IN PATIENTS WITH EARLY-STAGE BREAST CANCER

Ying Liu, MD, PhD, Kerry Massman, MD, Erica Queen, BA, Maria Pérez, MA, Stephanie Myles, BA, Rebecca L. Aft, MD, PhD, Mario Schootman, PhD, William E. Gillanders, MD and Donna B. Jeffe, PhD

Washington University School of Medicine, St. Louis, MO.

We assessed the accuracy of perceived risk of recurrence in 517 patients with ductal carcinoma in situ (DCIS) and early-invasive (stage I/IIA) breast cancer (EIBC; 35% DCIS; 19% non-white; mean age 58, range 40–89) at six months and one year post surgery. The 10-year risk of recurrence for DCIS patients was estimated from the literature. The 10-year risk of recurrence for EIBC patients was a sum of risk estimates of three types of recurrence: risks for local recurrence and contralateral breast cancer (both based on the literature), and risk for distant recurrence based on one's breast cancer-specific mortality calculated using Adjuvant! *Online*, which is used for treatment decisions. The 'actual' risk estimates accounted for treatments received. We compared patients' perceived risk with their 'actual' risk, creating four accuracy-of-risk-perception categories: "Accurate," "Underestimated," "Overestimated," and "Uncertain." Three multinomial logit marginal effects models with repeated measures were fitted separately using "Accurate" as the reference category; 84% of patients inaccurately perceived their risk six months post surgery. The accuracy of perceived risk did not change significantly at one year except for "Uncertain," which decreased over time (p=.0004). Overestimating risk was associated with being white (OR=1.84; 95% CI=1.10–3.08), having DCIS (OR=1.75; 95% CI=1.18–2.59), and less social support (OR=0.68; 95% CI=0.51-0.90). Underestimating risk was associated with being non-white (OR=1.82; 95% CI=1.22–2.72), having EIBC (OR=1.54; 95% CI=1.11-2.14), and having lumpectomy (OR=1.64; 95% CI=1.16-2.32). Older patients (OR=1.04; 95% CI=1.02-1.06) and patients who incorrectly identified their stage/type of breast cancer (OR=1.64; 95% CI=1.04-2.61) were more likely to be "Uncertain." In summary, most patients inaccurately perceived their risk of recurrence, which may have behavioral and psychological health implications, warranting further study.

CORRESPONDING AUTHOR: Ying Liu, MD, PhD, Division of Health Behavior Research, Washington University School of Medicine, St. Louis, MO, 63108; yliu@im.wustl.edu

C-37

PATTERNS OF EMPLOYMENT AFTER CANCER: RESULTS FROM A LONGITUDINAL STUDY

Janet S. de Moor, MPH, PhD,[1] Karen M. Emmons, PhD[2] and Carl de Moor, PhD[3]

[1]Division of Health Behavior and Health Promotion, The Ohio State University College of Public Health, Columbus, OH; [2]Department of Society Human Development and Health & Division of Community-Based Research, Harvard School of Public Health & Dana Farber Cancer Institute, Boston, MA and [3]PPD, Morrisville, NC.

INTRODUCTION: Few longitudinal studies have been conducted to characterize the long-term impact of cancer on employment. The current study used 6 waves (1992, 1994, 1996, 1998, 2000, 2002) of the Health and Retirement Study to compare patterns of employment over time between cancer survivors and non-cancer controls. We examined overall differences in employment and differences in employment by educational attainment.

METHODS: Employment status was compared between 989 cancer survivors who were cancer free in 1992 but developed cancer from 1994-2002 and 9,997 non-cancer controls. Generalized Estimation Equations were used to compute the odds of employment between survivors and controls as a function of time since diagnosis. Models were adjusted for age, gender, education, and assessment year.

RESULTS: In the waves before a cancer diagnosis was reported, cancer survivors and non-cancer controls had similar odds of employment. Beginning at the first wave a cancer diagnosis was reported, cancer survivors had a lower odds of employment relative to non-cancer controls (OR=0.61; CI= .52-.73). The relative odds of employment among survivors plateaued at 2 years (OR=0.67; CI= .54-.83) and 4 years (OR=0.65; CI= .49-.87) after diagnosis and then decreased (OR=0.34; CI=.23-.51) 6 years after diagnosis. The relative odds of employment among cancer survivors differed by education. At each wave after a cancer diagnosis was reported, the relative odds of employment was higher among cancer survivors with ≥ 12 years of education compared to survivors with <12 years of education (p<.02).

CONCLUSIONS: Cancer has a long term impact on the employment status of survivors. Cancer survivors with lower educational attainment were particularly vulnerable to not working after their diagnosis.

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CORRESPONDING AUTHOR: Janet S. de Moor, MPH, PhD, Division of Health Behavior and Health Promotion, The Ohio State University College of Public Health, Columbus, OH, 43210; jdemoor@cph.osu.edu

C-38

GIVING UP LIFE GOALS IN THE CONTEXT OF METASTATIC BREAST CANCER

Elizabeth Thompson, BA and Annette L. Stanton, PhD

Psychology, UCLA, Los Angeles, CA.

This longitudinal study aimed to examine the propensity for women with metastatic breast cancer to disengage from life goals; differences between women who report disengaging from goals and those who report not giving up any goals since metastatic diagnosis; and the predictive utility of goal disengagement and reengagement for psychological adjustment. In a sample of 114 women diagnosed with metastatic breast cancer (mean time since metastatic diagnosis=2.75 years), 78% of women reported disengaging from a significant life goal since diagnosis. Women disengaging from life goals had significantly more metastatic disease sites (t=-2.15, p<.05), reported more years of education (t=-2.12, p<.05), and were younger (t=2.62, p<.05) than women not giving up a goal. These two groups did not vary in ethnicity, marital status, employment status, number of comorbid diseases, months since diagnosis, or on measures of dispositional goal adjustment ability, optimism, neuroticism, coping self-efficacy, or social desirability. Women who at study entry reported not disengaging from a goal evidenced better psychological adjustment three months later, indicated by higher life satisfaction (t=4.20, p< .01) and sense of purpose (t= 2.10, p<.05), as well as fewer cancer-related intrusive thoughts (t=-2.40, p<.05) than women who had given up a goal. For women who did disengage from a goal, higher situational goal disengagement ability and goal reengagement ability predicted positive psychological adjustment three months later. Situational goal reengagement at study entry was a significant predictor of higher life satisfaction (Beta=.353, p<.01) and sense of purpose (Beta=.290, p<.01) at three months, and higher situational disengagement ability predicted greater sense of purpose (Beta=.237, p<.05). Examining the impact of metastatic cancer on patients' life goals with attention to individual differences in how they adjust to unattainable goals helps to account for significant variability in adjustment to metastatic disease.

CORRESPONDING AUTHOR: Elizabeth Thompson, BA, Psychology, UCLA, Los Angeles, CA, 90024; lizzie.thompson@gmail.com

C-39

EXERCISE AND IMAGERY USE DURING AND AFTER CANCER TREATMENT AMONG A NATIONWIDE SAMPLE OF 253 CANCER PATIENTS

Tom V. Darling, PhD, Karen M. Mustian, PhD, Charles E. Heckler, PhD, Luke J. Peppone, PhD, Jason Q. Purnell, PhD, Michelle C. Janelsins, PhD and Gary R. Morrow, PhD

Radiation Oncology, University of Rochester, Rochester, NY.

Exercise (EX) reduces cancer and treatment-related side effects and improves quality of life (QOL). Imagery (IM), by improving EX quality and adherence, could enhance the effect of EX on side effects. Little is known about the combined use of IM and EX by cancer patients. This study examined the use of EX plus IM and EX alone during treatment (tx) and 6-months post treatment (6p) and assessed their association with side effects. A secondary analysis was conducted on 253 cancer patients (mean age=61; range=22-88) that reported exercising during and after tx in a larger nationwide study (N=1,003). Cancer patients were primarily Caucasian (95%), female (68%), educated (67% some college), and employed (55% non-professional). The majority of patients were diagnosed with breast cancer (57%) or genitourinary tract cancer (20%). Patients received radiotherapy (41%), chemotherapy (38%), or both (21%). Overall, more cancer patients used IM with EX as the severity of side effects increased (p=0.008). Of the 1,003 patients, 47.5% exercised and among exercisers 20.2% used IM during tx (p<0.001) while 60.2% exercised and among exercisers 16.8% used IM during 6p (p<0.001). Patients with some college education (ORtx=4.61, CI=1.88-11.29; OR6p=4.29, CI=1.64-11.21) and female patients (ORtx=3.32, CI=1.42-7.76; OR6p=7.35, CI=2.43-22.25) were more likely to use IM during tx and at 6p. During tx, patients experiencing hair loss (p=0.025), hot flashes (p=0.118), and nausea (p=0.123) were more likely to use IM, but less likely to use IM when experiencing shortness of breath (p=0.039) and weight loss (p=0.124). During 6p, patients experiencing sleep problems (p=0.086) were more likely to use IM, but less likely to use IM when experiencing nausea (p=0.031). Findings indicated that cancer patients may be more likely to use IM with EX when the number of symptoms increases and as symptoms worsen. Future studies need to test the effect of EX and IM on cancer treatment side effects and QOL. Funded by NCI grant 1R25-CA102618.

CORRESPONDING AUTHOR: Tom V. Darling, PhD, Radiation Oncology, University of Rochester, Rochester, NY, 14642; tom_darling@urmc.rochester.edu

C-40

REASONS FOR ELEVATED PREVALENCE OF FUNCTIONAL LIMITATIONS AMONG 12 TYPES OF LONG-TERM CANCER SURVIVORS IN THE UNITED STATES, 2005-2007

Mario Schootman, PhD, Rebecca Aft, MD, PhD and Donna Jeffe, PhD

Washington University, St. Louis, MO.

We examined reasons (sociodemographic factors, psychosocial distress, health behavior, concomitant conditions/diseases, access to medical care) for increased prevalence of lower-body functional limitations (LBFL) among long-term (5+ years) cancer survivors (LTCS) using 2005-2007 National Health Interview Survey data. We defined LBFL as reporting difficulty/unable to perform at least 1 of 5 tasks (walking 1/4 of a mile; walking up and down 10 steps without rest; standing for 2 hours; stooping, crouching, or kneeling; and lifting 10 lbs). We compared LTCS (n=2,762; mean years since diagnosis=15.8) to persons without cancer history (control group; n=73,059). We limited the analysis of cancer-specific data to 12 cancers types with 50+ respondents. Among LTCS, 58.6% had one or more LBFL versus 26.6% of control group respondents. The unadjusted prevalence of LBFL varied by cancer type, ranging from 44.9% (lymphoma survivors) to 88.8% (lung cancer survivors). Long-term breast (odds ratio [OR] =1.35), cervical (OR=1.76), lung (OR=7.91), ovarian (OR=1.75), thyroid (OR=2.27), and uterine cancer survivors (OR=2.41) were more likely to report a LBFL (all p<0.05) than control group respondents when adjusting for sociodemographic factors. Poor self-rated health status, presence of arthritis, and presence of lower-back pain explained differences in LBFL prevalence between specific LTCS and control group respondents. Three health behaviors (physical activity, smoking, alcohol use) and psychosocial distress (K6) did not explain differences in LBFL between both groups. Long-term bladder, colorectal, lymphoma, melanoma, and prostate cancer survivors were equally to report at least one LBFL as control group respondents. Specific reasons for elevated LBFL prevalence may present targets for reducing the risk of LBFL and improving quality of life.

CORRESPONDING AUTHOR: Mario Schootman, PhD, Washington University, St. Louis, MO, 63108; mschootm@wustl.edu

C-41

RELIGIOSITY, SPIRITUALITY, SOCIAL SUPPORT, AND PSYCHOLOGICAL DISTRESS IN AFRICAN AMERICANS AT RISK FOR HAVING A HEREDITARY CANCER PREDISPOSING GENE MUTATION

Anita Kinney, PhD,[1] Sara E. Simenson, MSPH,[1] James Coxworth, BA[1] and Joseph B. Fanning, PhD[2]

[1]Internal Medicine/Huntsman Cancer Institute, University of Utah, Salt Lake City, UT and [2]Vanderbilt University Medical Center, Nashville, TN.

Background and Objectives: Religious/spiritual (RS) factors and social support have been shown to play central roles in coping with health issues and influencing health behavior. However, little is known about the relation between RS, social support and psychological distress among individuals at increased risk for carrying a deleterious hereditary cancer predisposing gene mutation. The primary objective of our study was to examine the effects of RS indicators and social support on psychological distress in a cohort of high-risk individuals. Methods: Participants (n=99) were drawn from an African American kindred who were considering genetic testing for a BRCA1 mutation. This analysis reports findings from a psychosocial survey assessing social support, distress, several RS factors including the use of 3 types of religious coping styles: Collaborative, Self-Directing, and Deferring. Results: Eighty percent of participants indicated that RS was important or very important in their lives. Clinically significant depressive symptoms as measured by the CESD were relatively high (27%); with females (33%) more likely than males (17%) to report symptoms (p <0.01). The most commonly employed religious problem solving style used by participants was Collaborative (mean (X)=22.9; sd=5.8) vs. Self-Directing (X=12.8; sd=5.1) and Deferring (X=19.9; sd=6.3). Social support was strongly associated with depressive symptoms (p<0.001) but not with cancer worry (p=0.92). In contrast, RS indicators were not associated with general psychological distress or cancer worry. Conclusion: Our findings indicate that social support is positively associated with general psychological distress but not cancer worry. Although RS beliefs and practices are important for many African Americans, we did not find evidence that self-reported RS was associated with psychological distress or cancer worry in our high-risk study population.

CORRESPONDING AUTHOR: Anita Kinney, PhD, Internal Medicine/Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, 84112; anita.kinney@hci.utah.edu

C-42

CANCER SURVIVORS' SPIRITUALITY AND FEAR OF RECURRENCE: THE EFFECTS OF RACE AND GENDER

Corinne Crammer, PhD, Chiewkwei Kaw, MS and Kevin D. Stein, PhD

Behavioral Research Center, American Cancer Society, Atlanta, GA.

Purpose: Although fear of recurrence (FOR) is common among cancer survivors, little is known about its relation to spirituality. Because spirituality is known to differ based on race and gender, we explored the effects of race and gender on this association.

Methods: We analyzed data from 5,304 cancer survivors who completed the American Cancer Society's Study of Cancer Survivors-I, a population-based, longitudinal study of quality of life. Participants completed this survey approximately 1.3 yrs after diagnosis. Three aspects of spirituality (Meaning, Peace, and Faith) were assessed using the FACIT-Sp. Three items from the Cancer Problems in Living Scale relevant to FOR were dichotomized into "not a problem" and "somewhat/severe problem": concern about relapsing (REL), fear that the illness will return (RET), and fears about the future (FUT). The race by gender moderating effects were tested for Black Males (BM), White Males (WM), Black Females (BF), and White Females (WF). Demographics, cancer severity, and health status served as covariates.

Results: Logistic modeling showed that survivors who were younger, less educated, had more severe cancer, or poorer general health reported greater FOR. Meaning was positively related to FOR, whereas Peace was negatively related to FOR. Faith was not significant.

Differences were found by gender and race. For REL, Meaning was positively related for WF; peace was negatively related for all but BF. For RET, Meaning was positively related for Whites only, but peace was negatively related for all groups. For FUT, all aspects of spirituality were impacted for WFs, but no association was found for BF. For males, only Peace was impacted.

Conclusions: Although increased FOR is associated with lower Peace for all 4 race/gender groups, the directionality is unknown and requires further work. Likewise, research should explore why Meaning and FOR are positively associated for Whites but not Blacks, which may relate to cultural/religious differences in finding meaning.

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CORRESPONDING AUTHOR: Corinne Crammer, PhD, Behavioral Research Center, American Cancer Society, Atlanta, GA, 30303; corinne.crammer@cancer.org

C-43

SPIRITUAL SELF-EFFICACY IN COPING WITH CANCER: DEVELOPMENT OF THE CANCER BEHAVIOR INVENTORY SPIRITUALITY SUBSCALE

Errol J. Philip, MA, Thomas V. Merluzzi, PhD, Carolyn A. Heitzmann, MA and Sarah M. Boeding, BS

University of Notre Dame, Notre Dame, IN.

Background: The NIH and IOM recently highlighted the need to address the psychosocial needs of cancer patients (Adler et al., 2007). Thus, accurately assessing a variety of coping resources and deficits is critical in the provision of appropriate services. The Cancer Behavior Inventory (CBI; Merluzzi et al., 2001) is a validated, multidimensional measure of cancer-based self-efficacy; however it does not address self-efficacy for religious coping, which follow-up qualitative research by the authors revealed was as an important aspect of coping for many cancer patients. Spiritual beliefs and practices can play an important role in coping with cancer (Brady et al., 1999); thus the current study sought to develop and validate the Spirituality subscale of the CBI. Method: Ten additional items were developed and included in the CBI to incorporate aspects of spiritual self-efficacy in coping with cancer. 264 cancer survivors (Mean Age=60.2, SD=12.7) completed the CBI, the CBI-Spirituality (CBI-Sp), the Religious Coping Scale (RCS; Pargament et al., 1998) and the FACT-Spirituality (FACT-SP; Cella, 1997), along with demographic and health information. Results: Exploratory Factor Analysis revealed the CBI-Sp to be a cohesive independent factor, with no significant cross-loadings with other factors of the CBI, a Cronbach's Alpha of .96 for this subscale, and predominantly high item factor loadings (.81-.95). Significant positive correlations were established between the CBI-Sp and the FACT-Sp (r2=.39, $p<.01$) and the Positive domain of the RCS (r2=.52,$p<.01$); while a significant negative correlation was established with the Negative domain of the RCS (r2=-.32, $p<.01$). Discussion: Results indicate that the Spirituality subscale of the CBI is an independent and cohesive factor that relates to other measures of spirituality in the expected direction. The addition of this important subscale will provide a more comprehensive evaluation of an individuals' self-efficacy for coping with cancer, and in turn improve the predictive and evaluative capacity of the CBI.

CORRESPONDING AUTHOR: Errol J. Philip, MA, University of Notre Dame, Notre Dame, IN, 46556; ephilip@nd.edu

C-44

RELIGIOUS RITUALS AND PRACTICES OF FILIPINA IMMIGRANT BREAST CANCER SURVIVORS

Regina A. Lagman, MPH, MS,[1] Grace J. Yoo, PhD, MPH,[1] Ellen G. Levine, PhD, MPH,[1] Caryn Aviv, PhD, MA,[2] Cheryl A. Ewing, MD[3] and Alfred Au, MD, FICS[3]

[1]BioBehavioral Research Center, San Francisco State University, San Francisco, CA; [2]Center for Judaic Studies, University of Denver, Denver, CO and [3]University of California at San Francisco Comprehensive Cancer Center, San Francisco, CA.

PURPOSE: Filipina immigrant breast cancer survivors are incorporating religious rituals and practices as a way of coping with breast cancer. Many Filipinos have a powerful adherence to Catholicism which continues to be the dominant religion. However, little is known about spirituality and religious involvement of Filipina immigrants during survivorship of breast cancer. METHODS: Ten Filipina immigrant breast cancer survivors were interviewed about their cancer experiences and how religion and spirituality played a role in their adjustment. RESULTS: A content analysis of the interviews identified spiritual healing and religion as important in coping with the cancer diagnosis. Prayer appeared to be the most common religious practice followed by attending Mass and taking Communion. Drawing comfort or strength from their spiritual beliefs was most common followed by having a strong positive belief or faith system. CONCLUSION: These findings can help clinicians and researchers understand the role of spirituality and religion in predicting how a Filipina breast cancer patient is able to cope with the stress of the diagnosis and treatment. The findings can help healthcare providers working with Filipina immigrant breast cancer patients understand the role of religious rituals in the health and recovery process. However, additional research is needed to address Filipina breast cancer survivors' needs and to help improve their future quality of life. Potential spiritual interventions may help these women cope.

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CORRESPONDING AUTHOR: Regina A. Lagman, MPH, MS, Biobehavioral Research Center, San Francisco State University, San Francisco, CA, 94132-9987; regina_lagman@sbcglobal.net

C-46

HOW DOES COMORBID CARDIOVASCULAR DISEASE IMPACT MEDICATION ADHERENCE IN HYPERTENSIVE PATIENTS?

Jennifer P. Friedberg, PhD,[1,2] Donald Robinaugh, MA,[1,3] Michelle Ulmer, BA,[1] Marilena S. Antonopoulos, PharmD[4,1] and Sundar Natarajan, MD, MSc[1,2]

[1]VA New York Harbor Healthcare System, New York, NY; [2]NYU School of Medicine, New York, NY; [3]Harvard University, Cambridge, MA and [4]Long Island University, Brooklyn, NY.

Hypertensive patients with comorbid cadiovascular disease such as myocardial infarction (MI) or stroke are at high risk for future events. Though uncontrolled hypertension further increases the probability of future events, the influence of such comorbidities on adherence to antihypertensive drugs is unclear. These events may result in lower self-efficacy, less social support, and depressed mood, which may impact medication adherence. We evaluated if hypertensive individuals with a history of MI or stroke had poorer adherence to antihypertensive drugs when compared to hypertensive individuals without a prior cardiovascular event. We analyzed data from 365 patients of whom 80 had prior stroke and/or MI. Medication adherence was measured using an algorithm based on medication refill dates extracted from pharmacy records. The mental health scale of the Veterans SF-36 and questions assessing medication self-efficacy and medication-taking social support were administered. Wilcoxon rank sum tests showed that those with a history of MI or stroke had poorer medication adherence when compared to those without such a history ($p<.05$). We used robust linear regression since medication adherence was not normally distributed, and found that this relationship remained significant ($p<.05$) when controlling for demographics, medication characteristics, medication self-efficacy, medication-taking social support, and mental health. Marital status was also a significant predictor of adherence in this model, with formerly married participants having poorer adherence than married participants ($p<.005$). Hypertensive patients with a history of cardiovascular events may be sicker or have a decrease in cognitive function that impacts their ability to adhere to medication. Interventions to improve medication adherence should specifically target patients with a history of MI or stroke, particularly those with a reduction in social support through loss of a spouse.

CORRESPONDING AUTHOR: Jennifer P. Friedberg, PhD, VA New York Harbor Healthcare System/NYU School of Medicine, New York, NY, 10010; jennifer.friedberg@med.nyu.edu

C-47

MINDFULNESS AS AN INTERVENTION TO PROMOTE ADHERENCE TO A PROGRAM OF HEALTH-RELATED BEHAVIOR CHANGE IN MIDLIFE

Melissa H. Frisvold, MS, CNM, PhD (c)[1,2] and Ruth A. Lindquist, PhD, FAAN[1,2]

[1]Nursing, University of Minnesota, Minneapolis, MN and [2]Women's Heart Health Program, Minneapolis Heart Institute, Minneapolis, MN.

Heart disease is the leading cause of death of women in the US. Many of the risk factors for heart disease are preventable through the adoption of healthy eating and exercise. Health related behavior changes are difficult to initiate and even harder to maintain. Mindfulness based stress reduction (MBSR) is an 8 week course that includes yoga, guided imagery, meditation and emphasizes the concept of living in the moment. It has been theorized to help promote better health choices such as healthy eating and exercise. It is not known if adding a MBSR course to a program of diet and exercise will help with the initiation and sustaining of health related behaviors.

Purpose: The purpose of this paper is to describe a pilot study designed to determine whether MSBR as a component of a program of health related behavioral change will increase the adoption of and adherence to heart healthy lifestyle behaviors relative to an active control receiving the heart healthy lifestyle modification program preceded by perimenopausal education.

Method: Forty nurses aged 39–57 yrs with a BMI>23 but <41 were recruited and enrolled in the study, stratified by BMI,and randomized into the MBSR (experimental) intervention or the perimenopausal education (active control) intervention. Immediately following the 8 week health education classes or MBSR course, participants will participate in an 8 week course of a pedometer based exercise program with DASH diet. Measurements of adherence to diet and exercise and associated weight loss outcomes will be assessed in both groups at 6 and 12 months post intervention. Adherence to behavioral change will be measured during the first year post study, through monthly weights and a one day diet and exercise log by email. Recruitment is complete and the intervention initiated.

Key words: Adherence, Exercise

CORRESPONDING AUTHOR: Melissa H. Frisvold, MS, CNM, PhD (c), Nursing, University of Minnesota, Hudson, WI, 54016; fris0056@umn.edu

C-48

PRE-SURGICAL PREDICTORS OF POSTTRAUMATIC GROWTH IN PATIENTS WITH HEART DISEASE

Margaret Farrell, MA, Bret A. Boyer, PhD, Frank Masterpasqua, PhD and Michele Hyman, PsyD

Widener University, Chester, PA.

Depression and posttraumatic stress (PTS) have been found to be important factors following cardiac surgery. Posttraumatic growth (PTG), however, has not been investigated following cardiac surgery, although it has been assessed regarding other health conditions. The current study assessed posttraumatic growth at 3 to 6 years post coronary artery bypass graft surgery among 31 participants (mean age 68.6, SD 10.9; 58.1% male and 41.9% female), and compared to data collected at the time of surgery (pre-surgical trauma history, PTS, depression; Peri-surgical appraisals of fear, helplessness, and life-threat). Differences in the Post Traumatic Growth Inventory scores were compared to pre-surgical and peri-surgical predictors. Participants with high PTG had higher levels of depression prior to heart surgery (F (1,29)=4.195, p <.05). No differences were found between high and low PTG groups on pre-surgical PTSD diagnosis or preexisting posttraumatic stress severity scores (F (1,28)=3.15, p=.087). No differences were found between high and low PTG groups on peri-surgical fear, helplessness, or life threat (F (6, 23)=1.392, p=.260). Patients reporting greater pre-operative depression showed high levels of PTG. Results are discussed regarding a more complete understanding of the longitudinal development of PTG.

CORRESPONDING AUTHOR: Margaret Farrell, MA, Widener University, Chester, PA, 19013; baboyer@mail.widener.edu

C-49

THE EFFECTS OF BRIEF MEDITATION AND SHAM MEDITATION ON MOOD AND CARDIOVASCULAR VARIABLES

Fadel Zeidan, MA, Susan K. Johnson, PhD and Paula Goolkasian, PhD
UNC, Charlotte, Charlotte, NC.

Research suggests that extended meditation practice is effective in reducing negative mood and cardiovascular outcomes(Grossman, Niemann, Schmidt, Walach, 2004). Research is sparse in examining the effectiveness of brief mindfulness meditation training on mood and cardiovascular outcomes.Previous research suggests that meditation's benefits may be associated with a relaxation response (Lazar et al., 2000), facilitator attention, or may be related to demand characteristics in which participants may feel more inclined to report positive changes, because of meditation's "reputation" for enhancing positive mood and health.To examine the efficacy of a brief meditation intervention, the proposed study also compared the meditation group to a group that believes that they are practicing meditation (sham meditation group), while not employing the cognitive focus associated with mindfulness meditation. This randomized experiment examined if a three-day (one hour total) meditation and sham meditation intervention would improve psychological disposition and cardiovascular variables when compared to a control group. Sixty-five undergraduate students (24 males, 41 females), without any meditation experience, were randomly assigned to a mindfulness meditation, sham meditation, or control group. Heart rate, blood pressure, and mood variables were assessed. The meditation intervention was more effective at reducing negative mood, depression, anxiety, tension, fatigue, and confusion. Additionally, the meditation group significantly reduced on heart rate, and systolic blood pressure when compared to the sham and control groups. The inclusion of a sham meditation intervention is an effective way of examining the efficacy of a meditation intervention. In addition, these results suggest that brief meditation training could reduce negative mood and blood pressure above and beyond the demand characteristics of a sham meditation intervention.

CORRESPONDING AUTHOR: Fadel Zeidan, MA, UNC, Charlotte, Charlotte, NC, 28205; fzeidan@uncc.edu

C-50

EXPLORING MEDICATION ADHERENCE BELIEFS AMONG URBAN AFRICAN AMERICANS WITH HYPERTENSION

Lisa M. Lewis, PhD, RN,[1] Pheobie Askie, BSN,[1] Shirley Randleman, BS[2] and Brenda Shelton-Duston, MPH[3]

[1]School of Nursing, University of Pennsylvania, Philadelphia, PA; [2]Philadelphia Beauty Showcase Museum, Philadelphia, PA and [3]Health and Human Services, Philadelphia, PA.

Purpose: To explore community-dwelling hypertensive African American beliefs about adherence to antihypertensive medications.

Background: Medication adherence is low among hypertensive patients regardless of ethnic background. However, African American prevalence is higher when compared to their white counterparts. Recognizing African American beliefs associated with their medication adherence is necessary for the development of successful interventions aimed at improving their adherence to prescribed regimens.

Methods: A community and academic partnership was formed to conduct three focus groups with 40 participants at two community centers in an urban city. Each focus group was recorded and transcribed verbatim. The data was analyzed using thematic analysis.

Results: Participants were mostly female (n=27) with a mean age of 57 years, high school graduates (n=14), unemployed (n=27) and an earned income of $20,000 or less (n=18). In addition, they had a mean hypertension diagnosis of 8 years with most participants reporting adherence to their antihypertensive medication regimens (n=26). Data analysis revealed an overarching theme of "stress associated with everyday living" in which study participants were able to articulate the health benefits associated with adhering to their medications but also described the difficulties associated with adherence in relation to their social contexts. Participants identified three subthemes associated with the "stress associated with everyday living." The subthemes included: (a) negotiating their limited resources, (b) negotiating their neighborhood violence, and (c) negotiating their feelings of mistrust of doctors.

Conclusions: These results provide significant insight into the contextual factors associated with the lives of some community-dwelling hypertensive African Americans. These findings may be useful for tailoring interventions to increase medication adherence in hypertensive African Americans.

CORRESPONDING AUTHOR: Lisa M. Lewis, PhD, RN, School of Nursing, University of Pennsylvania, Philadelphia, PA, 19104; lisaml@ nursing.upenn.edu

C-51

APPLIED TENSION AND BLOOD DONATION REACTIONS: THE ROLE OF ANXIETY

Crystal D. Holly, BSc and Blaine Ditto, PhD

Psychology, McGill University, Montreal, QC, Canada.

Applied Tension (AT) reduces dizziness and faintness in people with blood/injury phobias and patients undergoing invasive procedures. This study investigates, in a laboratory setting, the physiological & psychological mechanisms of AT using an analogue of the blood donation procedure.

Healthy adults (N=69, 34 males) viewed a 30-min video of blood collection procedures. Participants were randomly assigned to control (N=33) or AT conditions. Prior to the film, the AT group was shown a video on the isometric muscle tensing technique of AT and had a practice session. During the film, the treatment group was asked to perform AT constantly. Continuous psychophysiological measures (systolic and diastolic blood pressure, cardiac interbeat interval, electrodermal activity) were obtained. Participants completed the Spielberger State Anxiety scale pre-post the experiment, the Blood Donation Reaction Inventory (BDRI) after the experiment, and the Medical Fears Survey, an indicator of fear of needles and injections.

A 2 (Sex) X 2 (Condition) X Medical Fears Injection Subscale (MFI) general linear model (GLM) was conducted on the BDRI with the MFI treated as a continuous variable. A significant main effect of MFI was found, F(1, 60)=20.838, p=.000. Participants with high needle/injection fear were more likely to experience dizziness, etc. during the film. A significant Condition X Sex X MFI interaction was also observed, F(1, 60)=7.197, p=.009. AT reduced symptoms but only among women with higher MFI scores. AT produced expected effects on physiological measures (increased heart rate and blood pressure) but did not interact with sex or medical fear scores. As a result, the impact of AT on symptoms could not be explained by physiological measures. A significant Time X Condition X Sex X MFI interaction was observed for State Anxiety scores, F(1,55)=5.63, p=.021. Higher MFI score women not practicing AT showed increased anxiety after the film while women practicing AT did not. The results suggest that AT's effects on dizziness, etc. may be mediated as much or more by anxiety reduction than simple cardiovascular effects of repeated AT.

CORRESPONDING AUTHOR: Crystal D. Holly, BSc, Psychology, McGill University, Montreal, QC, H3A 1B1; crystal.holly@mail.mcgill.ca

C-52

PSYCHOMETRIC PROPERTIES OF A BRIEF WORRY MEASURE IN A MULTI-ETHNIC COLLEGE STUDENT SAMPLE

LaBarron K. Hill, BA,[1] John J. Sollers, PhD,[1] Bart Verkuil, MSc,[2] Jos F. Brosschot, PhD[2] and Julian F. Thayer, PhD[1]

[1]Psychology, The Ohio State University, Columbus, OH and [2]Institute for Psychological Research, Leiden University, Leiden, Netherlands.

It has been suggested that the Trait anxiety subscale of the Speilberger State-Trait Anxiety Inventory may measure more than anxiety (Caci, Bayle, Dossios, Robert & Boyer, 2003). Specifically, items 9, 11, 17 and 18 may constitute a separate 'worrying' factor. Anxiety and worry in particular have been associated with subjective health complaints as well as cardiovascular responses such as reduced heart rate variability. In a recent investigation (Verkuil, Brosschot & Thayer, Under Review) postulate that with the inclusion of item 20, this worry factor may in fact be interpreted as a brief measure of worry perseveration, or the repetitive and intrusive facet of worry that may be linked to pathological outcomes (i.e. increased cardiovascular risk). In the present investigation, we explore the relationship between this Brief Worry Measure (BWS) and the widely used Penn State Worry Questionnaire (PSWQ) in a multi-ethnic sample of college students. Overall, the BWS is positively correlated with the PSWQ (all r's between=.37-.73, all p's ≤ .004) and this relationship appears strongest in females (r=.666, p=.000, N=244). Additionally, reliability analysis and an exploratory factor analysis(EFA) were conducted on the 5-items composing the BWS. Results suggest that the BWS is unidimensional and provides a good fit to the data for African-Americans and Hispanics and an adequate fit for European Americans. This brief scale may therefore be useful in studies on the relationship between worry and health.

CORRESPONDING AUTHOR: LaBarron K. Hill, BA, Psychology, The Ohio State University, Columbus, OH, 43210; hill.871@osu.edu

Meritorious Student Poster

C-53

MEAL PATTERNS OF AFRICAN AMERICAN YOUTH ARE RELATED TO SYSTOLIC BLOOD PRESSURE

Tara Flint, BS,[1] Tiffany Morton, BS,[1] Allison Bradfield, BS,[1] Connor Evans, MS[2] and Margaret Savoca, PhD[1]

[1]Nutrition, University of North Carolina at Greensboro, Greensboro, NC and [2]Medical College of Georgia, Augusta, GA.

Despite the DASH (Dietary Approaches to Stop Hypertension) diet's success in lowering blood pressure (BP) among adults, few studies to date have addressed the impact of dietary habits on BP of youth at risk for early onset hypertension (HTN). To better understand the relationship between meal patterns and BP among the most vulnerable youth population, we conducted audiotaped, in-depth interviews with 58 African Americans (17–20 years old, 30 F). Participants described typical week-day eating behaviors and were administered the Diet History Questionnaire (DHQ). Meal patterns were identified from the interviews and each participant was categorized as either reporting the meal pattern or not. Intake of DASH nutrients (i.e. fruits, vegetables, dairy, calcium, fiber, magnesium, potassium, sodium) was derived from the DHQ. Using the statistical criteria of p<0.05 and R2≥0.10, 20 meal patterns relating to one or more DASH nutrients were selected for exploratory principal component/factor analysis. The results yielded a six-factor simple solution. The factors identified were Healthy Dinner, Healthy Lunch, Unhealthy Snacks, Skipped Breakfast, Unhealthy Beverages, and Healthy Snacks. Standardized factor scores were created for each participant and used in subsequent step-wise regression analyses. SBP increased with higher factor scores for Unhealthy Snacks and Unhealthy Beverages and lower factor scores for Healthy Lunch and Skipped Breakfast (p=0.03,R2=0.18). BMI increased with lower factor scores for Healthy Dinner and Skipped Breakfast (p=0.05,R2=0.10). Unhealthy Beverages and Unhealthy Snacks showed a trend towards a positive association with DBP (p= 0.07,R2=0.09). Counterintuitive relationships between Skipped Breakfast and clinical parameters are most likely explained by the high-fat and fast foods eaten by those who did not skip breakfast. These results suggest that focusing on relevant and specific meal patterns may be an effective strategy for HTN prevention programs to achieve DASH diet goals among at-risk youth.

CORRESPONDING AUTHOR: Tara Flint, BS, University of North Carolina at Greensboro, Wilmington, NC, 28411; tlflint@uncg.edu

C-54

ESCAPE-AVOIDANCE COPING IN ADULTS WITH HEART FAILURE

Michael W. Vollman, PhD, RN,[1] Lynda L. LaMontagne, DNSc, RN,[1] Mary S. Dietrich, PhD[1] and Frances Cohen, PhD[2]

[1]School of Nursing, Vanderbilt University Medical Center, Nashville, TN and [2]Department of Psychiatry, University of California, San Francisco, CA.

Background. In patients with chronic diseases, escape-avoidance coping strategies are associated with negative health outcomes, including increased behavioral disengagement, depressive symptoms, and all-cause mortality. The goal of this secondary data analysis was to identify demographic, clinical, and psychosocial factors associated with escape-avoidance coping within a cohort of adult patients living with heart failure (HF).

Method. Cross-sectional data were analyzed from 60 individuals who ranged in age from 27 to 82 years of age (M=55.4). Study participants were primarily male, Caucasian, and experienced moderate to severe functional impairment due to their heart disease (NYHA Classification, M=2.6). Illness duration (months since initial HF diagnosis) ranged from 7 months to 120 months (M=44.20) The dependent variable was assessed by using the escape-avoidance subscale of the Ways of Coping Questionnaire, a validated and reliable instrument for measuring process-oriented coping strategies.

Results. An initial model that included gender, age, illness duration, and functional status shared 24% of the variance with escape-avoidance coping (p=.004). Greater escape-avoidance was most strongly associated with younger age (p=.028) and more functional impairment (p=.008). When psychosocial factors were added to the model, shared variance increased by 14% with the largest increase attributed to depressive symptoms (high levels, p=.007). Younger age remained a uniquely contributing variable (p=.042). The combined effect of factors in the final model was statistically significant (p=.014) and explained 38% of the total variance in escape-avoidance coping (Adj. R2=.30)

Discussion. Our results indicate that demographic, clinical, and psychosocial factors contribute to the use of escape-avoidance coping strategies in adults with HF. Additional research is needed to examine potential mechanisms that affect these relationships.

CORRESPONDING AUTHOR: Michael W. Vollman, PhD, RN, School of Nursing, Vanderbilt University Medical Center, Nashville, TN, 37240; michael.vollman@vanderbilt.edu

C-55

DOES BELIEVING MAKE THE DIFFERENCE? WOMEN'S HEALTH BELIEFS PREDICT CORONARY HEART DISEASE INCIDENCE IN A POPULATION BASED SAMPLE

Maya R. Korin, PhD, Ameneh Masud, MD, Gabrielle Albanese, BA and Karina W. Davidson, PhD

Columbia University Medical Center, New York, NY.

Background

Coronary heart disease (CHD) is the leading killer of women in the United States. Most women do not understand the magnitude of cardiovascular risks, and many lack CHD knowledge. While research has shown that women were more likely to attribute CHD to smoking or family history than to other major modifiable risk factors, studies rarely test if CHD health beliefs impact CHD incidence. Therefore, we examined the association between beliefs in heart disease preventability for predicting 10-year CHD incidence, controlling for established CHD risk factors, in a large population-based sample of women.

Methods

We examined CHD incidence for 1,794 women of the population-based Canadian Nova Scotia Health Survey. We constructed Cox proportional hazards models to estimate the adjusted hazard ratios of health belief for incident CHD. The model was adjusted for sex and age at baseline, the latter to control for cohort and/or healthy survivor effects, Framingham risk score, smoking status, obesity, and cardiovascular medication use. All analyses were performed using SPSS (version 16).

Results

There were 152 (8.5%) incident CHD events (141 nonfatal, 11 fatal) during the 15,514 person-years of observation (incidence rate=9.8 events/1000 person-years). The question "Based upon what you have heard or read, do you believe that heart disease can be prevented?" significantly predicted CHD in the unadjusted model and adjusted models. Women who answered that they did not believe heart disease could be prevented were more than two times more likely to have incident CHD events. The same association was not found in the sample of 1,237 for men.

Conclusions

Believing that heart disease can be prevented was a significant, independent predictor of lower coronary heart disease incidence for women. These results support the critical need to understand and test the mechanisms by which preventability health beliefs confer CHD risk.

CORRESPONDING AUTHOR: Maya R. Korin, PhD, Columbia University Medical Center, New York, NY, 10032; mr2035@columbia.edu

C-56

MEETING CLINICAL GUIDELINES IS RELATED TO DIABETES AND GENDER IN THE MULTISITE CARDIAC LIFESTYLE INTERVENTION PROGRAM

Sarah R. Govil, MPH,[1] Gerdi Weidner, PhD[2,3] and Dean Ornish, MD[3]

[1]Yale School of Nursing, New Haven, CT; [2]Johannes Gutenberg University, Mainz, Germany and [3]Preventive Medicine Research Institute, Sausalito, CA.

Diabetes mellitus (DM) significantly elevates the risk for recurrent events in patients with coronary heart disease (CHD). It is not known whether CHD patients with DM can change health behaviors to meet clinical guidelines for coronary risk reduction. We analyzed data from CHD patients (non-smokers; mean age: 59; 835 men, 27% with DM; 442 women, 32% with DM) enrolled in an insurance-covered lifestyle intervention. All patients were asked to make changes in diet [10% calories from fat, whole-foods, plant-based), to exercise moderately (3 hrs/week), and to practice stress management (1 hr/day)]. At baseline, patients with DM were less likely to meet clinical guidelines than patients without DM [e.g., <6% of patients with DM met clinical cut-offs of $18.5 \le BMI < 25$ kg/m2, <40% met cut-offs of <130/80 mmHg for blood pressure (BP), $P<.05$]. Less than 42% of patients with DM met cut-offs of <7% for HbA1c. By 3 months, significant improvements in health behaviors and coronary risk factors were noted for all patient groups. The percentage of patients meeting clinical guidelines increased significantly for patients with and without DM (e.g., >30% of these patients moved to a lower BMI group; >80% met BP cut-offs, $P<.05$). More than 60% of patients with DM met cut-offs of <7% for HbA1c. The greatest improvements were noted for patients without DM and men with DM, indicating the need for further intervention targeting women with DM. Overall, the increase in the number of patients meeting clinical guidelines by the end of the intervention suggests improved patient prognosis as well as significant cost savings due to the reduced need for medication.

CORRESPONDING AUTHOR: Sarah R. Govil, MPH, Yale School of Nursing, New Haven, CT, 06511; sarah.govil@yale.edu

C-57

APPLYING THE TRANSTHEORETICAL MODEL TO EXERCISE BEHAVIOR IN HYPERTENSIVE PATIENTS

Jennifer P. Friedberg, PhD,[1,2] Donald Robinaugh, MA,[1,3] Michelle Ulmer, BA,[1,4] Pedro Duran, student[1,4] and Sundar Natarajan, MD, MSc[1,2]

[1]VA New York Harbor Healthcare System, New York, NY; [2]NYU School of Medicine, New York, NY; [3]Harvard University, Cambridge, MA and [4]Columbia University, New York, NY.

The transtheoretical model (TTM) has been used to promote behavior change in numerous health behaviors in many chronic conditions, including hypertension. According to this model, advancement to a higher stage of change (SOC) is more likely if there is an increase in self-efficacy (SE) or an increase in perceived pros of change relative to perceived cons of change. We examined the relationship between decisional balance (the perceived relative importance of the pros and cons of behavioral change), SE (confidence in ability to change) and SOC\ using validated TTM measures modified to address adherence to exercise recommendations for hypertensive adults, using cross-sectional data from 410 veterans with hypertension with Bonferroni corrected t-tests. The number of pros associated with adhering to exercise recommendations significantly increased with increasing SOC ($p<.0001$). Pros were more important at the earlier SOC, in particular between precontemplation and contemplation, and less important after the transition between preparation and action. There was no significant relationship between number of cons and SOC. Exercise SE significantly increased with increasing SOC ($p<.0001$). SE was most important in the transition between preparation and action. These results suggest that it is important to focus upon increasing self-efficacy and perceived pros in hypertensive patients in order to promote exercise adherence, especially in patients who are in precontemplation, contemplation, or preparation. It may be less useful to focus upon reducing perceived cons of exercise in this population. This information can be used to develop tailored behavioral interventions to increase physical activity in hypertensive adults.

CORRESPONDING AUTHOR: Jennifer P. Friedberg, PhD, VA New York Harbor Healthcare System/NYU School of Medicine, New York, NY, 10010; jennifer.friedberg@med.nyu.edu

C-58

AN APPLICATION OF THE SELF-DETERMINATION THEORY: TOWARDS A BETTER UNDERSTANDING OF HEALTHY EATING BEHAVIOURS IN PATIENTS WITH HEART DISEASE

Hannah Davis Marchand, BA,[1] Elizabeth Sharp, PhD,[1] Luc Pelletier, PhD,[1] Claudie Émond, PhD[2] and Gilles Lalande, PhD[2]

[1]School of Psychology, University of Ottawa, Ottawa, ON, Canada and [2]Université du Québec à Chicoutimi, Chicoutimi, QC, Canada.

The importance of maintaining a healthy weight and eating well balanced meals to manage health concerns is well known. However, many patients struggle with incorporating these behaviours into their daily lives. The self-determination theory (SDT) provides a theoretical framework of motivation that may explain this relationship. Cardiac patients (n=123, mean age=61; 84.6% male) in the Saguenay region of Quebec completed a battery of questionnaires at three time points (Time 1 (baseline); Time 2 (3 months), and Time 3 (6 months)). At baseline, participants were diagnosed with cardiac problems by their primary care physician. Cardiovascular and medical history was obtained at each time point. Participants also completed questionnaires on their intentions and perceived competence for healthy eating, their level of motivation for healthy eating and their frequency of various healthy eating behaviours. Results revealed that at Time 2 autonomous motivation partially correlated with healthy eating behaviours when controlling for weight and medication use. A negative relationship was also found between autonomous motivation and a measure of low-density lipoprotein (LDL) when controlling for baseline LDL and medication use. Examining the relationship between variables at Time 2 and Time 3, it was found that intentions, perceived competence and motivation for healthy eating at Time 2 were significantly related to healthy eating behaviours at Time 3. Overall findings support the use of SDT in better understanding healthy eating behaviours in a cardiac population. Conclusions and impllications will be discussed.

CORRESPONDING AUTHOR: Hannah Davis Marchand, BA, University of Ottawa, Ottawa, ON, K1N 6N5; hdavi086@uottawa.ca

C-59

SOCIAL POWER PROTECTS LOW-INCOME YOUTH AGAINST INTERPERSONAL STRESS AND HIGH BLOOD PRESSURE

Nina Stoeckel, Diplom, Gavin Elder, BA, Marta Kadziolka, MS, Michelle Payeur, BA and Craig Ewart, PhD

Syracuse University, Syracuse, NY.

Social Action Theory (SAT) proposes that "social power," defined as one's ability to influence others in desired ways, is an important self-regulatory resource that protects against interpersonal stress and lowers cardiovascular arousal. We evaluated this prediction in a study of low-income urban adolescents. Participants were 179 adolescents (age=14 ± 0.6 yrs; 48% female; 42% Black; 39% White; 19% Other) who attended a large public high school in New York State. A 6-item self-report scale to measure social power (SP) as defined by SAT was developed specifically for this study.

Participants wore ambulatory blood pressure (ABP) recorders for 48 hrs while recording all waking activities, including social interactions, on an electronic diary. At the end of each recording day, they completed the SP scale and a measure of social support (SS). The hypothesis that SP affects exposure to interpersonal stress and levels of ABP was tested by computing the correlations between SP scores and (1) indices of interpersonal stress and dominance recorded on the electronic diary; (2) social support; and (3) mean levels of ABP during waking activities and social interactions.

Results (all values of $p < .05$) revealed that low SP was associated with: (1) higher levels of interpersonal stress ($r=.42$) and dominance by peers ($r=.58$); (2) lower SS ($r=-.21$); and (3) higher levels of diastolic blood pressure and mean arterial pressure during waking activities ($r=.16$ and $r=.15$) and social interactions (both $r=.16$). Findings support the hypothesis that SP is an important self-regulatory resource that may buffer youth against social stress and high ABP.

CORRESPONDING AUTHOR: Nina Stoeckel, Diplom, Syracuse University, Syracuse, NY, 13224; njstoeck@syr.edu

C-61

IMPLICATIONS OF TYPE 2 DIABETES ON RISKS TO ADOLESCENT REPRODUCTIVE HEALTH BEHAVIOR

Denise Charron-Prochownik, PhD,[1] Julie S. Downs, PhD[2] and Wandi Bruine de Bruin, PhD[2]

[1]University of Pittsburgh, Pittsburgh, PA and [2]Carnegie Mellon University, Pittsburgh, PA.

Teens are developing type 2 diabetes (T2D) in epidemic proportion. Poor glycemic control can affect a diabetic woman's reproductive health (RH), which has not been well described in teens with T2D compare to type 1 diabetes (T1D).

Purpose: Because teens with T2D may have different issues regarding RH and preconception counseling (PC), we sought to summarize relevant expertise into a single, coherent model of existing knowledge.

Methods: We convened a panel of 8 experts with multiple perspectives on diabetes, teens, PC and RH to discuss differences between teens with T2D and T1D.

Results: Several critical issues emerged. Compared to T1D: (a)Teens with T2D may perceive their disease as being less severe. T2D can be managed with oral medication. Since girls with T2D are usually diagnosed during adolescence, they have less experience managing their disease and may be less likely to keep blood sugars in control thus putting them at risk for complications. (b)T2D is more prevalent among African American and Hispanic populations. T1D is predominantly among Caucasians. In our experts' experience, cultural issues may dispose the former group to be less trusting of doctors and more likely to leave their health to "fate," putting less emphasis on taking control of their own health. (c)T2D is associated with obesity, thus making it difficult for a teen to change her diet and lifestyle in a family environment that reinforces behaviors leading to obesity. (d) Teens with T2D could be more fertile because obesity relates to earlier puberty. (e) Metformin and treatments for Polycystic Ovarian Syndrome (more common with T2D) can increase fertility. (f)Oral agents for managing T2D can be teratogenic, requiring women transfer to insulin prior to a pregnancy.

Conclusions: T2D and its treatment can affect RH. Problems with puberty, menses, and fertility can increase the risk of an unplanned pregnancy and thus complications with pregnancy. These are compelling reasons to provide early, developmentally appropriate, culturally sensitive PC for teens with T2D.

CORRESPONDING AUTHOR: Denise Charron-Prochownik, PhD, School of Nursing, University of Pittsburgh, Pittsburgh, PA, 15261; dcpro@pitt.edu

C-62

CULTURALLY-TAILORED PATIENT EDUCATION MATERIAL RATED MORE ATTRACTIVE AND READABLE BY LATINO PATIENTS WITH DIABETES THAN MATERIAL TRANSLATED DIRECTLY FROM ENGLISH

Celia Kamath, PhD, Becky A. Smith, MA, Julie C. Hathaway, MS, Roxana Eng, MS, Casey W. Crane, MA, Stephanie L. Onsgard, BS, Beth L. Heim de Bera, MA and Kristin S. Vickers Douglas, PhD

Patient Education, Mayo Clinic, Rochester, MN.

Healthcare providers are increasingly requesting translation of English language patient education materials. Patient education experts assert that direct translation of material is only appropriate when cultural factors are assumed to be irrelevant. Chronic condition self-management requires patient activation and lifestyle change; consequently, cultural factors must be considered. In this pilot RCT, we studied two diabetes self-care patient education booklets written in Spanish. One version was a direct translation (DT) from an English language booklet, the second was developed specifically for Latino patients with diabetes, involving a process of cultural tailoring (CT) of information based on Latino patient feedback. The CT material had 75% less text and used an activating "key messages" approach. Latino patients with diabetes (n=75) were randomized to receive one of the two booklets. Surveys completed at baseline, 1 week, and 4 weeks post-education, consisted of items developed for this study and validated measures of diabetes knowledge and patient activation. Forty-four (59%) completed the study. Results indicate that the CT booklet was rated higher (but not statistically different) than the DT on clarity, perceived helpfulness of information, patient likeliness to share and recommend material to others, patient perception of likeliness to change behavior, and perceived usefulness of information for managing diabetes. Perceived knowledge and skills about diabetes care increased from baseline to post-education for both groups (p= n.s.). The CT booklet received significantly ($p=0.03$) higher ratings than DT for attractiveness and readability. A larger trial is required to adequately power statistical comparisons, and qualitative methods may be particularly useful in elucidating the specific components of culturally tailored patient education materials that are most likely to impact knowledge and behavior change.

CORRESPONDING AUTHOR: Julie C. Hathaway, MS, Patient Education, Mayo Clinic, Rochester, MN, 55901; hathaway.julie@mayo.edu

C-63

PERCEIVED CHILDREN'S ROLES IN PARENTS' DIABETES SELF-MANAGEMENT: AN EXPLORATION

Helena H. Laroche, MD,[1,2] Matthew M. Davis, MD, MAPP,[3] Jane Forman, ScD,[4] Gloria Palmisano, BA,[5] Heather S. Reisinger, PhD,[1,2] Cheryl Tannas, MSN, RN, CDE,[3,6] Michael Spencer, PhD[3] and Michele Heisler, MD, MPA[3,4]

[1]University of Iowa, Iowa City, IA; [2]Iowa City VA Medical Center, Iowa City, IA; [3]University of Michigan, Ann Arbor, MI; [4]Ann Arbor VA Medical Center, Ann Arbor, MI; [5]Community Health & Social Services Center, REACH Detroit Partnership, Detroit, MI and [6]Wayne State University, Detroit, MI.

Background: Family support is important in diabetes self-management but children's roles have received little attention. This study examines the role of children in their parents' diabetes self-management, diet, and exercise.

Methods: This research used community-based participatory research principles. Researchers conducted semi-structured parallel interviews of 24 adults with diabetes and with a child each of their homes (age 10–17 years). Interviews were transcribed, coded, and analyzed for themes.

Results: Adults and children perceived that children play many roles related to adults' diabetes self-management. Parents described children as monitoring parents' dietary intake and reminding them what they should not be eating. Parents and children perceived that children played a role in tempting parents to stray from their diabetes diet because children's diets included food that parents desired but should limit for their diabetes. Some children helped with shopping and meal preparation. Families described children's roles in reminding parents to exercise, exercising with their parent, reminding parents about medications and assisting with diabetes tasks such as preparing insulin and checking blood glucose.

Conclusion: Children and parents perceived that children have many roles in adults' diabetes self-management. There is still more to be learned about the bi-directional relationships between adults and children in this setting and the most beneficial roles children can play. Health-care providers and interventions should encourage family lifestyle change, incorporate children where appropriate, strengthen social support for families and focus children towards roles that are beneficial for parent and child and do not place undue responsibility on the child.

CORRESPONDING AUTHOR: Helena H. Laroche, MD, Internal Medicine, University of Iowa, Iowa City, IA, 52246; helena-laroche@uiowa.edu

C-64

FACTORS ASSOCIATED WITH ADHERENCE TO DIETARY SELF-MONITORING

M. A. Sevick, ScD,[1,2] R. Stone, PhD,[1,2] L. E. Burke, PhD,[1] Y. Wang, MS,[1] S. Zickmund, PhD[2,1] and M. Korytkowski, MD[1]

[1]School of Medicine, University of Pittsburgh, Pittsburgh, PA and [2]Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, Pittsburgh, PA.

Few researchers have examined the feasibility of computer-based dietary self-monitoring in diverse populations. We instructed 123 type 2 diabetic participants (ppts) to self-monitor their diet using a personal digital assistant (PDA) in a 3-phase, cognitive-behavioral intervention over 6 months targeting self-management. The intervention involved group sessions with 4 weeks of weekly contact (intensive) followed by 8 weeks of biweekly contact (transition), and 8 weeks of monthly contact (maintenance). Ppt characteristics were: 66% female; 34% minority; income 15% <\$10 K, 19% \$10-20 K, 15% \$20-30 K, 25% \$30-50 K, 25% >\$50 K; median education 14 years; age 54.7 (SD=11.4) years. Ppts entering >0 meals by phase were: 91(74%) intensive, 70(57%) transition, and 37(30%) maintenance. Average meals entered per week were 11 in intensive, 7 in transition, and 4 in maintenance. Three levels of adherence to monitoring were: nonadherent (NON; entered 0 meals/week), suboptimally adherent (SUB; < 12 meals), and adherent (AD; > 12 meals). Transitional probabilities were used to characterize temporal stability of self-monitoring behavior by phase. NON showed the greatest consistency (93–99%), followed by AD (78-85%), then SUB (33-45%). Multinomial logistic regression with linear splines was used to examine factors associated with the probability of self-monitoring over time. Relative to AD, the probability of NON did not vary with time in phase 1, increased in phase 2, with an attenuated positive slope in phase 3. Relative to AD, the probability of SUB decreased significantly in phase 1, increased significantly in phase 2, and did not vary with time in phase 3. Ppts with income \$10-20 K had higher probabilities of being NON than AD. Other than income \$10-20 K, factors expected to be associated with poorer self-monitoring adherence (other income categories, male gender, higher age, minority race, and lower education) were not seen in this population.

CORRESPONDING AUTHOR: Mary A. Sevick, ScD, School of Medicine, University of Pittsburgh, Pittsburgh, PA, 15213; sevick@pitt.edu

C-65

TEEN'S AT RISK FROM EXTREME PEER ORIENTATION: METABOLIC CONTROL

Linda M. Drew, PhD,[1] Deborah J. Wiebe, PhD[1] and Cynthia Berg, PhD[2]

[1]Division of Psychology, University of Texas Southwestern Medical Center, Dallas, TX and [2]Psychology, University of Utah, Salt Lake City, UT.

Objective: This study examined three issues related to glycemic control and adolescents who ignored their parents advice and diabetes management to fit in with their peers (i.e. Extreme Peer Orientation/EPO): (1) whether EPO was a risk factor for teens and predictive of higher levels of Hba1C; (2) could adolescent cognitive beliefs (diabetes integration and self-efficacy) and the adolescent-parental relationship (monitoring, communication, acceptance, and encouragement) moderate the association of EPO on glycemic control; and (3) were factors specific to the adolescent-parental relationship (monitoring, communication, acceptance, and encouragement) contributing to adolescent EPO, and leading to increased levels of Hba1C.

Research Design and Methods: Adolescents (n=252; 46% male and 54% female) aged 10–14 years with type 1 diabetes completed assessments of peer relationships (peer and diabetes-specific), a measure of self-efficacy and diabetes integration. Parental relationship measures were obtained for monitoring, acceptance, communication and encouragement. Hba1C scores were used as a marker of glycemic control.

Results: Extreme Peer Orientation was predictive of higher levels of Hba1C. Moderation analysis revealed that neither adolescent cognitive beliefs, nor the adolescent-parental relationship moderated the effects of Extreme Peer Orientation on Hba1c. Meditational analysis identified decreased parental acceptance and lowered father-adolescent communication were related to increased Hba1C, and were mediated by Extreme Peer Orientation.

Conclusion: Results revealed increased parental acceptance of adolescents and the value of communication between fathers and adolescents as important factors. These factors appear to play a role in decreasing the risk that adolescents will place more importance on their peer relationships (EPO) and in the process take risks with their health due to increased levels of Hba1C.

CORRESPONDING AUTHOR: Linda M. Drew, PhD, Division of Psychology, University of Texas Southwestern Medical Center, Dallas, TX, 75390; linda.Drew@utsouthwestern.edu

C-66

DOES AGE MATTER? FEAR OF HYPOGLYCEMIA IN CHILDREN AND TEENS WITH TYPE 1 DIABETES AND THEIR PARENTS

Maren Nyer, MEd, Laura Campbell, PhD, Steven Mortimer, N/A, Laurissa Kashmer, MD, Megan Greear, N/A, William Clarke, MD and Linda Gonder-Frederick, PhD

University of Virginia Health System, Charlottesville, VA.

Fear of Hypoglycemia (FoH) is a common concern among children/teens with type 1 diabetes and their parents. While some level of FoH may be adaptive, high levels of FoH can compromise diabetes control. Additionally, it is possible that levels of FoH change developmentally for children/teens and parents, but to date, no study has examined FoH in a broad age range of youth and their parents. Our sample included 158 children/teens ages 6 -18 (M age: 11.23 ± 3.77; 46% female; 92% white; M duration of diabetes: 5.52 years ± 3.48; 46% on insulin pump therapy) and their parents (parent education: M=15.48 ± 2.87 years). Groups of younger children (6–11) and teens (12–18) and their parents were compared on the child and parent versions of the Hypoglycemia Fear Survey (HFS). Younger children and their parents reported higher scores on the HFS Behavior scale ($t=3.08$, $p<.01$; $t=4.69$, $p<.01$, respectively) than the teen group. Younger children also reported higher HFS Total scores ($t=2.48$, $p<.01$). Levels of HFS Worry were equivalent for children of all ages and their parents. Comparison of pump and injection users showed no difference in FoH in younger children and parents of both age groups, but teens with pumps reported significantly lower FoH ($t=4.19$, $p<.01$) than teens with injections. HFS Behavior, Worry, Total scores were positively correlated for young children and their parents ($r=.33$, $p<.01$; $r=.17$, $p=.06$; $r=.30$, $p<.01$, respectively). There were no significant correlations between teen and parent HFS scores. Reports of higher levels of FoH in younger children and their parents, when compared with teens, is consistent with higher rates of severe and nocturnal hypoglycemic episodes found in young children. The lack of relationship between teen and parent FoH may reflect the more autonomous role teens take in their diabetes management.

CORRESPONDING AUTHOR: Maren Nyer, MEd, University of Virginia Health System, Charlottesville, VA, 22908-0223; mbn4k@virginia.edu

C-67

DEVELOPMENT OF A SPOUSAL CRITICISM QUESTIONNAIRE FOR ADULTS WITH TYPE 2 DIABETES

Jennifer Merrill, MS,[1] Claire Russell, BA,[2] Mary de Groot, PhD,[1] Jay Shubrook, DO[3] and Frank Schwartz, MD[3]

[1]Psychology, Ohio University, Athens, OH; [2]Psychology, Virginia Commonwealth University, Richmond, VA and [3]College of Osteopathic Medicine, Ohio University, Athens, OH.

Perceived criticism has been related to poor outcomes in psychological and medical illnesses. Perceived spousal criticism (PSC) can be particularly influential for individuals with a chronic illness that requires self-care. There has been little research investigating the potential influence of PSC in type 2 diabetes (T2DM). The purpose of this study was to create a diabetes-specific measure of PSC.

Participants (N=90) were married, 59% female, 90% White adults with T2DM who completed questionnaires as part of a longitudinal study examining psychosocial issues in T2DM. Participants completed a demographics questionnaire, 3 established measures of PSC, and the Spousal Feedback Questionnaire (SFQ), a new 21-item measure of diabetes-related PSC.

A principal component analysis (PCA) of the original 21 items of the SFQ yielded a 2-factor solution which accounted for 61.9% of the variance. Seven items were removed, and a second PCA with a forced 2-factor solution was completed using Varimax rotation, yielding 2 orthogonal factors (7 items each). Factor 1 was defined as destructive criticism (SFQ-D) and explained 53% of the variance (internal consistency of $\alpha=.84$). Factor 2 was defined as constructive criticism (SFQ-C) and explained 47% of the variance (internal consistency of $\alpha=.82$). Only the SFQ-D was positively correlated with general measures of PSC ($r=.30$, $p<.01$ to $r=.49$, $p<.001$). The results suggest that the SFQ may be a useful measure of diabetes-specific PSC. Findings also indicate the need to distinguish between constructive and destructive types of criticism. Further research is needed to demonstrate the construct validity, discriminant validity, and test-retest reliability of this measure.

CORRESPONDING AUTHOR: Jennifer Merrill, MS, Psychology, Ohio University, Athens, OH, 45701; jm317105@ohio.edu

C-68

OBSERVED PARENTING AND ADJUSTMENT IN ADOLESCENTS WITH TYPE 1 DIABETES

Sarah S. Jaser, PhD, Lauren E. White, BA and Margaret Grey, DrPH, RN

School of Nursing, Yale University, New Haven, CT.

Research supports that higher levels of parental involvement/support and lower levels of parent-child conflict are associated with better adjustment in adolescents with type 1 diabetes (T1D). The current study extends previous research by using observational methods to examine the relationship between specific parenting behaviors and adjustment in adolescents with T1D.

In this cross-sectional pilot study, we collected questionnaire, observational, and clinical data from adolescents age 10–16 years with T1D (n=30; 55% girls; mean age=12.6; 71% White). Questionnaires on adolescents' internalizing and externalizing symptoms, videotaped interactions of mothers and adolescents in a discussion-based task of diabetes-related stress, and clinical data on metabolic control (i.e., HbA1c) were used. Interactions were double-coded by research assistants; mean codes of parenting behaviors were used in analyses.

Bivariate correlations indicated that mothers' observed hostile behavior was related to higher levels of depressive symptoms (r=.50), externalizing symptoms (r=.39), and HbA1c values (r=.56). Similarly, mothers' inconsistent discipline was related to higher externalizing symptoms (r=.52) and HbA1c (r=.39). In contrast, mothers' observed prosocial behavior (e.g., demonstrations of cooperation and sensitivity) was related to lower levels of depressive symptoms (r=-.37), externalizing symptoms (r=-.55), and HbA1c (r=-.64). Finally, mothers' observed positive reinforcement was related to lower HbA1c (r=-.53), all p<.05. Multivariate analyses indicated that, after controlling for child's age and gender, maternal hostility was related to greater depressive symptoms (β=.58). Conversely, mothers' prosocial behavior was related to fewer externalizing symptoms (β=-.49) and lower HbA1c (β=-.40).

These findings indicate a strong association between parenting behaviors and adolescents' psychosocial adjustment and metabolic control. Interventions aimed at teaching effective parenting strategies may be helpful in improving adjustment in adolescents with T1D.

CORRESPONDING AUTHOR: Sarah S. Jaser, PhD, School of Nursing, Yale University, New Haven, CT, 06536-0740; sarah.jaser@yale.edu

C-69

PHYSICIANS' PERCEPTIONS OF THEIR TREATMENT RELATIONSHIP WITH TYPE 2 DIABETES PATIENTS

Katie Weinger, EdD,[1,2] Marilyn D. Ritholz, PhD,[1,2] Elizabeth A. Beverly, PhD[1,2] and Ashley Leighton, BA[1]

[1]Behavioral Research, Joslin Diabetes Center, Boston, MA and [2]Psychiatry, Harvard Medical School, Boston, MA.

Diabetes is a significant and growing chronic health problem in the U.S. An efficient and effective physician-patient encounter is of paramount importance in the treatment of persons with diabetes. The purpose of this qualitative and quantitative study was to examine the physician-patient encounter via endocrinologists' perceptions of and attitudes about diabetes patients and the treatment of diabetes.

A purposive sample of 8 physicians, specializing in the treatment of diabetes, participated in semi-structured interviews and completed the Diabetes Attitude Scale. Interviews were first transcribed and later coded by 4 researchers. We used content analysis to assess, categorize and interpret the data.

Physicians were White, 50% female, 50+6 years old (range 41 to 57 years), 21+6 years in medical practice, with an average of 68+9% type 2 diabetes patients in their practices. Qualitative analysis revealed three major themes 1) Patient Passivity: Physicians expressed disappointment with some patients who regularly came to their appointments but did not follow through on recommendations for self-care or improve glycemia; 2) Inaccurate Patient Communication: Physicians expressed a common frustration with patients misrepresenting important information about diabetes treatment, particularly glucose log records and medications; and 3) Acknowledgement of Self-Blame: Physicians expressed self-blame and frustration for patients' lack of progress. The survey found physicians' attitudes overwhelmingly supported Need for Special Training, Seriousness of Diabetes, Value of Tight Control, Psychosocial Impact of Diabetes, and Patient Autonomy.

Despite survey findings on physicians' positive attitudes towards diabetes, physicians' perceptions of Patient Passivity, Inaccurate Patient Communication and Self-Blame indicated a disconnect in the physician-patient relationship. Interventions designed to strengthen physician-patient collaboration are critical to successful diabetes management.

CORRESPONDING AUTHOR: Katie Weinger, EdD, Behavioral Research, Joslin Diabetes Center, Boston, MA, 02215; katie.weinger@joslin.harvard.edu

C-71

IMPACT OF MINDFULNESS MEDITATION ON ACADEMIC ACHIEVEMENT AND SOCIAL BEHAVIOR IN YOUTH

James B. Murzynowski, EdD[2] and Vernon A. Barnes, PhD[1]

[1]Georgia Prevention Institute, Medical College of GA, Augusta, GA and [2]Tutt Middle School, Augusta, GA.

Background: Academic performance is a priority issue in education today. There is a need for a more relaxed learning environment in schools. This qualitative study explored the impact of mindfulness meditation (MM) on two seventh grade science classes.

Methods: Each class engaged in MM sessions at school and at home daily for 6 weeks. Practice began at 2 -3 minutes per session and increased to 15 minutes in week 6. Data from school records of grades, attendance, and office referrals were collected. Data for social behavior was collected via daily journals, and selected individual (12 per class) and group interviews.

Results: Data collected from 46 students (mean age 12.3±0.6 years) on academic achievement showed 33 students as meeting or improving grades after the intervention. Of these, 19 students increased by 1 to 9 points, 9 students increased scores by 10 to 20 points, and 5 students had an increase of over 20 points. 11 students showed a decline and 2 remained unchanged. 23/24 students self-reported their school-related behavior improving as a result of MM practice. This improvement included relationships with parents, friends, or teachers. As a result of MM practice, the state of relaxation reported by students in the classroom may have contributed to their willingness to work hard and stay focused.

Conclusions: Most students improved their grades and classroom behavior during the MM study. Students were observed to remain academically focused despite the distractions associated with the end of the school year.

CORRESPONDING AUTHOR: Vernon A. Barnes, PhD, Georgia Prevention Institute, Augusta, GA, 30912; vbarnes@mail.mcg.edu

C-72

EFFECTS OF COMPUTER-GENERATED FEEDBACK ON EMOTIONAL EXPRESSION IN AN EXPRESSIVE WRITING TASK

Eric R. Hanson, BA,[1] Erin O. Bantum, PhD,[2] Doug Preddy, NA[3] and Jason E. Owen, PhD, MPH[1]

[1]Department of Psychology, Loma Linda University, Loma Linda, CA; [2]Cancer Research Center of Hawaii, University of Hawaii at Manoa, Honolulu, HI and [3]University of Central Oklahoma, Edmond, OK.

Self-guided and web-based interventions are increasingly being used to address a wide variety of health-related issues, and these types of interventions provide a wealth of text-based data that could be used to tailor intervention content. The purpose of this study was to develop and evaluate a dynamic implementation of Linguistic Inquiry and Word Count (LIWC) in order to modify emotional processing in a longitudinal emotional writing task.

Methods: 275 undergraduates engaged in a web-based implementation of the Pennebaker expressive writing paradigm. After writing for 20 minutes about their deepest thoughts and feelings related to a previous trauma or stressor, writing samples were automatically analyzed using a PERL-based implementation of LIWC. Subjects were randomly assigned to immediately receive either 1) no feedback, 2) simple video feedback, or 3) directive video feedback about their level of emotional expression in each writing sample.

Results: Correlations between our dynamic text analysis and LIWC-derived variables were strong (r=0.91 for both positive and negative emotion). Post-hoc modifications to the strategy yielded even higher correlations (r=0.98 for positive emotion, r=0.99 for negative emotion). Among participants who had low to moderate levels of emotional expression at baseline, group x time interactions were significant for overall emotional expression, F (2, 190)=4.36, p=0.014, and for positive emotional expression, F (2, 190)=4.73, p=0.01. Simple and directive feedback resulted in higher use of positive emotion words relative to the control group, but there were no differences between the two feedback groups. Group assignment did not effect negative emotional expression over time.

Implications: Automated feedback has potential to influence how individuals respond to web-based intervention elements. Much work remains to be done to evaluate and refine automated feedback derived from text-based data.

CORRESPONDING AUTHOR: Eric R. Hanson, BA, Loma Linda University, Loma Linda, CA, 92354; ehanson@llu.edu

C-73

TRANSLATING RESEARCH TO PRACTICE: PROBLEM-BASED MEDICAL EDUCATION AND THE SOCIAL DETERMINANTS OF HEALTH

Anna MacLeod, PhD

National Collaborating Centre for Determinants of Health, Antigonish, NS, Canada.

There are important implications in translating research into educational practice. One example of this is problem-based learning (PBL), a popular learning model in undergraduate medical education. Using written descriptions (cases), students work together in small groups (tutorials), to solve narrative depictions of clinical problems. PBL is intended to educate in a simulated clinical context and is designed to imitate “real life” medical situations. The PBL approach constitutes a situated initiation into the culture of medicine; therefore, this qualitative study explored the question: How does PBL teach medical students about the social determinants of health?

Conducted from a feminist poststructuralist perspective, the study included a critical discourse analysis of a set of 67 PBL cases, 26 hours of observation of a PBL tutorial, and, in-depth, open-ended interviews with five medical students and nine medical educators. The data were analyzed using a discourse analysis approach. Foucault’s “regimes of truth” and “technologies” served as analytical tools.

The study demonstrated that medical education is constituted through binary discourses and competing regimes of truth–competence (biomedical and clinical) and caring (social). These regimes are not equal partners in the enterprise of medical education. Competence is privileged and caring is marginalized, and this dynamic is reinforced through PBL cases.

Nonetheless, this study found that PBL is a learning approach that is ripe with potential. By translating research into practice, PBL might be engaged in a manner that takes into account the complexities of the social determinants of health and clinical/biomedical issues.

CORRESPONDING AUTHOR: Anna MacLeod, PhD, National Collaborating Centre for Determinants of Health, Antigonish, NS, B2G2W5; amacleod@stfx.ca

C-75

EXPLAINING CAM USE IN HIV+ PATIENTS: THE ROLE OF ILLNESS EXPERIENCES AND TREATMENT REPRESENTATIONS

Rae A. Littlewood, MS, Peter A. Vanable, PhD, Jennifer L. Brown, MS and Larry D. Hammonds, BA

Syracuse University, Syracuse, NY.

Many HIV+ patients use complementary and alternative medicine (CAM) to treat HIV symptoms and HAART side-effects and, for some, CAM use may interfere with HAART adherence. Drawing from the Common-Sense Model (CSM) of Self-Regulation (Cameron & Leventhal, 2003), this study examined the role of HIV-related illness experiences and treatment representations in HIV+ patients’ decision to use CAM. A cross-sectional computerized survey, including self-report measures of CAM use, HIV-related health complaints, and treatment representations of CAM and HAART, was administered to an outpatient sample of 150 HIV+ individuals (41% female, 48% African American). CAM use in the past month did not vary by gender, ethnicity, employment status, income, time since HIV diagnosis, or HAART use. Participants who reported CAM use in the past month (50%) endorsed a higher number of symptoms attributed to HIV or HAART side-effects in the past month, t (1,148)=-3.23, p<.05. With respect to representations of CAM, HIV+ CAM users endorsed stronger beliefs about the link between psychological factors and health and fewer concerns with CAM (t(1,148)= -1.82, p<.05) as compared to non-users. CAM users also rated CAM to be more effective for HIV-related conditions and had fewer concerns about the potential harm in using CAM to treat HIV, t(1,148)= -3.10, p<.05. CAM users did not differ from non-users with respect to HAART representations, suggesting that all participants hold similar beliefs about the necessity of HAART for long-term survival. Results from multivariate regression revealed that HIV-related health complaints and HIV-specific CAM representations each account for a unique portion of variance in predicting CAM use in the past month. Findings did not support hypothesized associations between CAM use and HAART representations, suggesting that the decision to use CAM is more strongly linked to positive views about CAM than negative views about HAART. Consistent with the CSM, HIV+ patients employ illness management strategies that align with their values and beliefs about health and illness.

CORRESPONDING AUTHOR: Rae A. Littlewood, MS, Syracuse University, Albuquerque, NM, 87108; ralittle@syr.edu

C-76

TESTING A TWO-PHASED MODEL OF HIV-RELATED STIGMA: THE ROLE OF HOMOPHOBIA, CONTAGION MYTHS, AND MOTIVATION TO CONTROL PREJUDICES

Jessie D. Heath, MS and Peter A. Vanable, PhD

Syracuse University, Syracuse, NY.

Although stigma directed towards HIV+ people remains highly prevalent, relatively little research has examined the psychological processes underlying the development, maintenance, and adjustment of stigma responses directed towards HIV+ people. The focus for the present study was to clarify the psychological factors governing stigmatizing responses and response adjustments towards persons living with HIV. Hypotheses guided by the Dual Process Model of HIV-related Stigma were tested using a computerized, unobtrusive measure of enacted stigma that simulated approach/avoidance behavior towards an HIV+ target. Undergraduate participants (N=70, M age=18.7, 67% female) completed self-report measures of homophobia, instrumental concerns, beliefs in a just world, control attributions, and internal and external motivations to control prejudice responses (MTCP). The primary dependent variable consisted of approach/avoidance scores that were derived based on feelings of positivity and negativity directed towards a fictional HIV+ person that participants were led to believe they would be meeting. Consistent with the Dual Process Model, a temporal pattern of stigma response was observed, such that early reactions to an HIV+ target were largely negative in nature, and differed from subsequent positive response adjustments. Early negative reactions to the HIV+ target were associated with the endorsement of casual contact myths, β=.32, t(69)=2.76, p<.01, and homophobia, β=.24, t(69)=2.0, p<.05. Response adjustments reflecting greater acceptance of the HIV+ target as time progressed were associated with internal MTCP, β=-.18, t(69)=-2.33, p<.05. As experiences of stigmatization have been associated with many psychological and health consequences among HIV+ individuals, findings confirm the need for innovative interventions to reduce HIV-related stigma. Interventions that emphasize the correction of HIV contagion myths, homophobia reduction, and the enhancement of internal MTCP may be successful in reducing stigma and negativity directed towards HIV+ individuals.

CORRESPONDING AUTHOR: Jessie D. Heath, MS, Psychology, Syracuse University, Syracuse, NY, 13203; jdnaught@syr.edu

C-77

CHURCH ATTENDANCE AND SEXUAL RISK BEHAVIORS AMONG AN AFRICAN AMERICAN CHURCH POPULATION

Starlyn Hawes, Psychology,[1] Jannette Berkley-Patton, PhD,[1] Carole Thompson, BA[2] and Erin Moore, BA[1]

[1]Psychology, University of Missouri-Kansas City, Kansas City, MO and [2]Calvary Community Outreach Network, Kansas City, MO.

Studies have shown that increased religiosity is associated with reduced engagement in sexual risk behaviors (e.g., number of sex partners, inconsistent condom use), particularly for African American (AA) adolescents. Paradoxically, studies have also shown that AAs tend to be highly religious, yet they are disproportionately represented in STD/HIV infections. It has become increasingly important to understand how religious organizations can play a role in facilitating reduction of STD/HIV risk behaviors with their members and the communities they serve. However, little has been reported on sexual risk behaviors and religiosity among AA church members. The current study examined regular church attendance, number of lifetime sex partners, and condom use among AAs attending church in inner-city Kansas City. Study participants (N=213) consisted of 142 women and 71 men (mean age=44.5; SD=13.9) of which 41.4% were married. On average, participants had been members of their respective churches for 16.5 years (SD=15.3), and most participants’ (63%) church attendance ranged from once a month to twice a week. All study participants reported engaging in vaginal, oral, and/or anal sex at least once in their lifetime. Women’s average number of male sex partners was 4.8 (SD=4.5), and men’s average number of female sex partners was 8.8 (SD=8.5). Condoms were consistently used by participants 23.2% of the time. Findings revealed no significant relationship between church attendance and number of female’s male sex partners (p=.42) or male’s number of female sex partners (p=.20). Also, no significant relationship was indicated between church attendance and consistent condom use (p=.09). These findings suggest that despite high church attendance, this sample may be susceptible to engaging in risky sexual behaviors - particularly inconsistent condom use. Further research is needed with AA church members to explore how STD/HIV prevention and screening interventions can be appropriately tailored for church settings.

CORRESPONDING AUTHOR: Starlyn Hawes, Psychology, Psychology, University of Missouri-Kansas City, Kansas City, MO, 64114; smhcnb@umkc.edu

C-78

CAN BAYESIAN METHODS BE USED TO SYNTHESIZE QUALITATIVE AND QUANTITATIVE RESEARCH FINDINGS?

Corrine I. Voils, PhD,[1,3] Vic Hasselblad, PhD,[3] YunKyung Chang, PhD,[2] Margarete Sandelowski, PhD[2] and Jamie Crandell, PhD[2]

[1]Durham VA Medical Center, Durham, NC; [2]University of North Carolina, Chapel Hill, NC and [3]Duke University, Durham, NC.

A major barrier to the full utilization of research in practice is the lack of methods for integrating qualitative and quantitative research findings. One proposed method is Bayesian meta-analysis. A Bayesian meta-analysis requires the assignment of the prior probability that a research finding is true. This probability is updated through multiplication by the likelihood of the data, yielding the posterior probability that the finding is true. We applied this method to synthesize qualitative and quantitative research findings regarding the relationship between regimen complexity and medication adherence in HIV-positive women. We used a noninformative prior distribution (i.e. all prior probabilities were the same). Calculating the likelihood required finding a common metric for the qualitative and quantitative findings. For each qualitative study, we estimated the number of women for whom a more complex regimen was associated with lower adherence, then used maximum likelihood to estimate the probability of this effect. For each quantitative study, we calculated the proportion of participants for whom a more complex regimen was associated with lower adherence. Although our goal was to combine both types of findings into a single synthesis, we were unable to because the parameters and credible set limits for the qualitative and quantitative studies were very different; the posterior mode for the qualitative studies was .60 (0.52, 0.69), and the posterior mode for the quantitative studies was 0.22 (95% credible set limits 0.18, 0.27). These findings suggest that the qualitative and quantitative studies were answering different research questions, thereby resisting synthesis. Although one may ask the same research question of qualitative and quantitative research studies, the findings may not lend themselves to synthesis.

CORRESPONDING AUTHOR: Corrine I. Voils, PhD, Durham VA Medical Center, Duke University, Durham, NC, 27519; voils001@mc.duke.edu

C-79

PSYCHOMETRIC VALIDATION OF THE HIV MEDICATION TAKING SELF-EFFICACY SCALE

EunSeok Cha, MPH, PhD, Judith A. Erlen, PhD, FAAN and Susan M. Sereika, PhD

School of Nursing, University of Pittsburgh, Pittsburgh, PA.

This study evaluated the psychometric properties of the HIV medication taking Self-Efficacy Scale (HIV SES) comprised of two subscales: self-efficacy beliefs (SEB, 17 items) and outcome expectancies (OE, 9 items). Specifically, we examined (a) reliability; (b) criterion validity; and (c) factorial validity of HIV SES. Baseline and post intervention (12wks) data from "Improving Adherence to Antiretroviral Therapy" (2R01 NR04749) and “Adherence to Protease Inhibitors" (1R01 NR04749) were used. From 1999 to 2007, 375 men and 163 women with HIV were recruited from multiple sites in Pittsburgh and Ohio (mean age= 42.55 ± 7.87). A demographic tool, Beck Depression Inventory, Interpersonal Support Evaluation List, Morisky Self-reported Medication Taking Scale and HIV SES were used. Participants reported moderately high self-efficacy to follow HIV medication regimen with small variances (HIV SES: 213.01 ± 36.37, range: 31-260; SEB: 139.85 ± 28.47, range: 17–170; OE: 74.78 ± 16.78, range: 9-90). Cronbach’s alphas of the HIV SES were excellent: HIV SES=.95; SEB=.95; OE=.94); test-retest reliability showed significant positive relationships (n=160, r=.68, p<.001). Criterion validity of the HIV SES was confirmed by the positive association with social support (r=.39, p<.001) and self-reported medication taking adherence(r=.57, p<.001), and negative association with depressive symptoms (r= -44, p<001). Confirmatory factor analysis was performed with robust method to examine factor structure. A two-factor model with five correlated error terms in the SEB and one correlated error term in the OE showed a good model fit (S-B $\chi 2$= 796.90, df= 291, p<.001; CFI= .90; RMSEA=.06). This study shows that the HIV SES is a reliable and valid instrument to measure HIV medication taking self-efficacy. Future testing of the HIV SES needs to be conducted with heterogeneous samples in international research.

CORRESPONDING AUTHOR: EunSeok Cha, MPH, PhD, University of Pittsburgh, Pittsburgh, PA, 15261; esc24@pitt.edu

C-80

USING THE INFORMATION-MOTIVATION-BEHAVIORAL SKILLS (IMB) MODEL TO PREDICT CONDOM USE AMONG STD CLINIC PATIENTS

Lori A. Scott-Sheldon, PhD,[1] Michael P. Carey, PhD,[1,2] Peter A. Vanable, PhD,[1,2] Theresa E. Senn, PhD,[1] Patricia Coury-Doniger, FNPC[2] and Marguerite A. Urban, MD[2]

[1]Center for Health and Behavior, Syracuse University, Syracuse, NY and [2]School of Medicine and Dentistry, University of Rochester, Rochester, NY.

Compared with uninfected individuals, people with sexually transmitted infections (STI) are two to five times more at risk of contracting HIV through sexual contact (CDC, 2007). Given that STI rates are higher among patients in STI clinics relative to the general population (Weinstock et al., 1995; 1998), identifying determinants of condom use among STI clinic patients is critical in the prevention of HIV and other STIs. The current study assessed the determinants of condom use postulated by the Information-Motivation-Behavioral Skills (IMB) Model in a sample of 1,544 patients (46% female, 64% African-American, *M* age=29 years) from a publicly-funded STI clinic. Participants were asked to complete an audio-computer-assisted self-interview (ACASI) regarding their AIDS-risk-reduction information, motivation, behavioral skills, and condom use. To establish whether the IMB items represented distinct latent constructs, we initially conducted confirmatory factor analyses using maximum likelihood estimates. After establishing adequate measurement models, structural equation modeling (SEM) was used with fit indices indicating that the IMB model provided a good fit to the data (CFI=.985, RMSEA=.039). The constructs of the model accounted for 31% of the variance in condom use. Parameter estimates indicated that while information did not have a direct effect on condom use (β=-.002, p=.942), it had a negative effect on behavioral skills (β=-.258, p<.001). Motivation had a positive effect on both behavioral skills (β=.525, p<.001) and condom use (β=.163, p<.001). Behavioral skills had a positive effect on condom use (β=.467, p<.001). These findings suggest that sexual risk reduction interventions among STI clinic patients should include activities that address motivation to use condoms and directly enhance skills to increase condom use.

CORRESPONDING AUTHOR: Lori A. Scott-Sheldon, PhD, Center for Health and Behavior, Syracuse University, Syracuse, NY, 13244; lajss@syr.edu

C-81

SEXUAL COMMUNICATION DIFFICULTIES MEDIATE THE RELATIONSHIP BETWEEN SELF-ESTEEM AND UNPROTECTED ANAL INTERCOURSE

Laura Katz, BSc, Danielle E. Culp, BA, Karen Roberts, MA, Stacey Hart, PhD and Trevor Hart, PhD

Ryerson University, Toronto, ON, Canada.

Sexual risk behavior among HIV-positive men who have sex with men (MSM) continues to be an issue for HIV-prevention (Kesteren et al., 2007). However, much of the research on HIV and MSM has focused on risk behaviors and only recently have the effects of psychosocial factors on unprotected anal intercourse (UAI) begun to be investigated. Low levels of self-esteem have been found to be predictive of UAI in MSM (Preston et al., 2004). Moreover, lower levels of safer sex communication predict UAI (Moliter et al., 1999). Some data suggest that lower self-esteem negatively impacts one’s ability to discuss highly sensitive topics, particularly those related to sex (Crosby et al., 2002). The goal of the current study was to examine the extent to which sexual communication mediated the relationship between self-esteem and UAI in MSM, as this important conceptual link has yet to be investigated. As part of an ongoing study, a sample of 300 MSM was recruited in Toronto for a larger study of HIV transmission risk behavior. Participants completed computerized questionnaires assessing self-esteem (Automatic Thoughts Questionnaire), sexual communication (Attitudes Relating to Sexual Concerns) and occurrence of having UAI. Our mediational model was tested with multiple regression analyses using Baron and Kenny’s methodology. Analyses found that worse self-esteem was significantly associated with more difficulties in sexual communication (β=.30, p<.001) and greater UAI (β=1.36, p<.05). In addition, sexual communication difficulties predicted greater UAI (β=1.15, p<.001). However, when sexual communication difficulties were put into the model, self-esteem was no longer significantly associated with UAI (β=1.24, NS). Our analyses suggest that sexual communication difficulties help to explain the relationship between poor self-esteem and engaging in UAI. Although these data are cross-sectional, they suggest the need for an intervention that educates individuals with lower self-esteem on proactive sexual communication skills to help prevent the risk of contracting HIV.

CORRESPONDING AUTHOR: Laura Katz, BSc, Ryerson University, Toronto, ON, M5B 2K3; laura.katz@psych.ryerson.ca

C-82

THE ASSOCIATION OF PTSD CRITERION A EVENTS AND HIV RISK REDUCTION FOR ADULT MEN AND WOMEN WITH SERIOUS MENTAL ILLNESS WITH OR AT RISK FOR HIV

Jori A. Berger-Greenstein, PhD, Melissa L. Maskulka, BA and Stephen M. Brady, PhD

Psychiatry, Boston University School of Medicine, Boston, MA.

The association between traumatic life events and HIV risk and infection is well-documented, however, the specific nature of this relationship and mechanisms of increased risk are not yet fully understood. A question that remains unanswered to date is whether specific “categories” of Criterion A events are more or less predictive of HIV risk. We examined these relationships in a study of adult men and women with serious mental illness with or at high risk for HIV. Participants were assessed for the number of vaginal sex partners in the previous three months and skills necessary for proper use of male condoms and negotiation of high-risk situations. Participants were also assessed for PTSD using the SCID. Data reflects those participants (n=93) who met criteria for a lifetime history of PTSD. Comparisons were made for those with Criterion A events involving interpersonal violence (physical and sexual assault) and those with other traumatic events (including loss, witness to violence, and near-death experiences). Participants with interpersonal violence Criterion A events received significantly lower scores in the accuracy of male condom use (t=2.39; p=.02). Examination of data for female participants in the sample indicated that those with interpersonal violence Criterion A events were significantly more deficient in effective negotiation skills (t=2.06; p=.05) and had a mean of 2.06 more vaginal sex partners in the previous three-month period, as compared to women with other categories of trauma, a significant comparison (t=2.70; p=.01). These results suggest that the specific nature of Criterion A events may have direct implications in the ways in which people with PTSD are at risk for HIV. These observations also highlight the needs for effectively reducing HIV risk for people with a history of traumatic events.

CORRESPONDING AUTHOR: Jori A. Berger-Greenstein, PhD, Psychiatry, Boston University School of Medicine, Boston, MA, 02118; jberger@bu.edu

C-83

REPORTS OF EVENTS RELATED TO HIV PREJUDICE AMONG SEROPOSITIVE ADULTS IN VERMONT

Sondra E. Solomon, PhD,[1] Janice Y. Bunn, PhD,[2] Carol T. Miller, PhD[1] and Tara M. McCuin, MA[1]

[1]Psychology, University of Vermont, Burlington, VT and [2]Medical Biostatistics, University of Vermont, Burlington, VT.

There is limited information regarding the day-to-day reports of enacted stigma encountered by individuals living with HIV/AIDS. Thirty-eight seropositive adults completed both a baseline questionnaire and a seven day diary regarding their experiences living with HIV/AIDS. Participants were recruited from an annual meeting sponsored by an AIDS Services Organization in Vermont. Participants completing the diary described a mean of 3.13 (SD=3.09) events that were related to their HIV infection occurring during the one-week period. Eight individuals (22%) reported no incidents occurring, while one person described a maximum of three events on each of the seven days. Of those describing at least one event, the participants categorized 1.16 (SD=1.82) of the events (38%) as being definitely or probably prejudiced, while an additional 0.87 (SD=1.49) events (25% of the total events described) were rated as uncertain with respect to whether they involved prejudice. On a scale of 0 (no distress) to 10 (most distress that I have ever experienced), the participants gave these events a mean rating of 5.3 (SD=2.9). The ratings of distress were significantly related to the level of prejudice that the participant attributed to each event ($\beta=1.00$, $p<0.0001$). Findings suggest that HIV seropositive individuals experience prejudice, discrimination and exclusion related to their serostatus and that they find these experiences distressing. Current research is being conducted to understand the conditions under which these experiences occur, and the self-regulatory styles employed by affected individuals to mange these situations.

CORRESPONDING AUTHOR: Sondra E. Solomon, PhD, Psychology, Unviersity of Vermont, Burlingotn, VT, 05405; sondra.solomon@uvm.edu

C-84

UNDERSTANDING THE DYNAMIC PROCESSES OF ACCULTURATION AND HEALTH DECISION-MAKING: A DAILY DIARY APPROACH

Marcella H. Boynton, MA

[1]Psychology, University of Connecticut, Storrs, CT and [2]Center for Health Intervention and Prevention, Storrs, CT.

There are significant health disparities between Hispanics and Whites with respect to a number of health conditions, including HIV/AIDS, substance abuse, and obesity. One factor that may help to illuminate the mechanisms underlying these disparities is the impact of acculturation on health behavior decision-making; however, little research to date has examined this potentially important relation. Additionally, studies of health deficits in Hispanic populations have typically employed one baseline questionnaire and one to two post-test questionnaires. This methodology lacks the capacity to create a complete model of daily changes in factors associated with acculturation and health decision-making. The purpose of this study was to examine how fluctuations in constructs associated with acculturation can impact health behavior (i.e., sexual risk behavior, alcohol use, nutrition, and exercise). The results are derived from a daily diary study with Hispanic young adults living in Connecticut. Participants were male and female Mexicans and Puerto Ricans recruited from area university campuses and Latino community centers. P’s completed daily measures once per day for three weeks by calling an automated telephone system (i.e., interactive voice response (IVR) system); they also completed comprehensive pre- and post-test measures. Multilevel modeling findings from this study suggest that Hispanics face significant psychological and structural barriers when making certain health decisions. The results also indicate that unique daily risk profiles exist for different Latinos and different health behaviors. Some relevant factors include degree of acculturation, gender, national background, and identity-based motivations. The utility of considering the target population’s degree acculturation when designing health interventions for immigrant groups will be discussed. Strategies for the successful implementation of daily diary methodology with at-risk youths in an urban environment will also be presented.

CORRESPONDING AUTHOR: Marcella H. Boynton, MA, Psychology, University of Connecticut, Storrs, CT, 06269; marcella.h.boynton@uconn.edu

C-85

SELF-REEVALUATION AS A CRITICAL COMPONENT IN SUSTAINED BEHAVIOR CHANGE FOR HIV+ ADULTS WITH ALCOHOL PROBLEMS

Sarit A. Golub, PhD, MPH,[1,2] Buffie Longmire Avital, PhD[2,3] and Jeffrey T. Parsons, PhD[1,2]

[1]Psychology, Hunter College, City University of New York, New York, NY; [2]Center for HIV/AIDS Educational Studies and Training, New York, NY and [3]Public Health Solutions, New York, NY.

Self-reevaluation is one of the ten processes of change identified as part of the Transtheoretical Model (TTM), and involves cognitive reappraisal of the extent to which a behavior change is part of one’s identity. Although self-reevaluation is recognized as a critical motivator for individuals in the contemplation stage of change, few studies have examined its impact on sustained behavior change. This study compared the contribution of different TTM processes to sustained behavior change among participants in an 8-session intervention designed to improve treatment adherence among HIV+ adults with alcohol problems. Project PLUS is one of the few behavioral interventions to demonstrate significant improvement in treatment vs. control on both biological (i.e. viral load and CD4) and behavioral measures of adherence. Participants in the intervention condition demonstrated significant improvement from baseline to 3-month follow-up, compared to participants in the control condition, in two TTM processes, self-reevaluation (p<.02) and self-liberation (p<.03). Further analyses revealed a moderating impact of depression, such that the motivational interviewing intervention was particularly beneficial in increasing self-reevaluation among participants with the highest levels of depression (p<.05), and these effects were sustained 6 months post-intervention. Most important, participants’ self-reevaluation scores 3-months post-intervention emerged as significant and independent predictors of improvement in viral load 6 months post-intervention, over and above self-reported behavior change (p<.05). These results underscore the importance of training health care professionals to address self-reevaluation as a critical factor in sustained behavior change among HIV+ adults.

CORRESPONDING AUTHOR: Sarit A. Golub, PhD, MPH, Psychology, Hunter College, City University of New York, New York, NY, 10065; sarit.golub@hunter.cuny.edu

C-86

RELIGIOUS COPING, SELF-ESTEEM, AND LOCUS OF CONTROL: MINDFULNESS IN AN HIV+ POPULATION

Jonathan Hill, BA, Mark Vosvick, PhD and William Hua, BS

University of North Texas, Denton, TX.

Mindfulness, the self-awareness of physical and mental states, is a key component in health and relaxation techniques, such as meditation (Schure, Christopher, & Christopher, 2008). Meditation is associated with increased positive affect via left-sided anterior activation in the brain (Davidson et al., 2002). Mindfulness and good health are also positively associated with religious practice (Carmody, 2008). Mindfulness may also lessen symptoms of physical pain and psychological distress (Grossman et al., 2003), thereby increasing quality of life (QOL). While higher self-esteem contributes significantly to self-awareness (Thompson & Waltz, 2007), ascribing events to chance (external locus of control) is antithetical to mindfulness (Grier et al., 2003), and associated with depression (Rothbaum et al., 1982). We hypothesized that religious coping, higher self-esteem, and a decreased external locus of control (chance) would significantly account for variation in mindfulness in our sample of HIV+ adults.

Our model used religious coping, self-esteem, and locus of control-chance as predictors of mindfulness. Participants ($n=61$; 51.6% female; 66.1% African-American) completed the following scales: Brief Cope (Carver, 1997), Rosenberg Self-Esteem (Rosenberg et al., 1989), Locus of Control-Chance (Wallston et al., 1978), and Kentucky Inventory of Mindfulness Skills (Baer, 2003). A multiple regression analysis revealed our model accounted for 37% of the variance in mindfulness (adj. $R2=.37,F(3, 57),p<.001$). Participants who used more religious coping ($\beta=.30,t=2.78,p<.01$), reported higher self-esteem ($\beta=.34,t=2.96,p<.01$) and relied less on chance ($\beta=-.23,t=-2.13,p<.01$), reported higher levels of mindfulness.

These results underscore the mind-body relationship, and how higher self-esteem, adaptive coping, and perceived control may lead to increased mindfulness and better health. Clinical interventions that focus on self-esteem, internal loci of control, and religious coping may improve mindfulness (a corollary of QOL) in HIV+ adults.

CORRESPONDING AUTHOR: Jonathan Hill, BA, University of North Texas, Denton, TX, 76205; jhill34_99@yahoo.com

C-88

HEALTHIER TROOPS IN A SNAP (SCOUTING NUTRITION AND ACTIVITY PROGRAM): DIETARY OUTCOMES IN GIRL SCOUTS, THEIR PARENTS, AND TROOP MEETINGS

Richard R. Rosenkranz, PhD[1,2] and David A. Dzewaltowski, PhD[2]

[1]Human Nutrition, Kansas State University, Manhattan, KS
and [2]Community Health Institute, Kansas State University, Manhattan, KS.

Little is known with regard to opportunities and encouragement for healthful eating in Girl Scouts troop meetings. Objective: This study evaluated the effect of an intervention delivered through Girl Scouts Juniors troops that was designed to create healthful troop meeting environments and foster healthful family mealtimes at home. Methods: Seven Girl Scout troops were randomized to intervention ($n=3$, with 34 girls) or standard care control ($n=4$, with 42 girls) conditions. Girls ranged in age from 9 to 13 years. Intervention troop leaders were trained to implement policies to promote healthful eating opportunities at troop meetings, and to implement a curriculum over four months designed to promote healthful family meals at home. Results: Intervention troops were successful in providing greater opportunities for healthful eating in troop meetings, relative to control troops. Intervention troops offered: significantly greater nutritional educational content ($p<.001$); significantly greater healthful eating promotion ($p<.001$); less exposure to candy, cakes, cookies, sugar-sweetened beverages; and greater exposure to fruits, vegetables and water. However, the intervention's impact beyond troop meetings and on the weight status and health behaviors of girls and parents was negligible. There were no significant differences by condition in: girls' BMI z-score ($p=.615$); family meal frequency ($p=.455$); overall fruit and vegetable consumption ($p=.603$); differences in eating with the television at home ($p=.280$). Conclusions: Implementing policies to provide more healthful environments in Girl Scouts troop meetings appears feasible on a broader scale. However, more work needs to be done to bridge health promotion from institutional settings to the home environment, if lasting behavior change and obesity prevention remain targeted outcomes.

CORRESPONDING AUTHOR: Richard R. Rosenkranz, PhD, Human Nutrition, Kansas State University, Manhattan, KS, 66506; ricardo@ksu.edu

C-89

DEVELOPMENTAL AND CONTEXTUAL RISKS OF SOCIAL PHYSIQUE ANXIETY AMONG FEMALE ATHLETES

Jennifer M. Gay, PhD,[2] Eva V. Monsma, PhD[1] and Toni Torres-McGehee, PhD[1]

[1]Physical Education, University of South Carolina, Columbia, SC and [2]Public Health, University of Texas at Houston, Brownsville, TX.

Social Physique Anxiety (SPA) is recurrently emerging as a salient predictors of maladaptive behaviors such as disordered eating, smoking and physical inactivity. Little is known about concurrent developmental and contextual mechanisms contributing to SPA development during childhood and adolescence. This study considered the role of maturity offset (time from peak height velocity), menarcheal timing and sport context in the etiology of SPA among 404 female adolescent athletes 11 to 16 years of age. Various anthropometric variables used to estimate maturity offset were measured by skilled anthropometrists and participants completed the Social Physique Anxiety Scale (SPAS) and a menarcheal history questionnaire. Variation across individual and team aesthetic and non-aesthetic sport participants indicated highest SPA among individual aesthetic sport participants ($p<.0001$) despite being physically smaller (< BMI, $p<.0001$). Menarcheal age ($r=.15$, $p<.01$) and maturity offset ($r=.14$, $p<.01$) were stronger correlates of SPA than chronological age ($r=.10$, $p<.05$). Among post-menarcheal girls, later maturers who had lower BMI scores, reported higher SPA than early maturers ($p<.05$). Odds ratio analysis indicated that individual aesthetic sport athletes were seven times more likely to report higher SPA than non-aesthetic team sport participants and that a one unit increase in BMI increased the odds of reporting higher SPA by 12%. Participating in individual aesthetic sport contexts and being late in maturation despite being relatively small are SPA risks in the present sample. Intervention and education efforts targeting coaches, sport officials, parents and athletes must address inter-individual differences in growth and maturation especially in aesthetic sport contexts.

CORRESPONDING AUTHOR: Eva V. Monsma, PhD, Physical Education, University of South Carolina, Columbia, SC, 29208; eavadocz@mailbox.sc.edu

C-90

IS SHE BETTER THAN ME? SOCIAL COMPARISON AND BODY SURVEILLANCE AS PREDICTORS OF BODY IMAGE AND EATING DISTURBANCE

Andrea E. Mercurio, PhD,[1] Brandi Rima, MA,[2] Serena Lo, MA[2] and Laura Landry, PhD[3]

[1]Psychiatry, Boston University, Boston, MA; [2]George Washington University, Washington, DC and [3]OMNI Institute, Denver, CO.

Body surveillance has been linked to psychological and behavioral health problems for women, such as increased body shame and disordered eating (Moradi et al, 2005). Similarly, individual differences in the tendency to engage in social comparisons have been implicated in the development of poor body image and disordered eating symptoms (Corning et al, 2006). No study to date, however, has considered how these factors together may exacerbate harmful body-related attitudes and behaviors. We examined whether the tendency to engage in upward social comparisons placed an individual high in body surveillance at increased risk for body shame and disordered eating symptoms compared with individuals who tend to make fewer upward comparisons. Female college students ($N=70$) completed the Objectified Body Consciousness Scale, Eating Attitudes Test, and Iowa-Netherlands Comparison Orientation Measure. We predicted that upward social comparison would moderate the relation between (1) body surveillance and body shame, (2) body surveillance and symptoms characteristic of anorexia, and (3) body surveillance and symptoms characteristic of bulimia. Specifically, we expected those higher in surveillance and higher in upward social comparison to report higher levels of shame and disordered eating symptoms compared with those higher in surveillance but lower in upward social comparison. Regression analyses supported our predictions: there was a significant interaction between body surveillance and upward social comparison for body shame ($\beta=.24$, $t=1.97$, $p<.05$), symptoms of anorexia ($\beta=.26$, $t=2.29$, $p<.05$), and symptoms of bulimia ($\beta=.27$, $t=1.99$, $p<.05$). Further probing suggested that for each outcome, high surveillance and high upward comparison led to greater reported body shame and disordered eating symptoms compared with high surveillance and low upward comparison. Results suggest that the negative impact of body surveillance is intensified when individuals also compare themselves to those who are 'better off'.

CORRESPONDING AUTHOR: Andrea E. Mercurio, PhD, Psychiatry, Boston University, Boston, MA, 02118; aemerc@bu.edu

C-91

THE ROLE OF SELF-EFFICACY IN UNDERSTANDING TREATMENT EFFECTS IN THE FOOD FOR LIFE PROGRAM

Kristina Schumann, MA,[1] Carlo DiClemente, PhD,[1] Janine Delahanty, PhD,[1] Stephen Havas, MD[2] and Patricia Langenberg, PhD[3]

[1]University of Maryland, Baltimore County, Baltimore, MD; [2]Northwestern University, Chicago, IL and [3]University of Maryland School of Medicine, Baltimore, MD.

Personal efficacy to perform behaviors often predicts future behavior. However, its role in treatment response is not often tested. This study examined whether baseline, behavior-specific self-efficacy for 3 dietary behaviors: percent calories from fat, consumption of fruits and vegetables, and dietary fiber moderated the relations between intervention status and changes in consumption. The Food for Life Program (FFL), a six-month intervention designed to reduce % calories from fat, increase dietary fiber intake and increase consumption of fruits and vegetables recruited 2,066 women from Maryland WIC Centers. Results from the FFL program support intervention success in improving three targeted dietary behaviors compared to the usual care group (Havas, et al., 2003). The current study used multiple regressions to examine the relations between self-efficacy and the targeted dietary behaviors, as well as, whether self-efficacy moderated the treatment effects reported by Havas, et al. (2003). Consistent with the findings reported by Havas, et al. (2003), significant main effects of treatment were found for all three dietary behaviors ($p<.01$). Additionally, significant main effects of behavior-specific self-efficacy were found for changes in dietary fiber intake and fruit and vegetable consumption ($p<.01$), but not for change in % calories from fat. There were no significant interactions between intervention assignment and behavior-specific self-efficacy. Results indicate that treatment was effective in improving dietary behaviors and self-efficacy was an important predictor of dietary change, however self-efficacy did not moderate treatment effects for any of the three target behaviors. Although the intervention was not differentially effective based on baseline self-efficacy, the importance of self-efficacy in predicting dietary change suggests that attention should be paid to assessing self-efficacy at the beginning of treatment.

CORRESPONDING AUTHOR: Kristina Schumann, MA, Psychology, University of Maryland, Baltimore County, Baltimore, MD, 21224; kschu1@umbc.edu

C-92

RISK FACTORS OF SHORT-TERM AND LONG-TERM UNHEALTHY WEIGHT LOSS BEHAVIORS IN A U.S. ARMY SAMPLE

Laurel K. Cofell, BA, Chiao-wen Hsiao, MA and Tracy Sbrocco, PhD

Medical and Clinical Psychology, Uniformed Services University of the Health Sciences, Bethesda, MD.

Unhealthy weight loss behaviors (WLB), such as vomiting, fasting, or the misuse of laxatives are prevalent in the armed forces and can have negative physical and psychological health consequences. Military personnel often engage in short-term WLB before weigh-in/fitness testing to meet weight standards. Some also engage in long-term WLB to maintain weight over time. We examined risk factors of short-term WLB (SWLB; before weigh-in and fitness testing) and long-term WLB (LWLB; at least twice a week for at least 3 months) in a military sample. A sample of 871 Army Active Duty (62%) and Reserve soldiers completed a self-report survey and measures of eating disordered cognitions. Most soldiers were male (68%) and Caucasian (44%). Mean age was 33.2±8.28 years old. Mean Body Mass Index was 25.58±3.32 kg/m^2. Fifty-two percent of the sample reported SWLB and 45% reported LWLB. Forty-six percent of the sample reported a history of failing military weight standards. Levels of eating disordered cognitions were low to moderate (i.e., Dietary Restraint, Bulimia, Drive for Thinness, & Body Dissatisfaction). Logistic regression revealed that females were more likely than males to engage in both SWLB and LWLB, as well as individuals who scored high on Dietary Restraint and Body Dissatisfaction, and those who have a history of and worry about failing weight standards ($ps<.05$). However, duty status was only associated with SWLB ($p<.05$) but not LWLB. Active Duty soldiers were 1.52 times more likely than the Reserve soldiers to engage in SWLB. On the other hand, Drive for Thinness was positively associated with LWLB ($p<.05$) but was not associated with SWLB. There appears to be a similar risk profile for SWLB and LWLB among Army soldiers. Active Duty soldiers, women, and soldiers who worry about weight standards may suffer the most health consequences due to increased prevalence of unhealthy weight loss behavior. Ultimately, weight standards and fitness testing may place military personnel at increased risk for unhealthy weight loss behaviors.

CORRESPONDING AUTHOR: Laurel K. Cofell, BA, Medical and Clinical Psychology, Uniformed Services University of Health Sciences, Bethesda, MD, 20814; lcofell@usuhs.mil

C-93

PROCESSES OF CHANGE AS POTENTIAL MECHANISMS FOR CHANGING DIET DURING A DIETARY INTERVENTION

Carlo C. DiClemente, PhD,[1] Janine Delahanty, PhD,[1] Kristina Schumann, MA[1] and Stephen Havas, MD[2]

[1]University of Maryland, Baltimore County, Baltimore, MD and [2]Northwestern University Feinberg School of Medicine, Chicago, IL.

How do successful dietary interventions work? Havas et al. (2003) found improvements across 3 dietary outcomes (% calories from fat, grams of fiber, and servings of fruits and vegetables) following the Food For Life Program (FFL): a multi-dimensional, six-month dietary intervention for 2,066 women enrolled in the Maryland WIC program. This secondary analysis examined mechanisms of these dietary improvements, namely the experiential and behavioral processes of change (EPOC and BPOC respectively) from the Transtheoretical Model. This study evaluated how changes in POC use over the course of a dietary intervention were related to initial stage status for eating a diet low in fat. At baseline assessment women were classified into one of the 5 SOC (Precontemplation [PC], Contemplation [C], Preparation [P], Action [A], or Maintenance [M]) for eating a diet low in fat using both self-report and objective dietary information. Changes in process use over the 6 month intervention were compared by SOC and intervention status. At post-intervention, women receiving the dietary intervention reported higher process use relative to the women who received usual care ($p<.01$ and $p< .001$ for EPOC and BPOC respectively) when controlling for baseline process use. Comparisons across stages revealed that women in the pre-Action stages (PC, P, and C) for eating a diet low in fat who received the intervention significantly increased both EPOC activities ($p<.10$ for PC and p's< .05 for C & P) and BPOC activities (p's<.01 for PC & P and $p<.05$ for C) from baseline to post-treatment relative to the control group. Significant differences were not found for women in A and M stages. This intervention increased both experiential and behavioral process use and demonstrated improved outcomes compared with the control condition indicating possible mechanisms of change for the intervention and potential targets for developing more efficacious dietary intervention programs.

CORRESPONDING AUTHOR: Janine Delahanty, PhD, Psychology, University of Maryland, Baltimore County, Baltimore, MD, 21250; delahan1@umbc.edu

C-95

INTERNAL CONSISTENCY OF THE SCL-90-R FOR PATIENTS SEEKING BARIATRIC SURGERY

Kathleen Ashton, PhD, Dana M. Ransom, PhD, Leslie Heinberg, PhD and Amy Windover, PhD

Dept of Psychiatry & Psychology, Cleveland Clinic, Cleveland, OH.

Objectives: Presurgical Bariatric psychological evaluations typically utilize both a clinical interview and psychometric testing. Among the most commonly used measures to date are the MMPI-II, BDI-II, and MBMD (Walfish et al., 2007). Given recent concerns about the psychometric characteristics of some of these measures in bariatric samples (Walfish, Wise, & Streiner, 2008), this study explored the internal consistency reliability of the SCL-90-R (Derogatis, 1994). While the American Society for Metabolic and Bariatric Surgery includes the SCL-90-R as a suggested measure for the assessment of personality and psychopathology (LeMont et al., 2004), no known studies have examined the reliability of the SCL-90-R within bariatric samples.

Participants and Method: The sample consisted of 397 patients seeking bariatric surgery at a large Midwestern hospital. The majority of patients were female (75.8%), Caucasian (68.5%) or African American (25.8%), with a mean age of 46.8 years (sd=11.0 years; range 17–74 years). During their initial required psychological evaluation, all patients completed computer-administered SCL-90-R. Chronbach's alpha coefficient was completed to assess internal consistency of the nine SCL-90-R sub-scales.

Results: Chronbach alpha coefficients per scale for the current study are as follows: somatization (0.85), obsessive-compulsive (0.88), interpersonal sensitivity (0.88), depression (0.90), anxiety (0.86), hostility (0.76), phobic anxiety (0.76), paranoid ideation (0.82), and psychoticism (0.77). Chronbach's alpha for the Global Severity Index was 0.97. These results are similar the original internal consistency coefficients reported Derotatis, Rickels, & Rock's (1976) and Horowitz et al. (1988); range $\alpha=.77$ to .90.

Discussion: The subscales of SCL-90-R demonstrated good internal reliability in a bariatric sample, which has not been found with some other measures (Walfish et al., 2008). Further investigations of the reliability and validity of measures designed to detect personality functioning and psychopathology in this population are warranted.

CORRESPONDING AUTHOR: Dana M. Ransom, PhD, Dept of Psychiatry & Psychology, Cleveland Clinic, Cleveland, OH, 44195; ashtonk@ccf.org

Meritorious Student Poster

C-96

SHORTER SLEEP DURATION AND ALTERED SLEEP ARCHITECTURE ARE ASSOCIATED WITH CHILDHOOD OBESITY

Denise C. Jarrin, MA, Sammantha Drouin, Completing Bachelors Degree, Sabrina Giovanniello, Completing Honours BSc and Jennifer J. McGrath, PhD, MPH

Psychology, Concordia Univeristy, Montreal, QC, Canada.

The prevalence of childhood obesity has increased almost threefold over the past two decades. Previous cross-sectional and prospective studies have found an association between childhood obesity and sleep duration. However, the majority of these studies exclusively focused on sleep duration, measured by self- or parent-report. Few studies have considered whether sleep architecture [the time spent in slow wave sleep (SWS) or rapid eye movement (REM)] may differ depending on weight status. The aim of the present study was to investigate the association between sleep duration and sleep architecture with childhood obesity. Participants included 69 youth (58% females) aged 8–17 years (M=12.94, SD=2.16). Youth's anthropometric measures (waist and hip circumference, BMI, percent body fat) were collected by trained research assistants. Sleep duration and sleep architecture were derived from a single night of in-home polysomnograph sleep study. Sleep stages were scored based on the Rechtschaffen and Kales (1968) criteria. Polysomnograph data coded for SWS and REM sleep stages were aggregated across the sleep period. Consistent with previous findings, shorter sleep duration was negatively associated with obesity (ravg=-.28, p<.05), such that heavier youth slept less compared to their lean counterparts. Interestingly, a significant association between sleep architecture and obesity was also found. After controlling for age and sex, heavier youth spent less time in SWS (ravg=-.38, p<.05) and more time in REM sleep (ravg=.26, p<.05) compared to thinner youth. These results suggest that sleep architecture, particularly SWS, a marker of quality sleep, may play an important role in the development and maintenance of obesity in youth. Future studies should investigate how hormonal and metabolic functioning over the course of both SWS and REM sleep stages affect the relation between sleep and childhood obesity.

CORRESPONDING AUTHOR: Denise C. Jarrin, MA, Psychology, Concordia Univeristy, Montreal, QC, H4B 1R6; denise2005@gmail.com

C-97

THE 5-HTTLPR POLYMORPHISM IS ASSOCIATED WITH POST PREGNANCY BMI

Deborah Young-Hyman, PhD, Haidong Zhu, MD, PhD, Yanbin Dong, MD, PhD and Marlo Vernon, MPH

Georgia Prevention Institute, Department of Pediatrics, Medical College of Georgia, Augusta, GA.

The serotonergic system and variations in the serotonin transporter gene (5-HTTLPR) have been implicated in behavioral stress and overweight. Emerging evidence from gene association studies suggests that serotonin may be an important moderator of obesity. The associations of this polymorphism to weight gain during pregnancy and post-pregnancy weight status warrant further investigation as pregnancy weight gain is a risk factor for obesity in women. Fifty-six healthy first time mothers (18–37yrs; 46% Non-White; Pre-pregnancy BMI=18–52; Post-pregnancy BMI=18–59; Pregnancy Weight Gain=-30 to 70 lbs, X=35 lbs) provided 3 buccal Epicentre Catch-AllTM Swabs for genomic DNA extraction using the QuickExtractTM DNA extraction protocol (Epicentre, Madison, WI). Mothers reported their pre-pregnancy BMI and had post-pregnancy BMI measured. We associated the 5-HTTLPR polymorphism with pre and post pregnancy BMI and pregnancy weight gain and compared these characteristics between those subjects with and without the short (S) gene allele. Using ANOVA, post-pregnancy BMI was predicted assessing the contributions of pre-pregnancy BMI, pregnancy weight gain and the presence of the S allele. Whites were more likely to have the S allele of the 5-HTTLPR genotype (p<.01) and had marginally lower (p<.07) pre-pregnancy BMIs than non-Whites. Mothers with the S allele, regardless of race, were more likely to have a lower pre-pregnancy BMI (p<.01) and gain more pregnancy weight (p<.01). Mothers with and without the S allele had equivalent postpartum BMIs. Pre-pregnancy BMI and pregnancy weight gain significantly predicted post-pregnancy BMI (p<.01) in the group of mothers with the S allele (64%) Only pre-pregnancy BMI was significantly associated with post-pregnancy BMI for mothers who did not have the S allele. The presence of the S allele partly explains post-pregnancy BMI after accounting for pre-pregnancy BMI and pregnancy wt gain. These preliminary results suggest further exploration of the S allele and post-pregnancy BMI in the context of maternal eating patterns, PA and stress.

CORRESPONDING AUTHOR: Deborah Young-Hyman, PhD, Pediatrics, Medical College of Georgia, Augusta, GA, 30912-3710; dyounghyman@mcg.edu

Meritorious Student Poster

C-98

CORTISOL PARTIALLY MEDIATES THE ASSOCIATION BETWEEN SLEEP DURATION AND BODY MASS IN CHILDREN AND ADOLESCENTS

Sabrina Giovanniello, Completing Honors BSc in Psychology, Denise C. Jarrin, MA and Jennifer J. McGrath, PhD, MPH

Psychology, Concordia University, Montreal, QC, Canada.

Childhood obesity has become a global epidemic with prevalence rates tripling over the last two decades. Mirroring these trends, children's sleep duration has declined with many not getting the recommended number of hours per night. Several recent studies have reported an association between shorter sleep duration and greater body mass index (BMI) in children. Interestingly, shorter sleep duration is linked to alterations in cortisol, a stress hormone. In turn, cortisol has been associated with increased central adiposity and BMI. Thus, it is plausible that cortisol may mediate the relationship between sleep and obesity. The aim of the present study was to examine the cross-sectional relationship between weight status, sleep duration, and cortisol levels in youth. The sample consisted of 60 children (60% boys) between 9–16 years of age (M=12.88, SD=1.76). Youth's height and weight were measured, and BMI was calculated [weight (kg)/height(m2)]. Percent body fat was derived from bioimpedance (Tanita Scale). Sleep duration was calculated from child-report wake and bedtimes. Children provided five saliva samples on three consecutive days. Cortisol was assayed in duplicate by Trier University, Germany. Maximum cortisol was the mean of the highest cortisol value taken each day. Shorter sleep duration was significantly associated with greater BMI (R2=12.2%), percent body fat (R2=7.4%), and higher maximum cortisol (R2=6.5%). Higher maximum cortisol was significantly associated with greater BMI (R2=12.2%) and percent body fat (R2=18.1%). The results of mediational analyses provide support for cortisol as one possible mechanism underlying the association between sleep and childhood obesity. Future studies should specifically consider afternoon and evening cortisol levels, as experimental sleep deprivation studies in adult men have shown to alter these levels in the diurnal curve.

CORRESPONDING AUTHOR: Sabrina Giovanniello, Completing Honors BSc in Psychology, Psychology, Concordia University, Montreal, QC, H4B 1R6; s_giovan@live.concordia.ca

C-99

PREDICTORS OF BODY IMAGE IN LATINA AND NON-LATINA WHITE WOMEN

Lisa Sanchez-Johnsen, PhD,[1] Adrienne Morgan, PhD,[2] Melissa Lopez, BA,[1] Gabriela Juarez, BA,[1] Kathleen Rivero, BA[1] and Melinda Drum, PhD[3]

[1]Psychiatry, University of Chicago, Chicago, IL; [2]Psychology, Rush University, Chicago, IL and [3]Health Studies, University of Chicago, Chicago, IL.

Introduction: Few studies have examined body image in Latinas, despite the fact that Latinos have among the highest rates of obesity in the U.S. This study examined the role of ethnicity, acculturation, body mass index (BMI), smoking status, and age in predicting body image in Latina and non-Latina White women.

Methods: Two hundred eighty-seven Latina and non-Latina Whites, recruited from the community, completed demographic, body image, height, weight, and acculturation measures as part of a study on obesity and smoking. Results: Participants were Latina (n= 159) and non-Latina Whites (n=128) [Age:18-64; BMI: M=24.4(SD= 4.9); some college or above: 59%; Latinas' acculturation: M=2.3 (SD=1.1); 36% smokers].

Results revealed correlations between current body image and age, ethnicity, education, and BMI (p≤.05). A hierarchical regression analysis of body image on ethnicity (controlling for BMI, smoking status and education in block 1 and adding age in block 2) revealed that non-Latino ethnicity (Beta=0.41;p=.001), BMI (Beta=.24;p<.001), and education (Beta=.07; p=.05) were significant and unique predictors of body image, while smoking status (p=.56) was not. This model accounted for 64% of variance. When age was added in block 2, it was non-significant. For Latinas, results revealed correlations between body image and age, BMI and education (p≤.05). A hierarchical regression analysis of body image on acculturation (controlling for BMI, smoking status and education in block 1 and adding age in block 2) revealed that BMI (Beta=.24; p<.001) was a significant and unique predictor of body image, while smoking status (p=.19) and acculturation (p=.55) were not. This model accounted for 61% variance. When age was added in block 2, it was non-significant.

Conclusion: BMI was a strong correlate of body image. Non-Latina Whites and those with higher education are more likely to report a higher current body image. Future research should explore how body image influences obesity in Latinas.

CORRESPONDING AUTHOR: Lisa Sanchez-Johnsen, PhD, Psychiatry, University of Chicago, Chicago, IL, 60637; lsanchez@bsd.uchicago.edu

C-100

FATHERS' PERCEIVED ROLE AS HEALTH LIAISONS FOR CHILDHOOD OBESITY PREVENTION: AN EXPLORATORY STUDY

Vanessa M. Byrd, Masters, Matthew L. Smith, Masters of Public Health and E. Lisako J. McKyer, PhD

Health and Kinesiology, Texas A&M University, College Station, TX.

Introduction: Overweight/obese children are at higher risk of being overweight/obese adults; making them more at risk for weight-related health conditions. African Americans, both children and adults, are over-represented among this at-risk group. Research shows parental involvement to be critical in affecting eating and physical activity within the home. Research exists on maternal influences on children's health, yet little is available on paternal influences. Hence, more efforts are needed to clarify African American fathers' perceived roles as health liaisons. Purpose: To identify and explore factors contributing to fathers' perceptions of their influence on their children's health practices (e.g., perceived control over children's health behaviors, perceptions of own health behaviors). Method: Purposive snowballing sampling methods were utilized to recruit African American fathers with at least one child over age 5 years. Participants 1) completed a brief questionnaire about personal characteristics, and 2) participated in focus groups. Three focus groups were performed (N=20). Questions were designed to elicit responses indicative of African Americans fathers' perceptions of health and healthy behaviors; perceived need for involvement as a health liaison for their children; and of fathers' perceptions, attitudes, and knowledge of their influence. Transcripts were content analyzed to elicit themes and key constructs. Results: African Americans fathers perceived themselves to have an important role as health liaisons to their children. They held a broad view of health, in which "obesity prevention" was merely one of many (violence, spirituality, drug prevention). Participants expressed an understanding of the need to model 'good' health behaviors, noted that they sometimes used their own (or family members) bad health habits or adverse health conditions as a way to teach their children what not to do. Other key and relevant findings will be presented.

CORRESPONDING AUTHOR: Vanessa M. Byrd, Masters, Health Education, Texas A&M University, College Station, TX, 77843-2261; vanessamichelle@hlkn.tamu.edu

C-101

ASSOCIATION OF NEIGHBORHOOD COHESION AND ETHNIC IDENTITY WITH OBESITY IN AMERICAN ETHNIC MINORITY WOMEN

Rebecca E. Lee, PhD,[1] Jacqueline Y. Reese-Smith, MA,[2] Jorge A. Banda, MS[3,1] and Scherezade K. Mama, BS[4,1]

[1]Health and Human Performance, University of Houston, Houston, TX; [2]University of Kansas, Lawrence, KS; [3]Exercise Science, University of South Carolina, Columbia, SC and [4]University of Texas School of Public Health, Houston, TX.

Purpose: Mechanisms linking neighborhood and ethnic factors to obesity are not well understood. This study evaluated the relationship between reported neighborhood cohesion, ethnic identity and measured obesity in US African American (AA) and Hispanic/Latina (HL) women.

Method: AA (n=257) and HL (n=99) women (M=47.5 yrs) completed interviewer administered surveys assessing individual SES, neighborhood cohesion and trust, and ethnic identity. BMI was calculated with measured height and weight.

Results: Women were typically overweight (M BMI=34.8 kg/m2, SD=8.8). AA women reported higher educational attainment, family income and income adjusted for family size, and smaller families. Both groups were similar on neighborhood cohesion and ethnic identity. Greater neighborhood cohesion was correlated with higher income (p<.001). Ethnic identity factor analysis produced three factors: Affiliation with ethnicity (AFFILIATION), research on one's ethnicity (RESEARCH), and participation in ethnicity oriented activities (PARTICIPATION). Greater RESEARCH was correlated with BMI (p<.05). Greater PARTICIPATION was correlated with lower educational attainment and income and adjusted income (p<.05). After adjusting for age and SES, regression analysis found greater RESEARCH (β=.16, p<.05) and less PARTICIPATION (β=-.21, p<.01) was associated with higher BMI. Sociodemographic factors, neighborhood cohesion and AFFILIATION were not related to BMI.

Conclusions: Regardless of specific ethnicity (AA vs HL), enduring ethnic affiliation and group participation may facilitate or hinder health practices and outcomes to a greater extent than sociodemographic factors. Individual and public health interventions may have greater success when tailored to specific ethnic group processes and practices, rather than focusing on SES.

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CORRESPONDING AUTHOR: Rebecca E. Lee, PhD, Health and Human Performance, University of Houston, Houston, TX, 77204-6015; releephd@ yahoo.com

C-102

THE IMPACT OF PARENT CHARACTERISTICS ON SOCIAL SUPPORT AND PARENTING PRACTICES IN OVERWEIGHT ADOLESCENTS

Michelle Segal, MA, Heather Kitzman-Ulrich, PhD, Dawn Wilson, PhD, Elizabeth Schneider, BA, Sara Mijares, BA and Kassandra Kugler, BA

Psychology, University of South Carolina, Columbia, SC.

Obesity is a rapidly increasing problem in adolescents, especially in ethnic minorities. Previous studies indicate that parent characteristics including body mass index (BMI) and income level, and parent variables such as social support and parenting practices are related to health behaviors in adolescents. However, it is unclear how parent BMI and income level may impact levels of parent social support and parenting practices specific to diet and physical activity (PA) in overweight adolescents. Thus, the present study evaluated the association between parent characteristics and parent variables (social support, parenting practices) in primarily African-American, overweight adolescents (72% AA, 76% female, M=13 yrs) enrolled in a family-based weight loss study. Baseline data from 25 parent-teen dyads were used to examine this relationship. Parent social support and parenting practices related to diet and PA were assessed with reliable and valid self-report measures. BMI was calculated from objectively collected height and weight data. Pearson's r correlation coefficients indicated that higher levels of parent BMI were associated with lower levels of parent social support for adolescent PA (r=-.41, p <.05), suggesting that overweight parents are providing less support for adolescent PA behaviors. In addition, parents with lower incomes demonstrated lower levels of social support for adolescent PA (r=.48, p<.05) and higher levels of pressuring their adolescent to eat (r=-.59, p<.05). These results suggest that parent characteristics such as income and BMI status may impact parent support and parenting practices for diet and PA in overweight, underserved, adolescents. These findings suggest that parent characteristics should be considered when developing weight loss interventions for overweight adolescents and their families.

CORRESPONDING AUTHOR: Michelle Segal, MA, University of South Carolina, Columbia, SC, SC; segal@sc.edu

C-103

RELATIONSHIP BETWEEN SOCIAL CAPITAL AND SELF RATED HEALTH ACROSS DIVERSE NEIGHBORHOODS

Jennie L. Hill, MS,[1] Diane K. King, PhD[2] and Deborah S. Main, PhD[3]

[1]Human Nutrition Foods Exercise (HNFE), Virginia Tech University, Blacksburg, VA; [2]IHR, Kaiser Permanente Colorado, Denver, CO and [3]COHO, University Colorado Denver, Denver, CO.

The objective of the Taking Neighborhood Health to Heart (TNHTH) study was to explore the potential impacts of physical and social environments on the health of residents across five diverse neighborhoods. Participating communities included a newly built active-living neighborhood resulting from the redevelopment of a former airport and the four surrounding communities subjected to years of noise, traffic and air pollution prior to the revitalization. The purpose of this study was to determine if these neighborhoods differed in resident reports of self-rated health and if social capital indicators mediated these relationships. A telephone survey was conducted in randomly selected households within each of these neighborhoods (N=950). All variables and individual items were scored according to previously validated measures and methods. Self-rated health varied significantly by neighborhood (p<.0001) and post hoc analyses indicated that each of the 5 neighborhoods were significantly different from one another with the positive ratings of health associated with the active-living neighborhood and the lowest ratings in two of the historically disadvantaged neighborhoods. Similarly, neighborhoods differed significantly on social capital scales (p<.0001). Post hoc analyses revealed that the neighborhoods were significantly different from each other. Again, the active-living neighborhood had the highest ratings on social capital indicators. A series of regression analyses were used to test for statistical mediation and demonstrated that social capital indicators mediated the relationship between neighborhood and self-rated health (final model; R2=.19, p <.001). Our findings suggest that the relationship between neighborhood characteristics and self-rated health may be partially attributed to differences in perceived social capital.

CORRESPONDING AUTHOR: Jennie L. Hill, MS, Human Nutrition Foods Exercise (HNFE), Virginia Tech University, Blacksburg, VA, VA; hilljl@vt.edu

C-104

USER CHARACTERISTICS & UTILIZATION PATTERNS OF AN 'AD LIBITUM' INTERNET WEIGHT LOSS PROGRAM

Martin Binks, PhD[1,2] and Trevor van Mierlo, BA[3]

[1]Binks Behavioral Health PLLC, Hillsborough, NC; [2]Duke University, Durham, NC and [3]V-CC Systems INC, Toronto, ON, Canada.

Background The internet holds promise for delivery of evidence-based weight loss treatment to underserved populations. However, most studies do not reflect the typical 'ad libitum' user's experience, requiring participants to attend at least some in-person meetings. To develop effective programs for wide dissemination we must understand the typical user in a naturalistic environment. Method: The Healthy Weight Center is a free, evidence-based, internet weight loss program that includes nutrition, fitness and behavioral information, monitoring tools, and a moderated support network. User characteristics and utilization data were compiled and Pearson correlations computed to examine the association of utilization with age and BMI. Results: Data from 204 overweight/obese (BMI M=32.01±6.26), adult, (M=42.0 yrs±11.69)website users (82% women) was examined. The following were reported: 1) Reason for weight loss; 87% health, 74% appearance, 44% mobility, 23% doctor 2) Age of onset; 25% childhood, 17% adolescent, 31% young adult, 28% late adult. 3) Factors contributing to weight-gain; 70% lack of exercise, 62% emotions, 61% overeating 4) Eating patterns; 34% binge eating, 65% night eating 5) Physical activity; 38% regularly. 6) Use of resources; 14% meal planner, 11% nutrition lookup, 18% activity log, 14% journal 22% weight tracker 7) Utilization of educational resources; nutrition (<13%), fitness (<6%), behavioral (<8%). Personal assessments were better utilized with 58% completing the Personal Barriers and 51% the Relationship with Food exercises. Support group utilization was 8%. No significant correlations between site utilization and age or BMI were noted. Conclusions: Internet programs reach many who cannot access traditional treatment. However, users appear not to be utilizing key aspects such as education, monitoring and support optimally. The current study is a necessary first step in understanding the characteristics and utilization patterns of typical users to inform future research designed to improve internet treatment delivery.

CORRESPONDING AUTHOR: Martin Binks, PhD, Psychiatry & Behavioral Sciences, Diet & Fitness Center, Duke University Medical Center, Durham, NC, 27705; martin.binks@duke.edu

C-105

LINKING BODY IMAGE TO C-REACTIVE PROTEIN IN ADOLESCENTS INDEPENDENT OF WEIGHT STATUS

Andree Castonguay, MHK,[1] Jennifer Brunet, MA,[1] Catherine Sabiston, PhD,[1] Tracie Barnett, PhD,[2] Jennifer O'Loughlin, PhD[3] and Marie Lambert, MD[2]

[1]McGill University, Montreal, QC, Canada; [2]CHU Sainte-Justine and University of Montreal, Montreal, QC, Canada and [3]Centre de recherche du CHUM, Montreal, QC, Canada.

Weight status is a well-known correlate of elevated C-reactive protein (CRP) in adults and children. While limited scientific evidence links general stress to immune function, stress contextualized around weight status (i.e., body image) has not been examined as a possible correlate of elevated CRP. The present study examined the relation between body image and CRP in adolescent boys and girls, independent of weight status. Possible interactions for age and weight status were also examined. A representative sample of adolescents aged 13 and 16 years (N=1503) completed a self-report survey assessing various body image indicators (negative weight evaluations, pressure to lose weight, body shape discrepancy), provided a fasting blood sample that was used to assess elevated CRP (>90th percentile for age and sex), and had height and weight measured. In separate multivariable logistic regression models for girls and boys, elevated CRP levels were significantly linked to obese weight status for girls (OR=3.3, 95%=1.3-8.2) and boys (OR=2.5, 95%CI=1.1-5.6). In addition, results indicated that body shape discrepancy (indicating a desired body shape at least 2 sizes less than or greater than current body shape) was positively associated with CRP for girls (OR=3.4, 95%CI=1.6-7.0) and boys (OR=2.2, 95%CI=1.1-4.5) independent of weight status. There were no significant interaction effects for age or weight status. Taken together, these results highlight the need for practitioners to focus on both adolescent's weight status and perceived weight status. Helping adolescents perceive a healthy and accurate body image is important for mental health, and the current findings also suggest physical health benefits.

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CORRESPONDING AUTHOR: Andree Castonguay, MHK, McGill University, Laval, QC, H7W5N9; andree.castonguay@mail.mcgill.ca

C-106

EFFECT OF OBESITY TREATMENT FOLLOWING EXPERT RECOMMENDATIONS OVER 12-MONTH FOLLOW-UP IN YOUNG CHILDREN

Hollie Raynor, PhD,[1,3] Kathrin Osterholt, MS,[2] Chantelle Hart, PhD,[2,3] Elissa Jelalian, PhD,[3] Patrick Vivier, MD[3] and Rena Wing, PhD[2,3]

[1]University of Tennessee, Knoxville, TN; [2]The Miriam Hospital, Providence, RI and [3]Brown Medical School, Providence, RI.

Introduction: Prevalence of obesity has increased in young children. Recommendations for treatment of young children are to be less intensive than that of school-aged children, making 1–2 eating or leisure-time activity changes only. We examined the effect of a 6-month, less-intensive program on 12-month follow-up weight status in children aged 4–9 years (> 85th percentile body mass index [BMI]), referred by their pediatrician.

Methods: Participants were 81 children (7.0 + 1.5 years; 2.25 + 0.59 zBMI; 60.5% female; 86.4% White), randomized to 1 of 3 interventions: 1) Newsletter (n= 29); 2) Traditional (n=26); behavioral parenting program (BPP) focusing on increasing physical activity (PA) and decreasing sweetened drinks (SD); and 3) Substitutes (n= 26) BPP focusing on decreasing TV watching (TV) and increasing low-fat milk (LFM). Families and pediatricians received feedback on children's weight 5 times over the 12-month follow-up. zBMI, dietary intake (3-day food records) and PA and TV (3-previous day physical activity records) were assessed at 0, 6, and 12 months.

Results: A main effect of time ($p<.001$) occurred for zBMI, which decreased ($p<.05$) at each time point (0-month: 2.25 + 0.59; 6-month: 2.14 + 0.59; 12-month: 2.09 + 0.57), with time x intervention not significant. A main effect of time ($p<.05$) was found for energy intake, which decreased from 0 to 6 months (1721 + 447 to 1587 + 438; $p<0.5$), maintained at 12 months (1597 + 436), with the largest reduction occurring in Traditional. While Traditional decreased intake of SD by 0.5 servings/day and Substitutes increased LFM intake by 0.4 servings/day over 12 months, these findings were not significant. No significant changes in leisure-time activities occurred.

Conclusion: Positive weight control outcomes and lack of differences between interventions suggest that a pediatrician referral to an intervention that provides regular feedback on weight status may be sufficient to improve overweight in young children.

CORRESPONDING AUTHOR: Hollie Raynor, PhD, University of Tennessee, Knoxville, TN, 37996; hraynor@utk.edu

C-107

A STRUCTURAL EQUATION MODEL RELATING ADIPOSITY, PSYCHOSOCIAL INDICATORS OF BODY IMAGE, AND DEPRESSIVE SYMPTOMS AMONG ADOLESCENTS

Michael Chaiton, PhD (c),[1] Catherine Sabiston, PhD,[4] Jennifer O'Loughlin, PhD,[2] Jennifer J. McGrath, PhD,[5] Katerina Maximova, PhD (c)[6] and Marie Lambert, MD[3]

[1]Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada; [2]Centre de Recherche du CHUM, University of Montreal, Montreal, QC, Canada; [3]Department of Pediatrics, University of Montreal, Montreal, QC, Canada; [4]Department of Kinesiology and Physical Education, McGill University, Montreal, QC, Canada; [5]Department of Psychology, Concordia University, Montreal, QC, Canada and [6]Department of Epidemiology and Biostatistics, McGill University, Montreal, QC, Canada.

Objective: Psychosocial factors including pressure to be thin and body dissatisfaction, have been hypothesized to mediate the relationship between obesity and depression especially during adolescence when vulnerability to social pressures around body shape and image is heightened. The objective was to test a model of the relationships among adiposity, psychosocial factors, and depression in adolescents.

Method: In a population-based sample of 1127 boys and 1167 girls aged 13 and 16 years, a model of the relationships between adiposity, pressure to be thin, body dissatisfaction, and depressive symptoms was tested using structural equation modeling.

Results: Among girls, adiposity accounted for 62% of the total effect of depressive symptoms through its association with pressure to be thin and body dissatisfaction. Pressure to be thin was also uniquely related to depressive symptoms. Among boys, only body dissatisfaction was associated with depressive symptoms.

Conclusion: Results support a relationship between adiposity, body satisfaction, pressure to be thin, and depressive symptoms. Depressive symptoms should be assessed in obese adolescents, and interventions to prevent and treat obesity should incorporate elements targeting body dissatisfaction.

CORRESPONDING AUTHOR: Michael Chaiton, PhD (c), Dalla Lana School of Public Health, University of Toronto, Toronto, ON, M5S 2S1; michael.chaiton@utoronto.ca

C-108

PREDICTORS OF DESIRED SUPPORT FOLLOWING A 12-WEEK WEIGHT LOSS E-COACH SUPPORT INTERVENTION

Jeanne M. Gabriele, PhD[1] and Edwin B. Fisher, PhD[2]

[1]Pennington Biomedical Research Center, Baton Rouge, LA and [2]University of North Carolina at Chapel Hill, Chapel Hill, NC.

To what extent can people give valid reports of their responses to social support? This study assessed whether desired e-coach support at the end of a 12-week weight loss e-mail intervention would be sensitive to exposure to different support types. Overweight adults (N=104, 71% Caucasian, 84% women) were randomly assigned to nondirective support (Nondir; flexible), directive support (Dir; protocol driven) or minimal support (MS). Each week participants received a lesson and feedback graphs. Those in the Nondir and Dir conditions also received individualized Nondir or Dir weight loss support. Desired Nondir and Dir support were assessed at baseline (BL) and 12-week follow-up. When not exposed to a support type, desire for that support type at BL predicted desire at 12 weeks. When exposed to a support type, only satisfaction with support predicted preference for that support type at 12 weeks. That is, when exposed to Nondir in that condition, support satisfaction but not desired Nondir at BL, predicted desired Nondir at 12 weeks, $\beta=.54$, $p<.01$. In the Dir condition, desired Dir at 12 weeks was predicted by support satisfaction, $\beta=.44$, $p<.05$, but not desired Dir at BL. Desire for non-exposed types of support at 12 weeks were predicted by BL preferences (Nondir in Dir condition $\beta=.64$, $p<.01$; Dir in Nondir condition $\beta=.55$, $p<.01$) not support satisfaction. Consistent with these patterns, desired 12-week support for both Nondir and Dir in MT, which included no e-coach support, were best predicted by BL desired support but not by support satisfaction. That these relationships are support specific validates the distinction between Nondir and Dir support, the manipulation of it in this study, and the methods to measure it. Interestingly, in all three conditions weight loss was not found to significantly predict later desired support. These findings provide evidence that desire for support is sensitive to experience with support and to subtle variations in type of support.

CORRESPONDING AUTHOR: Jeanne M. Gabriele, PhD, Pennington Biomedical Research Center, Baton Rouge, LA, 70808; Jeanne.Gabriele@ pbrc.edu

C-109

MARITAL FUNCTIONING AMONG OVERWEIGHT WOMEN SEEKING TREATMENT FOR BINGE EATING DISORDER

Anna Schierberl Scherr, BA and Amy Gorin, PhD

University of Connecticut, Storrs, CT.

Background: Marriage is assumed to play an important role in the onset and maintenance of eating pathology; however, there is little empirical evidence describing marital characteristics of adult women with eating disorders. This study provides the first descriptive look at how marital satisfaction relates to the severity of binge eating (BE) and obesity in women seeking treatment for binge eating disorder (BED). Methods: Adult women (n=94; 86% Caucasian; 73% > high school education; M age=45.20; M BMI=39.42) were enrolled in a randomized trial assessing the impact of spousal involvement in BED treatment. At study entry, participants reported their BE frequency in the past 7 days and completed the Dyadic Adjustment Scale (DAS), the Positive Feelings Questionnaire (PFQ), and questions created for the study on BE, weight, and marital characteristics. Husbands (83% Caucasian; 61% > high school education; M age=47.1; M BMI=30.3) also completed the DAS and PFQ. Results: Secondary data analyses of baseline data revealed normal levels of marital satisfaction, with higher DAS scores among husbands than wives (M=103.8 vs. 97.1; $p<.05$). PFQ scores were also high, particularly among husbands (M=5.7 vs. 5.3; $p<.05$). At study entry, 19% of husbands did not know their wives binged. Fewer years of marriage and lower levels of marital satisfaction in wives were associated with frequency of BE (p's <.05) but not BMI. Neither husbands' marital satisfaction nor husbands' or wives' PFQ scores were associated with BE frequency or BMI. Higher BE frequencies were found in women who reported higher levels of marital strain due to BE ($p<.0001$) and weight ($p=.002$) and who more strongly endorsed that aspects of their marriage contributed to their weight problems ($p=.05$). Conclusion: Binge eating frequency is associated with less marital satisfaction and other indicators of marital strain. Further understanding how marital variables relate to the severity of BED and obesity may have important treatment implications.

CORRESPONDING AUTHOR: Anna Schierberl Scherr, BA, University of Connecticut, Storrs, CT, 06269-1020; aesscherr@gmail.com

C-110

DRD2 GENOTYPE AND OBESITY INTERACTION PREDICTS BEHAVIORAL DISENGAGEMENT COPING

Krista B. Highland, BS and Dennis McChargue, PhD

Psychology, University of Nebraska - Lincoln, Lincoln, NE.

Behavioral disengagement coping has been linked to obesity via presumed maladaptive coping behaviors (e.g., social isolation where pathological eating occurs) that are prompted by negative affective states, such as depression. Despite this evidence, less is known about the genetic underpinnings that may facilitate behavioral disengagement among the obese. It remains unclear whether genotypes (DRD2) associated with obesity and a lower threshold for naturally occurring rewards would influence the obesity-behavioral disengagement association. The degree to which a lower sensitivity to naturally occurring rewards enhances the likelihood that a person socially withdrawals during stress may bolster maladaptive coping among obese individuals. As such, we examined whether DRD2 genotypes interacted with obesity to predict behavioral disengagement coping.

One-hundred fifty-four young adults were assessed. Hierarchical regression analyses tested the interaction between DRD2 genotypes and obesity on behavioral disengagement after controlling for age and alcohol use problems. Results showed that the obesity X DRD2 interaction term predicted behavioral disengagement [R^2 change=4.142, $\beta=-.843$, $p=.044$]. Simple effects that split the analyses by genotype showed that only among individuals with the long/long genotype did obesity predict behavioral disengagement [R^2 change=4.488, $\beta=.213$, $p=.037$]. However, this effect was not seen in individuals with a short allele [R^2 change=.644, $\beta=-.100$, $p=.426$]. There were no significant interactions for any other coping strategy. These findings raise questions as to the role DRD2 plays in enhancing the effect of behavioral disengagement among obese persons. Implications are discussed.

CORRESPONDING AUTHOR: Krista B. Highland, BS, Clinical Psychology, University of Nebraska - Lincoln, Lincoln, NE, 68588-0308; highlandzephyr@ Hotmail.com

C-111

EMOTIONAL EATING IN SEDENTARY, OVERWEIGHT INDIVIDUALS: THE IMPACT ON POSITIVE AND NEGATIVE AFFECT

Kristin L. Schneider, PhD,[1] Sherry L. Pagoto, PhD,[1] Jamie S. Bodenlos, PhD[1] and Bonnie Spring, PhD[2]

[1]Medicine, University of Massachusetts Medical School, Worcester, MA and [2]Northwestern University Medical School, Chicago, IL.

Emotional eaters report that they eat in an attempt to reduce negative mood (Ganley, 1989), but whether positive mood is affected by eating that is emotionally triggered is unknown. The present study examined whether caloric intake following an activity that generated negative affect engendered decreased negative affect and/or increased positive affect. Negative affective states were triggered via a 3-minute step test, which required participants to climb stairs at a moderate intensity. Sedentary, overweight participants (N=22; 68.2% female) who endorsed elevated scores on the Emotional Eating Scale-depression subscale, completed a baseline measure of positive and negative affect (Profile of Mood States) followed by the 3-minute step test. Snack foods were presented 10 minutes after the step test and negative and positive affect were again measured after food consumption. We predicted that caloric intake would engender decreased negative and increased positive affect.

Hierarchical regression analyses controlling for body mass index, gender and hunger resulted in a significant effect of caloric intake on positive affect ($\beta=-0.64$, $t=-3.10$, R2change=.34, $p=.01$), such that caloric intake brought about increased positive affect. Contrary to our hypothesis, the effect of caloric intake on negative affect was not significant ($\beta=-0.20$, $t=-0.89$, R2change=.04, $p=.39$). Results suggest that, among overweight emotional eaters who are rendered dysphoric via a stressor, greater caloric intake is associated with greater increases in positive affect. The role of positive affect in emotional eating merits further study.

CORRESPONDING AUTHOR: Kristin L. Schneider, PhD, Medicine, University of Massachusetts Medical School, Worcester, MA, 01655; Kristin.Schneider@umassmed.edu

C-112

MEDIATORS OF THE RELATIONSHIP BETWEEN WEIGHT PROBLEM PERCEPTION AND BINGE EATING

Valentina Ivezaj, B A, Karen K. Saules, PhD and Amy Collings, MS

Eastern Michigan University, Ypsilanti, MI.

Recent research has documented a strong relationship between binge eating (BE) and weight-related identity, referred to in our previous research as Weight Problem Perception (WPP; Saules et al., 2008). It is unknown, however, whether other psychological variables mediate the relationship between WPP and BE. To explore this possiblity, a new data set was examined to replicate and extend our earlier work. Participants were 524 college women who completed a web-based survey measuring disordered eating patterns, susceptibility to eating-related disinhibition, locus of hunger, eating-related cognitive restraint, and susceptibility to food cues. Participants were predominantly Caucasian (72.0%) with a mean (± SD) age of 20.84 (± 4.85) and BMI of 24.52 (± 5.31). BE behavior (BE-Beh) was endorsed by 30.5% of the sample, while 16.3% and 5% of the sample met BE symptom (BE-Sx) criteria and BE disorder (BED) criteria, respectively. WPP classification was based on a one-item question from the MBSRQ-AS (Cash, 2000) asking respondents whether they believed they were overweight. As hypothesized, results confirmed that WPP is strongly associated with BE outcomes. Individuals with WPP were 62% more likely to engage in BE-Beh (OR=1.62, 95% CI, 1.11-2.36, p<.05), were at a nearly threefold increased risk for meeting BE-Sx criteria (OR=2.83, 95% CI, 1.71-4.68, p <.001), and were over thirteen times more likely to meet BED criteria (OR=13.45, 95% CI, 3.14-57.52, p<.001). Disordered eating patterns, susceptibility to food cues, disinhibition, and hunger each mediated the relationship between WPP and BE-Beh; but only disinhibition mediated the relationship between WPP and BE-Sx, and WPP and BED. Results suggest that WPP may exert its influence on BE outcomes by adversely impacting eating behavior and related psychological processes. Furthermore, the finding that WPP is most strongly associated with the more pathological BED outcome support that WPP is a highly salient and easily assessed risk factor for severe forms of binge eating.

CORRESPONDING AUTHOR: Valentina Ivezaj, B A, Psychology, Eastern Michigan University, Novi, MI, 48374; vivezaj@emich.edu

C-114

TOXIC EMOTIONS AND JOB BURNOUT AT WORK: THE MODERATING ROLES OF SOCIAL SUPPORTS AND ORGANIZATION COMMITMENTS

Sha-Sha Zhang, Master,[1] Hao-Yi Chen, PhD[2] and Shang-Ren H. Kao, PhD[1]

[1]Department of Psychology, Sun-Yat Sen University, Guangzhou, China and [2]Department of Business Administration, National ChengChi University, Taipei City, Taiwan.

The relationship between work-related stress and employee health is gaining research attention of late. Negative effects of certain leadership behaviours are conceptualized as 'toxic emotions' in the workplace where all leaders create pains in their subordinates (Frost, 2003; 2004). Ten behaviors are suggested as causes of this toxicity: Intention, Incompetence, Infidelity, Fairness, Hostility, Insensitivity, Arrogance and Corruption, Intrusion, Institutional Forces and Inevitability. This study examined the effects of toxic emotions on job burnout and the moderating roles of social support and organizational commitments. We developed a 69-item Toxic Emotions Questionnaire (TEQ) to measure these dimensions and administered it along with Maslach Burnout Inventory (MBI-GS), Perceived Social Support (PSSS) and Organization Commitment scale (Meyer and Allen, 1990) to 283 medical medical care personnel, 43 percent of male and aged 25-40 in China. The Cronbach alpha exceeded .87 for all the TEQ dimensions. Results found all of toxic behaviors to correlate significantly with job burnout (β= .32, p<.01). Besides, due to Chinese cultural uniqueness, when subordinates had higher degrees of social supports and organization commitments, the negative effects of toxic supervisory behaviors on job burnout were stronger, specifically for more other supports(β=.64, p<.01), affective and normative organizational commitments(β=.70;.57,all p<.01). These findings have provided the first evidence to the efficacy of 'toxic emotions' as a workable construct for analyzing the subordinate's emotional health at work.

CORRESPONDING AUTHOR: Hao-Yi Chen, PhD, National ChengChi University, Taipei City, 11605; 94355510@nccu.edu.tw

C-115

CULTURE, PERSONALITY, AND WELL-BEING: THE EFFECT OF CHINESE INDIGENOUS TRAITS ON MENTAL HEALTH

Jing Zhang, Master,[1] An-An Chao, PhD[2] and Shang-Ren H. Kao, PhD[1]

[1]Department of Psychology, Sun-Yat Sen University, Guangzhou, China and [2]Department of Psychology, University of Hong Kong, Hong Kong, China.

Given the cultural uniqueness, the relationship between personality and mental health could be understood from the perspective of culture-specific traits. The study explored the influence of Chinese indigenous personality traits on mental health. The indigenous Chinese personality traits include Face, Defensiveness, Traditionalism, Relationship Orientation, Harmony, Thrift, Graciousness, and Veraciousness. A valid sample of 575 participants in western China was administered by the Chinese personality assessment inventory (CPAI), trait anxiety inventory, and profile of mood states (POMS). Results showed that Harmony and Graciousness were beneficial to mental health. Both Harmony and Graciousness negatively predicted trait anxiety(β=-.24; β=-.35, all p<.05 respectively), tension (β=-.15; β=-.33, all p<.05 respectively), anger(β=-.17; β=-.38, all p<.05 respectively), fatigue(β=-.12; β=-.20; all p<.05respectively), depression(β=-.19; β=-.37, all p<.05 respectively), and confusion(β=-.21; β=-.29, all p<.05 respectively). On the contrary, Defensiveness and Traditionalism were found detrimental to mental health. Defensiveness positively predicted tension(β=0.11, p<.05) and confusion(β=0.12, p<.05), while Traditionalism positively predicted anger(β=0.11, p<.05) and fatigue(β=0.10, p <.05). The study suggested that the healthy Chinese indigenous personality traits as Harmony and Graciousness shall be preserved in the modern Chinese society, but the unhealthy ones like Defensiveness and Traditionalism must be modified in order to fit the modernization.

CORRESPONDING AUTHOR: An-An Chao, PhD, University of Hong Kong, Hong Kong, 604; annbaby77@yahoo.com.tw

Meritorious Student Poster

C-116

THE EFFECTIVENESS OF AN ACCEPTANCE AND COMMITMENT THERAPY INTERVENTION FOR WORK STRESS ON INNOVATION, COGNITIVE INTERFERENCE, AND GENERAL HEALTH SYMPTOMS

Erin E. Bannon, BA, Jebediah J. Northern, MA, Kathleen M. Young, MA, Heather M. Schwetschenau, MA, Alexis C. Hamill, BA and William H. O'Brien, PhD

Psychology, Bowling Green State University, Bowling Green, OH.

Work stress is a major concern in today's workplace. Highly stressed workers report more stress-related health problems than their less stressed colleagues. Further, other indices of work productivity are impacted by work stress, including innovation. Cognitive interference theory suggests that evaluation anxiety leads to increased levels of task-irrelevant thinking. In turn, attention is diverted from on-task thinking and performance (e.g., innovation) is impaired. This decrease in attentional resources also has negative physical health implications. Acceptance and Commitment Therapy (ACT) for work stress may be an effective intervention to increase innovation and decrease negative physical health symptoms by diminishing the effects of task-irrelevant thinking through mindfulness. To explore this idea, a community sample of 43 individuals was randomly assigned to an ACT work stress intervention or a control group. The intervention consisted of two 3-hour sessions held one week apart. Propensity to innovate, cognitive interference, and general health symptoms were assessed pre and post intervention. Significant condition (treatment/control) by time (pre/post) interactions were observed for measures of innovation (F [1,41]=4.45, p<.05), cognitive interference (F[1,41]=6.11, p<.05), and general health symptoms (F[1,43]=4.10, p<.05). Follow-up analyses indicated that participants receiving the ACT intervention demonstrated higher levels of innovation, lower levels of cognitive interference, and fewer health symptoms than control participants at post treatment (all p's <.05). ACT work stress interventions may have the potential to decrease task irrelevant thoughts and increase innovation at work. In turn, worker burnout, adverse health symptoms, and other stress-related conditions may diminish. Implications for future research are discussed.

CORRESPONDING AUTHOR: Erin E. Bannon, BA, Psychology, Bowling Green State University, Bowling Green, OH, 43402; eebannon@yahoo.com

C-118

SOCIAL SUPPORT IN END STAGE RENAL DISEASE: EFFECTS ON MEDICATION ADHERENCE ARE MEDIATED BY DEPRESSIVE AFFECT

Deborah Rosenthal, BS, Anand Sukumaran, MD and Daniel Cukor, PhD

SUNY Downstate Medical Center, Brooklyn, NY.

Greater social support has been associated with favorable disease outcome and a decreased mortality rate in ESRD (Kimmel, 1998). The way in which social support influences disease progression has not been specified. Suggested mechanisms include health enhancing behaviors such as adherence to diet and medication prescriptions (House, 2001) or protection against depressive mood (Cukor, 2007; Symister, 2003). Social support among hemodialysis patients has been associated with greater adherence (Christensen, 1992). Our aim is to compare ESRD patients with high and low social support on measures of demographics, depression, and adherence. 65 participants have been recruited from an urban Brooklyn hemodialysis center thus far. Social support was measured with the Multidimensional Scale of Perceived Social Support (MSPSS). Adherence was assessed with the Modified Immunosuppressive Therapy Adherence Scale (ITAS-M) and depression with the Beck Depression Inventory (BDI). 54% of the sample were female with an average age of 51 years (±13), and 93% self-identified as Black. The mean time for treatment was 4.2 years (±46 months). Results reveal a mean BDI score of 12.6 (±9.8). Significant differences were found between patients with higher verses lower levels of perceived social support. Those who perceived higher levels of social support reported greater medication adherence (t(59)= 3.01, p<.05) and lower levels of depressive affect (t(59)= -4.09, p<.001). Increased age was associated with greater perceived social support (t(56)= 2.25, p<.05). Social support was modestly but significantly associated with medication adherence (r=.28, p<.05) and moderately and significantly associated with depression (r=-.40, p<.001). In our exploratory model, depression emerged as a mediator in the relationship between social support and adherence. This suggests that impact of social support on medication adherence is attenuated through depressive affect. There are strong implications that interventions designed to promote adherence in ESRD populations must address the mood state of their patients.

CORRESPONDING AUTHOR: Deborah Rosenthal, BS, SUNY Downstate Medical Center, Brooklyn, NY, 01203; drosent@hotmail.com

C-119

PROBLEMS IN OBJECTIVELY AND SUBJECTIVELY MEASURING ADHERENCE: WHAT EMA AND A MODIFIED DAY RECONSTRUCTION METHOD REVEAL

Teresa J. Lynch, MS,[1] Flora Hoodin, PhD,[1] Ron Lupo, CO, ACC,[2] Michelle Byrd, PhD,[1] Jennifer Rice, PhD[1] and Michael Mendelow, MD[3]

[1]Eastern Michigan University, Milford, MI; [2]Wright and Filippis, Rochester Hills, MI and [3]Providence Hospital - St. John Health, Novi, MI.

Just as the adherence literature documents a discrepancy between adherence objectively measured as opposed to when subjectively reported, so too do studies of adherence in adolescents prescribed braces to correct moderate Idiopathic Scoliosis (AIS). The present investigation used (a) objective electronic monitoring (O), (b) subjective reports made proximal in time (SP) to events documented by a modified Daily Reconstruction Method (DRM), and (c) a subjective distal (SD) measure of adherence collected at the study outset, consisting of participants' prospective estimate of the daily duration of their brace-wear. The aims of the study were to investigate objective rates of daily brace-wear and patterns of variables influencing brace-wear during events subjectively reported on six randomly selected days over a 14 day period; to evaluate the validity of SP and SD estimates of brace-wearing relative to objective electronic data. Participants were nine ethnically diverse adolescents (two male, seven female) with a mean age of 13.25 years. The results identified discrepancies between the patterns of O and SP measures of brace-wearing. Specifically, the adolescents were likely to report not wearing their brace when they were in a more 'negative mood,' and more likely when they were 'uncomfortable.' However, SP were more accurate than SD (p<.05). The findings suggest that SP have moderately high accuracy vis a vis O, and are preferable to SD for elucidating factors influencing brace-wearing. Thus proximal subjective reports could be used in studies of behavioral interventions for non-adherent patients to minimize patient burden without sacrificing accuracy. Such studies are crucial to devising ways to treat patients who do not wear their braces enough hours per day to inhibit spinal curve progression and thus prevent the need for invasive major corrective spinal surgery.

CORRESPONDING AUTHOR: Teresa J. Lynch, MS, Eastern Michigan University, Milford, MI, 48380; tere.lynch@gmail.com

C-120

EARLY IDENTIFICATION OF CHILD BEHAVIOR PROBLEMS IN PRIMARY CARE: WHO INITIATES THE DISCUSSION?

Christina Studts, PhD

Behavioral Science, University of Kentucky, Lexington, KY.

If followed by effective intervention, early identification of child behavior problems may reduce serious long-term consequences of this social and public health problem. Targeting very young children for behavioral screening is vital for primary and secondary prevention, and pediatric primary care is an ideal venue for such efforts. However, low rates of parent-physician discussion of child behavioral problems in this setting limit early identification. This study identified sociodemographic predictors of parent-physician discussions of child behavior concerns, differentiating between parent-initiated (Parent-MD) and physician-initiated (MD-Parent) interactions, as reported by parents. Participants were primary caregivers of preschool-aged children (N=900) attending appointments at four pediatric primary care clinics. Each completed a battery of instruments including the Pediatric Symptom Checklist-17 (PSC-17) and a sociodemographic questionnaire. Most participants were female (86%), biological parents (87%) of children covered by public health insurance (71%). Approximately half were white (54%), high school educated or less (60%), and low-income (49%). Logistic regression analyses compared sociodemographic predictors of Parent-MD (18%) and MD-Parent (6%) discussions of child behavior concerns, controlling for PSC-17 scores (M=9.99, SD=5.91) and parental belief that the child had behavior problems (26%). Significant Parent-MD predictors (p<.05) included PSC-17 score (OR=1.12), parent belief (OR=14.55), and child's public health insurance coverage (OR=2.14). The only significant MD-Parent predictors, however, were parent belief (OR=11.59) and African-American child race (OR=2.61). Classification tables revealed that with the same set of predictors, the Parent-MD model was dramatically more sensitive (60%) than the MD-Parent model (6%). Results highlight the need for strategies to understand and improve parent-physician communication regarding child behavioral issues. Further exploration of the effects of race, socioeconomic status, and other factors on the initiation of such discussions is warranted.

CORRESPONDING AUTHOR: Christina Studts, PhD, Behavioral Science, University of Kentucky, Lexington, KY, 40536-0086; tina.studts@uky.edu

C-121

ADDRESSING MENTAL HEALTH IN VETERANS UNDERGOING TREATMENT FOR HEPATITIS C: A TELEHEALTH INTERVENTION

Amy K. Silberbogen, PhD,[1,2] Kirstin L. Brown, BA,[1] Erin W. Ulloa, PhD[1,2] and DeAnna L. Mori, PhD[1,2]

[1]Medical Psychology Service, VA Boston Healthcare System, Boston, MA and [2]Boston University School of Medicine, Boston, MA.

Pegylated interferon therapy, used in combination with ribavirin, is considered the optimal treatment for the hepatitis C virus (HCV); however, it is often coupled with a number of debilitating psychiatric and physical side effects. The aim of the current study is to address patients' general mental health, through a seven week telephone-based cognitive behavioral treatment (TEL), as compared to treatment as usual (TAU) in a randomized design. Participants completed a battery of measures at baseline and again eight weeks later. We hypothesize that participants who are randomized to TEL will report significantly less psychological distress [as measured by the Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI), Depression Anxiety Stress Scales (DASS), and the Mental Health subscale of the Short Form-36 for Veterans (SF-36V)] than those in TAU. Data was collected from 19 veterans with HCV within 45 days of initiating interferon treatment (mean age= 53.67, range 40–65). Repeated measures ANOVAs were used to evaluate the interactions between Treatment Conditions (TEL vs. TAU) x Time (Baseline vs. Post-intervention). Results yielded expected significant group x time interactions on depression and anxiety scales, including the BDI F(1,17)=8.48, p=.01, STAI-State F(1, 17)=15.465, p=.001, STAI-Trait F(1,17)=7.45, p=.01, and the Mental Health subscale of the SF-36V F(1,17)=6.04, p=.02. A notable trend was also observed for the DASS depression subscale DASS-D F(1,17)=3.57, p=.07. Means, standard deviations and simple effects will be reported. Treatment gains were not maintained at the 3 month follow-up assessment; clinical implications and directions for further research will be discussed. The current study demonstrates the efficacy of a telehealth intervention in minimizing the psychological effects of interferon treatment. These results highlight the importance of incorporating mental health providers into treatment planning.

CORRESPONDING AUTHOR: Kirstin L. Brown, BA, Medical Psychology Service, VA Boston Healthcare System, Boston, MA, 02130; KirstinLBrown@gmail.com

C-122

EFFECTS OF A HOME-BASED AEROBIC EXERCISE PROGRAM ON BLOOD CONTROL AND CARDIORESPIRATORY FITNESS IN CHILDREN AND ADOLESCENTS WITH TYPE 1 DM

Ching-Hsiang Wong, MSN and Chao Hsing Yeh, PhD

Chang Gung University, Tao Yuen, Taiwan.

The purpose of this study was to explore the effect of a home-based aerobic exercise program on blood control (HbA1c) and cardiorespiratory fitness in children and adolescents with type 1 DM in Taiwan. A quasi-experimental study was conducted with 19 patients in the intervention group and 20 in control group who were matched by age and sex during September, 2006 to December, 2007 in the outpatient clinic where is located in north of Taiwan. A twelve-week home-based aerobic exercise program, including is three times per week (30 minutes per session, 60%-65% maximum heart rate by a video disk) was implemented to patients who were in the intervention group while patients in the control group only received the usual care. Blood sugar control and cardiorespiratory fitness were examined before and after the exercise program. Diabetes's Quality of life and Physical activity record questionnaire (included a six minutes walk test, maximal exercise test, and submaximal exercise test) were used for data collection. The data were analyzed by SPSS 12.0. All of the compared data were examined by paired t-test, independent t test, Chi-square test, and one-way MANOVA were used for data analysis. Statistical significance was set as $\alpha<0.05$.The results shown that there were differences on the six minutes walk test and its subscales (including heart rate at rest, the maximal walking distance.)among two groups. The results shown that there were differences on intervention group between pretest and posttest (including the maximal walking distance, the maximal heart rate, the maximal consumption oxygen, arrive at 70% the maximal heart rate, test the six minutes of the maximal heart rate in the treadmill). The results might serve as useful guidance for community health professionals designing health promotion plans for children and adolescents in the community with type 1 DM. The study prompts the hope that blood control and cardiorespiratory fitness can be improved effectively through regular exercise, thereby promoting quality of life in type 1 DM patients.

CORRESPONDING AUTHOR: Chao Hsing Yeh, PhD, Chang Gung University, Tao Yuen, 333; cyeh622@gmail.com

C-123

SYMPTOM INTERFERENCE IN MULTIPLE SCLEROSIS: DESCRIPTIVE AND CORRELATIONAL EVIDENCE

Erin Snook, PhD,[1] John Flickinger, BS,[2] Ashley Hayes, undergraduate,[2] Natalia Sikaczowski, undergraduate[2] and Robert Motl, PhD[2]

[1]Department of Kinesiology, University of Massachusetts Amherst, Amherst, MA and [2]Department of Kinesiology and Community Health, University of Illinois at Urbana-Champaign, Urbana, IL.

Multiple sclerosis (MS) is a chronic and progressive autoimmune disease of the central nervous system. Demyelination of axons often manifests as MS-related symptoms. MS-related symptoms vary greatly among individuals, often occur unpredictably, and seemingly serve as a source of behavioral interference. This study examined (1) the rate of self-reported symptom interference on future activities and (2) the relationship between symptom interference and MS-related symptoms. The sample consisted of 291 participants who completed three measures of MS-related symptoms (assessing symptom severity, frequency, and distress) and answered three questions about how often activities were put off the next day, next week, and in the extended future (>1 week) due to the uncertainty of MS-related symptoms. Results indicated that the majority of participants reported sometimes, almost always or always putting off activities the next day due to symptoms (55%). Fewer participants reported having put off future activities sometimes, almost always or always the next week (32%) and in the extended future (23%). There were moderate associations between the severity of symptoms and symptom interference (range $r=.36\text{-}.42$), symptom frequency and symptom interference (range $r=.35\text{-}.42$), and symptom distress and symptom interference (range $r=.36\text{-}.42$). These results indicate that many individuals with MS put off future activities due to symptoms and symptom interference is greatest among those with severe, frequent, and distressful symptoms. These results may have important implications for better understanding how symptoms of MS influence future behaviors and highlight the importance of optimal MS-related symptom management and the need for interventions focusing on symptom management strategies.

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CORRESPONDING AUTHOR: Erin Snook, PhD, Kinesiology, University of Massachusetts Amherst, Amherst, MA, 01003; esnook@kin.umass.edu

C-124

ADMINISTRATION OF METYRAPONE DECREASES MEMORY REACTIVATION AND RECONSOLIDATION IN HUMANS

Marie-France Marin, BA,[1] Almut Hupbach, PhD[2] and Sonia J. Lupien, PhD[1]

[1]Centre de recherche Fernand-Séguin, Montréal, QC, Canada and [2]University of Arizona, Tucson, AZ.

Upon perception of a stress, the hypothalamic-pituitary-adrenal axis is activated and glucocorticoids (GCs) are released. These stress hormones influence different cognitive functions, such as memory. GCs are necessary for memory consolidation, a process by which new unstable information eventually stabilize into the long-term memory system. Metyrapone, an inhibitor of GCs synthesis, has been shown to impair the consolidation of both neutral and emotional memories. Recently, it has been proposed that by reactivating a consolidated memory, it is brought back into an unstable state where it can be modified once again. Thus, the memory trace has to undergo a second round of consolidation, called reconsolidation.

The aim of this study was to investigate whether administration of Metyrapone could impair the reactivation and reconsolidation of a long-term memory.

Twenty-participants watched a movie containing both emotional and neutral information. Three days later, half of the participants ($n=11$) were administered two doses of 750 mg of Metyrapone whereas the other half were administered a placebo. Ninety minutes following drug administration, participants were asked to recall the movie (memory reactivation). One week after the encoding session, memory was assessed once again.

At the time of reactivation, a 2-way mixed ANOVA revealed a significant interaction of Valence X Group driven by the Metyrapone group recalling less emotional material compared to the control group. This interaction was still present four days later showing that effects of Metyrapone on reactivated memories were maintained across the reconsolidation period.

These results suggest that Metyrapone administration prior to the recall of a consolidated memory decreases its reactivation, an effect that is specific to emotional information. Moreover, this weaker trace is maintained across time. This suggests that modulation of emotional memory reactivation and reconsolidation is possible in humans and this could have important implications for the field of post-traumatic stress disorder.

CORRESPONDING AUTHOR: Marie-France Marin, BA, Centre de recherche Fernand-Séguin, Montréal, QC, H1N 3M5; marie-france.marin@ mail.mcgill.ca

C-125

INTERNALIZATION OF NEGATIVE AGE PERCEPTIONS IS ASSOCIATED WITH HIGH CORTISOL LEVELS AND DEPRESSIVE SYMPTOMATOLOGY IN OLDER ADULTS

Shireen Sindi, Msc,[2,1] NpVassavan Nair, MD, FRCPC,[1] Nmk Ng Ying Kin, PhD,[1] George Schwartz, MSc, CCRP,[1] Nathalie Wan, MA[2,1] and Sonia Lupien, PhD[1]

[1]Neuroscience, Douglas Institute, Montreal, QC, Canada and [2]Neurololgy & Neurosurgery - Neuroscience Division, McGill University, Montreal, QC, Canada.

Background: Recent studies have shown that when negative aging stereotypes are internalized, they are associated with declines in physical and cognitive functioning. Few studies however have looked at the impact of internalized age perceptions (AP) on discrete biological markers such as cortisol.

Methods: The aim of the present study therefore was to investigate the associations between AP and measures of morning and afternoon cortisol levels, scores on the Geriatric Depression Scale (GDS), and scores on subjective memory assessments in older adults aged between 51–85. Bivariate correlations were conducted

Results: The results showed that AP were associated with scores on the GDS scale and cortisol levels only when assessing self (internalized) AP related to being useful to society and memory decline. For the item related to being less useful to society, the scores on self perceptions revealed a significant positive correlation with GDS score ($r=0.57$; $p<0.056$) and salivary cortisol levels in the afternoon and evening ($r=0.435$; $p<0.05$). For the item on memory declines, the scores on self-perception revealed a significant positive correlation with subjective complaints of memory as assessed by the Mac-Q ($r=0.604$; $p<0.04$) and Baddeley ($r=0.57$; $p<0.07$) questionnaires, and PM salivary cortisol ($r=0.438$; $p<.05$). No significant correlations with cortisol, GDS or subjective memory complaints were observed for the items related to life becoming less enjoyable, or for the item on becoming more dependent on others with aging.

Conclusions: Thus, older adults that have internalized negative aging perceptions deem their memory worse and show greater depressive symptomatology and elevated pm cortisol levels. Future studies could assess the predictive value of internalization tendencies in older adults on changes in cortisol and mood profiles

CORRESPONDING AUTHOR: Shireen Sindi, Msc, Neuroscience, McGill University, Montreal, QC, QC; shireen.sindi@gmail.com

C-126

“WE HAVE LUPUS”: COMMUNAL COPING AMONG LUPUS PATIENTS AND SPOUSES

Megan Lewis, PhD, Karen Isenberg, MPH and Tania Fitzgerald, BA

RTI International, Research Triangle Park, NC.

The purpose of this research was to explore whether theoretical notions of communal coping, i.e. pooling resources and perceiving a condition as shared, matched the experience of patients’ and spouses’ managing chronic illness. We conducted a qualitative study with 25 lupus patients and 17 spouses to answer two research questions: (1) Do patients and spouses report efforts at managing lupus that fit with the idea of communal coping? and (2) Do these reports reflect ideas that are consistent with better chronic illness management? Patients and spouses living with lupus were recruited through chapters of national lupus patient advocacy organizations in multiple U.S. states. Individuals participated in telephone-based focus groups of 2 to 4 participants. About half the sample was Non-White, and 23 of the participants were female. Eight patient groups and seven spouse groups were conducted. We chose to conduct the focus groups by phone to facilitate participation for those who might be limited by disability. Trained focus group moderators led the discussions that included questions about the individual patients’ and spouses’ roles in managing lupus as well as both individual and couple strategies used to manage lupus. All groups were recorded, transcribed, and entered into NVivo for analysis. Textual analysis to answer our research questions revealed that both patients and spouses frequently described elements of communal coping when discussing lupus management. For example, spouses frequently referred to lupus as a shared condition. In addition, both patients and spouses described strategies that they do together with their partners to manage lupus, such as eating a healthy diet, engaging in physical activity, reducing sun exposure, and allowing time for rest to manage fatigue. The communal coping strategies described appear in conjunction with strategies for good lupus management. This work suggests that research and intervention can capitalize on communal coping in couples-based chronic illness management interventions.

CORRESPONDING AUTHOR: Megan Lewis, PhD, RTI International, Research Triangle Park, NC, 27709-2194; melewis@rti.org

C-127

RECIPROCAL EFFECTS OF PATIENT AND CAREGIVER COPING ON PSYCHOLOGICAL ADJUSTMENT: A MULTILEVEL MODELING APPROACH

Amy M. Goetzinger, PhD[1] and Tamera B. Murdock, PhD[2]

[1]Medical Psychology, Department of Psychiatry & Behavioral Sciences, Duke University Medical Center, Durham, NC and [2]Department of Psychology, University of Missouri-Kansas City, Kansas City, MO.

Chronically ill patients who use adaptive coping strategies experience less psychological distress. Similar results have been found among caregivers. Less is known about the effects of the patient’s coping on the caregiver’s psychological adjustment, and vice versa. The present study used hierarchical linear modeling for dyadic outcomes to evaluate reciprocal effects of coping for a clinical sample of 639 chronically ill patients matched with their respective primary caregivers. Data were from the 1999 wave of the National Institute of Aging National Long Term Care Survey. On average, caregivers (M=2.32, SD=.87) and patients (M=2.32, SD=.68) reported similar levels of psychological adjustment. The Level 1 random effect ($\sigma 2$) was .43, indicating that 57% of the variance for patients’ and caregivers’ psychological adjustment was explained. In addition, the interclass correlation was .33 for the actor effects model (ie, patient coping-patient adjustment), and .25 for the partner effects model (ie, caregiver coping-patient adjustment). Caregivers’ use of active coping strategies (γ=.32, p<.01) and avoidance of substances for coping (γ=.14, p=.04) was associated with better personal adjustment. Caregivers’ level of perceived social support was not associated with their personal adjustment (γ=.01, p=.78). However, greater patient perceived social support was associated with improved caregiver (γ=.09, p=.01) and patient (γ=.22, p<.01) adjustment. Patients’ use active coping strategies was not associated with better personal adjustment (γ=.01, p=80), but was associated with better caregiver adjustment (γ=.22, p<.01). Caregivers and patients appear to benefit from different types of coping, and accounting for the interdependence and reciprocal effects among dyads should be considered in patient-caregiver research designs. Coping interventions for patients and caregivers should address contextual and dynamic relationship factors.

CORRESPONDING AUTHOR: Amy M. Goetzinger, PhD, Medical Psychology, Department of Psychiatry & Behavioral Sciences, Duke University Medical Center, Durham, NC, 27710; amy.goetzinger@duke.edu

C-128

SATISFACTION AND COMPLIANCE WITH TELEHEALTH INTERVENTIONS

Kirstin L. Brown, BA,[1] Amy K. Silberbogen, PhD,[1,2] Erin W. Ulloa, PhD[1,2] and DeAnna L. Mori, PhD[1,2]

[1]VA Boston Healthcare System, Boston, MA and [2]Boston University School of Medicine, Boston, MA.

Accessible interventions are critical for individuals who have difficulty engaging in treatment. Telehealth is a term used to describe the use of technology to provide healthcare and enhance mental health. Telephone technology is low-cost and particularly accessible to populations who have limited access to healthcare due to barriers such as mobility limitations, economic status, proximity to healthcare facility, or concerns regarding stigma. However, patient satisfaction and compliance to a telephone intervention is critical to feasibility. The aim of this project is to assess satisfaction and compliance rates of veterans enrolled in two health promotion telephone intervention studies. Sixteen participants with chronic medical conditions completed a CBT-based telephone intervention and rated their satisfaction on a Patient Satisfaction Questionnaire (PSQ). Results revealed high satisfaction with the telephone intervention: 94% endorsed that the calls motivated them to improve their healthcare, 88% endorsed that they looked forward to the calls, 94% would recommend the phone program to others, and 94% endorsed that they would do a phone program again. Qualitative data was also collected via a brief interview with each participant upon completion of the intervention. Participants reported high satisfaction because the telephone treatment was “convenient,” “interesting,” and “just as helpful and personable” as in-person sessions. More detailed qualitative results will be presented. Furthermore, compliance rates are higher for participants randomized to telephone conditions than in-person conditions. For example, the drop-out rate in the telephone group is only 20%; this rate increases to 73% in the in-person treatment arm. Results demonstrate that telehealth is a feasible treatment modality that results in high satisfaction and compliance. Implications of these findings will be discussed, including the importance of utilizing telehealth to promote health, particularly in populations who may have difficulty attending in-person visits.

CORRESPONDING AUTHOR: Kirstin L. Brown, BA, Medical Psychology Service, VA Boston Healthcare System, Boston, MA, 02130; KirstinLBrown@gmail.com

C-129

EFFECT OF MP4 PLAYERS ON TREATMENT ADHERENCE IN VOICE THERAPY

Eva van Leer, MFA, MS

Surgery, Division of Otolaryngology, University of Wisconsin-Madison, Madison, WI.

Voice therapy is a behavioral intervention and sub-specialty within Speech-Language Pathology that has demonstrated efficacy in resolving or reducing a variety of voice disorders including those with psychogenic, behavioral, and neurogenic etiologies. Treatment adherence is a challenge in voice therapy, because the treatment involves complex motor skill acquisition (i.e. learning of voice technique), daily home practice, and generalization of voice technique across communication settings. Barriers to adherence include both those shared with other behavioral interventions (e.g. scheduling time, maintaining motivation) and those unique to the demands of voice therapy (difficulty practicing correctly outside of the clinic, ridicule by family members, vocal self-concept challenges). In order to improve patient self-efficacy, goal commitment, adherence, and outcomes, patients were provided with MP4 video players containing voice technique videos of their clinician, of themselves while practicing correctly (“self-as-model”), and of former patients providing supportive “testimonials.” Quantitative and qualitative findings will be explained from the perspective of social-cognitive theory. Implications for the use of portable MP4 players, and various forms of video models, to greater field of Speech Pathology and health behavior, will be discussed.

CORRESPONDING AUTHOR: Eva van Leer, MFA, MS, Surgery, Division of Otolaryngology, University of Wisconsin-Madison, Madison, WI, 53792; van-leer@surgery.wisc.edu

C-130

THE PROBLEM WITH BALANCED SCALES: FACTOR ANALYSES OF THE PERCEIVED EXPECTANCIES INDEX

Ken Wallston, PhD, Chandra Osborn, PhD and Amanda Carrico, MA

Vanderbilt University, Nashville, TN.

Many self-report scales designed for use by health researchers contain a balance between “positively” and “negatively” worded items to control for an acquiescence bias. Scoring instructions for such instruments call for reverse-scoring the negatively worded items before summing them with the positively worded items. The Cronbach’s alpha of such measures usually exceeds the minimum criterion of > 0.7, thus giving the researcher some assurance that they have a unidimensional measure. What happens, however, when the assumption of unidimensionality is put to the test by factor analysis?

The Cognitive Adaptability Index (CAI) is an 8-item scale comprised of 4 items assessing perceived competence (PC) and 4 items assessing dispositional optimism (DO). Within each construct domain, 2 of the items are positively worded and 2 are negatively worded. The CAI has been shown to correlate with measures of subjective well-being, quality of life, self-reported health, and disease activity in several studies involving clinical populations and healthy individuals.

1700 persons responding to a national online survey containing the 8 CAI items were randomized into two groups. Exploratory principal components analyses with both orthogonal and oblique rotations on the data from Group 1 (n=889) determined a two factor solution, with all 4 positively worded items loading on one factor and all 4 negatively worded items loading on a 2nd factor. Data from Group 2 (n=819) were then subjected to a series of confirmatory factor analyses. The best-fitting models were for the 4 positively worded items alone [X2=0.85 (dF=1, p=.36); CFI=1.00; RMSEA <0.01] and the 4 negatively worded items alone [X2=1.28 (dF=1, p=.26); CFI=1.00; RMSEA=0.019]. A third model in which all 8 items were loaded onto a single factor also showed a reasonable fit [CFI=0.986; RMSEA=0.05].

Despite both exploratory and confirmatory factor analyses suggesting two factors based on valence of item wording, treating the CAI (and similar “balanced” instruments) as a unidimensional index appears justified.

CORRESPONDING AUTHOR: Ken Wallston, PhD, Vanderbilt University, Nashville, TN, 37240; ken.wallston@vanderbilt.edu

C-131

A CONFIRMATORY FACTOR ANALYSIS OF THE FINANCIAL STRESS SCALE

Jebediah J. Northern, MA, William H. O’Brien, PhD, Paul W. Goetz, MS, Christopher Weinland, BA, Caroline Cota, BA and Kandice Saum, BA

Psychology, Bowling Green State University, Bowling Green, OH.

Financial Stress is a common form of stress for many Americans. Negative outcomes have been linked to financial stress in many life domains including health, health behaviors, mental health, work, and interpersonal relationships. Yet little attention has been given to developing and psychometrically evaluating a measure of financial stress. One exception has been the Financial Stress Scale. In previous research, the Financial Stress Scale has demonstrated significant relationships with measures of income, financial quality of life, self-report measures of health, behavioral indicators of health, and levels of daily stress. This poster presents three studies that extended the refinement and development of the Financial Stress Scale. Surveys were administered to adult community samples that were obtained using three sampling methods: phone directory sampling, an online survey service, and an email “snowball” sampling technique. The surveys included the Financial Stress Scale, objective indicators of debt, and general measures of physical and mental health. In Study 1, item analyses were conducted that yielded a 10-item version of the scale. An exploratory factor analysis was then performed, which resulted in a two-factor solution. The subscales seem to represent current financial stress and worry regarding potential future financial stressors. Tests of reliability were adequate for the overall scale and both subscales. The subscales displayed convergent validity with many of the other measures collected. The stability of the factor structure was tested in Study 2 using confirmatory factor analysis. Results indicate that the structure was stable. A variation of a holdout sample was used in Study 3 to replicate the factor structure. Again, confirmatory factor analytic techniques were used, and the factor structure was found to be relatively stable. Taken together, these studies suggest that Financial Stress Scale may be a valid and reliable measure of financial stress. The implications are discussed.

CORRESPONDING AUTHOR: Jebediah J. Northern, MA, Psychology, Bowling Green State University, Bowling Green, OH, 43402; jnorthe@bgsu.edu

C-132

LOW-INCOME GROUPS AND BEHAVIOUR CHANGE INTERVENTIONS: REVIEW OF INTERVENTION CONTENT AND EFFECTIVENESS

Susan Michie, Psychology,[1] Karen Jochelson, Social Policy,[2] Wolfgang A. Markham, Biochemistry[3] and Chris Bridle, Psychology[4]

[1]Department of Clinical, Education and Health Psychology, University College London, London, United Kingdom; [2]The King’s Fund, London, United Kingdom; [3]School of Health and Social Studies, University of Warwick, Coventry, United Kingdom and [4]Warwick Medical School, University of Warwick, Coventry, United Kingdom.

Interventions to change health-related behaviours have potential to increase health inequalities. This review investigated the effectiveness of interventions targeting low income groups to promote smoking cessation, physical activity and/or healthy eating. Of 7821 papers identified by our search strategy, 13 met the inclusion criteria. Intervention content was coded into component technique and theoretical basis, and examined as a potential source of effect heterogeneity.

Interventions were heterogeneous, comprising four to 19 techniques. Nine interventions had positive effects, seven resulted in no change and one had an adverse effect. Effective interventions tended to comprise fewer behaviour change techniques than ineffective interventions, but there was no evidence that any specific technique being related to effectiveness. Only six studies cited theory relative to intervention development, with little information about how theory was used and no obvious association with intervention content or effect.

This review shows that behaviour change interventions, particularly those with fewer techniques, can be effective in low income groups, but highlights the lack of evidence to draw on in informing the design of interventions for disadvantaged groups.

CORRESPONDING AUTHOR: Chris Bridle, Psychology, Warwick Medical School, University of Warwick, Coventry, CV4 7AL; c.bridle@warwick.ac.uk

C-133

THE ROLE OF HEALTH-RELATED FACTORS IN USING A PATIENT ADVOCATE

Jordan A. Carlson, BA, Pamela C. Anderson, none, Miguel T. Villodas, MA and Terry A. Cronan, PhD

Psychology, San Diego State University, San Diego, CA.

Quality and patient satisfaction are primary goals of healthcare, yet the rising complexity of the system has made navigation increasingly difficult for patients. The field of patient advocacy was developed to assist patients with healthcare needs, and private firms have begun to offer personal advocates to facilitate use of the healthcare system. The present study was designed to investigate associations between health-related factors and intent to hire a patient advocate in two samples of the general community: adults under age 40 (n=244; 52% male; mean age=27.4; mean intent to hire=4.4 out of 10) and adults aged 40 and older (n=464; 45% male; mean age=59.4; mean intent to hire=4.3 out of 10). Participants were randomly selected and asked to read a description of patient advocacy and complete questions on age, gender, education, confidence in healthcare (4-item scale; Cronbach’s alpha=.89), effort maintaining health, self-rated health (SRH), and intent to hire a patient advocate. A hierarchical multiple regression analysis was conducted. On step 1 in the younger sample, gender and education accounted for a significant amount of overall variance in intent to hire, and education was significantly associated with intent to hire (β=-.15). On step 2, confidence in healthcare, effort maintaining health, and SRH accounted for a significant increase in explained variance (ΔR2=.11). In particular, effort maintaining health (β=.36), and SRH (β=-.14) were significantly associated with intent to hire. On step 1 in the older sample, gender and education did not account for a significant amount of overall variance in intent to hire. On step 2, confidence in healthcare, effort maintaining health, and SRH accounted for a significant increase in explained variance (ΔR2=.02). However, only effort maintaining health (β=.19) was significantly associated with intent to hire. These findings show that demographic and health-related factors may be important in understanding an individual’s intent to hire a patient advocate, and the importance of these factors may differ between adults over and under age 40.

CORRESPONDING AUTHOR: Jordan A. Carlson, BA, Psychology, San Diego State University, San Diego, CA, 92182; jcarlson4@gmail.com

Meritorious Student Poster

C-134

EVIDENCE INFORMING A HEALTH POLICY FOCUSING ON BATHTIME TO REDUCE MALARIA INCIDENCE IN RURAL COMMUNITIES OF THE PERUVIAN AMAZON

Mathieu Maheu-Giroux, MSc,[1,3] Martin Casapia, MD, MPh[2] and Theresa W. Gyorkos, PhD[1,3]

[1]Epidemiology, Biostatistics and Occupational Health, McGill University, Montréal, QC, Canada; [2]Asociación Civil Selva Amazonica, Iquitos, Peru and [3]Division of Clinical Epidemiology, Research Institute of the McGill Unviersity Health Centre, Montreal, QC, Canada.

Malaria is one of the most important public health problems in Peru, with the vast majority of cases being reported from its Amazon region, where approximately 50% of the population lives below the poverty line. Local health authorities are considering promoting a health policy for malaria prevention in rural communities not having electricity which would identify a target bathtime before 17:00 hours. The perception is that this would avoid the peak biting time of the local malaria mosquito vector. Barriers to the uptake of this new policy include a tradition to bathe in open air sites after 17:00 hours when dusk provides some measure of privacy. In order to verify the possible protective effect of bathing before 17 h00 on malaria occurrence, we conducted a 30-month retrospective cohort study (January 2006 to June 2008) in 8 rural malaria-endemic Amazon communities. Information on malaria incidence and on a variety of socio-demographic characteristics (eg. age, gender, education, bedtime hour and bathtime hour) was obtained by interview of the head, or designate, of each eligible household (N=245), for each household member (n=1107). A random effects Bayesian model was fit using noninformative priors to assess the influence of bathtime on the number of malaria episodes. Over the 30-month study period, a total of 367 cases of malaria were reported. Preliminary results, using a subsample of the data (approx 50%), suggest that bathing before 17 h00 does not reduce the incidence of malaria, after adjusting for confounding (Rr=0.95; 95 % CI: 0.66, 1.33). These results will be confirmed in the complete data set and also using malaria occurrence data as routinely recorded by the local health post. This study will provide crucial empirical evidence to inform the health policy on recommended bathtime in rural malaria-endemic communities in the Peruvian Amazon.

CORRESPONDING AUTHOR: Mathieu Maheu-Giroux, MSc, Epidemiology, McGill University, Montréal, QC, H3A 1A2; mathieu.maheu-giroux@ mail.mcgill.ca

C-135

PSYCHOLOGICAL ADJUSTMENT AND BELIEFS ABOUT SHARED ILLNESS MANAGEMENT IN VASCULITIS AND LUPUS PATIENTS AND THEIR SPOUSES

Jessica A. Kadis, MPH expected,[1] Delesha M. Carpenter, MSPH,[1] Katherine R. Sterba, PhD, MPH[2] and Robert F. DeVellis, PhD[1]

[1]UNC Chapel Hill School of Public Health, Chapel Hill, NC and [2]Medical University of South Carolina, Charleston, SC.

Background: Lupus and vasculitis exact a psychological toll on patients and their families due to the severity and unpredictability of illness episodes. Despite scientific and medical advances, little is known about how partners work together to manage these chronic illnesses.

Methods: PAIRS is an observational study of married couples where one spouse has had ANCA-vasculitis or lupus for at least six months. Participants were recruited through a glomerular disease registry in a southeastern state as well as advertisements and a patient conference. At baseline, 140 couples completed mailed surveys assessing physical health, psychological adjustment, and psychosocial and socio-demographic variables. Psychological adjustment was assessed using a composite of established measures of depression, affect, satisfaction with life, and optimism. Teamwork standards (beliefs about the extent to which partners should work together for day-to-day illness management, long-term illness planning, treatment, and illness-related emotions) were assessed in each partner with a 4-item scale. Higher scores represented stronger beliefs about teamwork.

Results: The mean teamwork standards score for patients (1.395, sd=.381) was significantly lower than that of spouses (1.522, sd=.332), indicating that spouses endorsed a greater belief in cooperative illness management (t(138)=1.977, p=.001). Pearson correlations revealed that beliefs about teamwork standards were significantly correlated with psychological adjustment for patients (r=.24, p=.003), but not spouses. In a regression analysis controlling for age, gender, race, number of years married, and education level, the teamwork standards variable was significantly related to psychological adjustment for patients (B=.250, p=.003), but not spouses (B=-.059, p=.488). Further study of why patient beliefs about teamwork relate to adjustment in this sample may highlight the mechanisms underlying spousal support in the context of chronic illness.

CORRESPONDING AUTHOR: Jessica A. Kadis, MPH expected, HBHE, UNC Chapel Hill School of Public Health, Chapel Hill, NC, 27599; jkadis@email.unc.edu

C-136

STRESS IN THE MIND AND BODY: COMPARISON OF THE ABRIDGED PSYCHOLOGICAL STRESS MEASURE (PSM-9) WITH IMMUNOLOGICAL BIOMARKER ASSAYS

Stacey Gibson, BA Psychology,[1] Louise Lemyre, PhD,[1,2] Diana Wilkinson, PhD[3] and Sami Qutob, PhD[4]

[1]School of Psychology, University of Ottawa, Ottawa, ON, Canada; [2]Institute of Population Health, University of Ottawa, Ottawa, ON, Canada; [3]Defence Research & Development Canada, Ottawa, ON, Canada and [4]Consumer and Clinical Radiation Protection Bureau, Health Canada, Ottawa, ON, Canada.

The relationship between stress and health has been extensively studied and widely recognized in both physiological and psychological realms. However, this has been largely established using separate measurement instruments, with fewer researchers attempting to make linkages between the two methodologies, furthering the validation of their use. As such, this study explores whether changes in physiological markers related to stress in a group of firefighters (N=23) can be linked to psychometric measures, such as pencil and paper tests. A repeated-measures design compared variations in scores on the abridged Psychological Stress Measure (PSM-9) with fluctuations in various well-known biological stress markers, before and after a naturally-occurring stressful event (an important promotional exam). Corrected, paired-sample t-tests indicate that the participants' psychological stress was reduced after the event, as measured by the PSM-9, t(18)=4.59, p.< 0.001, (two-tailed), d=1.30, as well as in a number of known biological stress assays, including decreased levels of cortisol, t(20)=2.29, p.=0.03, (two-tailed), d= 1.17, and amylase, t(18)=2.26, p.=0.04, (two-tailed), d=0.70, as well as increased levels of IgA, t(19)=-2.62, p.=0.02, (two-tailed) d=-0.65. The observed parallel changes coupled with the significant differences in both psychometric test scores and physiological stress markers offers further validation for the PSM-9 as an effective tool in measuring psychological stress.

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CORRESPONDING AUTHOR: Stacey Gibson, BA Psychology, Psychology, University of Ottawa, Ottawa, ON, K1N 6N5; stacey.gibson@uottawa.ca

C-137

ROLE OF HEALTH INFLUENCING POSITIVE AND NEGATIVE AFFECT AND LIFE DOMAIN SATISFACTION IN RETIREMENT

Stephanie K. Torok, BA and Dolores Pushkar, PhD

Psychology, Concordia University, Montreal, QC, Canada.

The risk of encountering physical and mental health problems amplifies as individuals age. Research examining effects of retirement has found contradictory results. Some research found that retirees showed more physical problems, depression and difficulty in completing activities of daily living (Buxton, Singleton, & Melzer, 2005; Dave, Rashad,& Spasojevic: 2006)), than those still working. Other research reported those who had retired improved their mental function while their working counterparts declined (Mein, Martikainen, Hemingway, Stansfeld, & Marmot, 2003). Given these conflicting views on health after retirement, identifying ways in which this might affect the subjective view of retirement would be central to improve health post-retirement. In this study, a subset of 377 retired men and women from the Concordia Retirement Study were analyzed over a three-year period. It was hypothesized that positive affect would increase after retirement, as would life domain satisfaction, whereas negative affect would decrease. In order to predict the role of health in happiness over three years, participants completed questionnaires reporting number of diagnosed illnesses (Wyler, Masuda & Holmes, 1967), positive affect and negative affect (Watson et al., 1988) and life domain satisfaction (Pushkar & Conway, 2007) at three time points, 12 months apart. After controlling for the effects of demographic variables; age, sex, marital status, education, as well as financial situation, and controlling for baseline levels of well-being three years prior, a greater number of illnesses predicted greater changes in affect, resulting in higher negative affect, lower positive affect, and lower satisfaction with life. The results suggest that better health status is associated with higher levels of both affect and cognitive components of subjective well-being. Illness reduces positive affect. Implications for future research will be discussed.

CORRESPONDING AUTHOR: Stephanie K. Torok, BA, Concordia University, Montreal, QC, H4B1R6; stuphalina@gmail.com

C-138

PERFECTIONISM, HEALTH RELATED COPING, AND PSYCHOSOCIAL IMPACT OF INFLAMMATORY BOWEL DISEASE

Gordon L. Flett, PhD,[1] Christine M. Baricza, BA,[1] Anita Gupta, PhD,[1] Paul L. Hewitt, PhD[2] and Norman S. Endler, PhD[1]

[1]Psychology, York University, Toronto, ON, Canada and [2]Psychology, University of British Columbia, Vancouver, BC, Canada.

Individuals living with Inflammatory Bowel Disease (IBD) have described it as being ‘embarrassing, taboo and misunderstood by others’ (Hall, Rubin, Dougall, Hungin, & Neely, 2005). It is clear that health related quality of life among individuals with IBD is impacted by psychosocial factors in addition to physical functioning (e.g., Turnbull & Vallis, 1995). There is an empirical gap in identifying non-physical factors, such as personality characteristics, which may serve to heighten the burden of coping with chronic illness. This study examined associations of multidimensional trait perfectionism and perfectionistic self-presentation with psychosocial impact of IBD and health related coping. A sample of 51 individuals with Crohn’s disease or Ulcerative Colitus completed the Multidimensional Perfectionism Scale, the Perfectionistic Self-Presentation Scale, the Sickness Impact Profile, the Coping with Health Problems Scale, the Neuroticism scale of the five factor model measure, and the Life Orientation Test. Partial correlations controlling for neuroticism, optimism and physical impact of IBD indicated that all dimensions of trait perfectionism [self-oriented (r=.39, p<.001); other-oriented (r=.34, p<.05); and socially prescribed perfectionism (r=.34, p<.05)] and all facets of perfectionistic self-presentation [perfectionistic self-promotion (r=.40, p<.05), nondisplay of imperfection (r=.30, p<.05), and nondisclosure of imperfection (r=.31, p<.05)] were positively associated with psychosocial impact of IBD. Additionally, partial correlations controlling for neuroticism, optimism and physical impact of IBD indicated that self-oriented perfectionism (r=.32, p<.05) and perfectionistic self-promotion (r=.32, p<.05) were associated with emotional preoccupation coping. Findings suggest that trait perfectionism and perfectionistic self-presentation tendencies can heighten the psychosocial burden of living with IBD, and certain dimensions of perfectionism are associated with use of maladaptive coping strategies.

CORRESPONDING AUTHOR: Anita Gupta, PhD, Department of Psychology, York University, Toronto, ON, M3J1P3; anitagup@yorku.ca

C-139

SPOUSE DEPRESSION AND DISEASE COURSE AMONG PERSONS WITH RHEUMATOID ARTHRITIS

Mark Lam, BA,[1] Anita DeLongis, PhD,[1] Eli Puterman, MA[1] and Allen Lehman, MA[1,2]

[1]The University of British Columbia, Vancouver, BC, Canada and [2]Arthritis Research Centre of Canada, Vancouver, BC, Canada.

Affecting approximately one percent of the general population, Rheumatoid Arthritis (RA) is an incurable, autoimmune disease associated with chronic pain, stiffness and inflammation of the joints, fatigue, and frequent mood changes. Although early reports of disability (Neugebauer & Katz, Arthrit Care Res, 2004) are initiated by biological factors, over time, psychosocial factors play a considerable role in the course and severity of RA. Among these factors, mood has been found to play a critical role. For example, mood, independent of stressful events, was found to be predictive of same-day pain, fatigue and stiffness in a sample of children with juvenile polyarticular arthritis, (Schanberg et al., Arthritis Rheum, 2005). Research has also suggested that close relationships can play a powerful role in helping (or hindering) persons with RA’s (PWRA) adjustment to chronic pain and disability (Holtzman & DeLongis, Pain, 2007). One path through which close others may impact PWRA well-being is mood. Studies on contagion of mood within close relationships suggest that one spouse’s mood is linked to the other’s (Siegel et al., J Aging Health, 2004). Although no studies have examined such contagion effects among PWRA, spouse mood could be one path through which close relationships affect PWRA disease course. The study’s objective was to examine the role of spouse mood in the disability and disease course of PWRA. 133 married PWRA completed questionnaires assessing RA disease activity and disability at two time-points one-year apart. In addition, both PWRA and their spouses completed a standardized measure of depression at both time-points. Multiple regression analysis revealed spouse mood at initial assessment to be predictive of follow-up PWRA disability and disease activity, controlling for initial levels of PWRA depression, disability, and disease activity. Findings from our study highlight the key role played by the spouse in PWRA disease course, and point to the importance of including the spouse in clinical interventions.

CORRESPONDING AUTHOR: Mark Lam, BA, Psychology, The University of British Columbia, Vancouver, BC, V6T1Z4; mlam@psych.ubc.ca

C-140

PERSISTENCE OF PSYCHIATRIC DISORDERS IN PATIENTS WITH ASTHMA

Maxine Boudreau, PhD,[1,2] Simon Bacon, PhD[1,3] and Kim Lavoie, PhD[1,2]

[1]Hôpital du Sacré-Coeur de Montréal, Montréal, QC, Canada; [2]UQAM, Montréal, QC, Canada and [3]Concordia University, Montréal, QC, Canada.

Psychiatric disorders have been associated with poor asthma control and increased asthma morbidity. However, little is known about the persistence of such disorders in patients with asthma.
A total of 171 patients with asthma (mean (SD) age=50 (13) yrs, 60% women) were recruited from the outpatient asthma clinic at HSCM. Patients underwent a sociodemographic interview followed by a structured psychiatric interview (Primary Care Evaluation for Mental Disorders [PRIME-MD]) administered by a trained clinical research assistant. One year later patients were administered the PRIME-MD again.
At baseline, 29% (n=45) of patients had any psychiatric disorder, 18% had a mood disorder, and 21% had an anxiety disorder. At 1 year the rates were lower but similar at 22%, 15%, and 14% respectively. Chi-square analysis revealed that patients with psychiatric disorder were more likely to have a psychiatric disorder at 1 year ($\chi 2$= 16.9, p<.001). Only 43% of patients with a psychiatric disorder at baseline still had a disorder at 1 year, compared to 14% of patients who developed a disorder. This pattern of results was also true for mood disorders ($\chi 2$=17.3, p<.001) and anxiety disorders($\chi 2$=10.3, p=.001). Only 40% of patients with a mood disorder and 31% of patients with an anxiety disorder at baseline had the disorder at 1 year, whilst 10% developed a mood disorder and 10% an anxiety disorder.
These results suggest that the point prevalence of psychiatric disorders in patients with asthma is stable and that patients with a disorder at baseline are more likely to have one at 1 year. However, persistence of a disorder seems to be low, with less than half the patients with a disorder at baseline still reporting a disorder at 1 year. Given this data it can be estimated that the lifetime prevalence of psychiatric disorders in this population is likely to be high. Further research is needed to assess the impact of persistence of psychiatric disease on asthma morbidity.

CORRESPONDING AUTHOR: Maxine Boudreau, PhD, HÃ´pital du Sacré-Coeur de Montréal, Montréal, QC, H4J 1C5; maxine_boudreau@hotmail.com

C-141

PSYCHOLOGICAL VULNERABILITY PREDICTS DEPRESSIVE SYMPTOMS IN PERSONS WITH RA

Vaughn G. Sinclair, PhD and Ken A. Wallston, PhD

School of Nursing, Vanderbilt University, Nashville, TN.

The 6-item Psychological Vulnerability Scale (PVS) was designed to identify individuals with cognitive patterns (e.g., social dependence, self-oriented perfectionism, and negative attributions) that render them more susceptible to stress. Data from 125 patients with RA (73% female) were used to determine whether the PVS could explain unique variance in depressive symptoms (CES-D) while controlling for two other known predictors of depressive symptoms– arthritis helplessness (AHI) and functional impairment (AFI). The three predictor model was highly significant [F(3, 121)=25.6; p<.001], explaining 39% of the variance in CES-D scores assessed at the same point in time. Controlling for both AHI and AFI, the PVS explained an additional 9% of the variance in CES-D scores. Data from two points in time one year apart were used to determine if the PVS could also uniquely predict change in CES-D scores over time. On Step 1, CES-D scores at the later point in time were regressed on CES-D scores from a year earlier. Then AHI, AFI, and PVS scores assessed a year earlierwere entered into the model. The model predicted 56% of the variance in depressive symptoms, with the PVS accounting for a unique 6% of the variance in change in CES-D scores p<.05). Because of its brevity, the PVS offers an efficient means of predicting additional variance in depressive symptom scores. These findings imply that the PVS could be a useful screening tool for individuals at risk for depression and that the cognitions assessed by the instrument may merit attention in therapy. More research is needed to substantiate the value of the PVS for identifying individuals who could potentially benefit from interventions designed to prevent depression.

CORRESPONDING AUTHOR: Vaughn G. Sinclair, PhD, School of Nursing, Vanderbilt University, Nashville, TN, 37240; vaughn.sinclair@ vanderbilt.edu

C-142

PREDICTORS OF DOMAIN-SPECIFIC QUALITY OF LIFE IN SERIOUSLY MENTALLY ILL ACT CLIENTS

Dorothy O. Jackson, MA, Sylvie Mrug, PhD and Robert Savage, PhD

University of Alabama at Birmingham, Birmingham, AL.

Aim: Reducing substance use and psychiatric symptoms has been shown to improve quality of life (QoL) in seriously mentally ill (SMI) patients. Previous studies did not examine measures of daily functioning (social skills and ability of manage medications), which are critical skills for SMI individuals living in the community, as potential factors. Evidence suggests that the domains that comprise total QoL scores could measure different constructs entirely, which indicates a need to examine these domains separately. The aim of this study is to examine predictors of total and domain-specific QoL including measures of functioning. Methods: Assertive Community Treatment (ACT) clients (N= 68) were surveyed about their substance use, psychiatric symptoms, demographics, and QoL. Hierarchical multiple regressions were used to examine the influence of predictors on total and domain-specific (social, leisure, health, financial, and family) QoL. Results: Our sample was middle-aged (M= 44 + 7.8 years), predominantly African-American (74%), and male (72%). Primary Axis I diagnoses were paranoid schizophrenia (42.2%) and schizoaffective disorder (36.4%). Approximately 50% of participants had a comorbid Axis I substance-use disorder. Participants with less psychiatric distress, greater substance use, at later stages of substance use treatment, and with better medication adherence reported higher global QoL. Lower psychiatric symptom severity was a significant predictor of higher QoL ratings for all domains. Participants abusing substances reported greater satisfaction with their social lives, leisure activities, and family lives. Participants with better medication adherence reported greater satisfaction with their financial status. Conclusion: Our findings suggest that areas of QoL are influenced by different factors. ACT provides for treatment plans that are tailored to fit the individual needs of each client. Taking into account the factors identified in this study may eventually provide ACT counselors with guidelines for individualized treatment planning.

CORRESPONDING AUTHOR: Dorothy O. Jackson, MA, Psychology, University of Alabama at Birmingham, Birmingham, AL, 35205; ocky_888@ yahoo.com

C-143

SOCIAL EXCHANGE AND WELL-BEING IN COUPLES WITH ONE SPOUSE SUFFERING FROM DEMENTIA

Melanie G. Braun, MA Psychology,[1] Urte Scholz, PhD,[1] Rainer Hornung, Professor,[1] Mike Martin, Professor[2] and Uwe Sperling, PhD[3]

[1]Department of Social and Health Psychology, University of Zurich, Zurich, Switzerland; [2]Department of Gerontopsychology, University of Zurich, Zurich, Switzerland and [3]IV Medicine Clinic, Geriatry, University Hospital Mannheim, Zurich, Switzerland.

Objective: Due to high dementia prevalence in old ages, there are a large number of older individuals caring for a partner suffering from dementia. Research with healthy couples showed that high communication quality and an equal dyadic exchange predict relationship satisfaction, psychological health, and well-being. In couples with dementia, changes in verbal abilities and perceived equity with increasing dementia severity are expected. The main research question of this longitudinal study was whether and how well-being and communication of afflicted couples are related.

Method: Thirty-seven couples with the husband suffering from dementia participated in the study. At two measurements obtained within six months, communication quality, equity, and

well-being were assessed. Objective data and self-reports are combined to analyze dyadic processes.

Results: Caregiving wives experienced more depression and inequity, and lower life satisfaction than their husbands. The caregiving wives' depression level was negatively correlated with positive communication of both caregiver and care receiver. Thus, caregivers' depressive symptomatology was significantly related to dyadic communication quality. Despite their impairment, the demented subjects participated actively.

Conclusions: Relations between dyadic communication, well-being, and health decline comprise essential information for couple interventions.

CORRESPONDING AUTHOR: Melanie G. Braun, MA Psychology, Department of Social and Health Psychology, University of Zurich, Zurich, 8050; Melanie. Braun@psychologie.uzh.ch

C-144

DEVELOPMENT AND VALIDATION OF THE QUALITY OF WELL-BEING SELF-ADMINISTERED MENTAL HEALTH SCALE

Jordan A. Carlson, BA,[1] Andrew J. Sarkin, PhD,[1] Steven R. Tally, PhD,[1] Erik J. Groessl, PhD,[1] William J. Sieber, MD,[1] Theodore G. Ganiats, MD,[1] Barbara L. Brody, MPH[1] and Robert M. Kaplan, PhD[2]

[1]U. of California San Diego, La Jolla, CA and [2]U. of California Los Angeles, Los Angeles, CA.

The Self-Administered Quality of Well-being Scale (QWB-SA) is a generic, preference-based measure that provides a single quantitative summary score of Health-Related Quality of Life (HRQOL). The score facilitates the calculation of Quality-Adjusted Life Years (QALYs) and cost-effectiveness analysis. Currently, the QWB-SA does not distinguish between physical and mental health (MH), but descriptive subscales have often been requested by users. The purpose of this study was to derive and validate a MH subscale from existing QWB-SA questions. Four expert reviewers independently identified items within the QWB-SA related to the construct of MH. This study used existing data from a larger study in which questionnaires were completed by participants from two samples: the general population (n=3844; 43% male; mean age=60.2), and a clinical sample (n=157; 40% male; mean age=69.2). Concurrent validity of the identified items was investigated in both samples using the SF-36 MH component and SF-36 MH scale. In addition, Profile of Mood States (POMS) depression and POMS overall mood was used in the clinical sample. Overall agreement between expert raters was high (ICC=.78). Thirteen items were endorsed by at least one rater as being related to the construct of MH, and 6 items exhibited 100% agreement between raters. The 9 items with the highest rater agreement, internal consistency, and concurrent validity were identified for further analysis (Cronbach's alpha=.82). Bivariate correlational analysis indicated that the 9 items were each significantly associated with the SF-36 MH component (r's=-.28 to -.71), SF-36 MH scale (r's=-.27 to -.73), POMS depression (r's=.31 to .69), and POMS overall mood (r's=.32 to .64). The 9-item subscale was strongly associated with the SF-36 MH component (r=-.67 & -.74), SF-36 MH scale (r=-.70 & -.78), POMS depression (r=.77), and POMS overall mood (r=.77). These results show that a subscale within the QWB-SA is valid for measuring the construct of mental health.

CORRESPONDING AUTHOR: Jordan A. Carlson, BA, Psychology, San Diego State University, San Diego, CA, 92182; jcarlson4@gmail.com

C-146

PTSD AND OROFACIAL PAIN: EVIDENCE OF "MUTUAL MAINTENANCE"

Jessica L. Burris, MA, Melissa A. Cyders, MS and Charles R. Carlson, PhD

Psychology, University of Kentucky, Lexington, KY.

Although there is great comorbidity between symptoms of post-traumatic stress disorder (PTSD) and chronic orofacial pain, this is the first study to examine empirically a theory delineating the link between PTSD and chronic orofacial pain. Sharp and Harvey's (2001) Mutual Maintenance Model (MMM) was used to guide study design and data analysis. The study design was a cross-sectional, retrospective case series of 335 female patients who reported chronic orofacial pain and a lifetime history of experiencing a violent attack. Patients were mostly middle-aged (mean=37.9, SD=11.0 years) females who had primary diagnoses of masticatory and/or cervical muscle pain (n=169, 50.4%), temporomandibular joint pain (n=61, 18.2%), or neuropathic pain (n=33, 9.8%). Patients completed the Symptom Check List - 90 Revised, Multidimensional Pain Inventory, Pittsburgh Sleep Quality Index, and PTSD Checklist - Civilian (PCL-C). Structural equation modeling (SEM) was used to test hypotheses of mediation derived from the MMM. Model A examined the relationship between PTSD and pain severity as mediated by depression, anxiety, and reduced activity levels. Model B included hostility and disordered sleep as additional mediators. Four fit indices were used to measure model fit. Model A fit the data well: CFI=.98, TLI=.96, RMSEA=.06, SRMr=.04. Results suggested PTSD predicted pain severity in its direct effect. Also, the relationship between PTSD and pain severity was mediated by depression and reduced activity level. Model B also fit the data well: CFI=.98, TLI=.94, RMSEA=.07, SRMr=.04. After controlling for the overlap among psychological (e.g. depression) and behavioral factors (e.g. activity level), the only significant mediator of the relationship between PTSD and pain severity was disordered sleep. Overall, the current study found support for the MMM and suggests the relationship between PTSD and pain severity is mediated by several variables. Study findings highlight the importance of routine assessment for psychopathology and sleep disorders among female orofacial pain patients with a trauma history.

CORRESPONDING AUTHOR: Jessica L. Burris, MA, Psychology, University of Kentucky, Lexington, KY, 40506; burris.jessica@gmail.com

Citation Poster

C-147

DEPRESSION PREDICTS PAIN INTENSITY AND DISABILITY AFTER MINOR HAND SURGERY

Ana-Maria Vranceanu, PhD and David Ring, MD

MGH/Harvard, Boston, MA.

The present study tested prospectively the association of pre minor hand surgery (e.g., carpal tunnel syndrome, trigger finger and benign tumor) depression and coping (pain catastrophizing, pain anxiety and pain self-efficacy) to post surgery pain intensity and disability, in a sample of $N=102$ hand and arm pain patients presenting for treatment in an Orthopedics Surgical Practice. Patients were mostly Caucasians (88%), equally distributed in terms of marital status (54% married or living with a partner) and gender (51% men). The majority of patients have not had any prior surgery for their pain condition (88%). Patients completed a demographic questionnaire and measures of depression (Patient Health Questionnaire-Depression) and coping (Pain Catastrophizing Scale, Pain Self-Efficacy Scale, and Pain Anxiety Scale) prior to their minor hand surgery, and completed a disability measure (Disability of Hand and Upper Extremity DASH) and pain intensity (NRS) post surgery, at the time of suture removal (9–16 days post surgery). Preliminary analyses revealed no significant differences in outcome variables by demographic variables. However, there were significant differences in disability hand and arm diagnosis, with patients in carpal tunnel syndrome reporting significantly more disability compared to patients with trigger finger or benign tumor. Bivariate correlations revealed a significant association among all coping variables, depression and pain intensity. Self-efficacy and depression were also significantly associated to disability. Regression analyses controlling for hand and arm diagnosis revealed that coping variables and depression explained 30% variance in disability and 25% variance in pain intensity. Depression was the sole predictor of disability and pain intensity in regression analyses ($B=.459$, $p=.003$, and $B=.332$, $p=.034$). Results suggest that depression accounts for disability post minor hand and arm pain surgery. Treating depression with state of the art Cognitive Behavioral Therapy prior to the surgery may be beneficial in increasing quality of life, decreasing suffering and post surgery disability.

CORRESPONDING AUTHOR: Ana-Maria Vranceanu, PhD, MGH/Harvard, Boston, MA, 02331; avranceanu@partners.org

C-148

BEHAVIORAL AND PSYCHO-EDUCATIONAL SUPPORT FOR PAIN MANAGEMENT IN ADULTS WITH SICKLE CELL DISEASE

LeKisha Edwards, PhD,[1,2] Jeffrey Schatz, PhD,[1] Christopher Edwards, PhD,[2] Miriam Feliu, PsyD,[2] Chante Wellington, PhD,[2] Keith Whitfield, PhD,[5] Mary Wood, MA,[2] Camela McDougald, MA[4] and Elwood Robinson, PhD[3]

[1]Psychology, University of South Carolina, Columbia, SC; [2]Psychiatry, Duke University Medical Center, Durham, NC; [3]Psychology, North Carolina Central University, Durham, NC; [4]Psychology, East Carolina University, Greenville, NC and [5]Psychology, Duke University, Durham, NC.

This research examined the effectiveness of a behavioral contract intervention delivered through nurse practitioners in comparison to an education control group for helping 33 participants cope with sickle cell disease (SCD). Results indicate that individuals in the behavioral intervention condition (BIC) had increased Coping Attempts, Negative Thinking, and Passive Coping than those in the education condition (EC). Decreased health care contacts did not occur with either group. EC participants had significantly lower scores than BIC participants for quality of life domains. Participants in the behavioral intervention condition had increased satisfaction with financial issues of health care. Future studies should obtain a larger sample size and integrate components of cognitive therapy into the behavioral contract for decreasing the negative thinking the participants may have. Importantly, the results of this study provide a basis for additional research investigating the benefits of feasible, cost effective, less complex behavioral interventions to improve quality of care and satisfaction with care in adults with SCD using health care staff in a clinic setting.

CORRESPONDING AUTHOR: LeKisha Edwards, PhD, Duke University Medical Center, Durham, NC, 27707; lekishae@aol.com

C-149

FMRI TO EVALUATE CBT TREATMENT RESPONSE FOR PATIENTS WITH CHRONIC PAIN

Magdalena R. Naylor, MD, PhD, Julie Dumas, PhD, Michael Krauthamer, MA, Francis Keefe, PhD and Paul Newhouse, MD

Psychiatry, University of vermont, Burlington, VT.

The goal of this study was to investigate whether group Cognitive Behavioral Therapy (CBT), modifies the dysfunctional emotional neural circuitry associated with chronic pain as examined by functional magnetic resonance imaging (fMRI) using the emotional stimuli from the Ekman Set and from the International Affective Picture Set (IAPS).

This was two step experiment:1) to test whether there is a difference in amygdala reactivity to emotional stimuli between chronic pain patients and healthy controls; 2) whether the 11-week CBT has the potential to modify the dysfunctional neural circuitry associated with chronic pain.

Subjects: Nine patients with musculoskeletal chronic pain Exclusion criteria: Major Depression, Dysthymia, Panic Disorder, PTSD. Controls: age and gender matched healthy controls.

Results: Experiment #1: chronic pain patients showed increased amygdala activation relative to controls ($p<0.01$) during viewing alternating 30 second blocks of Ekman's fearful or happy faces. This experiment was then replicated by emotional stimulation paradigm with 30 sec blocks of IAPS pictures. Results suggest that a phenomenon described in patients with PTSD and depression occurs in chronic pain patients even when they do not meet criteria for PTSD or depression. Experiment #2 tested both Ekman's and IAPS emotion picture tasks in chronic pain patients before and after 11-week group CBT. Subjects performed the same tasks as described in Experiment #1 when they viewed negative, happy and neutral emotional pictures and made a pleasantness rating for each picture. Results showed decreased activation in amygdala and decreased activation in the primary somatosensory cortex (S-1) and increased activation in the Medial Frontal Gyrus after 11-week CBT as compared to baseline ($p<0.01$). Furthermore, we found correlations between the increase in TOPS Life Control Measure and decrease in the amygdala ($p=0.033$) and S-1 ($p=.002$) activations. Our findings suggest that CBT effectively influences dysfunctional neural emotional circuitry in chronic pain patients.

CORRESPONDING AUTHOR: Magdalena R. Naylor, MD, PhD, Psychiatry, University of vermont, Burlington, VT, 05401; magdalena.naylor@ uvm.edu

C-150

THE IMPORTANCE OF "CAMNESS" TO INDIVIDUALS WITH FIBROMYALGIA AND RHEUMATOID ARTHRITIS

Leora C. Swartzman, PhD, Jacquelyn Burkell, PhD, Margaret Lundy, BSc, Richard A. Harshman, PhD, Herbert Carol, MD, Manfred Harth, MD and Brown B. Judith, PhD

The University of Western Ontario, London, ON, Canada.

RATIONALE: Much is written about the use of Complementary and Alternative Medicine (CAM) vs Conventional Medicine (COM) in rheumatology patients, among others. However, it is unclear whether the CAM vs COM distinction is a salient treatment feature for patients.

METHODS: Individuals with fibromyalgia (FM) or rheumatoid arthritis (RA) were asked to share their views of a wide range of treatments/management approaches for their condition by participating in focus groups ($n=30$), individual interviews structured around a card-sort task ($n=12$), or providing 12 ratings each of 18 (FM) or 19 (RA) condition-specific treatments/management approaches (FM ($n=173$); RA ($n=176$)). These latter data were subjected to a three-way factor analysis (PARAFAC).

RESULTS: Focus group members and individual interviewees did not spontaneously mention or distinguish between CAM and COM, although all had used at least one CAM approach. Treatment decisions were driven by desperation-the desire for relief-rather than by ideology. Efficacy and invasiveness were the most salient treatment features. The three-way factor analysis yielded similar findings, in that a CAM/CON was the weakest dimension in the FM data and was not apparent in the RA data. Specifically, for those with FM, salient treatment features were Effectiveness (9.2% of variance), Invasiveness (8.8%), Targets Mind vs Body (5.8%) and CAM (4.7%). To the extent that a treatment was regarded as CAMlike, it was seen to be natural, holistic, and not supported by research. For those with RA, salient treatment dimensions were also Invasiveness (16.3%) and Effectiveness (9.1%), plus Treating the Whole vs Part of the Body (4.8%) and High vs Low patient and provider effort (4.0%).

CONCLUSION: These findings indicate that, for patients, whether a treatment is CAM or CON matters far less than "Will it work?" or "Will it hurt?" Perhaps the focus in the literature on CAM vs COM is more reflective of health care professionals' concerns (possibly regarding 'turf') than patients' viewpoints.

CORRESPONDING AUTHOR: Leora C. Swartzman, PhD, Department of Psychology, The University of Western Ontario, London, ON, N6A 3K7; lswartzm@uwo.ca

C-151

AN ONLINE SELF-HELP CBT INTERVENTION FOR CHRONIC LOW BACK PAIN

Kelly Carpenter, PhD, Susan Stoner, PhD, Jennifer Mundt, MS and Tasha Mikko, MSW

Talaria, Inc, Seattle, WA.

Chronic low back pain is a leading cause of disability and work absenteeism. The effectiveness of pain management programs that include behavioral and cognitive-behavioral therapies (CBT) has been well documented. Used alone or in conjunction with pharmacological treatment, CBT can effectively reduce pain and improve quality of life in chronic pain patients. The purpose of this project was to develop and evaluate a computer-delivered intervention, the Wellness Workbook (WW), to teach CBT pain self-management skills to chronic low back pain patients. WW includes a mind/body treatment rationale, pain education, and cognitive restructuring as well as relaxation, meditation, and behavioral activation. Each of the six chapters includes didactic psychoeducation, interactive assessments and exercises with targeted feedback, and self-monitoring assignments.

We evaluated the efficacy of a pilot version of WW in a randomized, waitlist-controlled trial. Individuals with chronic low back pain were recruited over the internet, screened by phone and randomly assigned to receive access to WW either immediately (immediate group, IG) or after a 3-week delay (delayed group, DG). Participants (N=74, 88% female, 23% racial/ethnic minority) completed WW over 3 weeks. Outcomes were measured at Weeks 0 (study entry), 3, and 6, and participants were debriefed via telephone interview at the end of the study. Repeated-measures MANOVAs revealed a significant multivariate time by condition interaction on the Survey of Pain Outcomes, F(14,58)=4.13, p<.001, and 9 other cognitive-behavioral measures, F(18,54)=2.52, p=.005. At Week 3, compared to DG, IG endorsed stronger belief that they could control their pain and that emotions affect their pain and they less strongly believed that they were disabled by pain, that they should avoid exercise, and that medications were the best treatment. Furthermore, IG evidenced improvement in self-efficacy, mood regulation, helplessness, and fearful avoidance of physical activity. Results indicate that WW may be a promising adjuvant treatment for chronic low back pain.

CORRESPONDING AUTHOR: Kelly Carpenter, PhD, Talaria, Inc, Seattle, WA, 98122; kcarpenter@talariainc.com

C-152

PSYCHOLOGICAL CHARACTERISTICS AND PREDICTORS OF PHYSICAL, SOCIAL, AND EMOTIONAL FUNCTIONING IN GERIATRIC CHRONIC PAIN PATIENTS

Kathleen Darchuk, PhD and Cynthia Townsend, PhD

Psychiatry and Psychology, Mayo Clinic, Rochester, MN.

Psychological factors have been found to predict physical, social, and emotional functioning in general chronic pain populations; however, little is known regarding the psychological characteristics or predictors of functioning in geriatric chronic pain populations. The purpose of this study was to examine the characteristics and predictors of functioning in geriatric pain patients. Participants were 247 geriatric (71.7% female; 97.2% Caucasian; mean age= 67.8) and 247 gender-matched younger patients (71.7% female; 94.3% Caucasian; mean age= 46.8) admitted to a multidisciplinary pain rehabilitation program. Prior to admission, patients were administered self-report inventories assessing pain characteristics (severity, chronicity), depression (Center for Epidemiological Studies- Depression; CES-D), pain catastrophizing (Pain Catastrophizing Scale; PCS), pain interference, activity level and perceived control (Multidimensional Pain Inventory), and physical, social, and emotional functioning (SF-36 Health Survey). Overall, both age groups reported clinically significant distress and impaired functioning. More than one-third of geriatric patients and over half of younger patients were depressed (CES-D=> 27). Geriatric patients reported less pain interference, better health perception, fewer physical and social impairments, but more role limitations due to emotional and physical factors (all ps<.01). Backwards regression analyses (remove= .10) revealed that depression, anxiety, and pain severity were significant predictors of functioning in geriatric patients; while only depression was consistently predictive of functioning in younger patients. Thus, geriatric pain patients report significant distress and impairment, despite overall less distress compared to younger patients, and predictors of functioning in geriatric patients are different than those of younger patients. The differences in characteristics and predictors may be due to differences in coping strategies or possible reluctance of geriatric patients to report distress associated with chronic pain.

CORRESPONDING AUTHOR: Kathleen Darchuk, PhD, Psychiatry and Psychology, Mayo Clinic, Rochester, MN, 55905; darchuk.kathleen@mayo.edu

C-153

THE EFFECTS OF CATASTROPHIZING ON THE EMOTIONAL MODULATION OF ELECTROCUTANEOUS PAIN

Valérie Poulin, Bachelor, Emilie Frenette, Bachelor student and Douglas J. French, PhD

Université de Moncton, Moncton, NB, Canada.

Previous studies have shown that emotional states can alter not only the subjective experience of pain but can also impact supraspinal modulation of nociceptive transmission. Negative emotional states generally augment pain whereas positive emotional states attenuate it. Pain catastrophizing, defined as an exaggerated negative cognitive reaction to painful stimuli, has also been shown to heighten the subjective experience of pain. The aim of the present study was to assess the extent to which catastrophizing may alter expected patterns of affective modulation of pain in healthy young adults. Fifty-six university students (n=40 females; n=16 males) completed the Pain Catastrophizing Scale (PCS) prior to viewing a series of 24 emotionally charged images (8 positive, 8 negative, 8 neutral) selected from the International Affective Picture System. During image viewing, participants received a total of 18 forearm shocks of varying intensity (80%, 100%, 120% of pain threshold) and rated pain intensity using a 0 (no pain) to 100 (maximum tolerable) numeric rating scale. Analysis of valence and arousal ratings provided after each image confirmed that emotions were elicited (F(2,54)=186.8, p<.001 ; F(2,54)= 211.5, p<.001, respectively). Two groups were created (high and low catastrophizing) based on a tertiary split of the distribution of obtained PCS scores. A 2 (catastrophizing group) X 3 (emotional condition) repeated measures ANOVA of pain ratings revealed a significant interaction, F(1,39)=4.6, p<0.01, suggesting that the impact of emotional picture viewing on ratings of pain differed across catastrophizing groups. In the high PCS group, multiple comparison tests revealed that pain ratings during negative emotion images were significantly higher than during neutral images as expected (p<.05). However, contrary to established patterns of affective modulation, the positive images failed to attenuate subjective pain reports relative to the neutral images (p>.05). These results suggest that catastrophizing may alter established patterns of emotional modulation of pain.

CORRESPONDING AUTHOR: Valérie Poulin, Bachelor, Université de Moncton, Moncton, NB, E1A 4P3; evp3880@umoncton.ca

C-154

CATASTROPHIZING AND TREATMENT OUTCOME IN PATIENTS WITH NEUROPATHIC PAIN: THE ROLE OF SIDE EFFECTS IN POOR ANALGESIC RESPONSE AND ENHANCED RESPONSE TO PLACEBO

Tsipora D. Mankovsky, BA,[1] Mary E. Lynch, MD[2] and Michael J. Sullivan, PhD[1]

[1]Psychology, McGill University, Montreal, QC, Canada and [2]Pain Management Unit, Queen Elizabeth II Health Sciences Centre, Halifax, NS, Canada.

Aims: The primary objectives of this study were to explore the role of side effects in the relation between catastrophizing and poor analgesic response, as well as to investigate whether catastrophic thinking contributes to enhanced placebo responding.

Methods: A sample of 46 patients (26 men, 20 women) with neuropathic pain were randomly assigned to a placebo (n=24) or treatment (amitriptyline + ketamine) condition (n=22). All participants completed the Pain Catastrophizing Scale prior to treatment.

Results: The trial showed no significant effects of active treatment compared to placebo. Analyses revealed that individuals in the treatment condition reported slightly more side effects than individuals in the placebo condition, and that catastrophizing was significantly correlated with the report of side effects (r=.29, p<.05). In the placebo condition, high scores on the PCS were associated with greater pain reduction (r=.42, p<.05), while in the treatment condition, higher PCS scores were associated with less pain reduction (r=-.51, p<.01).

Conclusions: Given that side effects are more likely to be experienced with active treatments than placebos, high levels of catastrophizing might impact negatively on active treatment effects but not necessarily on placebo effects. In addition, to our knowledge, this study is the first to demonstrate a relation between catastrophizing and enhanced placebo responding. Further investigations are needed concerning the role of side effects in accounting for the differential impact of catastrophizing on placebo and treatment response.

CORRESPONDING AUTHOR: Tsipora D. Mankovsky, BA, Psychology, McGill University, Montreal, QC, H3A 1B1; tsipora.mankovsky@mail.mcgill.ca

C-155

DOMAIN SPECIFIC SELF-EFFICACY IN RHEUMATOID ARTHRITIS: RELATIONSHIPS TO PAIN, PSYCHOLOGICAL FUNCTIONING, & PHYSICAL FUNCTIONING

Neha Godiwala, BS,[1] Tamara Somers, PhD,[1] Angelia Mosley-Williams, MD,[2] Mark Lumley, PhD,[2] David Caldwell, MD,[1] John Rice, MD,[1] Mark Connelly, PhD,[1] Sandra Waters, PhD[1] and Francis Keefe, PhD[1]

[1]Duke University Medical Center, Durham, NC and [2]Wayne State University, Detroit, MI.

Rheumatoid arthritis (RA) is a chronic disease causing pain and physical, psychological, and social disability. Persons vary in their confidence, or self-efficacy (SE), about managing RA challenges. Theory and empirical work suggest that SE in RA patients is domain specific. An individual with RA may have high SE for controlling pain but low SE for controlling physical function. While past work in RA has considered the impact of SE domains on pain and functional outcomes, it has relied on small samples and has not comprehensively examined the relationships between SE domains and RA adjustment while controlling for the potentially confounding effects of demographic and medical variables. We extend past work by simultaneously examining the relationship of three domains of arthritis SE (pain, physical, other symptoms) to arthritis adjustment measures (pain, physical functioning, affect, social functioning) in a large sample (N=268) of RA patients (80% female; M=55 years [SD=12]) while controlling for important demographic and medical variables. In hierarchical linear regressions, RA relevant demographic (age, education) and medical variables (physician-assessed disease activity, walking speed) were entered on steps 1 and 2, respectively. SE variables were entered on step 3. SE for pain control (β=-.31;p<.001) and SE for function (β=-.23;p<.01) were both related to RA pain, while SE for other symptoms was not. SE for function was related to physical functioning (β=-.42;p<.001), while SE for pain control and SE for other symptoms were not. Only SE for other symptoms was related to affective (β=-.56;p<.001) and social functioning (β=-.36;p<.001). Results suggest that, even after controlling for the effects of background variables, domain specific SE is important in understanding RA pain, physical, psychological, and social adjustment. Clinicians should tailor interventions to target relevant domains of SE to best reduce pain and enhance functioning in RA patients.

CORRESPONDING AUTHOR: Neha Godiwala, BS, Duke University Medical Center, Durham, NC, 27708; neha.godiwala@duke.edu

C-156

THE ROLE OF POSITIVE MARITAL EVENTS IN DAILY PAIN ADAPTATION DURING FINANCIAL STRESS

Rebeca Rios, MA and Mary Wieners, MA

Department of Psychology, Arizona State University, Tempe, AZ.

Introduction: Chronic pain conditions may reduce one's ability to work as well as yield significant medical bills, rendering patients vulnerable to financial stress. Financial stress is associated with affective distress and may deplete psychological resources to cope effectively with pain. Supportive spousal dynamics have been associated with better psychological outcomes among pain patients. The present analysis examined daily associations between financial worry, negative affective outcomes, and pain coping efficacy among women suffering from chronic pain. Additional analyses evaluated the potential for daily positive marital events to buffer the deleterious effects of financial stress on negative affect and coping. It was predicted that on days punctuated by higher levels of financial stress, participants would report greater negative affect and decreased pain coping efficacy. Further, positive daily marital events were predicted to buffer deleterious effects of daily financial stress on negative affect and coping.

Methods: 153 women between the ages of 38 and 72 with confirmed osteoarthritis, fibromyalgia, or both were recruited for the study. Measures included the Inventory of Small Life Events (ISLE), the negative affect subscale of the Positive and Negative Affect Schedule (PANAS), and daily reports of financial worry and pain coping efficacy. Multi-level Modeling was used to test hypotheses.

Results: Financial worry was directly related to negative affect (β=.09, p<.0001) and inversely associated with pain coping efficacy (β= -.06, p<.05). A significant interaction between financial worry and positive marital events was detected for negative affect (β=-.03, p<.0001), such that the association between financial worry and negative affect was attenuated in the context of same day positive marital events. This interaction did not hold for pain coping efficacy (p=.89).

Conclusions: Among women suffering from chronic pain, the provision of positive marital interaction during times of financial stress may protect against the deleterious affective consequences of economic adversity.

CORRESPONDING AUTHOR: Rebeca Rios, MA, Department of Psychology, Arizona State University, Tempe, AZ, 85287-1104; rerios@asu.edu

C-157

MODERATING EFFECTS OF PAIN CATASTROPHIZING ON SUPPRESSION OF PAIN-RELATED THOUGHTS ON PAIN SEVERITY AND DISTRESS

Andrew Rosen, BA, Jessica Gerfen, MS, Brandy Wolff, MS, Erika Gray, MS and John Burns, PhD

Psychology, Rosalind Franklin University of Medicine and Science, North Chicago, IL.

Pain catastrophizing is related to heightened intensity of pain. Suppression of thoughts, in attempt to gain mental control, can ironically increase awareness and salience of the thought. Pain catastrophizers may try to gain control of their catastrophic appraisals by avoiding awareness of them through suppression. The current study examined whether (trait) catastrophizing moderated actual (state) attempts to suppress awareness of pain-related thoughts during pain on pain severity and emotional distress. 146 chronic low back pain patients were randomly assigned to Suppress or Nosuppress conditions. Pain ratings were taken at baseline, immediately after (0-sec) and every 20-sec after acute pain-induction. General Linear Modeling demonstrated a significant Condition x Catastrophizing (continuous) x Period (BL, 0-, 20-, 40-, 60-, 80-, 100-, 120-sec) interaction (F(7, 994)=2.4; p<.02). For those in Nosuppress condition, correlations between Catastrophizing and pain ratings were consistent across epochs (r=.42 at 0-sec, and r=.30 at 120-sec; p's<.05), suggesting that high catastrophizers rated greater pain than low catastrophizers throughout the recovery duration. For those in the Suppress condition, the correlations from 0- to 40-sec were nonsignificant (r's<.19), indicating that high and low catastrophizers reported similar pain. From 60- to 120-sec, the correlations were significant (r's>.25), suggesting that high catastrophizers began reporting greater pain than low catastrophizers during the last half of recovery. The finding that high catastrophizers report greater pain than low catastrophizers was replicated in the Nosuppress condition. For those in the Suppress condition, suppressing pain-related thoughts led low catastrophizers to temporarily act like high catastrophizers, implying that high catastrophizers may routinely suppress pain-related thoughts. For people suffering from chronically painful conditions, it may prove necessary to both reduce catastrophizing and the tendency to suppress pain-related thoughts.

CORRESPONDING AUTHOR: Andrew Rosen, BA, Rosalind Franklin University of Medicine and Science, North Chicago, IL, 60085; andrew.rosen@my.rfums.org

C-159

LONGITUDINAL RELATIONSHIP BETWEEN SYMPTOMS AND PHYSICAL ACTIVITY IN MULTIPLE SCLEROSIS

Erin Snook, PhD,[1] Andrea Lindeman, BS,[2] Edward McAuley, PhD[2] and Robert Motl, PhD[2]

[1]Department of Kinesiology, University of Massachusetts Amherst, Amherst, MA and [2]Department of Kinesiology and Community Health, University of Illinois at Urbana-Champaign, Urbana, IL.

Individuals with multiple sclerosis (MS) are substantially less physically active than the general population, and symptoms may partially account for the low levels of physical activity (PA). Cross-sectional research has shown more severe and more frequent symptoms are associated with lower levels of physical activity, but there is limited longitudinal research examining the relationship between changes in symptoms and PA. This study used a longitudinal research design and examined the relationship between naturally-occurring changes in symptoms and PA across a 6-month period. The sample consisted of 292 individuals with definite MS who were ambulatory with or without aid. Participants completed three measures of MS-related symptoms (assessing symptom severity, frequency and distress), wore an accelerometer for 1 week, and then completed a PA questionnaire. The data were collected on two occasions separated by 6 months and were analyzed using a panel model with latent variables for symptoms and PA in AMOS 7.0. The panel model provided an excellent fit for the data ($\chi2=21.81$, $df=24$, $p=.60$, RMSEA=.00, CFI=1.0). There were strong stability coefficients for the symptoms and PA latent variables that exhibited evidence of longitudinal factorial invariance. There was a significant cross-sectional association between symptoms and PA ($\gamma=-.46$, $p<.001$), but the relationship between naturally occurring changes in symptoms and PA only approached significance ($\beta=-.21$, $p=.08$). Our results clearly support a cross-sectional, but not longitudinal, association between symptoms and PA. The trend towards an inverse relationship between changes in symptoms and PA across times suggests that future research might better focus on the measurement of symptoms and examine this relationship over a greater duration of time.

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CORRESPONDING AUTHOR: Erin Snook, PhD, Kinesiology, University of Massachusetts Amherst, Amherst, MA, 01003; esnook@kin.umass.edu

C-160

THE ROLE OF THE COMMUNITY AND HOME ENVIRONMENT WHEN EXAMINING EXERCISE BEHAVIOUR DURING HOME-BASED CARDIAC REHABILITATION

Chris Blanchard, PhD,[1] Robert Reid, PhD,[2] Lisa McDonnell, MSc,[2] Louise Morrin, Bsc(PT), MBA,[3] John Spence, PhD,[4] Ryan Rhodes, PhD,[5] Nancy Edwards, PhD[6] and Kerry McGannon, PhD[7]

[1]Medicine, Dalhousie University, Halifax, NS, Canada; [2]Ottawa Heart Institute, Ottawa, ON, Canada; [3]Calgary Health Region, Calgary, AB, Canada; [4]University of Alberta, Edmonton, AB, Canada; [5]University of Victoria, Victoria, BC, Canada; [6]University of Ottawa, Ottawa, ON, Canada and [7]University of Iowa, Iowa city, IA.

Background: The vast majority of research examining exercise correlates in heart disease patients has relied solely on individual level correlates.

Purpose: Determine whether community-level predictors (i.e., socioeconomic status and urban/rural) explain exercise behaviour during home-based CR and whether perceived access to facilities and the availability of home-exercise equipment (i.e., at the individual level) mediate the community level predictors / exercise behaviour relationship.

Method: 280 patients (mean age=62.8: SD=11.5), primarily Caucasian (n=95.4%) attending home-based cardiac rehabiliation completed a baseline and 3-month questionnaire. Using ArcGIS software, patient addresses were matched to their appropriate dissemination area (DA), which was used as a proxy for community. Then, using the 2006 Canada census, SES and urban / rural variables were created.

Results: Regression analyses controlling for age, gender, education, and employment showed that SES (β=-.01, p>.05) and urban / rural (β=-.13, p<.05) accounted for 3% of the variance in exercise. Separate regressions showed that perceived access to facilities was not related to exercise (β=.01, p>.05), whereas home-exercise equipment was (β=.18, p<.05). Further, rural patients reported having significantly more pieces of home exercise equipment than urban patients (β=-.13, p<.05). Finally, when urban/ rural and home exercise equipment were entered into the final regression, home exercise equipment emerged as a significant predictor (β=.17, p<.05), whereas urban/rural did not (β=-.09, p > .05).

Conclusion: Patients living in rural communities appear to engage in more exercise during home-based CR than urban patients partially because they have more access to home exercise equipment.

CORRESPONDING AUTHOR: Chris Blanchard, PhD, Medicine, Dalhousie University, Halifax, NS, B3H 1V7; chris.blanchard@dal.ca

C-161

PHYSICAL ACTIVITY PATTERNS IN BALTIMORE AND SEATTLE: A CLUSTER ANALYSIS

Liza S. Rovniak, PhD, MPH,[1] James F. Sallis, PhD,[1] Brian E. Saelens, PhD,[2] Lawrence D. Frank, PhD,[3] Simon Marshall, PhD,[1] Greg Norman, PhD,[4] Terry Conway, PhD[1] and Kelli Cain, MA[1]

[1]San Diego State University, San Diego, CA; [2]University of Washington, Seattle, WA; [3]University of British Columbia, Vancouver, BC, Canada and [4]University of California, San Diego, CA.

Developing classification schemes that reliably describe physical activity may increase the efficiency of theory-based interventions, and illuminate pathways to active lifestyles. Cluster analysis can be used to develop classification schemes by grouping similar individuals together. This study aimed to: 1. Determine if people cluster into distinct participation patterns on four physical activity domains: recreation, transport, home, and occupation, measured by the International Physical Activity Questionnaire; 2. Evaluate the clusters' internal validity by assessing their replication across two cities; and 3. Evaluate the clusters' external validity by exploring their association with individual and environmental factors. Cluster analysis of Baltimore (n=702) and Seattle (n=987) adults indicated three distinct clusters: Low Activity; High Recreation Activity; and High Occupation Activity. Double cross-validation indicated that the clusters replicated across cities (Kappa=.90 and .93, p<.001), supporting their internal validity. The Low Activity cluster had less accelerometer-measured moderate and vigorous physical activity (30 mins/day), and more sitting (2854 mins/week) than the High Recreation (44 activity mins/day; 2503 sitting mins/week) and Occupation clusters (39 activity mins/day; 1922 sitting mins/week), p<.001, supporting the clusters' external validity. High Occupation exercisers reported lower income neighborhoods and less education than the Low Activity and High Recreation clusters, and a body mass index (BMI=27.2) similar to the Low Activity cluster (27). High Recreation exercisers had the sample's lowest BMI (25.6), p<.001. The clusters did not differ on neighborhood walkability. These findings suggest that the interaction of individual, environmental, and socioeconomic factors is important to consider when developing physical activity classification schemes that discriminate among population subgroups.

CORRESPONDING AUTHOR: Liza S. Rovniak, PhD, MPH, San Diego State University, San Diego, CA, 92123; lrovniak@projects.sdsu.edu

C-162

NEIGHBORHOOD ENVIRONMENT AND PHYSICAL ACTIVITY BEHAVIORS AMONG CHICAGO LOW-INCOME MINORITY WOMEN

April Oh, PhD, MPH,[1] Frederick Kviz, PhD,[2] Melinda Stolley, PhD[3] and Ami Shah, MPH[4]

[1]HPRB, National Cancer Institute, Rockville, MD; [2]School of Public Health, University of Illinois at Chicago, Chicago, IL; [3]Department of Medicine, University of Illinois at Chicago, Chicago, IL and [4]Sinai Urban Health Institute, Chicago, IL.

Low income, minority women experience some of the greatest disparities in physical activity and obesity in the US. Neighborhood context may contribute to widening disparities. Urban minority women may experience greater health disadvantage as they often live in neighborhoods bound by racial/ethnic and socioeconomic segregation. The purpose of this study is two-fold. First, it examines potential environmental disparities by poverty level and racial/ethnic composition where urban, low-income, minority women live. Second, it examines the association between neighborhood characteristics and neighborhood physical activity levels among minority women. This study is [illegible] cross-sectional, secondary data analysis using a unique local-level data set in the city of Chicago. A total of 69 neighborhoods and 976 randomly-selected women were included in the study. Black women composed the largest proportion of the sample (49.1%), followed by Hispanic women (33.5%), and finally White women (17.4%). Neighborhood characteristics examined include: safety from crime, social norms for physical activity, land use mix, park availability and park access. These characteristics were measured using GIS. Physical activity was measured as moderate-intensity physical activity using the BRFSS questionnaire. Analysis of variance and Chi-square tests indicate high poverty and predominantly minority neighborhoods had greater crime rates (F(2,66)=8.6, p<0.01) and less park availability (X2(2)=8.1,p<0.01). Contrary to expectations, high poverty neighborhoods had greater land use mix (F (2,66)=6.4, P<0.01). Binomial-logit models indicate low park access and residential tenure were associated with the odds of women being active. Findings indicate the importance of making physical activity resources available in these neighborhoods where urban Chicago, low-income, minority women live as a potential means to reduce disparities.

CORRESPONDING AUTHOR: April Oh, PhD, MPH, HPRB, National Cancer Institute, Rockville, MD, 20852; ohay@mail.nih.gov

C-163

INTERACTIVE VIDEO GAMES: A REVIEW OF LITERATURE

Rachel S. Mark, BKin and Ryan E. Rhodes, PhD

School of Exercise Science, Physical and Health Education, University of Victoria, Victoria, BC, Canada.

Purpose: The popularity and availability of interactive video games have increased recently. This study aimed to review existing literature surrounding interactive video games and physical activity (PA) and to define a future research agenda.

Methods: Systematic database searching and manual cross-referencing of bibliographies were conducted. Search terms were interactive games, interactive video games, PA and exercise. Initial searches yielded 293 articles. Studies were excluded if they pertained to skill development, did not use interactive games with a PA component or had games promoting PA but were not interactive in nature themselves. After verifying that they met inclusion criteria and eliminating duplicates, 15 studies remained. Articles were from English peer-reviewed journals published between 2001 and 2008.

Results: Of 15 studies, 7 measured energy expenditure (EE) while playing active games compared to control conditions and found EE was significantly higher while playing active games. Five studies found oxygen uptake was significantly higher while playing active games compared to sedentary activities, while nine studies found heart rate was significantly higher in active games than during inactive games or rest. Three studies tracked usage of active games at home and found no significant differences between intervention and control groups (regular video games) for minutes of game play. One study measured adherence through attendance at game sessions in a laboratory and found that the interactive game group attended significantly more sessions than the control.

Conclusions: Interactive video games have shown to increase EE over traditional video games and appear just as desirable in terms of usage. While physiological outcomes from these games are encouraging for health promotion, little research has been conducted that examines the psychological determinants and behavioural adherence. It is therefore suggested that further research occur in these domains, in order to better understand the overall benefits to active gaming and its potential as a PA intervention.

CORRESPONDING AUTHOR: Rachel S. Mark, BKin, School of Exercise Science, Physical and Health Education, University of Victoria, Victoria, BC, V8R 4N4; rsmark@uvic.ca

C-164

PARENTAL SOCIAL SUPPORT AND CHILD PHYSICAL ACTIVITY LEVELS: A CLOSER LOOK AT TYPES AND AMOUNTS OF SOCIAL SUPPORT

Jennifer Brunet, MA,[1] Andrée L. Castonguay, MHK,[1] Catherine M. Sabiston, PhD,[1] Tracie A. Barnett, PhD[2,3] and Marie Lambert, PhD[3,4]

[1]Kinesiology & Physical Education, McGill University, Brossard, QC, Canada; [2]Social & Preventive Medicine, Université de Montréal, Montréal, QC, Canada; [3]CHU Sainte-Justine, Montréal, QC, Canada and [4]Pediatrics, Université de Montréal, Montréal, QC, Canada.

The aims of this study were to examine (i) the relationships between specific types of parental support (i.e., role-modeling, encouragement, involvement) and child physical activity, and (ii) the benefit of having both parents provide support for physical activity compared to perceiving neither parent or only one parent as providing support. Three hundred boys and girls (*M*age=9.19±.88 years) completed a questionnaire assessing perceived parental support and self-reported moderate-to-vigorous physical activity (MVPA). MVPA was dichotomized as insufficiently active (≤ 2 times/week of MVPA) and active (≥ 3 times/week of MVPA). Multivariable logistic regression analysis indicated that father (OR=1.34; 95% CI=1.01–1.78) and mother (Or=1.38; 95% CI= 1.04–1.84) encouragement were significantly positively associated with child MVPA. Chi-square analyses revealed that the percentage of children who were active was significantly higher when they perceived support from one parent versus no parent (χ2 =4.02, *df*=1, *p*<.05). Specifically, the percentage of active children increased from 37% when no parent provided support to 50% when one parent provided support. Also, the percentage of active children increased from 50% to 63% when one parent versus both parents provided support, but this increase was not statistically significant (χ2=3.09, *df*=1, *p*=.08). Results were confirmed with a Cochrane-Armitage Trend test which only yielded a significant upward trend when support increased from no parent to one parent (*p*<.05). These findings suggest that interventions aimed at increasing parental encouragement may be helpful in promoting physical activity among children. Furthermore, it is important that health promotion messages point to the benefits of having at least one parent who can provide support for physical activity. Funding for this study was provided by CIHR, HSFC, and FRSQ.

CORRESPONDING AUTHOR: Jennifer Brunet, MA, Kinesiology & Physical Education, McGill University, Montreal, QC, H2W 1S4; jennifer.brunet@mail.mcgill.ca

C-165

PERCEIVED EXERCISE BENEFITS AND ENABLERS IN NON-HISPANIC BLACKS WITH ARTHRITIS

Cheryl Der Ananian, PhD,[1] Melissa Bopp, PhD[2] and Thomas Prohaska, PhD[3]

[1]Arizona State University, Mesa, AZ; [2]Kansas State University, Manhattan, KS and [3]University of Illinois Chicago, Chicago, IL.

Non-Hispanic Blacks (NHBs) are less physically active than non-Hispanic Whites and persons with arthritis exercise less than those without arthritis. Understanding NHBs' perceived exercise benefits and enablers will improve health professionals' ability to tailor disease specific intervention programs. Purpose: To qualitatively examine perceived exercise benefits and enablers in NHBs with arthritis. Methods: Perceived exercise benefits and enablers in older NHBs with arthritis (age 50+) were examined through in-depth interviews (n=40). All interviews were audio-taped and transcribed verbatim. A Grounded-Theory approach was used for analyses. Results: Participants were mostly female (85%), with a mean age of 60.2[19.2] years. Exercise benefits and enablers were organized into four categories based on the Social Ecological Model: physical, psychological, social and environmental. Conceptually, the benefits and enablers overlapped; attainment of a benefit was often considered an enabler.Salient physical benefits included:improvements in general health and co-morbid conditions, weight-loss, decreased arthritis symptoms,and improved mobility. The main psychological benefits identified included "feeling better" and "a sense of accomplishment." The most commonly mentioned psychological enabler was "liking" or "enjoying" exercise. Key social enablers included having someone to exercise with, receiving social support for exercise and receiving exercise advice from a doctor. Salient environmental enablers included proximity of an arthritis-specific exercise program, availability of a water exercise program and access to low cost exercise programs. Conclusions: Findings suggest the need to emphasize arthritis-specific benefits of exercise, as well as the benefits for co-morbid conditions when trying to increase exercise in this population. Efforts should also focus on improving the quality of exercise advice from healthcare professionals and increasing the availability and accessibility of exercise programs for people with arthritis.

CORRESPONDING AUTHOR: Cheryl Der Ananian, PhD, Arizona State University, Mesa, AZ, 85212; cheryld@asu.edu

C-166

RELIABILITY AND VALIDITY OF BRIEF PSYCHOSOCIAL MEASURES RELATED TO PHYSICAL ACTIVITY

Lisa Groesz, PhD,[1] Greg Norman, PhD,[2] James Sallis, PhD[3] and Nikki Wagner, MA[3]

[1]Psychiatry, UC San Francisco, San Francisco, CA; [2]Preventive Medicine, UC San Diego, San Diego, CA and [3]Psychology, San Diego State University, San Diego, CA.

To evaluate physical activity (PA) interventions it is important to have valid measures of theoretical constructs related to behavior change. Reliability and validity of five brief scales (change strategies, self-efficacy, pros and cons, social support) related to PA were examined in two studies. Study 1 assessed two-week reliability with a sample of 49 college students (M age=20.4, SD=1.3; 32.7% males; 53% non-Hispanic white). Test retest intra-class correlations (ICCs) for scales were strong, ranging from .61 to .81. For example, the 15-item change strategy scale displayed strong reliability over two weeks (ICC=.80). Study 2 consisted of validity analyses of the psychosocial measures with two PA measures: accelerometers and self-report (IPAQ). Data were from 842 adults (M age=42.6, SD=8.4; 52.4% males; 66.2% non-Hispanic white.) Three of the five brief scales were significantly related with accelerometer data aggregated into total minutes of PA across one week: (change strategies, r=.15, p<.001; cons of PA, r=-.11, p<.01; and self-efficacy, r =.12, p<.01). All five scales were significantly associated with self-reported leisure PA aggregated into total minutes across one week and log transformed. The four scales that assessed positive aspects of PA, including self-efficacy and social support of activity, were positively associated with leisure PA, ranging from .08 to .42. The cons of PA was negatively associated with leisure PA (r=-.13, p<.001). These data indicate support for the psychometric properties of the psychosocial measures. The creation of reliable and valid measures that can be used across studies allows for consistent methodology, facilitating comparisons between interventions. Further testing of these measures is needed cross-culturally and over-time.

CORRESPONDING AUTHOR: Lisa Groesz, PhD, Psychiatry, UC San Francisco, San Francisco, CA, 94143; lisa.groesz@ucsf.edu

C-167

VALIDATION OF A PHYSICAL ACTIVITY ASSESSMENT TOOL FOR CANADIANS WITH OSTEOPOROSIS

Philip M. Wilson, PhD, Diane E. Mack, PhD, Katie E. Gunnell, BKin, Kimberly P. Grattan, BKin and Kristin G. Oster, BKin

Physical Education & Kinesiology, Brock University, St Catharines, ON, Canada.

Physical activity is an integral component for the prevention and management of osteoporosis. There is little consensus on the amount of physical activity individuals with osteoporosis are currently engaged in or the most suitable method for assessment of this target health behaviour. The objective of this investigation was to offer preliminary validation evidence for the Godin Leisure Time Exercise Questionnaire (GLTEQ) as a measurement device that could prove useful for population health research and clinicians working with individuals with osteoporosis. Data were collected from a purposive sample of 50 Canadians (78.00% female) living with osteoporosis. Participants provided self-report (GLTEQ) and motion accelerometry (RT3) data across a one-week period. Participants ranged in age from 24 to 90 years (M=61.56 years; SD=11.41 years) and 51.30% of the sample reported body mass index (BMI) values between 18.00 and 24.99 kg/m2 (M= 25.15 kg/m2; SD=4.44 kg/m2). Descriptive statistics derived from the GLTEQ at the outset (M=33.83; SD=19.25) and culmination (M=53.55; SD=39.68) of the study implied the sample increased their physical activity level across the one-week monitoring period. The intraclass correlation coefficient between test administrations of the GLTEQ was 0.62 (p<.01). Criterion validity coefficients between GLTEQ and RT3 scores ranged from 0.44 to 0.59 (all p's<.05). While not without limitations, responses to the GLTEQ exhibit measurement properties similar to observations derived from other populations. Inspection of the criterion validity coefficients suggests that the global estimates of energy expenditure derived from the GLTEQ are in line with those determined by motion assessment technology. This observation bodes well for the interpretation of GLTEQ scores in public health initiatives. Collectively, these findings imply that the GLTEQ may be a useful self-report instrument to assess physical activity behaviours in people with osteoporosis.
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CORRESPONDING AUTHOR: Philip M. Wilson, PhD, Physical Education & Kinesiology, Brock University, St Catharines, ON, L2S3A1; pwilson4@brocku.ca

C-168

SELECTION OF LOCOMOTION AND ENDURANCE MEASURES FOR THE NIH TOOLBOX

Heather E. McCreath, PhD,[1] David B. Reuben, MD,[1] Susan Magasi, PhD, OTR,[2,3] William Z. Rymer, MD, PhD,[3,4] Ying-Chih Wang, PhD, OTR,[4] Jin-Shei Lai, PhD, OTR,[2,3] Edward Wang, PhD[3] and Richard Gershon, PhD[2,3]

[1]UCLA School of Medicine, Los Angeles, CA; [2]CORE, NorthShore University HealthSystem, Chicago, IL; [3]Northwestern University, Chicago, IL and [4]Rehabilitation Institute of Chicago, Chicago, IL.

Aims: Motor function is one target domain of the National Institutes of Health Toolbox, a comprehensive brief assessment battery for use in epidemiologic studies and clinical trials involving people aged 3–85. Selection of candidate measures for two motor dimensions, locomotion (the act of moving from one place to another) and endurance (sustained effort using multiple body systems), are described.

Methods: Literature review and expert consults identified candidate measures. Each was evaluated for documented measurement properties (validity, reliability) and feasibility for the Toolbox battery (appropriateness for children, young adults, and older adults; range of performance among healthy participants, administration time of 15 minutes or less; portability/safety for community research locations). One gold standard and two alternatives were selected for each dimension.

Results: 18 out of 65 locomotion and 11 out of 15 endurance measures met at least three required criteria. Identified locomotion measures involved walking a defined course, with performance measured as completion time. Endurance measures included walking tasks, treadmill protocols, and in-place knee lifts; performance was defined as quantity within a specified time period (distance walked, number of knee lifts). For locomotion, the 20-foot walk was selected as gold standard, with the 4-meter walk and 10-foot out and back selected as alternates. For endurance, the 6-minute/100-foot walk was selected as gold standard, with the 6-minute/50-foot interval walk and 2-minute/50-foot walk as alternates.

Conclusions: Clinical measures of locomotion and endurance are well-documented in the literature, but selecting versions that are valid, reliable, and feasible for healthy participants of all ages in community settings is challenging. Field testing of candidate measures will enable detailed evaluation, resulting in resources for a broad number of future studies.

CORRESPONDING AUTHOR: Heather E. McCreath, PhD, Division of Geriatrics, Department of Medicine, UCLA, Los Angeles, CA, 90024; hmccreath@mednet.ucla.edu

C-169

EVALUATING THE PHYSICAL ACTIVITY NEIGHBORHOOD ENVIRONMENT SCALE (PANES)

Jordan A. Carlson, BA,[1] James F. Sallis, PhD,[1] Jacqueline Kerr, PhD,[1] Gregory J. Norman, PhD,[2] Brian E. Saelens, PhD,[3] Nefertiti Durant, MD, MPH[4] and Barbara E. Ainsworth, PhD, MPH[5]

[1]San Diego State U., San Diego, CA; [2]U. of California San Diego, La Jolla, CA; [3]U. of Washington, Seattle, WA; [4]U. of Alabama Birmingham, Birmingham, AL and [5]Arizona State U., Tempe, AZ.

Neighborhood environment attributes of walkability and access to recreation facilities have been related to physical activity and weight status, but most self-report environment measures are lengthy. The 17-item PANES (Physical Activity Neighborhood Environment Scale) was developed to be relatively comprehensive but brief enough for use in multi-purpose surveys. The purpose of this study was to evaluate test-retest reliability and concurrent validity of PANES items compared to the multi-item subscales from the validated NEWS (Neighborhood Environment Walkability Scale). Participants ($n=291$; 82% female; mean age=42.9) were recruited from neighborhoods that varied in walkability in 3 US cities. Surveys were completed twice within a 27-day interval and assessed the constructs of residential density, mixed land use, street connectivity, proximity to recreation facilities, pedestrian and bicycling infrastructure and maintenance, aesthetic qualities, social cues for physical activity, traffic threat, and crime threat. One way random effects single measure ICCs for PANES items ranged from .52 to .76. Spearman correlations computed between 11 PANES single items and corresponding NEWS subscales ranged from .31 to .64, and all were significant at $p<0.01$. In particular, PANES items assessing stores within walking distance ($r=.626$), many interesting things to look at while walking ($r=.620$), and many places to walk within easy distance from home ($r=.607$), demonstrated the strongest correlations with corresponding NEWS subscales. Access to low cost recreation facilities and street connectivity items had the lowest reliabilities and validity correlations. Most PANES items were supported by adequate reliability and correlations with NEWS subscales. The brevity of PANES allows items to be included in studies or surveillance systems to expand knowledge about neighborhood environment attributes expected to be related to physical activity.

CORRESPONDING AUTHOR: Jordan A. Carlson, BA, Psychology, San Diego State University, San Diego, CA, 92182; jcarlson4@gmail.com

C-170

PHYSICAL ACTIVITY, DISABILITY, AND MOOD IN THE EARLY STAGE OF MULTIPLE SCLEROSIS

Yoojin Suh, MS,[1] Robert Motl, PhD[1] and David C. Mohr, PhD[2]

[1]Kinesiology and Community Health, University of Illinois at Urbana-Champaign, Urbana, IL and [2]Preventive Medicine, Northwestern University, Chicago, IL.

The early period after diagnosis of multiple sclerosis (MS) may be associated with a particular vulnerability to psychological distress, including anxiety and depression. There have been very few examinations of variables that correlate with psychological well-being in early MS. The present study provides an initial examination of the associations between physical activity and anxiety and depression in early MS. We examined the hypothesis that physical activity might be a correlate of anxiety and depression in early MS, and that this association might be indirect and accounted for by disability. The sample included 96 individuals with a mean duration of MS of 3.0 years (SD=1.5, range=.5 - 5 years) who wore an accelerometer for 7 days as an objective measure of physical activity and then completed the Patient Determined Disease Steps (PDDS) scale and Hospital Anxiety and Depression Scale (HADS). Descriptive analysis indicated that 41% and 43% of the sample had elevated levels of anxiety and depression based on HADS scores (i.e., score ≥8). Correlation analysis indicated that physical activity was significantly associated with depression ($r=-.25$), but not anxiety ($r=-.05$). Path analysis indicated that the association between physical activity and depression was indirect by way of disability ($\gamma\beta=-.16$), even after controlling for gender, age, employment, education, income, and MS duration. Such results suggest that physical activity could be an important health promoting behavior for reducing depression in the early stages of MS.

CORRESPONDING AUTHOR: Robert Motl, PhD, University of Illinois at Urbana-Champaign, Urbana, IL, 61801; robmotl@uiuc.edu

C-171

DOES PHYSICAL ACTIVITY REDUCE OBESITY RISK FROM SEDENTARY BEHAVIOR? RESULTS FROM THE 2006 AMERICAN TIME USE SURVEY

Genevieve F. Dunton, PhD, MPH,[1] David Berrigan, PhD, MPH,[2] Rachel Ballard-Barbash, MD, MPH,[2] Barry Graubard, PhD[3] and Audie Atienza, PhD[1]

[1]Health Promotion Research Branch, National Cancer Institute, Bethesda, MD; [2]Applied Research Program, National Cancer Institute, Bethesda, MD and [3]Biostatistics Branch, National Cancer Institute, Bethesda, MD.

Background: Emerging evidence suggests that sedentary behaviors such as watching TV and commuting by car are associated with increased obesity risk. However, it is not clear whether engaging physical activity reduces the risk of obesity among individuals aho also spend time in sedentary behavior. Different combinations of sedentary and active behavior could differentially influence obesity. Purpose: To address this question, the current study examined the interaction between time spent in physical activity and sedentary behavior on Body mass Index (BMI) in a nationally-representative survey of adults. Methods: The sample consisted of 10,984 adults ages 21+ years from the 2006 Eating and Health Module of the American Time Use Survey. During a phone interview, a 24-hour recall was conducted of all activities performed. Respondents self-reported height and weight, and a number of demographic variables. The present study focused on activities coded as 1) moderate-to-vigorous leisure-time physical activity (MVPA), 2) active transportation (e.g., walking, biking), 3) sedentary leisure (e.g., watching TV/movies) and 4) sedentary transportation (e.g., car, bus). Sample-weighted linear regressions with predicted marginal means tested statistical interactions adjusting for age, sex, education level, and race/ethnicity. Results: Time spent TV/movie watching moderated the association of MVPA with BMI (Adj. Wald $F=19.8$, $p<.001$). For individuals in the lowest tertile of TV/movie watching, BMI was lower for ≥ 60 min/day (M=26.3) than < 60 min/day (M=27.5) of MVPA. However, among individuals in the highest tertile of TV/movie watching, BMI did not differ between ≥ 60 min/day (M=27.6) or < 60 min/day (M=28.1) of MVPA. Conclusion: Data from a nationally-representative time use survey indicate that interventions aimed at reducing obesity may have to address both sedentary and active behavior.

CORRESPONDING AUTHOR: Genevieve F. Dunton, PhD, MPH, Health Promotion Research Branch, National Cancer Institute, Bethesda, MD, 20009; duntong@mail.nih.gov

C-172

SYMPTOMS AS A MODERATOR OF THE RELATIONSHIP BETWEEN SOCIAL COGNITIVE BELIEFS AND BEHAVIORS AMONG PATIENTS UNDERGOING CORONARY BYPASS SURGERY

Eric B. Hekler, PhD,[1] Kristina S. Wilder, BA,[2] Peter M. Scholz, MD,[3] Elaine Leventhal, MD, PhD,[3] Howard Leventhal, PhD[2] and Richard J. Contrada, PhD[2]

[1]Stanford Prevention Research Center, Stanford University School of Medicine, Stanford University, Stanford, CA; [2]Rutgers, The State University of New Jersey, New Brunswick, NJ and [3]University of Medicine and Dentistry of New Jersey, New Brunswick, NJ.

There is growing evidence suggesting health behaviors (e.g., physical activity, medications) significantly improve health outcomes and quality of life following coronary artery bypass graft (CABG) surgery. Despite the clear benefits of these behaviors, adherence is poor and interventions designed to promote them have yielded mixed results. This study, guided by Leventhal's Commonsense Model of Self-Regulation (CSM) and Bandura's Social Cognitive Theory (SCT), was a descriptive study designed to identify beliefs that might predict adherence and serve as intervention targets. Participants were 89 CABG (M age=65.4, 73% male, 79.8% white) surgery patients. They were interviewed prior to surgery about their CSM and SCT beliefs and their physical activity using structured interviews. All measures exhibited factor structures that fit with a priori expectations and had acceptable reliability (αs between .67 and .91). Results suggested that both self-efficacy and bed rest outcome expectancies were associated with physical activity if an individual was symptomatic but they were not associated with physical activity if an individual was asymptomatic. Overall, results suggest that integrating the CSM with SCT provides a useful framework for understanding physical activity. Future research is required to evaluate the prospective, predictive utility of this framework. In addition, interventions that are tailored to patients' symptom status seem worth pursuing.

CORRESPONDING AUTHOR: Eric B. Hekler, PhD, Stanford Prevention Research Center, Stanford University School of Medicine, Stanford University, Stanford, CA, 94305-5705; ehekler@gmail.com

C-173

AFFECTIVE EXPECTATIONS OF PHYSICAL ACTIVITY AMONG ADULTS: A REVIEW AND META-ANALYSIS

Ryan E. Rhodes, PhD,[1] Mark Conner, PhD[2] and Bonnie Fiala, Bsc[1]

[1]University of Victoria, Victoria, BC, Canada and [2]Psychology, University of Leeds, Leeds, United Kingdom.

Objective: Popular theories of health behaviour have often been criticized for neglecting the emotional component to behavioural engagement. Physical activity (PA), for example, may have a strong affective base that shapes the decision to act. The purpose of this study was to review affective expectancy constructs employed in PA research.

Methods: Studies were eligible if they included: a measure of PA as the dependent variable; a distinct measure of affective expectation of PA (e.g., affective attitude, enjoyment, intrinsic motivation); and if participants were 18 years or older. Literature searches were conducted in July, 2008 among five key search engines. The search yielded a total of 3164 potentially relevant records; of these, 32 passed the eligibility criteria and were included. Random effects meta-analysis procedures with correction for sampling bias were employed in the analysis for a correlation between affective expectancy and PA.

Results: All articles included in the analysis were published between 1989 and 2008, with sample sizes ranging from 15 to 1789; 27 were correlational and 5 were experimental. Most of the studies found a significant positive correlation between affective expectations and PA(N=22), with a summary r of .30. The Theory of Planned Behaviour and social cognitive theory were the most commonly used theories. Experimental studies that included an affective expectancy measure (N=3), but were not designed to intervene on affect did not show significant differences between groups, although studies that aimed to increase affect (N=2) showed mixed results. Other potential themes that emerged included age, gender, health status, and activity mode.

Conclusion: The results point to a general paucity of research employing an affective expectancy construct, yet the meta-analysis yielded a medium effect size relationship with PA. This suggests that affective expectancy may be a critical correlate. Interventions on affective expectancies are scarce despite this promising relationship; thus future experimental work is needed.

CORRESPONDING AUTHOR: Ryan E. Rhodes, PhD, Exercise Science, University of Victoria, Victoria, BC, V8W 3N4; rhodes@uvic.ca

C-174

APPEARANCE IMAGERY PROMOTES EXERCISE INTENTION AMONG SEDENTARY FEMALES: A QUALITATIVE EXAMINATION OF THE NATURE AND VALENCE OF EXERCISE IMAGERY

Amy L. Kossert, MHK and Krista J. Munroe-Chandler, PhD

University of Windsor, Windsor, ON, Canada.

The benefits accrued from regular physical activity are well documented in terms of their physiological, psychological, emotional, and social outcomes (e.g., Haskell et al., 2007). Despite these noted benefits, the majority of women in North America are classified as insufficiently active (Kowal & Fortier, 2007). Exercise imagery is a mental strategy by which individuals can envision their exercise-specific goals and strategies (Hall, 2001), and may be a promising tool with which to enhance exercise behaviour among sedentary individuals. The nature and valence of appearance-related exercise imagery were explored in two focus groups conducted with non-exercisers (*N*=11). According to the Stages of Change model (Prochaska & DiClemente, 1992), participants (*M* age=20.09, *SD*=1.30) were classified in the precontemplation (*n*=3), the contemplation (*n*=3), and the action (*n*=5) stages. Key questions were derived from the applied model of exercise imagery (Munroe-Chandler & Gammage, 2005) and objectification theory (Fredrickson & Roberts, 1997). A linear pattern of themes emerged, such that influential factors impacted appearance imagery formation, which led to experiential consequences. With the exception of perceptions of physical and self-regulatory inefficacies, all appearance images were manifested in positive and negative cognitive and behavioural outcomes, which resulted in the facilitation and debilitation of exercise intention. With reference to their negative appearance images, non-exercisers described feelings of hopelessness and frustration, and tended to engage in avoidance behaviours. By contrast, positive appearance images were interpreted as detrimental to motivations underlying intention to exercise. Additional research is encouraged to develop a greater understanding of the relationship between appearance images and exercise intention. Moreover, further investigation is warranted to delineate the factors with which exercise adherence could be promoted among exercise intenders.

CORRESPONDING AUTHOR: Amy L. Kossert, MHK, Kinesiology, University of Western Ontario, Windsor, ON, N8S 3L4; kossert@me.com

C-175

PHYSICAL ACTIVITY, PHYSICAL SELF PERCEPTION AND QUALITY OF LIFE IN CHILDREN WITH KIDNEY TRANSPLANTS

Camillia Clark, PhD,[1,2] Marja Cantell, PhD[3,2] and Lorraine Hamiwka, MD[1,2]

[1]Pediatric Nephrology Program, Alberta Children's Hospital, Calgary, AB, Canada; [2]Pediatrics, University of Calgary, Calgary, AB, Canada and [3]Behavioral Research Unit, Alberta Children's Hospital, Calgary, AB, Canada.

Physical activity (PA) is often diminished in children with chronic kidney disease. Research exists on exercise tolerance and capacity in children with kidney transplants(KT), but less is known about lifestyle PA and its psychological determinants in this population. This study investigated the level of PA and a number of potential psychological determinants in a cohort of pediatric KT patients and comparison to a healthy population of children and adolescents (HC). Methods: Twenty (8 M/12F) KT patients (M 14.3 yrs, 4.8 yrs post transplant) and 33 (14 M/19F) CS (M 14.0 yrs) participated. Data collected: BMI for age and gender, waist circumference (WC), steps/day over 7 days (pedometer), self reported PA (PAQ), physical self-perception (CY-PSPP), Children's Health Locus of Control (CHLC) and health-related quality of life (HRQOL)(PedsQL).

Results: The groups had similar BMI's and WC. There were no significant differences between the groups for average step count/day (p=.124), but the HC reported more exercise minutes not recorded by pedometer (t(29)= 3.06, p=.005). Children with KT reported lower perceptions of sport competence and physical conditioning in the CY-PSPP. They also reported lower HRQOL across the psychological, physical and total domain scores of the PedsQL (p= .002, p=.000, p=.003 respectively). Internal locus of control was higher for HC (t(18)= -2.00, p=.041). Conclusions: Compared to the HC group, the children with KT reported similar levels of daily PA but their engagement patterns were different. Children with KT perceived themselves to be less physically competent. They reported lower physical and psychological QoL which appears to be related to their health status. They also reported an external locus of control. More research is needed to determine appropriate PA and fitness measurement tools, as well as exercise recommendations for pediatric KT to promote both physical and psychological health.

CORRESPONDING AUTHOR: Camillia Clark, PhD, Nephrology Clinic, Alberta Children's Hospital, Calgary, AB, T3B6A8; camillia.clark@calgary healthregion.ca

C-176

FACTORS ASSOCIATED WITH THE PERCEPTIONS AND RISK-TAKING BEHAVIOUR OF SKATEBOARDERS

Annie Geneau, maîtrise,[1] Sophie Laforest, Doctorat,[1] Alex Dumas, Post Doctorat,[2] Benoit Tremblay, Maitrise,[3] Claude Goulet, Doctorat[4] and Sylvie Lepage, Bachelor[5]

[1]Kinésiologie, Université de Montréal, Montréal, QC, Canada; [2]Université d'Ottawa, Ottawa, ON, Canada; [3]MELS, Trois-Rivières, QC, Canada; [4]Université Laval, Québec, QC, Canada and [5]Ville de Montréal, Montréal, QC, Canada.

Within the perspective of injury prevention, it is crucial to understand the tendencies of skateboarders, specifically with respect to their risk-taking behaviour. Inspired by the psychosocial theories of Zuckerman (1979) and Bandura (1980, 1986 and 2003), the objective of this study is to identify the factors that influence the perceptions and the risk-taking behaviour of skateboarders. The feeling of self-efficacy with respect to one's physical skills, prior injuries and the fear of being injured are explanatory factors stemming from the sociocognitive theory, whereas thrill-seeking emanates from Zuckerman's theory. A telephone survey was conducted with 158 skateboarders in 11 outdoor skateparks in Montreal. A closed-ended questionnaire was administered by trained interviewers. The pre-tests allowed for verification of the metric qualities of the instruments, comprehension of the subjects and adjustment of the tools. Bivariate analyses were conducted in order to explore the links between the variables and they will be validated through regression analyses. Ninety-five percent of the sample was made up of boys and the average age was 18 years (s.d.= 5.2). The results show that thrill-seeking is the only factor that is significantly associated to the perception of risk ($r=0.17$, $p \leq 0.05$) whereas the number of injuries sustained almost reaches the significance threshold ($r=0.15$, $p=0.07$). As for risk-taking, number of injuries and thrill-seeking are the two factors that are significantly associated, with correlations of 0.22 and 0.36. Perceptions and risk-taking are also associated ($r= 0.28$, $p\leq 0.01$). These results highlight the importance of thrill-seeking and prior injuries as factors that influence the perceptions and behaviours of skateboarders. Financial support of the MELS and Ville de Montréal.

CORRESPONDING AUTHOR: Annie Geneau, maîtrise, Kinésiologie, Université de Montréal, Montréal, QC, h1t 2p3; annie_geneau@hotmail.com

C-177

THE UTILITY OF A SELF-EFFICACY INTERVENTION ON EXERCISE ADHERENCE IN RELATIVES OF COLON CANCER PATIENTS

Erin L. McGowan, PhD Candidate Kinesiology, Harry Prapavessis, PhD, Nerissa Podolinsky, Master's Candidate, Casey Gray, PhD Candidare and Joy Elkayam, Master's Candidate

University of Western Ontario, London, ON, Canada.

Purpose: The aim was to test a self-efficacy intervention (task and self-regulatory) in influencing adherence to a 12-week structured exercise program. Participants: One hundred and fifty four first- and second-degree relatives of colon cancer patients (M= 45.5 years, ± 9.0; 68% female) were randomized to a self-efficacy intervention (INT) or to an attention control (AC) condition. Methods: At the start of the exercise program, participants were given exercise guidelines to follow and took part in 9 classroom sessions that lasted between 20 to 45 minutes. The INT group class materials focused on promoting scheduling, barrier, goal setting and relapse prevention efficacy, while the AC group class materials focused on nutrition. Attrition rates and adherence to the exercise program was assessed through objective measures of frequency, duration and intensity of exercise at weeks 4, 8, and 12. A dropout was classified as someone who did not exercise for 6 consecutive weeks. Results: Separate two (group) by three (time-weeks 4, 8, 12) repeated measures ANOVAs showed that there was a significant interaction effect for duration ($p= .001$, $\eta 2= .07$), but not for intensity ($p= .24$, $\eta 2= .02$) and frequency ($p= .17$, $\eta 2= .03$). Planned comparisons for duration showed that early in the exercise program (i.e., 0 to 4 weeks) the INT group exercised significantly longer F (1,138= 1.98, p= .02 than their AC counterpart. Finally, a chi-square analysis revealed that dropouts between groups were different at week 4 $\chi 2$ (1, N= 154)= 2.88, p= .08; week 8 $\chi 2$ (1, N= 154)= 5.54, p= .02; and week 12 $\chi 2$ (1, N= 154)= 2.50, p= .08. Specifically, retention was higher in the INT group than AC group at all measured time points (95.1% vs. 87.5% at week 4; 84.1% vs. 68.1% at week 8; 76.8% vs. 65.3% at week 12). Conclusion: An intervention grounded in self-efficacy theory (Bandura, 1977) is effective in assisting relatives of colon cancer adopt and maintain a 12-week exercise program. Implications of these findings will be discussed in relation to the colon cancer protective benefits of exercise.

CORRESPONDING AUTHOR: Erin L. McGowan, PhD Candidate Kinesiology, The University of Western Ontario, London, ON, N6A 5B9; emcgowa@uwo.ca

C-178

DOES SELF-REGULATORY EFFICACY MEDIATE THE RELATIONSHIP BETWEEN EXERCISE IDENTITY AND PHYSICAL ACTIVITY: A PROSPECTIVE INVESTIGATION

Shane N. Sweet, BA,[1] Shaelyn M. Strachan, PhD,[1] Lawrence R. Brawley, PhD,[2] Kevin S. Spink, PhD,[2] Mary E. Jung, MSc[2] and Elizabeth Wiseman, MA[1]

[1]University of Ottawa, Ottawa, ON, Canada and [2]University of Saskatchewan, Saskatoon, SK, Canada.

A relationship between exercise identity and exercise has been established. However, little research has investigated mediators of this relationship. According to Identity Theory, identities provide a personally relevant standard for behavior and individuals are motivated to maintain consistency between their identity and behavior. To achieve consistency between exercise identity and exercise behavior, individuals would have to engage in self-regulation. According to Self-Efficacy Theory, efficacy beliefs provide the capacity for self-regulation through affecting persistence, effort and goal-setting. Given the importance of efficacy beliefs for self-regulation, we hypothesized that self-regulatory efficacy (SRE) would mediate the relationship between exercise identity and physical activity (PA). To test this hypothesis, undergraduate students (n=361) completed standardized measures of exercise identity at baseline, SRE at 1 month and PA 2 months post-baseline. Hierarchical multiple regression procedures were used to test for mediation. Exercise identity was significantly related to PA (beta=.125, $p<.05$). Secondly, a significant relationship between self-efficacy and exercise identity was found (beta=.50, $p <.001$). Self-efficacy was also related to PA (beta=.352, $p<.001$). After controlling for SRE, the exercise identity - PA relationship became non-significant (beta=-.068, $p > .05$, R2 change=.11), supporting mediation. A Sobel test demonstrated the significant indirect effect of the mediator (5.26, $p<.001$). Findings suggest that SRE mediates the exercise identity - PA relationship. Framing the study using compatible theories was a strength. Future research should test whether individuals who vary in exercise identity strength and SRE differ in the ability to self-regulate PA in conditions that challenge behavior- identity consistency.

CORRESPONDING AUTHOR: Shane N. Sweet, BA, University of Ottawa, Ottawa, ON, K1V7V6; ssweet@uottawa.ca

C-179

GENDER AND DIETARY RESTRAINT DIFFERENCES IN MOTIVATION FOR WEIGHT LOSS AND EXERCISE

Christopher Wharton, PhD[1] and Lenny R. Vartanian, PhD[2]

[1]Nutrition, Arizona State University, Mesa, AZ and [2]Psychology, Syracuse University, Syracuse, NY.

Although weight management and exercise are important components of a healthy lifestyle, for many individuals weight loss and exercise take on an unhealthy dynamic. This study investigated individual differences in reported reasons (motives) for losing weight and for exercising, as well as the relation of these reasons to body-image concerns. 359 individuals (62% female; 32% restrained eaters) reported on their motivation for losing weight, reasons for exercise, and body-image concerns. Overall, female and male restrained eaters were most motivated to lose weight, and did not differ from one another ($p=.57$). Among all groups, health was cited as the most important reason for weight loss; self-relevant motives (e.g., attractiveness, self-respect) were more common among restrained eaters than unrestrained eaters ($p<.001$), and were more common among females than males ($p<.001$). Both motives for weight loss were significantly correlated with body-image concerns (self-related motives: $r=.79$, health motives: $r=.43$). Health/fitness was the highest rated reason for exercise for all groups, whereas enjoyment was the lowest rated reason for exercise for all groups. Aesthetic reasons for exercise (e.g., attractiveness, tone) were also highly rated by both female and male restrained eaters, but female restrained eaters rated this reason more highly than did male restrained eaters ($p=.04$). Body-image concerns were positively correlated with aesthetic reasons for exercise ($r=.53$), but not with health ($r=-.10$) or enjoyment ($r=-.02$). These results highlight the fact that there are many similarities between male and female restrained eaters in their reasons for weight loss and exercise. Results also indicate that certain motives for weight loss and exercise (particularly aesthetically-based motives) are related to body-image disturbance, whereas others (e.g., exercising for health, fitness, or enjoyment) are not. These findings have implications for efforts to promote healthy weight management.

CORRESPONDING AUTHOR: Christopher Wharton, PhD, Nutrition, Arizona State University, Mesa, AZ, 85212; christopher.wharton@asu.edu

C-180

ECOLOGICAL MOMENTARY ASSESSMENT OF AFFECTIVE RESPONSES TO ACUTE EXERCISE IN OLDER ADULTS WITH MINOR DEPRESSION

Brian Focht, PhD,[1] Lise Gauvin, PhD[2] and Jack Rejeski, PhD[3]

[1]University of Delaware, Newark, DE; [2]University of Montreal, Montreal, QC, Canada and [3]Wake Forest University, Winston-Salem, NC.

Minor depression is a common condition in older adults that has negative effects upon psychological well-being and physical functioning. Although exercise has been shown to have significant psychological benefits, limited knowledge exists on the effects that acute exercise has upon affective responses of older adults with minor depression. Consequently, the purpose of this study was to examine the influence of acute exercise on affective ratings of older adults diagnosed with minor depression who were participating in a 4-month center-based exercise intervention. Using an ecological momentary assessment (EMA) procedure, 10 sedentary, older adults (M age=73 years) completed 346 momentary assessments of affective feeling states during the 2nd week of the intervention. Samplings were collected: (1) prior to and following center-based exercise sessions occurring on 3 non-consecutive days, and (2) at 5 randomly-chosen times throughout the day on 6 consecutive days. Multilevel modeling analyses revealed that ratings of pleasure and positive engagement (p<.01) were significantly higher and feelings of fatigue were significantly lower (p<.01) following acute exercise. Although depression did not change from pre- to post-exercise, participants reported lower depression both pre- and post exercise on the 3rd exercise day of the week. After controlling for diurnal variations, within-day ratings of pleasure, positive engagement, revitalization, and tranquility were systematically higher later in the week in comparison to earlier in the week (p<.05) even though fatigue levels were higher later in the week than earlier on (p<.05). Depression was improved (p<.001) only on the 5th day of the intervention. Taken together, these findings suggest that favorable affective changes accompany the adoption of exercise among older adults diagnosed with minor depression.

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CORRESPONDING AUTHOR: Brian Focht, PhD, Health, Nutrition, and Exercise Science, University of Delaware, Newark, DE, 19716; bfocht@udel.edu

C-181

THE UTILITY OF THE THEORY OF PLANNED BEHAVIOR IN EXPLAINING RESISTANCE EXERCISE PARTICIPATION

Brian Focht, PhD,[1] Ryan Rhodes, PhD,[2] Rick Petosa, PhD,[3] Prasanna Gurumurthy, MS[3] and Julie Wallis, MS[3]

[1]University of Delaware, Newark, DE; [2]University of Victoria, Victoria, BC, Canada and [3]The Ohio State University, Columbus, OH.

It is well-established that resistance exercise (RE) results in significant improvements in numerous health and quality of life outcomes. Unfortunately, less than 10% of U.S. adults report participating in regular RE. Developing a more comprehensive understanding of the theoretically-based motivational factors that may influence RE is important for designing more effective interventions to promote RE participation. Consequently, the purpose of the present investigation was to examine the efficacy of the constructs of the Theory of Planned Behavior (TPB) to explain RE participation. Using a passive prospective design, a sample of 277 young adults (112 men and 165 women; M age=21.68 years) completed a TPB questionnaire and a 2-week follow-up assessment of RE participation. Results of structural equation modeling analyses revealed that subjective norm (standardized effect=.44), perceived behavioral control (standardized effect=.29), and instrumental attitudes (standardized effect=.17) accounted for 48% of the variability in intention. In turn, intention explained 50% of the variability in RE participation. These findings demonstrate that the TPB is a useful framework for explaining RE participation. Additionally, based on the present results and past evidence addressing aerobic forms of activity, it appears the influence of TPB constructs may vary across different modes of physical activity. Specifically, in contrast to aerobic activities which have been shown to be strongly impacted by attitudinal influences, subjective norm and perceptions of control were strongest predictors of intention to participate in RE. Thus, targeting subjective norm and perceptions of control may represent particularly beneficial strategies to employ in future interventions designed to promote RE participation.

CORRESPONDING AUTHOR: Brian Focht, PhD, Health, Nutrition, and Exercise Science, University of Delaware, Newark, DE, 19716; bfocht@ udel.edu

C-182

DOES ENJOYMENT MODERATE THE RELATIONSHIP BETWEEN SELF-DETERMINATION AND PHYSICAL ACTIVITY?

Eva Guérin, BA,[1] Michelle S. Fortier, PhD[1] and Shane N. Sweet, BA[2]

[1]Human Kinetics, University of Ottawa, Ottawa, ON, Canada and [2]Psychology, University of Ottawa, Ottawa, ON, Canada.

Findings from the Physical Activity Counselling (PAC) Trial have revealed the applicability of Self-Determination Theory (SDT) in facilitating physical activity (PA) change in inactive individuals. A wealth of research has also demonstrated the facilitative influence of enjoyment, a concept akin to intrinsic motivation, on individuals' PA levels. However the nature of this influence has received limited attention. Therefore to further explain the link between self-determination and physical activity change, the aim of this study was to examine the role of enjoyment as a potential moderator of this relationship. Data were collected from the participants of the PAC trial which examined the effect of an intensive 13-week PA intervention over a brief intervention. Sedentary adults were randomly assigned to the intensive (n=61) or the brief (n=52) group. At 6 weeks, participants responded to validated questionnaires assessing self-determination and enjoyment. At 13 weeks, participants responded to the Godin Leisure-Time Exercise Questionnaire. To test for moderation, an interaction term for self-determination and enjoyment was created and a separate series of regressions were conducted for the two groups. The analyses revealed a non-significant moderation for the intervention group. Interestingly, the interaction between self-determination and enjoyment explained a significant increase in variance in PA for the brief group, (*beta*=.315, p<.05, R^2 change =.078). Follow-up analysis revealed that for those with higher levels of enjoyment, there were well-defined concomitant increases in PA and self-determination. Thus, enjoyment was a significant moderator of the relationship between self-determination and PA, but only for those receiving the brief intervention. This highlights the importance of engaging in physical activities that are satisfying and pleasurable particularly for those who are unable to profit from intensive counselling. Future brief interventions should target patients' enjoyment in their prescriptions to increase PA.

CORRESPONDING AUTHOR: Eva Guérin, BA, Human Kinetics, University of Ottawa, Ottawa, ON, K1N 7T6; eguer016@uottawa.ca

C-184

DEPRESSION AND HEALTH BEHAVIORS AMONG INFERTILE WOMEN ENTERING A MIND-BODY PROGRAM

Christina Psaros, PhD,[1] Leslee Kagan, MS, NP,[1] Enrique Auba, MD, PhD,[1] Herbert Benson, MD[1,2] and Elyse R. Park, PhD, MPH[1,2]

[1]Psychiatry, Massachusetts General Hospital, Boston, MA and [2]Medicine, Massachusetts General Hospital, Boston, MA.

Background: Infertility affects nearly 6.1 million women in the US and is associated with depressive symptoms. Research suggests some health promoting behaviors may enhance fertility potential. Depression is associated with less frequent participation in health promoting behaviors. It may mediate fertility outcomes by impeding participation in health promoting behaviors. The goals of this study are to 1) describe depressive symptoms and 2) examine the relationship between depressive symptoms and health promoting behaviors among women entering a mind-body (MB) infertility group. Method: This is a retrospective cross-sectional study. Analyses were completed on baseline data from 104 women who entered a group MB infertility program in Boston, MA. Participants completed the Beck Depression Inventory II(BDI)and Health Promoting Lifestyle Profile II(HPLP). Results: Mean age was 35.8 years. 92% of women were White, 4% Asian/Pacific Islander, 2% Black, and 2% Hispanic. 35% of the sample presented with primary, unexplained infertility. Mean number of months trying to conceive was 27. Mean BDI score was 16.3; 11% reported severe depression, 23% moderate, and 69% minimal/mild. BDI scores were not correlated with Health Responsibility (r=-.09, p =.38), Physical Activity (r=-.14, p=.16), or Nutrition (r=-.18, p=.07) subscales. Significant negative correlations were detected among BDI scores and the Spiritual Growth (r=-.57, p<.01), Interpersonal Relationships (r=-.33, p<.01), and Stress Management subscales (r=-.43, p<.01). Conclusion: In this sample, depression was negatively correlated with lifestlye behaviors (social support, stress management). Depression may mediate fertility treatment outcome by impacting self-care behaviors, such as stress management techniques. Thus, strategies to decrease depression may allow women to cope more effectively with the demands of infertility treatment. Additional research is required in order to understand the role of depression and its impact on lifestle behaviors in infertile women.

CORRESPONDING AUTHOR: Christina Psaros, PhD, Psychiatry, Massachusetts General Hospital, Boston, MA, 02114; cpsaros@partners.org

C-185

PRENATAL MATERNAL STRESS AFFECTS FETAL GROWTH

David P. Laplante, PhD,[1] Sarah Fraser, BA[2] and Suzanne King, PhD[1,2]

[1]Douglas Institute Research Center, Verdun, QC, Canada and [2]Université Laval, Québec, QC, Canada.

Objective: Animal and human research in the field of prenatal maternal stress (PNMS) suggests that stress during pregnancy may alter growth patterns in the offspring, however, measures other than birth weight are rarely documented. The aim of this study was to determine whether objective PNMS (i.e. exposure to a natural disaster) or subjective PNMS (i.e. perception of the event) affects fetal growth. We took advantage of a series of freezing rains that hit south-western Quebec, Canada in 1998 to study the effects of exposure to a natural disaster during pregnancy. Methods: Maternal characteristic, objective and subjective PNMS, birth information (birth weight and length, head circumference) data Information were obtained from 135 women and their children. Ponderal index (PI) and head circumference to body length (HCBL) ratios were calculated. Results: For both boys and girls, birth weight was not significantly associated with any of the predictor variables. For boys, objective PNMS explained 6.2% of the variance of the PI: higher levels of objective PNMS were associated with higher PI. Month of exposure and objective PNMS accounted for 15.3% of the HCBL: larger HCBL ratios were associated with exposure earlier in the pregnancy and higher levels of objective PNMS. For girls, SES and objective PNMS accounted for 14.7% of the variance of the PI: higher levels of objective PNMS and SES were associated with higher PI. Maternal general anxiety and objective PNMS accounted for 23.5% of the HCBL ratio: larger HCBL ratios were associated with higher levels of maternal anxiety and objective PNMS. Conclusions: Exposure during pregnancy to stressful events independent from maternal characteristics can have effects on neonatal growth. Considering the strong associations between these growth measures and vulnerability to adult disease it is important that future studies investigate the effects of PNMS on a variety of birth measures, not only birth weight.

CORRESPONDING AUTHOR: David P. Laplante, PhD, Psychosocial, Douglas Institute Research Center, Verdun, QC, H4H 1R3; david.laplante@ douglas.mcgill.ca

C-186

PROJECT ICE STORM: EFFECTS OF PRENATAL MATERNAL STRESS ON PHYSICAL DEVELOPMENT

David P. Laplante, PhD,[1] Isabelle Bouchard, MA,[1] Peter L. Hurd, PhD,[2] Alain Brunet, PhD[1,3] and Suzanne King, PhD[1,3]

[1]Douglas Institute Research Center, Verdun, QC, Canada; [2]University of Alberta, Edmonton, AB, Canada and [3]McGill University, Montreal, QC, Canada.

It has long been noted that men have longer ring fingers (4D) than index fingers (2D), while women have longer index than ring fingers. The 2D:4D ratio is a sexually dimorphic trait with women having smaller ratios. The 2D:4D ratio is correlated with a wide range of psychological traits. Some of these traits, such as sexual orientation and schizophrenia, not only show a relationship with digit ratio, but are influenced by prenatal maternal stress (PNMS), masculinizing some systems and feminizing others. Evidence suggests that PNMS during fetal growth disturbs development, ultimately leading to disease or impairment in adulthood. It been suggested that digit ratio may serve as a marker for PNMS. The present study assessed the 2D:4D ratios of 115 5½ year-old children (boys=58; girls=57) exposed at 4 time points (1st trimester=35; 2nd trimester=26; 3rd trimester=27; pre-conception=27) and 111 French-speaking Québec adults (males=51; females=60). Objective PNMS was assessed using a tailored-made mother-rated questionnaire examining 4 facets of disaster-related experiences: Scope (i.e., days without electricity), Change (i.e., change in daily routines), Loss (i.e., financial loss), and Threat (i.e., risks of serious injury). Subjective PNMS was assessed using a French adaptation of the Impact of Events Scale - Revised. Both the boys and girls 2D:4D ratios were smaller than those of adult French-speaking males and women, however, the girls exhibited a significantly greater reduction in their ratios compared to the boys. For children exposed during the 1st or 2nd trimester of pregnancy, high levels of objective PNMS were associated with smaller digit ratios, while higher levels of subjective PNMS were associated with larger digit ratios. PNMS explains up to 33% of variance in digit ratio, especially in boys. Exposure during the 1st trimester or prior to conception had no effect on digit ratio. Similar findings were observed with anthropometric measurements of the children's faces.

CORRESPONDING AUTHOR: David P. Laplante, PhD, Psychosocial, Douglas Institute Research Center, Verdun, QC, H4H 1R3; david.laplante@ douglas.mcgill.ca

C-187

BLUNTED CORTISOL RESPONSE TO VACCINATION STRESS ASSOCIATED WITH MORE BEHAVIOR PROBLEMS IN PRESCHOOLERS EXPOSED TO STRESS IN UTERO

Suzanne King, PhD,[1,2] Hélène Chokron Garneau, BA,[1] Alain Brunet, PhD,[1,2] Claire-Dominique Walker, PhD[1,2] and David P. Laplante, PhD[1]

[1]Douglas Institute Research Center, Verdun, QC, Canada and [2]McGill University, Montreal, QC, Canada.

Research with animals demonstrates heightened stress reactivity in offspring exposed to stress in utero. However, these results cannot be generalized to humans. Project Ice Storm has shown that infants exposed to high levels of objective PNMS from the Quebec ice storm crisis of 1989 during the 2nd-3rd trimester of gestation had high acute cortisol levels in response to a vaccination compared to children exposed to the storm in early gestation. However, whether the 2nd-3rd trimester-exposed group, or the early pregnancy group, reflects "normal" cortisol responses cannot be known without comparison with a non-prenatally stressed group, which is unavailable. As an indirect approach to interpreting these findings, the goal of this project was to determine whether greater, or lesser, acute cortisol responses to the stress of vaccination is associated with more severe behaviour problems in these children. Data were collected from 31 of the children from Project Ice Storm (15 boys, 16 girls), all born in 1998. At the time of their routine pre-kindergarten vaccination (mean age 5.1 years), we obtained saliva samples before and after their injection. We controlled for other predictors of behaviour problems, time of day of the vaccination, and degree of maternal ice storm stress. Results show that lower acute cortisol responses are associated with more severe internalizing and externalizing problems in these children. When examined by sex, these findings were only significant in girls; when grouped by trimester of stress exposure, they were only significant in 2nd-3rd-trimester exposed children. We conclude that a blunted cortisol response to vaccination stress, as found in 2nd-3rd trimester stress-exposed children, is associated with more behaviour problems in preschoolers. Prenatal stress in mid-late gestation may disrupt hypothalamic-pituitary-adrenal axis development which is linked to both cortisol response and behaviour problems.

CORRESPONDING AUTHOR: David P. Laplante, PhD, Psychosocial, Douglas Institute Research Center, Verdun, QC, H4H 1R3; david.laplante@ douglas.mcgill.ca

C-188

THE DESIRE FOR CONTROL IN CHILDBIRTH BEHAVIOR SCALE

Natalie R. Stevens, MA,[1] Nancy A. Hamilton, PhD,[1] Kristopher Preacher, PhD,[1] Ken A. Wallston, PhD[2] and Danielle E. Staecker, MD[3]

[1]Psychology, University of Kansas, Lawrence, KS; [2]School of Nursing, Vanderbilt University, Nashville, TN and [3]Obstetrics and Gynecology, University of Kansas Medical Center, Kansas City, KS.

Negative childbirth experiences are common and can significantly impact postpartum adjustment. Some researchers have argued that congruence between desired and perceived control in the birth environment may enhance overall childbirth satisfaction. However, lack of appropriate measurement tools precludes the testing of this hypothesis. The current study sought to develop a situation-specific instrument to assess desire for control in childbirth. The initial pool of 38 items was modified from three original instruments to reflect important aspects of labor and delivery. Participants were 193 pregnant women (mean age 29.2; 83% Caucasian; 38% primiparous; 64% low-risk pregnancy) recruited from outpatient obstetric clinics (n=45) and online (n=148). A priori power calculations indicated this was an adequate sample size. Thirteen items were discarded due to limited variability. Exploratory factor analysis (EFA; maximum likelihood) was used to identify the underlying factor structure and pinpoint items with the highest loadings. Parallel analysis indicated two factors should be retained. A total of 12 items loaded on the first factor reflecting desire for behavioral control (DCCh-B: loadings >0.70). The DCCh-B had high internal consistency (alpha=0.95) and showed low to moderate correlations with general self-efficacy ($r=0.30$, $p<0.01$) and internal health locus of control ($r=0.34$, $p<0.01$). Women who reported higher desire for control were more likely to choose non-traditional medical caregivers and labor support (OR: 6.3; 95% CI=3.6–11.2; $p<0.01$) as well as a childbirth location other than a hospital (OR: 9.7; 95% CI=3.8–24.9; $p<0.01$). Results of these analyses provide evidence of the reliability and predictive validity of a new scale to assess a woman's desire for control in childbirth.

CORRESPONDING AUTHOR: Natalie R. Stevens, MA, Psychology, University of Kansas, Lawrence, KS, 66045; nrsteven@ku.edu

C-189

THE MULTIDIMENSIONAL HEALTH LOCUS OF CONTROL SCALES FOR LABOR AND DELIVERY

Natalie R. Stevens, MA,[1] Cynthia Karlson, MA,[1] Nancy A. Hamilton, PhD,[1] Kristopher Preacher, PhD,[1] Ken A. Wallston, PhD[2] and Danielle E. Staecker, MD[3]

[1]Psychology, University of Kansas, Lawrence, KS; [2]School of Nursing, Vanderbilt University, Nashville, TN and [3]Obstetrics and Gynecology, University of Kansas Medical Center, Kansas City, KS.

Health locus of control (HLC) is thought to be an important contributor to medical and psychological childbirth outcomes. While Form C of the Multidimensional Health Locus of Control Scales is widely used in chronic illness populations, no study to date has explored the psychometric properties of an HLC measure specific to the childbirth process. The current study sought to evaluate a new form of the MHLC for labor and delivery (MHLC-LD). The 18 items from Form C were altered to specifically reflect the labor and delivery situation. Participants were 175 pregnant women (mean age 29.2; 82% Caucasian; 38% primiparous; 69% low-risk pregnancy) recruited from outpatient obstetric clinics (n=43) and online (n=132). Because the MHLC-LD items were substantially modified, exploratory factor analysis (EFA; maximum likelihood) was used to identify the underlying factor structure. The 4-factor model yielded the clearest structure and demonstrated moderately close fit (RMSEA=0.07). Each item loaded on the factor from which it was derived (loadings ranged 0.33–0.96) with the exception of item 5 from the Physician subscale, which failed to load on any factor. Alpha coefficients for the Internal (0.78), Chance (0.80), Physician (0.63), and Powerful Others (0.61) subscales indicate moderate reliability. Subscale correlations were in the direction and magnitude that would be expected; however, the significant moderate correlation between the Physician and Chance subscales (r=0.35, p<0.01) was somewhat surprising. Results support the original Form C factor structure with internal consistency of the subscales ranging from good to marginal. The significant correlation between the Physician and Chance subscales suggests that control expectancies related to childbirth may be different from those in other health populations. It is recommended that additional items be developed to strengthen the Physician subscale.

CORRESPONDING AUTHOR: Natalie R. Stevens, MA, Psychology, University of Kansas, Lawrence, KS, 66045; nrsteven@ku.edu

C-191

BODY IMAGE AND RISKY SEX: AN EXAMINATION OF KEY MODERATORS

Jennifer Vickery, MA,[1] Heather Littleton, PhD,[1,2] Mary Kate Law, BS[2] and Danny Axsom, PhD[2]

[1]Sam Houston State University, Huntsville, TX and [2]Virginia Tech, Blacksburg, VA.

Research supports that 70% of university students are sexually active and many are engaging in risky sexual behaviors, including having multiple sex partners and unprotected sex. One recently identified risk factor for engaging in these behaviors is body image.

The purpose of this study was to further evaluate the body image/risky sex relationship and its interaction with other risk factors (e.g., gender, sexual assertiveness, body image concerns during sex). Data was collected from 1091 university students regarding recent sexual behavior. Participants also completed several body image measures (body esteem, body shame, and surveillance). Several significant interactions were found between body image and gender. Specifically, men who reported higher body esteem were more likely to report having a one-night stand in the past six months, whereas women with higher levels of body esteem were less likely to have had a one-night stand (t=2.18, p=.03). Gender also moderated the relationship between shame and age at first intercourse (t=2.41, p=.02), and there was a significant interaction between surveillance and gender on number of sex partners (t=2.49, p=.01).

Sexual assertiveness moderated the relationship between both body esteem and surveillance in predicting condom use. Low levels of sexual assertiveness combined with poor body esteem were related to using condoms inconsistently. Similarly, body image concerns during sex interacted with surveillance and body shame in predicting engaging in anal sex. Additionally, body image concerns during sex moderated the relationship between surveillance and age at first intercourse. The results support that sexual risk-taking is multiply determined and that body image interacts with other individual variables in affecting sexual risk behavior in university students.

CORRESPONDING AUTHOR: Jennifer Vickery, MA, Sam Houston State University, Yarmouth, NS, B5A 2Z7; jeni_sarah@hotmail.com

C-192

SEXUAL DECISION MAKING: INTERVENTIONS FOR THE ’BETTER THAN AVERAGE’ COLLEGE STUDENT

Lindsey L. Ross, MS and Anne Bowen, PhD

Psychology, University of Wyoming, Laramie, WY.

The two goals in this study were to utilize vignettes to determine the role of the heuristic: “known partner is a safe partner” and to examine the effect of vignette perspective on college students’ decisions to engage in risky sexual behavior. Specifically, we sought to determine if decisions to have casual or unprotected sex were affected by partner type and by vignette perspective (i.e. 2nd or 3rd person). 180 participants read 2 vignettes (2nd person and 3rd person), about either an interaction with a friend or an interaction with an acquaintance. ANCOVAs were used to test hypotheses controlling for virginity. Partner familiarity did not affect likelihood of engaging in sexual intercourse or condom use. Suggesting that friend and acquaintance may not be considered different sex relationship types. In terms of vignette perspective, men and women indicated less intention to engage in sexual intercourse if the vignette was written in the 2nd person perspective (men, M=3.54, SD=1.30; women M=2.56, SD=1.41), than in the 3rd person (men, M=3.94, SD= 0.86; women, M=3.99, SD=0.85). A similar significant effect was found for intent to use condoms, (2nd person, M=4.69, SD=0.79; 3rd person, M=3.43, SD=0.75). Reports of previous sexual behavior did not correlate with responses to the vignettes. The results support the use of downward social comparison in that students indicated socially appropriate behavior when the vignette referenced themselves versus an unknown other (i.e., Stephen and Laura). This suggests that vignettes are likely to yield biased data that does not correspond to participants’ “real life” sexual behavior. Highly detailed vignettes may yield better results, but run the risk of being influenced by experimenter expectancy effects. Given the complexity of finding the correct balance between ambiguity and detail, vignettes are not the optimal tool for obtaining ecologically valid information on previous sexual behavior.

CORRESPONDING AUTHOR: Lindsey L. Ross, MS, Psychology, University of Wyoming, Laramie, WY, 82071; lross6@uwyo.edu

C-193

PREDICTORS OF SEXUAL "HOOKUPS" AMONG FIRST-SEMESTER COLLEGE STUDENTS

Robyn L. Fielder, MS and Michael P. Carey, PhD

Center for Health and Behavior, Syracuse University, Syracuse, NY.

"Hookup" is term used by adolescents and young adults to refer to a sexual interaction between partners who expect no future romantic commitment. Many college students report experience with hookups, which may have negative physical and mental health consequences; however, the determinants of hookup behavior, which would inform educational and intervention materials, have not been studied prospectively. We conducted a longitudinal study with 140 college freshmen who completed a baseline assessment of hypothesized predictors early in their first semester of college and reported on their hookup behavior at the end of that semester. An exploratory analysis was conducted, using stepwise logistic regression, with the goal of developing comprehensive models of both oral and vaginal sex hookup behavior during the first semester of college. Seventeen hypothesized determinants of hookup behavior suggested by theory and prior research were examined: psychological distress, self-esteem, injunctive norms, prevalence accuracy, intentions to hook up, situational triggers for hookups, pre-college hookup behavior, religiosity, gender, career-mindedness, desire to be carefree while in college, parental marital status, perceived parental attitudes toward hooking up, parental discouragement of committed relationships, peak intoxication level, media exposure, and permissive media messages about hooking up. Predictors of oral sex hookup behavior were pre-college oral sex hookup behavior (adjusted odds ratio [AOR] 2.88), peak intoxication level (AOR 1.84), and situational triggers for hookups (AOR 1.58). Predictors of vaginal sex hookup behavior were pre-college vaginal sex hookup behavior (AOR 6.57), peak intoxication level (AOR 2.53), and injunctive norm self-other difference (AOR 0.58). Restriction of range, imprecise measurement, and study design may account for the lack of hypothesized relationships between other predictors and hookup behavior. Results suggest that alcohol use and sexual behavior patterns developed prior to college should be a focus of intervention.

CORRESPONDING AUTHOR: Robyn L. Fielder, MS, Psychology, Syracuse University, Syracuse, NY, 13205; robynleanne@gmail.com

C-194

HPV AND GARDASIL: KNOWLEDGE, PERCEPTIONS, AND ATTITUDES AMONG COLLEGE MEN AND WOMEN

Stephanie A. Bologeorges, BA[1] and Vicki DiLillo, PhD[2]

[1]Psychology, University of NE, Lincoln, Lincoln, NE and [2]Psychology, Ohio Wesleyan University, Delaware, OH.

Human Papillomavirus (HPV) is the most common STI and its consequences include genital warts, and cervical, anal, and penile cancers. In 2006, the Gardasil vaccine was FDA-approved for women ages 9–26 to protect against some strains of HPV. Clinical trials are underway to investigate the feasibility of Gardasil for men. Despite educational efforts, HPV knowledge is limited in the college population and understudied in men. This study investigated both men and women's knowledge and perceptions of, and attitudes towards HPV and Gardasil. Participants were 197 undergraduates, 71% female, 77% white, and 62% sexually active. Participants completed gender-specific questionnaires assessing demographics, sexual history, HPV knowledge and perceptions, and Gardasil knowledge. A brief information session about HPV and Gardasil was then presented. Women were then asked if they had received Gardasil or intended to do so; men were asked if they would receive Gardasil if it were made available. All participants were asked about perceived benefits of and barriers to vaccination. Women had greater baseline knowledge about both HPV and Gardasil than men ($ps<.0001$). Sexually active participants were more concerned about contracting HPV than those who were not sexually active ($p<.05$), with a trend for sexually active women to be more concerned than their male counterparts ($p=.08$). Most participants (> 81%) perceived the consequences of HPV to be "very serious". However, 89% of women and 97% of men reported feeling "not at all" or "only somewhat" susceptible to contracting HPV. Among women, 44% were vaccinated and 76% of unvaccinated women intended to receive Gardasil. Among men, 75% intended to be vaccinated if Gardasil were available to them. Perceived barriers to and benefits of Gardasil varied by gender. Results suggest that college students may not have realistic perceptions of susceptibility to the virus. Within the framework of the health belief model, interventions to promote vaccination may benefit from highlighting HPV susceptibility.

CORRESPONDING AUTHOR: Vicki DiLillo, PhD, Ohio Wesleyan University, Delaware, OH, 43015; vgdilill@owu.edu

C-196

GASP: A MULTI-DISCIPLINARY GROUP FOR INCREASING CPAP COMPLIANCE

Michelle Drerup, PsyD and Charles Bae, MD

Neurology, Cleveland Clinic, Cleveland, OH.

Obstructive sleep apnea (OSA) is a major public health concern in the US, with prevalence estimates as high as 2% of women and 4% of men (Young et al., 1993). OSA has been associated with insulin resistance, heart disease, and stroke. Fortunately, continuous positive airway pressure (CPAP) is a safe, effective treatment for OSA that corrects sleep-related respiratory disturbances and improves excessive daytime sleepiness and overall quality of life. However, as with many other chronic illnesses, adherence to treatment with CPAP is often low. Despite the efficacy of CPAP, estimates suggest that only 50% of patients utilize CPAP for 4 or more hours a night (Kribbs, Pack, Kline, Smith, et al., 1993). Common reasons for discontinuing CPAP include mask discomfort, nasal dryness, as well as psychological factors such as claustrophobia. Previous research suggests that brief CBT interventions result in increased patient acceptance and adherence to CPAP (Richards et al., 1997).

To address compliance issues, GASP (Getting Adjusted to Sleep Apnea Program), a multi-disciplinary group intervention co-led by a psychologist, sleep physician, and sleep technologist, was developed. Participants attended one 90 minute group session that included education about the consequences of OSA and effectiveness of CPAP, relaxation techniques, and cognitive restructuring related to negative thoughts about CPAP. Participants were able to meet individually with the sleep technologist to address any CPAP mask/equipment issues such as mask discomfort. The current study examines patient response and acceptance of this multi-disciplinary group intervention for CPAP compliance.

Thirteen patients completed the single group GASP session. Average patient satisfaction was 4.38 on a scale of 1 (Very Dissatisfied) to 5 (Very Satisfied). Written comments were collected after the group session, with all of the patients reporting positive experiences. Due to the positive response that has been expressed by patients, the GASP group sessions will continue to be offered on a monthly basis. Future research will explore the impact of this brief CBT intervention on adherence to CPAP.

CORRESPONDING AUTHOR: Michelle Drerup, PsyD, Neurology, Cleveland Clinic, Cleveland, OH, 44195; drerupm@ccf.org

C-197

SLEEP MISPERCEPTION IN OLDER ADULTS

Pamela Dubyak, MS,[1] Christina McCrae, PhD[1] and Meredeth Rowe, PhD[2]

[1]Clinical and Health Psychology, University of Florida, Gainesville, FL and [2]College of Nursing, University of Florida, Gainesville, FL.

This study examined sleep misperception-the discrepancy between subjective total wake time (TWTs) and objective total wake time (TWTo)-in older adult dementia caregivers and noncaregivers. Both caregivers (n=31; M=70.48 years, SD=7.55) and non-caregivers (n=103; M=72.90 years, SD=6.86) completed 1 week of actigraphy and sleep diaries. Participants were defined as either "good sleepers" or "poor sleepers." "Poor sleepers" were based on sleep diary reports of 3+ nights of 31+ minutes of sleep onset latency or wake time after sleep onset. Due to the small number of good sleeping caregivers (n=4), they were excluded from further analyses. Sleep variables analyzed included: TWTs, TWTo, and sleep misperception, which was defined as [(TWTs-TWTo)/TWTo*100]. Wilcoxon Signed-Rank tests conducted for each group revealed significant differences between TWTs and TWTo for both good sleeping noncaregivers ($p<0.001$) and poor sleeping noncaregivers ($p<0.001$), and a trend for poor sleeping caregivers' ($p=0.06$). Chi-square analyses revealed group differences in the proportion of misperceivers with 100% of poor sleeping noncaregivers misperceiving compared to 55.90% of good sleeping noncaregivers and 50% of poor sleeping caregivers. The Kruskal-Wallis test revealed significant between group differences in misperception. Specifically, poor sleeping noncaregivers exhibited more sleep misperception than both good sleeping noncaregivers ($p<0.001$) and poor sleeping caregivers ($p<0.001$). Good sleeping noncaregivers and poor sleeping caregivers did not differ ($p>0.05$). These results suggest that caregiving duties may aid individuals in accurately estimating TWT. One possible explanation is that compared to noncaregivers, caregivers may experience more scheduled awakenings to provide care, which may provide concrete time anchoring which facilitates accurate time estimation. Future research examining the effects of tailoring insomnia treatments to caregivers' specific needs is warranted.

CORRESPONDING AUTHOR: Pamela Dubyak, MS, Clinical and Health Psychology, University of Florida, Gainesville, FL, 32608; pameladubyak@gmail.com

C-199

VARIATION IN TOBACCO CONTROL IN DENTAL PBRN PRACTICES: WHAT MATTERS MOST?

Midge N. Ray, RN, MSN, Joshua S. Richman, MD, PhD, Gregg H. Gilbert, DDS, MBA, Jeroan J. Allison, MD, MS Epi, Catarina I. Kiefe, PhD, MD, Heather L. Coley, MPH, Jessica H. Williams, MPH and Thomas K. Houston, MD, MPH

UAB, Birmingham, AL.

BACKGROUND: We assessed variations in tobacco screening and advice in dental practices across five states.

METHODS: Practices (N=190) in the Dental Practice-Based Research Network (www.DentalPBRN.org) distributed exit cards (brief patient surveys completed immediately after the dental visit) to 100 consecutive patients. On the cards, we asked whether patients were asked about tobacco use (ASK) and, among tobacco users, whether they were advised to quit (ADVISE). Multilevel models assesssed the association of ASK and ADVISE, with practice case-mix (percent of patients who were: minorities, smokers, and had public assistance insurance); and practice characteristics (patient volume, number of hygienists, location (rural/urban), and a score of the overall number of non-tobacco preventive services) adjusted for patient age, gender and cluster-adjusted using the SAS GLIMMIX procedure.

RESULTS: Of 19,000 cards, 15,639 (82%)were completed, with 60% female, mean age 48(SD 15), and 20% smokers. Overall, 29% reported being ASKED at that visit. Of the 3,097 smokers, 43% were ADVISED. Adjusted for patient age, gender, patient volume, and practice characteristics, ASK was positively associated with both higher pct. minority (odds ratio 1.5 (1.1–2.5) per tertile) and higher pct. public assistance (OR 1.6 (1.1–2.6)). Pct smokers was positively correlated with pct. minority (0.28, $p=0.01$) and pct. public assistance (0.22, $p=0.01$). When added to the model, pct. smokers was significantly associated with ASK (OR 1.4 (1.2–1.5) per 10% increase), but minority and public assistance were no longer significant. In this model, preventive services were positively associated with ASK (OR 1.4 (1.2–1.7) per increase in preventive services). The pattern of associations was the same for ADVISE.

CONCLUSIONS: Patient case-mix and number of preventive service were more strongly associated than other practice characteristics in predicting ASK and ADVISE. The association of minority and public assistance with the outcomes was mediated by percent smokers. NIH Support: DA-17971, DE-16746, DE-16747.

CORRESPONDING AUTHOR: Heather Coley, MPH, UAB, Birmingham, AL, 35205; coleyhl@uab.edu

C-200

MODERATE INTENSITY EXERCISE AS AN ADJUNCT TO STANDARD SMOKING CESSATION TREATMENT FOR WOMEN: A PILOT STUDY

David Williams, PhD,[1] Jessica Whiteley, PhD,[2] Ernestine Jennings, PhD,[1] Anna Albrecht, MS, RN,[1] Michael Ussher, PhD,[3] Shira Dunsiger, MA,[1] Joseph Ciccolo, PhD,[1] Alfred Parisi, MD,[1] Steven Blair, PED[4] and Bess Marcus, PhD[1]

[1]Alpert Medical School & The Miriam Hospital, Providence, RI; [2]University of Massachusetts, Boston, MA; [3]University of London, London, United Kingdom and [4]University of South Carolina, Columbia, SC.

Moderate intensity exercise may enhance standard smoking cessation treatment for women by improving mood and attenuating weight concerns. Previous large-scale intervention trials have not found significant effects; however, adherence to exercise programs has been poor. The purpose of this study was to pilot research methods to increase program compliance and thus enhance internal validity. Sixty previously sedentary, healthy, adult female smokers (70% non-Hispanic White, mean (SD) age =42.4 (11.5)) were randomly assigned to an 8-week program consisting of brief baseline counseling and the nicotine patch plus either 150 min/week of moderate intensity exercise or a wellness contact control. To increase compliance with the treatment program, we used: (1) a two-week run-in period prior to randomization; (2) behavioral contracting; and (3) incentives for compliance with the exercise/ wellness sessions. Additionally, in order to increase internal validity, all exercise/ wellness sessions were conducted on-site. Retention at 8-week post-treatment was 96.7%, and 70% and 80% of the thrice weekly exercise/wellness sessions were attended, respectively. ITT outcome trends at post-treatment indicated that exercise participants had greater rates of CO-confirmed 7-day point prevalence abstinence (48.3% vs 23.3%; Or=3.07, 95% CI: 0.89, 11.07) and CO-confirmed prolonged abstinence (34.5% vs. 20.0%; Or=2.11, 95% CI: 0.56, 8.32). The methods used in this pilot study successfully increased compliance and internal validity. The findings suggest that, given adequate compliance, moderate intensity exercise may enhance standard smoking cessation treatments for women. A larger trial with adequate statistical power and long-term follow-up is warranted. If efficacy is established, additional research would be needed to enhance disseminability of the moderate intensity exercise program.

CORRESPONDING AUTHOR: David Williams, PhD, Centers for Behavioral and Preventive Medicine, Alpert Medical School of Brown University and The Miriam Hospital, Providence, RI, 02903; dwilliams2@lifespan.org

C-201

HEALTHCARE PROVIDER TOBACCO CESSATION COUNSELING AMONG CURRENT AFRICAN AMERICAN SMOKERS

Richard C. Palmer, DrPH

Robert Stempel School of Public Health, Florida International University, Miami, FL.

African American men and women experience disproportionate incidence and death rates from cancers associated with tobacco use. Although the prevalence rates of tobacco use and smoking has declined among African Americans over the past decade, rates of quitting among African Americans are lower than any other racial group. The primary aim of this study was to investigate if African American smokers were receiving tobacco cessation counseling by healthcare providers. A random digit-dial survey was conducted in the fall of 2006 with African Americans living in Maryland. Two hundred and forty-five African American men and women who were current smokers were interviewed (62% response rate). Study participants were asked questions about their smoking behavior, intentions to quit, receiving healthcare provider advice/intervention, and demographic questions. Only 42% of respondents reported being ever advised to quit by a healthcare provider while only 18% of respondents were advised at their last healthcare appointment to quit. Findings indicate that respondents who lived in urban areas as compared to rural areas ($p \leq .01$) were more likely to receive counseling advice to quit. Respondents who sought healthcare at multi-provider clinics were more likely to receive cessation advice ($p \leq .01$). Findings from this study reveal that healthcare provider advice/intervention is low and may contribute to the low rates of quitting among African Americans. Interventions aimed at increasing tobacco cessation counseling by healthcare providers who practice in rural settings or independently may be warranted.

CORRESPONDING AUTHOR: Richard C. Palmer, DrPH, Robert Stempel School of Public Health, Florida International University, Miami, FL, Fl; richard.palmer@fiu.edu

C-202

PRELIMINARY RESULTS OF AN INTERNET-BASED SMOKING CESSATION INTERVENTION FOR PREGNANT WOMEN

Sarah E. McQueary, MS,[1,3] Maria Hy, BS,[2] Emily Howell, high school,[3] Conrad Wong, PhD,[3] Catherine Martin, MD[2] and Jesse Dallery, PhD[4]

[1]Psychology, University of Kentucky, Lexington, KY; [2]College of Medicine, University of Kentucky, Lexington, KY; [3]Behavioral Sciences, University of Kentucky, Lexington, KY and [4]Psychology, University of Florida, Gainesville, FL.

Tobacco use remains a major public health problem in Kentucky among pregnant women. Smoking cessation interventions for pregnant smokers are only modestly effective, which suggests the need for therapies that are more intensive and accessible. A novel Internet-based contingency management intervention was recently developed wherein smokers are regularly monitored and reinforced for abstinence. Using a within-subject reversal design, the present study evaluated an Internet-based contingency management intervention that used money to reinforce a CO level of < 4 p.p.m. Pregnant smokers made twice daily video recordings of themselves providing a breath CO sample with a web camera. Participants received immediate feedback and reinforcement regarding their smoking status and monetary incentive for smoking reduction/cessation over a six week period. The study included two (first and last week) baseline conditions which provided incentives regardless of smoking status. Each woman showed a reduction in smoking and attempts at abstinence at the return to baseline (M Δ=70% in CO samples < 4 p.p.m.). Although the outcomes for completed participants were clinically desirable, recruitment and retention was difficult because of the transitory and unmotivated nature of the population. The greatest attrition occurred after initial intake due to loss of contact with the participant (e.g., phone disconnection or change of address without notice). However, 2 out of the 4 women who began the intervention completed the study and provided 65 out of a possible 70 CO samples (93%)—demonstrating good compliance. These results suggest that this method has potential for effectively promoting smoking cessation in a population of high risk pregnant women. This pilot study warrants further investigation in a larger study and exploration of ways to effectively recruit and retain members of complex populations.

CORRESPONDING AUTHOR: Sarah E. McQueary, MS, Psychology, University of Kentucky, Lexington, KY, 40517; semcqu3@uky.edu

C-203

THE COMPUTER ASSISTED AND BRIEF INTERVENTION FOR TOBACCO (CABIT): DEVELOPMENT, INITIAL TESTING, AND END-USER SATISFACTION

Edwin D. Boudreaux, PhD,[1,2] Kristyna Bedek, MA,[1] Nelson Byrne, PhD,[1] Victoria Barry, MA,[1] Sherrill A. Lord, PsyD[3] and Grant Grissom, PhD[3]

[1]Emergency Medicine, UMDNJ-Robert Wood Johnson Medical School and Cooper University Hospital, Camden, NJ; [2]Psychiatry, UMDNJ-Robert Wood Johnson Medical School and Cooper University Hospital, Camden, NJ and [3]Polaris Health Directions, Inc., Fairless Hills, PA.

Background: We describe the development of the Computer Assisted and Brief Intervention for Tobacco (CABIT) and the initial testing in an urban Emergency Department (ED). The CABIT is a self-administered, computerized assessment of tobacco use and factors related to cessation, combined with a stage-matched video. It produces a Healthcare Provider Report and a personalized Patient Feedback Report. Respondents are offered the option of a dynamic referral, which is an automated, faxed referral to a "best matched" tobacco treatment provider.

Methods: Patients and healthcare providers rated their satisfaction across a variety of domains using a 5-point scale (1=Very Poor to 5=Excellent). Sample items include: item understandability; assessment and video length; and, report usefulness. Providers were asked whether the summary report added important information to their clinical assessment, and whether the CABIT-generated referrals would have been given during the course of routine clinical care.

Results: Of the 64 participants enrolled, 21(33%) chose to receive a dynamic referral. Mean patient satisfaction scores for all domains ranged from 4.00 (Good) to 5.00 (Excellent), except assessment length and video length (Mean=3.90). For 49 (77%) participants, physicians stated that the report contained important information that had not been assessed during their routine evaluation, and 33 (52%) participants received referral and educational materials that they likely would not have received under standard care.

Conclusions: The CABIT provides a user-friendly, desirable service for patients who use tobacco and their medical providers. It has the potential to improve identification of tobacco users in medical settings and to provide tobacco referrals and educational resources that would not routinely be provided.

CORRESPONDING AUTHOR: Kristyna Bedek, MA, La Salle University, Miami, FL, 33131; klbedek@yahoo.com

Meritorious Student Poster

C-204

CUE-INDUCED CIGARETTE AND FOOD CRAVING: A COMMON EFFECT?

Samara Lipsky, BBA,[1] Dana H. Bovbjerg, PhD[2] and Joel Erblich, PhD[3]

[1]Ferkauf Graduate School of Psychology, Bronx, NY; [2]University of Pittsburgh Cancer Institute, Pittsburgh, PA and [3]Mount Sinai School of Medicine, New York, NY.

Cigarette cue-induced craving has been postulated as an important factor in persistent smoking behavior. Cravings following exposure to cues have been observed across numerous addictive substances, as well as food, raising the possibility that a general tendency to react to motivationally-salient stimuli underlies the spectrum of appetitive disorders. In particular, studies in the preclinical literature have revealed common neural reactions to drug and food cues in both humans and animals, suggesting a link between cravings for cigarettes and food. To further explore this link, we tested the hypothesis that smokers who exhibit higher levels of smoking-cue-induced cigarette craving would also exhibit higher levels of food-cue-induced food craving. Smokers ($n=164$; Mean age=37.3 years, 37% African American, 30% Caucasian, 25% Hispanic, 18.0 cigarettes/day, FTND=5.4) were exposed to neutral (stapler), smoking (cigarette), and food (chocolate) cues, for 90s each, separated by two 3-minute rest periods. Self-reported cigarette and chocolate cravings (–100) were assessed before and after each exposure. Participants also completed the Situational Appetite Measures (SAM), which retrospectively assesses cue induced food craving in daily life by self-report. Results revealed that laboratory smoking and chocolate cues elicited significant elevations in cigarette and chocolate craving, respectively (p's$<$ 0.0001). Consistent with the hypothesis, significant associations between cue-induced cigarette cravings and cue-induced food cravings were observed. Higher levels of cue-induced cigarette cravings were associated with marked elevations in both laboratory cue-induced chocolate cravings and self-reported cue-induced food cravings in daily life ($0.0001 < p<0.01$). Findings provide further evidence for a common proclivity toward cue-induced craving for cigarettes and food, and may be especially important in understanding the role of cravings for food and sweets that has been associated with poorer cessation outcomes.

CORRESPONDING AUTHOR: Samara Lipsky, BBA, Ferkauf Graduate School of Psychology, Great Neck, NY, 11023; SamaraLipsky@alum.emory.edu

C-205

ADOLESCENT SMOKERS' SELF-LABELS AS INDICATORS OF MOTIVATION TO QUIT

Linda S. Houser-Marko, PhD, Robin Mermelstein, PhD and Susan J. Curry, PhD

Institute of Health Research & Policay, University of Illinois-Chicago, Chicago, IL.

This study examined the relationship between adolescent smokers' self-labeled smoking level and motivation to quit. We hypothesized that youth who described themselves as "regular" smokers would have higher motivation to quit than youth who viewed themselves as occasional smokers. Participants were 857 adolescents (50% female; 73% white; mean age=16.7 years) enrolled in community-based smoking cessation programs. Baseline surveys asked participants about their smoker identity (self-label) along with other smoking-related and psychosocial variables. 67% thought of themselves as a "regular smoker" and 23% thought of themselves as "someone who smokes once in a while." As expected, regular smokers reported more smoking each day (9 cigs/day vs 2.3 cigs/day, $t=13.59$, $p<.001$) as well as a greater number of days smoked in the past 30 days (27 days vs 12 days, $t=24.83$, $p<.01$). Likewise, regular smokers had higher scores on scales of nicotine dependence (3.0 versus 2.2, $t= 15.67$, $p<.01$) and perceived stress (9.9 versus 9.3, $t= 2.76$, $p<.01$). In a regression model predicting motivation to quit and controlling for smoking rate, dependence score, stress, and age, there was a significant interaction between age and smoker identity: for "regular smokers" as age increases, motivation to quit increases. For "once in a while" smokers, age did not influence level of motivation to quit. Dependence symptoms were also found to have a differential effect on motivation for "once in a while" smokers, in that a greater proportion of those with fewer dependence symptoms were highly motivated to quit. Future research and cessation interventions should take the combination of smoker identity, age, dependence symptoms and motivation to quit into consideration.

CORRESPONDING AUTHOR: Linda S. Houser-Marko, PhD, Institute for Health Research and Policy, University of Illinois-Chicago, Chicago, IL, 60608; lhmarko@uic.edu

C-206

MEDIATED, MODERATED AND DIRECT EFFECTS OF COUNTRY, AGE, AND GENDER ON THE COGNITIVE AND SOCIAL DETERMINANTS OF SMOKING AMONGST SPAINISH AND UK ADOLESCENTS: A CROSS-SECTIONAL STUDY

Wolfgang Markham, PhD,[1] Paul Aveyard, PhD,[2] Christopher Bridle, PhD[3] and Maria Luisa Lopez, MBChB[4]

[1]School of Health adn Social Studies, University of Warwick, Coventry, United Kingdom; [2]Department of Primary Care & General Practice, Univeirsty of Birmingham, Birmingham, United Kingdom; [3]Warwick Medical School, Univeirsty of Warwick, Coventry, United Kingdom and [4]Department of Preventive Medicine, University of Oviedo, Oviedo, Spain.

Background

European trans-national adolescent smoking prevention interventions based on social influences approaches have had limited success. This study aimed to assess the utility of the attitudes-social influences-efficacy (ASE) model, which is closely related to the Theory of Planned Behaviour, using cross-sectional data collected from Spanish and UK adolescents. According to the ASE model, smoking behaviour is determined by smoking intention, which in turn, is predicted by seven ASE determinants; disadvantages, advantages, social acceptance, social norms, modelling, perceived pressure, self-efficacy. Distal factors such as country of residence, age and gender are external to the model. The mediated, moderated and direct effects of country, age and gender on participants' smoking intentions were examinined.

Method

Questionnaires were simultaneously administered to Spanish ($n=3716$), and UK ($n=3715$) adolescents and participants' age, gender, smoking intentions and ASE determinant scores were identified. We used linear regression analysis to examine the mediated, moderated and independent influences of country of residence, age and gender on participants' smoking intentions:

Results

The distribution of ASE determinant scores varied by country and predicted intention. The influence of each ASE determinant on intention was moderated by country. Country had a large direct influence on intention (1.72 points on a 7 point scale) but the effects of age and gender were mediated by the ASE determinants.

Conclusions

The ASE model may not capture important cultural factors related to adolescent smoking. Future European trans-national adolescent smoking prevention programmes may benefit from greater awareness of these country-level cultural norms.

CORRESPONDING AUTHOR: Wolfgang Markham, PhD, University of Warwick, Coventry, CV4 7AL; Wolfgang.Markham@warwick.ac.uk

C-207

PHARMACOLOGICAL AND SOCIAL SMOKE EXPOSURE AS DIFFERENTIAL PREDICTORS OF SMOKING RISK IN NEVER-SMOKING YOUTH

Simon Racicot, MA and Jennifer J. McGrath, PhD, MPH

Psychology, Concordia University, Montreal, QC, Canada.

Studies investigating smoking risk among youth have typically focused on social smoke exposure via family members and peers. Recently, researchers found that secondhand smoke exposure measured with biomarkers among never-smokers uniquely predicted smoking behavior. Based on these findings, researchers posited a physiological pathway between secondhand smoke exposure and smoking behavior may exist. This study investigated whether social and pharmacological smoke exposure both uniquely contribute to greater smoking risk among never-smoking youth. Participants included 338 never-smokers (46% males; Mage=12.68, SD=.67). Participants completed self-report questionnaires measuring their own smoking behavior, social smoke exposure, and smoking risk factors (expectancies, smoking susceptibility, perceived nicotine dependence). Each participant also provided a saliva sample and an expired breath sample, from which cotinine and carbon monoxide biomarkers were derived, to objectively measure secondhand smoke exposure. Participants were categorized into quartiles based on the reported number of smokers (0 smoker, 1 smoker, 2 smokers, 3–9 smokers). Increased social smoke exposure was significantly associated with increased cotinine levels ($F(3, 334)=39.27$, $p<.01$), smoking susceptibility ($F(3, 334)=10.31$, $p<.01$), and perceived nicotine dependence ($F(3, 334)=9.08$, $p<.01$). However, when considered simultaneously, pharmacological and social smoke exposure did not uniquely predict smoking risk. This is likely explained by the extent of overlap between pharmacological and social smoke exposure ($r_{avg}=.34$) as well as the limited exposure to secondhand smoke reported by the sample. Results suggest biomarkers may be a good proxy for social smoke exposure. Future studies should include a more heterogeneous sample of participants with a broader range of secondhand smoke exposure (low, moderate, and high exposure).

CORRESPONDING AUTHOR: Simon Racicot, MA, Psychology, Concordia University, Montreal, QC, H4B 1R6; racicot.simon@gmail.com

C-209

PATTERNS OF PEER AND PARENTAL INFLUENCE AND THEIR ASSOCIATION WITH THE DEVELOPMENT OF BINGE DRINKING IN ADOLESCENCE

Steven C. Martino, PhD,[1] Phyllis L. Ellickson, PhD[2] and Daniel F. McCaffrey, PhD[1]

[1]RAND, Pittsburgh, PA and [2]RAND, Santa Monica, CA.

Binge drinking is a serious public health issue facing adolescents in the United States. In 2007, 10% of 8th graders, 22% of 10th graders, and 26% of 12th graders reported at least one episode of binge drinking (consuming 5+ drinks in a row) during the past two weeks. Binge drinking among adolescents has been linked to a range of problem behaviors, including dropping out of school, alcohol-impaired driving, illicit drug use, and sexual aggression. Frequent binge drinkers are also at increased risk for cognitive impairments and permanent brain damage.

Theory and research support the importance of peers and parents in the development of adolescent drinking. Few studies have examined the synergistic effects of peers and parents, however, and even fewer have considered how these influences may change during adolescence and how such change may influence the development of drinking.

Our study used growth mixture modeling to identify discrete developmental patterns of binge drinking, perceived parental disapproval of substance use, and association with peers who drink from early to late adolescence among a sample of 5591 youth. We examined associations among these trajectories to determine how the development of binge drinking relates to the development of perceived parental disapproval of substance use and association with peer drinkers, both separately and jointly.

We found that youth who perceived that their parents maintained consistently strong disapproval of substance use throughout adolescence were much more likely to abstain from binge drinking during this period than were youth who reported that their parents' disapproval for substance use either decreased or was maintain at only a moderate level. Furthermore, we found that across a variety of peer contexts—stable high association with drinking peers, stable low association, and increasing association—youth were at lowest risk for developing problematic patterns of binge drinking when they perceived that their parents maintained strong disapproval of substance use throughout adolescence.

CORRESPONDING AUTHOR: Steven C. Martino, PhD, Health, RAND, Pittsburgh, PA, 15213-2665; martino@rand.org

C-210

ACADEMIC ENABLERS: AN INVESTIGATION INTO THE COMPONENTS OF COLLEGE STUDENT SMOKING AND DRINKING

George B. Mitzner, BA and Khatidja S. Ali, MA

Psychology, University of Memphis, Memphis, TN.

Researchers from a variety of disciplines have long converged on the subject of college student health behaviors. Recent findings have illustrated an increase in problems related to alcohol consumption. In addition, the tobacco industry has continued to employ aggressive marketing tactics geared towards college students. Taken together, a focus on this population is warranted. The present review utilizes four frequently implicated constructs—demographics, psychosocial features, intrapersonal variables, and the university environment- to identify factors that protect or put at-risk today's college student.

This literature review is based on a total of 77 studies that examined the above-mentioned constructs' relation to cigarette and alcohol use. The studies were identified by conducting a thorough search of PsychoInfo, PsychArticles, and Medline using groupings of search terms, such as cigarette smoking, alcohol, college, risk factors, and peer groups. The search was limited to journal articles, books, and dissertation studies published in English. Though majority of results are drawn from cross sectional research, several conclusions from longitudinal studies were integrated.

As expected, protective factors such as self-efficacy and religiosity were shown to protect against both cigarette smoking and alcohol use. In addition, both of these factors predicted treatment success. Interestingly, risk factors for smoking and alcohol use were more varied. Temperamental characteristics, such as sensation seeking, impulsivity, and non-conformity have consistently been associated with binge drinking and alcohol problems. However, risk factors for smoking included mood and affective correlates. Students with low levels of life satisfaction were documented as being more vulnerable to nicotine dependence. These data suggest that in addition to designing substance-specific treatment programs, prevention efforts should likewise target protective factors.

CORRESPONDING AUTHOR: George B. Mitzner, BA, Psychology, University of Memphis, Memphis, TN, 38152; gmitzner@memphis.edu

C-211

WHO'S AT RISK?: THE INFLUENCE OF FAMILY HISTORY ON DRINKING PATTERNS IN A SAMPLE OF MANDATED STUDENTS

Jennifer C. Elliott, BS and Kate B. Carey, PhD

Psychology, Syracuse University, Syracuse, NY.

Introduction. A family history of alcoholism (FHA) is associated with problem drinking among college students (e.g. Perkins & Berkowitz, 1991). The density model has also recently been applied to this population, and has shown that having more family members with alcoholism is associated with greater alcohol problems in college students (Capone & Wood, 2008). The present study explores the effects of FHA on college drinking in a group of mandated students (who had received sanctions for violating university alcohol policy). Method. A total of 703 mandated college students participated in a larger study on intervention efficacy. At baseline, participants reported on family history of alcoholism, as well as drinking behaviors, drinking problems, readiness to change drinking, and perceived pros and cons of drinking. Results. Students with any positive FHA showed more problematic drinking on nearly all drinking variables. Density (number of affected relatives) was associated with some outcomes (e.g. drinks per week, drinking-related problems) but not others (e.g. readiness to change, drinks in a heavy drinking week). Specific findings will be presented for the effects of FHA status of biological parents, siblings, grandparents, and aunts/uncles. Discussion. These results provide additional evidence for the influence of FHA on college drinking behaviors in an at-risk sample of students. The replication of previous relationships with students who have already violated campus drinking policies speaks to the generalizability of family history influences. The implications for targeted prevention efforts will be discussed.

CORRESPONDING AUTHOR: Jennifer C. Elliott, BS, Psychology, Syracuse University, Syracuse, NY, 13244; jcelliot@syr.edu

C-212

WHY WOULD I USE MARIJUANA?: A STUDY OF PROS AND CONS REPORTED BY MARIJUANA USERS AND ABSTAINERS

Jennifer C. Elliott, BS and Kate B. Carey, PhD

Psychology, Syracuse University, Syracuse, NY.

Introduction. Rates of marijuana use on college campuses are high, with an estimated 16.6% of young adults using the drug in the past month (SAMHSA, 2005). Marijuana use has been linked to a variety of physical and psychological side effects (NIDA, 2005) as well as impaired cognitive performance (Pope & Yurgelun-Todd, 1996). Given these consequences, why do some students choose to use, and others choose to abstain? These analyses aimed to address this question by summarizing the pros and cons of marijuana use that were most (and least) frequently endorsed by both marijuana users and abstainers. Method. As part of a larger scale development project, 182 college student participants rated how important certain pros and cons of marijuana use were to their decision to use or abstain. Only recent (past 30 day) users (N=78) and lifetime abstainers (N=57) were considered in these analyses. Results. Users and abstainers showed distinctive patterns in their frequencies of endorsement of pros and cons as "extremely important" and "not important." Marijuana users were likely to endorse pros as very important and cons as not important, with abstainers rating pros as not important and cons as very important. The most frequently endorsed "extremely important" and "not important" pros and cons also differed qualitatively, though there was some overlap. Discussion. These results suggest that marijuana users and abstainers attend to different information when deciding whether to use the drug. The patterns of use with pros and cons suggest that decisional balance may be a relevant framework in understanding marijuana use decisions.

CORRESPONDING AUTHOR: Jennifer C. Elliott, BS, Psychology, Syracuse University, Syracuse, NY, 13244; jcelliot@syr.edu

C-213

HEALTH-RISK BEHAVIORS AMONG EARLY ADOLESCENTS

Lynn Rew, EdD, RN, FAAN,[1] Rachel T. Fouladi, PhD[2] and Sharon D. Horner, PhD, RN[1]

[1]School of Nursing, The Univ. of Texas at Austin, Austin, TX and [2]Psychology, Simon Fraser University, Burnaby, BC, Canada.

Funding: R01-HD39554 from National Institute of Child Health and Human Development and National Institute of Nursing Research/National Institutes of Health.

Background: Injury from carrying a weapon or drinking alcohol is the leading cause of preventable death among adolescents. It is unknown which risk and protective factors in school-aged children predict these specific behaviors in early adolescents.

Purpose: Determine a) if weapon and alcohol use differ by gender or ethnicity; b) which set of risk and protective factors (grades 4–6) predict health-risk behaviors (grades 7–8).

Methods: Data collected annually for cohort sequential study from 1934 rural children using audio-computer-assisted self-interviewing (A-CASI) technology until children completed grade 8. Using valid scales, risk and protective factors were measured to predict drinking alcohol, drinking and driving, and weapon-carrying. Data were analyzed using restricted maximum likelihood estimation general linear mixed model analysis using compound symmetric structure to model the correlated structure between time-points.

Results: Males reported more frequent use of alcohol ($p=.033$) and carrying weapons to school ($p<.001$) than females. White, non-Hispanic youth were more likely than non-Hispanic Blacks or Hispanics to carry a gun ($p<.003$) or other weapon ($p<.001$). Each of the six health-risk behaviors was predicted by health behaviors, school engagement, stress, and social connectedness measured when participants were in grades 4–6. Both driving while drinking or riding with someone who had been drinking alcohol were also predicted by school competence ($p<.001$) and global self worth ($p=.001$).

Conclusions: Serious health-risk behaviors seen in early adolescents are clearly related to factors identified in school-age children, making educational interventions a priority at preadolescent ages.

CORRESPONDING AUTHOR: Lynn Rew, EdD, RN, FAAN, School of Nursing, The Univ. of Texas at Austin, Austin, TX, 78701; ellerew@mail.utexas.edu

C-215

THE IMPACT OF SOCIAL SUPPORT AND OPTIMISM AMONG ORGAN TRANSPLANT CANDIDATES AND THEIR CAREGIVERS

Susan Holtzman, PhD,[1,2] Susan E. Abbey, MD,[2] Lianne G. Singer, MD,[2] Heather J. Ross, MD[2] and Donna E. Stewart, MD[1]

[1]Women's Health Program, University Health Network, University of Toronto, Toronto, ON, Canada and [2]Multi Organ Transplant Program, University Health Network, Toronto, ON, Canada.

Background: Inadequate social support has been identified as a risk factor for poor patient outcomes, both pre and post organ transplantation. However, surprisingly little is known about the impact of different ways of providing support to patients, as well as the role of optimism in the transplant process. This study presents preliminary findings from a cross-sectional survey of the impact of support and optimism on stress, depression, and caregiver burden among transplant candidates and their caregivers. Method: 77 patients on the waitlist for an organ transplant (61 lung, 16 heart) and 65 of their informal caregivers completed a questionnaire regarding transplant-related stress, ways of providing support, optimism, depressive symptoms, and caregiver burden. Pearson correlations were conducted among study variables. Results: Based on participants' CESD-10 scores, 60% of patients and 35% of caregivers reported clinically significant depressive symptoms. Among caregivers who reported engaging in high levels of protective buffering (eg, "I try to hide my worries about him/her) and overprotectiveness (eg, "I continuously keep an eye on him/her"), patients reported greater depressive symptoms ($p=.01$, $p=.016$, respectively). Caregivers who reported engaging in higher levels of protective buffering and overprotectiveness also reported greater depressive symptoms ($p=.001$, $p=.026$) and caregiver burden ($p=.021$, $p=.002$). Patient optimism was associated with lower caregiver depressive symptoms ($p=.006$) and lower caregiver burden ($p=.001$). Patients whose caregivers were high in optimism perceived the transplant process as less stressful ($p=.039$). Conclusions: The ways in which caregivers provide support appears to have implications for both patient and caregiver well-being. Findings suggest the utility of interventions aimed at reducing overprotective and protective buffering responses. Optimism also appears to be an important resource in this population.

CORRESPONDING AUTHOR: Susan Holtzman, PhD, University Health Network, University of Toronto, Toronto, ON, M5G 2C4; sholtzma@uhnres.utoronto.ca

C-217

A LONGITUDINAL INVESTIGATION OF THE RELATIONSHIPS AMONGST AFFECT, STRESS, & ANTIBODY RESPONSE TO INFLUENZA INOCULATION IN THE ELDERLY

Joanne Hash-Converse, PhD and Howard Leventhal, PhD

Institute for Health, Rutgers, the State University of NJ, New Brunswick, NJ.

Expanding upon primarily cross-sectional studies, we examined both cross-sectional and longitudinal relationships amongst affect, stress, & antibody (Ab) response to influenza inoculation in healthy, elderly individuals, exploring both efferent (CNS on immune activity) & afferent (immune activity on CNS function) pathways. We posited that high State negative affect (SNA) but not Trait (TNA) would predict reduced Ab response & that positive affect (PA) would predict enhanced response; also, the reduced Ab response in individuals displaying high baseline SNA would subsequently associate with decreased SNA over time.

Residents of a retirement community ($N=152$; 97 F, 55 M; age $M=72.49$, $SD=6.32$) were inoculated with trivalent influenza vaccine, & Ab titer was assayed 2 weeks post-inoculation via hemagglutinin inhibition assay. As hypothesized, TNA did not predict Ab response. Surprisingly, multiple linear regression models showed high baseline SNA predicted enhanced Ab response, which predicted decreased NA, year- & strain-dependently. Longitudinally, robust initial Ab response followed by steady decreases was associated with combinations of no change in one dimension of NA & decreases in the other. Stress did not act as a moderator. High PA only showed transient associations with increased Ab response.

High levels of initial SNA predicted enhanced, not impaired, immunity, which suggests that instead of an aberrant affective state, high initial SNA likely indicates enhanced arousal that returns to lower levels after threat ceases. This study sheds light on how varying temporal & antigenic variables may elicit differences in the complex relationship between mental health and immunity. It appears that individuals with high initial SNA, likely reflecting enhanced arousal, may be protected against immunosenescence. This study adds considerably to the body of work exploring the dynamic interplay between emotion, experience, aging, & physiological response to benign immune challenge.

CORRESPONDING AUTHOR: Joanne Hash-Converse, PhD, Institute for Health, Rutgers, the State University of NJ, New Brunswick, NJ, 08901; jhash-converse@ifh.rutgers.edu

Saturday
April 25, 2009

Seminar #19 8:15 AM-9:45 AM 4001

BIOBEHAVIORAL MECHANISMS IN CANCER PREVENTION AND CONTROL

Nancy E. Avis, PhD,[1] Susan K. Lutgendorf, PhD,[2] Michael H. Antoni, PhD,[3] Sandra E. Sephton, PhD[4] and Paige G. McDonald, PhD[5]

[1]Department of Social Sciences and Health Policy, Wake Forest University School of Medicine, Winston-Salem, NC; [2]Department of Psychology, University of Iowa, Iowa City, IA; [3]Department of Psychology, University of Miami, Miami, FL; [4]Department of Psychology and Brown Cancer Center, University of Louisville, Louisville, KY and [5]Basic and Biobehavioral Research Branch, National Cancer Institute, Bethesda, MD.

In the era of transdisciplinary research, behavioral scientists are increasingly seeking to incorporate mechanisms that explain relationships between psychological processes or behavior and cancer-related outcomes in their research. In 2002, the National Cancer Institute launched the Biological Mechanisms of Psychosocial Effects on Disease (BiMPED) initiative to elucidate biological and molecular mechanisms associated with influences on cancer progression. This initiative encourages transdisciplinary research that bridges basic cancer biology and biobehavioral science. For many behavioral scientists, understanding these biological mechanisms involves entering new territory. The purpose of this symposium is to have leaders in this field present their latest research findings to describe their approach to research from developing appropriate models to identifying measures and collaborating with basic scientists. Dr.Lutgendorf will discuss pathways by which psychosocial factors may be related to cancer progression and present data on how changes in cellular immunity, angiogenic factors and tumor gene expression parallel levels of stress and depression. Dr.Antoni will present a stress management paradigm to illuminate biobehavioral processes for cancer research and data on the impact of a cognitive behavioral stress management program on alteration in physiological adaptation indicators (cortisol and cellular immunity) among cancer patients. Dr. Sephton will present a model of circadian disruption as a pathway of biobehavioral effect on cancer progression. Dr.McDonald will conclude with a discussion of these presentations and an overview of NCI research priorities in this area along with some of the challenges for behavioral scientists seeking to develop collaborations with basic scientists.

CORRESPONDING AUTHOR: Nancy E. Avis, PhD, Social Sciences and Health Policy, Wake Forest University School of Medicine, Winston-Salem, NC, 27157; navis@wfubmc.edu

Symposium #19A 4002

BIOBEHAVIORAL MECHANISMS AND CANCER PROGRESSION

Susan K. Lutgendorf, PhD

[1]Psychology, University of Iowa, Iowa City, IA and [2]Holden Comprehensive Cancer Center, University of Iowa, Iowa City, IA.

Epidemiologic studies have reported associations between biobehavioral factors such as chronic stress, depression, low social support and cancer incidence, progression, and mortality. Recent findings have demonstrated multiple pathways by which stress supports tumor progression. In vitro and animal studies have demonstrated that stress factors increase tumor invasiveness and angiogenesis. Moreover, stress factors impair aspects of the immune response relevant for tumor surveillance. Clinical studies show changes in cellular immunity, angiogenic factors, and tumor gene expression that parallel levels of stress and depression. For example, among women with ovarian cancer, we have observed that those with higher levels of depression have poorer natural killer (NK) cell activity in tumor infiltrating lymphocytes (TIL) and poorer production of TH1 cytokines. They also have higher levels of the pro-inflammatory and pro-tumorigenic cytokine interleukin-6 (IL-6) both in peripheral blood and in malignant ascites. Depression is also related to production of molecules in the tumor microenvironment that support tumor invasiveness. Poorer social support is associated with lower NK cell activity both in peripheral blood and in TIL, higher IL-6 in peripheral blood and in ascites, and with higher plasma and tumor levels of a cytokine (VEGF) supporting tumor angiogenesis. Higher levels of biobehavioral risk are related to greater expression of transcriptional factors related to inflammation and tumor proliferation. This talk will synthesize clinical findings with those from pre-clinical research and will present our current understanding of pathways underlying stress-related neuroendocrine involvement in tumor growth.

CORRESPONDING AUTHOR: Nancy E. Avis, PhD, Social Sciences and Health Policy, Wake Forest University School of Medicine, Winston-Salem, NC, 27157; navis@wfubmc.edu

Symposium #19B 4003

STRESS MANAGEMENT, BIOBEHAVIORAL PROCESSES IN CANCER

Michael H. Antoni, PhD

Department of Psychology, University of Miami, Coral Gables, FL.

We use a stress management paradigm to illuminate biobehavioral processes that may be relevant for cancer research. This paradigm uses cognitive behavioral stress management (CBSM) (relaxation, cognitive restructuring, coping skills, and interpersonal skills training in a supportive group). We first demonstrate that perceived life stress predicts heightened risk for the promotion of cervical neoplasia in women at risk for cervical cancer, while CBSM appears to decrease both perceived life stress and cervical neoplasia risk. Another set of studies focuses on patients recently diagnosed with breast cancer in the initial stage of treatment. We demonstrate that pessimism, poor coping strategies and decreased social support may contribute to poorer psychosocial adaptation (distress, quality of life) to cancer treatment, while CBSM administered shortly after surgery appears to improve psychosocial adaptation across the period of adjuvant therapy in parallel with alterations in physiological adaptation indicators (decreased cortisol and increased cellular immunity) that may have health implications. In a final set of studies CBSM was shown to improve psychosocial and physiological adaptation in patients with breast cancer who had completed their adjuvant therapies up to one year ago. Mediational analyses show that some of these intervention effects can be explained by changes in CBSM-specific and non-CBSM-specific processes. Dismantling research is underway to better understand the optimal form and length of these interventions. We conclude that a stress management paradigm can be used to demonstrate parallel reductions in perceived stress and the risk of developing neoplastic changes in a cancer-risk population, and to demonstrate parallel changes in psychological and physiological adaptation indicators during and after medical treatment for cancer. Establishing that biobehavioral processes modulated during stress management have persisting and clinically meaningful effects on quality of life and health outcomes requires longer-term follow-up.

CORRESPONDING AUTHOR: Nancy E. Avis, PhD, Social Sciences and Health Policy, Wake Forest University School of Medicine, Winston-Salem, NC, 27157; navis@wfubmc.edu

Symposium #19C 4004

CIRCADIAN BIOLOGY AND CANCER PROGRESSION

Sandra E. Sephton, PhD

[1]Department of Psychological and Brain Sciences, University of Louisville, Louisville, KY and [2]J.G. Brown Cancer Center, University of Louisville, Louisville, KY.

Human biology is deeply integrated with the earth's rotation: Healthy physiology is synchronized with circadian cycles, while unhealthy states are often marked by poor circadian coordination. In certain cancers, striking dysregulation of circadian rhythms extends to endocrine, immune, metabolic and cellular function. Circadian disruption can result from biological or behavioral influences, and has been linked with higher incidence and faster tumor progression in humans and animals. The hypothalamic SCN coordinates circadian events at the tissue and cellular level partly via glucocortcoid rhythms. Stress-responsive glucocortcoid hormones such as cortisol regulate genes involved in tumor growth, cell proliferation, apoptosis, immune cell trafficking and cytotoxicity. Since we discovered that flattening of the cortisol rhythm was prognostic for early breast cancer mortality, our laboratory has been investigating a model of circadian disruption as a pathway of biobehavioral effects on cancer progression. Our recent findings support this model. Among pre-surgical breast cancer patients we have observed links between psychological distress, sleep-wake disruption, and diurnal cortisol rhythm disruption. We replicated the finding that flattened diurnal cortisol rhythm predicts early cancer mortality, this time among patients with lung cancer. Recent studies from colleagues suggest that down-regulation of clock gene expression, which may be biologically or behaviorally mediated, accelerates tumor cell growth by altering the daily growth rhythms of tumor cells. This presentation will integrate these findings with new data from clinical, systemic, cellular and molecular research that suggests the circadian clock functions as a tumor suppressor. Methodologies, challenges, and clinical implications of this new area of research will be discussed.

CORRESPONDING AUTHOR: Nancy E. Avis, PhD, Social Sciences and Health Policy, Wake Forest University School of Medicine, Winston-Salem, NC, 27157; navis@wfubmc.edu

Symposium #20 8:15 AM -9:45 AM 4005

CASE STUDIES IN TEACHING EVIDENCE-BASED BEHAVIORAL PRACTICE ACROSS HEALTH DISCIPLINES

Bonnie Spring, PhD,[1] Jason Satterfield, PhD,[2] Robin Newhouse, PhD, RN[4] and Ross Brownson, PhD[3]

[1]Preventive Medicine, Northwestern University, Chicago, IL; [2]Behavioral Medicine, U.C. San Francisco, San Francisco, CA; [3]Social Work, Washington University, St. Louis, MO and [4]School of Nursing, University of Maryland, Baltimore, MD.

All major health professions now endorse the principles of evidence-based practice. But only recently have the concepts and methods of evidence-based practice been applied to behavioral medicine. Educators can promote best behavioral medicine practices by training their students to perform translation of evidence to practice, and to conduct new research that addresses key practice-based questions. However, educators face new challenges in trying to determine how to teach the evidence-based behavioral practice (EBBP) process. Delineation of effective teaching methods is complicated by the fact that behavioral practice is performed at all levels of the ecological model and by diverse professional groups. The NIH Office of Behavioral and Social Sciences Research (OBSSR) funded a five-year contract [N01-LM-6-3512] to support the development and dissemination of resources for training in EBBP. Researchers/practitioners in medicine, nursing, public health, psychology, social work, and information sciences have worked together to harmonize an approach and competencies in EBBP across health disciplines and levels of the ecological model. An initial set of training modules (on search strategies, systematic reviews, and the EBBP process) were released on line at www.ebbp.org in fall 2008. Presenters will describe lessons learned by using the training modules to teach EBBP to medical students (Dr. Satterfield), nurses (Dr. Newhouse), and health educators (Dr. Brownson). Audience input will be sought on the development of forthcoming teaching modules (on critical appraisal and decision making).

CORRESPONDING AUTHOR: Bonnie Spring, PhD, Preventive Medicine, Northwestern University, Chicago, IL, 60610; bspring@northwestern.edu

Symposium #20A 4006

TRANS-DISCIPLINARY EBBP TRAINING IN THE NURSING CURRICULUM

Robin Newhouse, PhD, RN

School of Nursing, University of Maryland, Baltimore, MD.

Better behavioral health outcomes can be achieved when the patient and trans-disciplinary health care team work together to achieve evidenced-based patient-centered care, with common treatment plans and goals. This trans-disciplinary approach requires a fundamental change in the clinical arena as well as in the education of health care providers. Academic and continuing education forums need to focus on building knowledge, skills and attitudes to foster trans-disciplinary approaches to patient care. Registered Nurses (RN) and Advanced Practice Registered Nurses (Nurse Practitioners and Clinical Specialists) have significant roles on the behavioral health team in both inpatient and outpatient settings. As with other disciplines, evidence based practice (EBP) is central to nursing, and is threaded throughout undergraduate and graduate education. Although the basic process for EBP is common among professions, educational experiences focus on discipline specific approaches. Curriculum revisions should include trans-disciplinary competencies that foster exchange of best practice evidence across professional boundaries. The EBBP website provides a variety of resources that can be used in classroom or on-line courses to introduce students to trans-disciplinary EBP activities, issues and perspectives.

CORRESPONDING AUTHOR: Bonnie Spring, PhD, Preventive Medicine, Northwestern University, Chicago, IL, 60610; bspring@northwestern.edu

Symposium #20B 4007

TEACHING EVIDENCE-BASED BEHAVIORAL PRACTICE TO PUBLIC HEALTH PRACTITIONERS

Ross C. Brownson, PhD

George Warren Brown School of Social Work, and School of Medicine, Washington Univeristy in St. Louis, St. Louis, MO.

The principles of evidence-based public health (EBPH) are increasingly being applied in public health settings. A challenge in applying these methods is that most public health practitioners have no formal training in key disciplines such as epidemiology, biostatistics, and health education. Key components of EBPH include: making decisions based on the best available scientific evidence, using data and information systems systematically, applying program planning frameworks, engaging the community in decision making, conducting sound evaluation, and disseminating what is learned. An ongoing national training program in EBPH seeks to speed up the use of evidence in decision making by training practitioners in methods for finding, using, and evaluating interventions. This presentation will describe the evolution of training in EBPH, differences between clinical and population-level approaches, and lessons learned from 10-year's experience in EBPH training programs. At this crucial period in public health practice, it is particularly important that we incorporate elements of EBPH in public health curricula and in on-the-job training programs for practitioners.

CORRESPONDING AUTHOR: Bonnie Spring, PhD, Preventive Medicine, Northwestern University, Chicago, IL, 60610; bspring@northwestern.edu

Symposium #20C 4008

TEACHING EVIDENCE-BASED BEHAVIORAL PRACTICE TO MEDICAL STUDENTS

Jason Satterfield, PhD

School of Medicine, University of California San Francisco, San Francisco, CA.

Although evidence-based medicine (EBM) is now a required part of every medical school curriculum, evidence-based behavioral practice has not yet been systematically taught at any level of physician training. EBM curricula tend to be dominated by the science of diagnostics and biomedical-clinical decision making. Moreover, little attention is given to the broader array of research methods and patient or contextual variables more prominently used in evidence-based practice in other health disciplines. A review of current EBM content and pedagogy for medical students will be presented to highlight basic foundations and opportunities for additional EBBP training and integration. A sample teaching format and structure for second and third year students are offered along with initial student ratings data. Commonly encountered teaching obstacles and opportunities are discussed. Potential synergies between EBM and EBBP are suggested along with future applications for medical residents and practicing physicians.

CORRESPONDING AUTHOR: Bonnie Spring, PhD, Preventive Medicine, Northwestern University, Chicago, IL, 60610; bspring@northwestern.edu

Saturday
April 25, 2009
8:30 AM-10:00 AM

Poster Session D 8:30 AM-10:00 AM D-01

EFFICACY OF LEVELS OF SCREENING FOR DISTRESS AND REFERRAL TO PSYCHOSOCIAL RESOURCES IN NEWLY DIAGNOSED BREAST AND LUNG CANCER OUTPATIENTS: PRELIMINARY RESULTS OF A RANDOMIZED CONTROLLED TRIAL

Linda E. Carlson, PhD, Psych,[1,2] Shannon L. Groff, BSc Psych,[1] Olga A. Maciejewski, BSc Psych[1] and Barry D. Bultz, PhD, R Psych[1,2]

[1]Department of Psychosocial Resources, Tom Baker Cancer Centre, Calgary, AB, Canada and [2]Department of Oncology, Faculty of Medicine, University of Calgary, Calgary, AB, Canada.

Since 2006, the Distress Screening program at the Tom Baker Cancer Centre used computerized online screening to assess and triage all newly diagnosed lung and breast cancer patients to appropriate resources. Tools included were the Distress Thermometer (DT), fatigue and pain thermometers, the common problem checklist, and the Psychological Scan for Cancer (PSSCAN). A three-armed randomized controlled trial design was used. Conditions were: 1) Minimal screening; 2) Full screening or 3) Full screening plus personalized triage. Patients were re-assessed 3 months post-screening for subsequent distress and awareness and usage of psychosocial resources. Overall 1282 patients (615 lung and 667 breast) were screened and 1081 re-assessed at follow-up (~10% were deceased). A total of 48.4% and 62.4% of the breast and lung cancer patients, respectively, scored over the identified cutoff for significant distress on the DT at baseline. The most commonly identified problems were fatigue, sleep difficulties, worry about family and friends, and pain. There were no significant group differences in distress at the 3-month follow-up based on triage level - patients in all three groups had lower distress at time two. Within the breast patients only, distress decreased significantly more in the full screening and full screening plus triage groups compared to minimal screening. Across groups, those patients who received referrals to psychosocial services had greater decreases in depression and anxiety at follow-up than those who did not receive referrals. Levels of awareness of available resources were higher compared to an earlier study in the same centre. These preliminary results suggest that screening combined with appropriate referral to psychosocial resources may be effective in reducing distress, anxiety and depression in newly diagnosed breast and lung cancer patients.

CORRESPONDING AUTHOR: Shannon L. Groff, Bachelor's of Science in Psychology, Psychosocial Resources, Alberta Cancer Board, Calgary, AB, T2S 3C1; shannong@cancerboard.ab.ca

D-02

COGNITIVE-BEHAVIORAL STRESS MANAGEMENT AND SUPPORTIVE-EXPRESSIVE GROUP PSYCHOTHERAPY: TREATMENT- AND GROUP-EFFECTS IN A MIXED CANCER SAMPLE

Kevin M. McKay, PhD,[1] Zac E. Imel, MA,[2] Teresa E. Woods, PhD[2] and William T. Hoyt, PhD[2]

[1]Behavioral Medicine, The Miriam Hospital, Providence, RI and [2]University of Wisconsin - Madison, Madison, WI.

Empirical evidence can be interpreted as supporting a contextual model of psychosocial oncology. The current study examined treatment-effects, group-effects, and the relative importance thereof. Secondary analyses examined whether patient variables moderate the relationship between treatment-modality and treatment-outcome and whether therapeutic-factors mediate the relationship between group-effects and treatment-outcome. Seventy-eight oncology patients (37 "Completers") with varying diagnoses along the disease continuum were randomly assigned to receive either Cognitive-Behavioral Stress Management (CBSM; Antoni, 2003) or Supportive-Expressive Group Therapy (SEGT; Spiegel & Classen, 2000). There were a total of 12 groups (5 CBSM, 7 SEGT). Quality of life was assessed both pre- and post-treatment. Patients' attitudes and interpersonal needs (i.e. "patient variables") were also assessed pre-treatment. Group process measures (i.e. "therapeutic factors") were collected at sessions 3, 6, and 9. These data were analyzed using hierarchical linear models (Raudenbush & Bryk, 2002), thereby responding to the concerns outlined by Baldwin, et al (2005). Significant treatment-effects were not revealed (p's ranging from .11 to .40) nor were significant group-effects ($p > .50$ in each instance). The proportion of variance in outcomes due to treatment-effects favored SEGT over CBSM (R^2 ranging from 5.49% to 11.41%) and were greater than the proportion of variance due to group-effects (ρI ranging from 0.03% to 0.09%). Patient variables did not moderate the relationship between treatment-modality and treatment-outcome (p's ranging from .45 to .89) and therapeutic-factors did not mediate the relationship between group-effects and treatment outcome ($p=.38$). We will outline theoretical and practical implications, an overview of the conceptual and methodological limitations, and directions for future research.

CORRESPONDING AUTHOR: Kevin M. McKay, PhD, Behavioral Medicine, The Miriam Hospital, Providence, RI, 02903; kmckay@life span.org

D-03

AN INVESTIGATION OF THERAPEUTIC PROCESS IN FAMILY FOCUSED GRIEF THERAPY

Talia I. Zaider, PhD

Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY.

The benefits of supportive psychotherapies for families coping with cancer have been corroborated by numerous intervention trials. However, little is known about what happens during family sessions that enables desired outcomes. A common premise is that fostering shared expression of cancer-related concerns in the family will improve adjustment. This study examined in-session processes that account for the benefits of Family Focused Grief Therapy (FFGT), an empirically supported intervention for families of advanced stage cancer patients. The following research questions were addressed: (1) Do individuals participating in FFGT show changes in cancer-related disclosure (CRD) across sessions? (2) Do changes in CRD predict changes in positive and negative affect? (3) Does therapy alliance predict changes in disclosure across sessions?

This study was done within an ongoing trial of FFGT, a manualized intervention targeting palliative care families. Twelve families (47 individuals) receiving FFGT completed questionnaires following each family session: The Family Session Disclosure Measure (FSDM) a measure of perceived in-session CRD (Manne et al., 2004); the Family Therapy Alliance scale (Pinsof, in press), a measure of alliance within the family and between the family and therapist; and the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988).

Linear mixed-effects models were specified, with a fixed session effect to represent the profile of disclosure change over time. Results indicated that from baseline to session 5, in-session CRD increased significantly ($\beta=.52$, $t=2.39$, $p<0.05$). For every unit increase in CRD from session to session, positive affect increased by 1.1 ($t=6.06$, $p<0.0005$), whereas no impact was evident on negative affect. Finally, therapeutic alliance was predictive of increases in CRD over time. This study provides an evidence-based description of how family-based interventions benefit families at the end of life, thus contributing to the empirical validation of this model and to its effective delivery.

CORRESPONDING AUTHOR: Talia I. Zaider, PhD, Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY, 10022; zaidert@mskcc.org

D-04

THE PREVALENCE OF ERECTILE DYSFUNCTION AFTER RADICAL PROSTATECTOMY: A META-ANALYSIS

Paul Krebs, PhD, Rannan Tal, MD, Hannah H. Alphs, BA, Christian J. Nelson, PhD and John P. Mulhall, MD

Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY.

Estimates of erectile dysfunction (ED) after radical prostatectomy (RP) from individual studies vary greatly (20–90%), limiting ability to provide reliable data for patient counseling and clinical decision-making. This meta-analysis estimates the prevalence of erectile function recovery (EFR) post-RP and investigates moderators of EFR. Using Meta-analysis Of Observational Studies in Epidemiology (MOOSE) guidelines, we conduced a search of major databases (1985–2007) and blinded raters reviewed studies for inclusion. EFR rates were weighted by their inverse variance and combined. The search identified 212 studies and 23 studies (11%) met inclusion criteria. Of 9,965 total subjects, 5,405 subjects reported appropriate ED data and their average age was 61 years. The average study sample size was 312. Most were open RP (ORP=16), 4 laparoscopic RP (LRP=4) and 3 robotic RP (RRP=3). The overall fixed effects EFR rate was 59% (95%CI=57–61%), with significant heterogeneity among effect sizes where Q(22)=230.8,p=.001. In terms of moderators, single surgeon series EFR rates (59%,k=11) were comparable to multiple surgeon series (61%,k=8), RR=.97, p=.37. Differences were found in EFR among ORP (57%, k=16), LRP (58%, k=4), and RRP (79%, k=3), p=.001. Bilateral nerve sparing surgery (60%,k=22) was associated with higher EFR than unilateral (49%,k=13), RR=1.22, p=.001. Studies reporting >18 month follow-up post-RP reported higher EFR (61%,k=10) rates than studies with < 18 month follow-up (56%,k=13),RR=1.09,p=.03. Eight studies reported specific outcomes for identified age ranges and patients <60 years reported a higher rate of EFR than those >60 years: 77% vs 61%,RR=1.26, p=0.001. These data indicate that: (i) most of the published literature does not meet criteria for valid measurement of EFR post-RP (ii) single and multiple surgeon series have comparable EFR rates (iii) there appears to be no significant difference in EFR between ORP and LRP and (iv) bilateral nerve sparing surgery results in higher EFR than other methods.

CORRESPONDING AUTHOR: Paul Krebs, PhD, Psychiatry and Behavioral Sciences, Memorial Sloan-Kettering Cancer Center, New York, NY, 10022; krebsp@mskcc.org

Meritorious Student Poster

D-05

EATING HABITS FOLLOWING INITIAL DIAGNOSIS AND SURGERY FOR BREAST CANCER PREDICT PHYSICAL FUNCTIONING, QUALITY OF LIFE, AND PSYCHOLOGICAL DISTRESS

Elizabeth M. Kelly, BS,[1] Tammy A. Schuler, MA[1] and Barbara L. Andersen, PhD[1,2]

[1]Department of Psychology, The Ohio State University, Columbus, OH and [2]Department of Psychology and Comprehensive Cancer Center, The Ohio State University, Columbus, OH.

Introduction: To date, literature concerning diet and cancer has focused on disease outcomes. However, little research has examined relations between diet and physical/psychological well-being. Within the framework of the Biobehavioral Model (Andersen, Kiecolt-Glaser, & Glaser, 1994), this study examines concurrent and longitudinal associations between eating habits following diagnosis and physical functioning, quality of life (QoL), and psychological distress. Methods: Data from a sample of newly-diagnosed women with regional (stage II/III) breast cancer (N=214) were used. Women were assessed shortly after diagnosis and surgery but prior to adjuvant treatment (baseline) and again 12 months later. Hierarchical multiple regression models examined relations between baseline eating habits [Food Habits Questionnaire (FHQ; Kristal, Shattuck, & Henry, 1990)] and physical functioning (KPS; Karnofsky & Burchenal, 1949), QoL (SF-36; Ware & Sherbourne, 1992), and psychological distress (POMS; McNair, Lorr, & Droppleman, 1971) at baseline and 12 months. Relevant disease, treatment, and demographic controls were entered into all models. Results: In cross-sectional analyses, baseline eating habits were significantly associated with higher baseline physical QoL (e.g., less meat modification; $\beta=-.230$, $p=.001$). Longitudinal analyses showed similar relations between baseline eating habits and better physical functioning and QoL, and less psychological distress at 12 months. For example, overall healthier eating habits at baseline predicted less mood disturbance at 12 months ($\beta=.244$, $p=.036$). Discussion: The current study indicates that eating habits may be associated with physical and psychological differences for up to one year after breast cancer diagnosis. Dietary interventions may thus be appropriate to assist this population with physical and psychological adjustment and recovery processes.

CORRESPONDING AUTHOR: Tammy Schuler, MA, The Ohio State University, Columbus, OH, 43210; schuler.60@osu.edu

D-06

PATIENT EMPOWERMENT IN THE CONTEXT OF HSCT

Halina V. Sukhnandan, Bachelor's,[1] Catalina Lawsin, PhD,[1] Chi Yeung, BA,[1] K. DuHamel, PhD,[3] Yaraz Markarian, PhD,[2] L. Labay, PhD[4] and W. Redd, PhD[2]

[1]Psychology, Baruch College, New York, NY; [2]Mount Sinai, New York, NY; [3]Memorial Sloan Kettering Cancer Center, New York, NY and [4]Hackensack University Medical Center, New York, NY.

Patient empowerment, as defined by Salmon & Hall (2004), is the patient's ability to make decisions and have control of his/her personal life and overall health. Key elements to patient empowerment include gaining knowledge of one's illness and treatment, adapting one's behavior through what one has learned, and retaining self-responsibility. When undergoing hematopoietic stem cell transplantation (HSCT), patients may experience aversive physical and psychological side effects, posing challenges to their sense of empowerment. This study used qualitative interviews to examine what strategies patients used to maintain a sense of empowerment within the context of HSCT and the role of patient empowerment in patient-doctor communication. A largely Caucasian sample of 46 patients (average age=51) one year or more post-transplant participated in qualitative interviews that were recorded, transcribed and analyzed for underlying themes surrounding the construct of patient empowerment according to Content Analysis. Results showed that a minority of patients sought support from their medical team to maintain a sense of empowerment throughout treatment. Those who did, were more empowered to communicate about fatigue and cognitive changes rather than occupational and relationship changes and fears of recurrence. Patients identified the main barriers to communication with physicians as: feeling rushed during appointments; perception that their questions were inappropriate; and that it was not the job of their medical team to answer these questions. Another strategy of empowerment included drawing strength from their social networks. These results shed light into the potential opportunities to promote patient empowerment throughout and after transplant. Moreover, results reflected the need for patients to be encouraged to discuss these quality of life issues with their providers throughout the transplant and survivorship process.

CORRESPONDING AUTHOR: Halina V. Sukhnandan, Bachelor's, Baruch College, Jamaica, NY, 11419; hsukhnandan@gmail.com

D-07

VALIDITY AND RELIABILITY OF A CANCER SURVIVORS' EXERCISE BARRIERS SELF-EFFICACY SCALE

Karen Basen-Engquist, PhD, G. Baum, MPH, D. C. Hughes, PhD, S. Scruggs, MPH and C. Carmack Taylor, PhD

Behavioral Science, The University of Texas M. D. Anderson Cancer Center, Houston, TX.

Background: Self-efficacy is a key determinant of exercise behavior. Existing measures assess self-efficacy for maintaining exercise in the face of barriers such as bad weather and travel. However, cancer survivors may face distinct barriers; thus, we developed a tool that considers their specific concerns.
Method: We interviewed 31 breast cancer survivors (11 white, 10 Hispanic, 10 African-American) about barriers to exercise. The interviews were coded, and items reflecting new barriers were added to Marcus' (1992) self-efficacy scale to create the 14-item Cancer Survivors' Exercise Barriers Self-Efficacy (CEBSE) scale. This scale was then administered to (1) a cross-sectional sample of 148 breast cancer survivors, (2) 60 breast cancer survivors participating in a lifestyle physical activity intervention study, (3) 68 endometrial cancer survivors participating in a longitudinal exercise study.
Results: Factor analyses determined a 1 factor solution was most appropriate. Internal consistency reliability ranged from .92 to .93 for the CEBSE scale and from .82 to .84 for Marcus' scale. The CEBSE scale was associated with physical activity in the endometrial cancer survivors sample, F1,67=6.36, p=0.0141; association with physical activity was also significant for Marcus' scale, F1,67=4.62, p=0.0353. The CEBSE scale is sensitive to change in response to intervention. In the breast cancer survivor intervention study, the intervention group had higher scores than controls at two follow-up time points (F1,45= 9.55, p=0.003). In the endometrial cancer survivors study in which all women received a 6-month intervention, the CEBSE score increased over time (F3,67 =10.85, p<.0001).
Conclusions: The CEBSE scale has excellent reliability and evidence of validity in samples of breast and endometrial cancer survivors. Limited evidence suggests the reliability and associations with physical activity may be slightly better than Marcus'original 5-item scale, but more evidence is needed to determine if the CEBSE scale's additional length adds value.

CORRESPONDING AUTHOR: Karen Basen-Engquist, PhD, Behavioral Science, The University of Texas M. D. Anderson Cancer Center, Houston, TX, 77230-1439; kbasenen@mdanderson.org

D-08

CORTISOL RESPONSE TO A LABORATORY STRESSOR IN WOMEN AT ELEVATED RISK FOR BREAST CANCER

Denise L. Albano, MPH,[1] Emily D. Dolan, MS,[2] Rachel M. Ceballos, PhD[1] and Bonnie A. McGregor, PhD[1]

[1]Cancer Prevention, Fred Hutchinson Cancer Research Center, Seattle, WA and [2]Health Services, University of Washington, Seattle, WA.

Women with a family history of breast cancer (FH+) are at higher risk for developing breast cancer than women without a family history. Additionally, FH+ women may also have more intrusive thoughts about breast cancer, or breast cancer-specific worries, and increased biological reactivity to acute laboratory stressors. We hypothesized that increases in perceived cancer risk and cancer worry due to family history would therefore be associated with increases in biological reactivity to an acute laboratory stressor. The participants of the study were a sample of 31 FH+ women recruited for a study investigating distress and cognitive processing of cancer words. Participants were selected for elevated levels of distress or cancer worry at study entry. The cancer word Stroop task was used as an acute laboratory stressor. We measured perceived risk of breast cancer, breast cancer worry and biological reactivity using salivary cortisol from before to after the Stroop task. No significant relationships between perceived cancer risk and cortisol reactivity (β=-.23, p=n.s) or between cancer worry and cortisol reactivity (β=.22, p=n.s.) were found. Unexpectedly, there was a statistically significant decrease in cortisol (nmol/l) from pre-Stroop task (M=10.41, SD=12.01) to post-Stroop task (M=6.86, SD= 6.21, t(30)=2.23, p=.03). Interestingly, there was a significant increase in self-reported acute stress scores from pre-Stroop task (M=5.13, SD=2.13) to post-Stroop task (M=6.66, SD=3.17; t(30)=-3.02, p=.005) suggesting that the Stroop task was indeed stressful to participants. However, perceived cancer risk and cancer worry also did not predict changes in self-reported acute stress scores from pre- to post-Stroop task. Overall, the results did not support the study hypothesis that perceived cancer risk or cancer worry was independently associated with stress reactivity, either via self-report or changes in salivary cortisol.

CORRESPONDING AUTHOR: Denise L. Albano, MPH, Cancer Prevention, Fred Hutchinson Cancer Research Center, Seattle, WA, 98109; dalbano@fhcrc.org

D-09

COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) USE AND SIDE EFFECTS DURING CANCER TREATMENT

Joshua Green, BS,[2] Karen M. Mustian, PhD,[1] Charles Heckler, PhD,[1] Jason Purnell, PhD,[1] Tom Darling, PhD[1] and Gary Morrow, PhD[1]

[1]URCC, Rochester, NY and [2]Tugaloo University, Jackson, MS.

Cancer patients increasingly report high rates of CAM use to help manage the side effects of cancer and its treatments. It is hypothesized that NWs use CAM less frequently than Whites (Ws), but there is little evidence regarding rates, type, and efficacy of CAM use among NW cancer patients. The purpose of this study was to report on CAM use and its relationship with cancer treatment side effects in a NW, nationwide sample. NW cancer patients (N=74; 61% female; mean age=53) were selected post-hoc from a large, multi-center study (N=1,003). Patients reported on the use of 13 CAM therapies during treatment and the severity of 12 side effects post-chemotherapy and/or radiation therapy. Analyses comparing NWs to Ws revealed similar rates of using at least one form of CAM (NW 94% vs. W 91%; ns). Both groups used an average of 3 CAMs during treatment (62% of NWs used between 2–5 CAMs) with prayer, relaxation and exercise used most frequently in both groups. NWs were significantly more likely to use spiritual healing compared to Ws (p<0.05). Unlike Ws, NWs did not use chiropractic or acupuncture CAMs. More NW women (97%) reported using at least one form of CAM compared to men (88%; ns), with women using an average of 4 CAMs compared to 3 for men. NW women were significantly more likely to use prayer compared to NW men (p<0.05). NWs using 2 or more CAMs reported significant improvements in shortness of breath (SOB) (mean change=-2.38; p<0.05), with a statistical trend toward improvements in fatigue (mean change=-2.37; p=0.09) during treatment compared to those using 1 or less. NWs using prayer reported significant reductions in SOB (mean change= -2.2; p<0.05) with a statistical trend toward reductions in fatigue (mean change= -2.3; p=0.08) during treatment compared to those who did not use prayer. Contrary to the hypothesis, NWs use CAMs at rates similar to Ws. However, among NWs, CAMs that incorporate prayer and spiritual healing may be useful, particularly for women, in helping cope with cancer and its side-effects. Funded: NCI U10 CA37420.

CORRESPONDING AUTHOR: Karen M. Mustian, PhD, Radiation Oncology, University of Rochester Cancer Center, Rochester, NY, 14642; Karen_Mustian@URMC.Rochester.edu

D-10

EVALUATION OF ACUPUNCTURE FOR HOT FLASHES USING SUBJECTIVE AND OBJECTIVE MEASURES

Laura J. Hanisch, PsyD,[1] Steven C. Palmer, PhD,[1] James C. Coyne, PhD,[1] David J. Vaugh, MD[2] and Jun J. Mao, MD[3]

[1]Psychiatry, University of Pennsylvania, Philadlephia, PA; [2]Medicine, University of Pennsylvania, Philadelphia, PA and [3]Family Practice and Community Medicine, University of Pennsylvania, Philadelphia, PA.

Context: Hot flashes can be a bothersome symptom of menopause and an adverse event of hormonal treatments for breast and prostate cancer. Acupuncture may be an effective treatment. However, no studies have used sternal skin conductance, the leading objective measure of hot flash frequency, to evaluate results. Treatment studies relying only on patient report may not adequately assess hot flashes as both men and women underreport the frequency of hot flashes.

Objective: To determine if hot flashes measured by 3 assessment techniques decrease during acupuncture treatment for prostate cancer patients undergoing androgen deprivation therapy.

Methods: Nine men with frequent hot flashes completed 10 weeks of acupuncture. A retrospective daily diary was used to calculate hot flash composite scores (frequency X severity). Hot flash frequency was also measured in real time by event marks and sternal skin conductance. Differences in hot flash data collected prior to and at the end of treatment were analyzed by Wilcoxon signed ranks tests.

Results: The mean composite score significantly decreased by 39% ($z=-2.5$, $p<$ 011). The mean frequency of hot flashes per skin conductance, event marks, or either measure decreased 21%, 44%, and 37%, respectively. Differences in event marks ($z=-2.5$) and either measure ($z=-2.5$) were significant ($ps<.012$). Two men had a greater than 50% reduction in hot flash activity across all 3 measures.

Conclusions: Results suggest that acupuncture may reduce the frequency of hot flashes measured primarily by patient report, but more research is needed. Controlled trials are necessary as substantial placebo effects in self report but not objective measures of hot flashes have been found. Future research should also address mechanism(s) of differential treatment response since each measure may detect different subtypes of hot flashes.

CORRESPONDING AUTHOR: Laura J. Hanisch, PsyD, Psychiatry, University of Pennsylvania, Philadelphia, PA, 19104; hanisch@mail.med.upenn.edu

D-11

A RANDOMIZED CONTROLLED TRIAL TO TEST THE EFFECTIVENESS OF A CANCER RESOURCE IN MEETING THE INFORMATIONAL NEEDS OF LOW INCOME CANCER SURVIVORS: PRELIMINARY FINDINGS

Michelle Martin, PhD,[1] Mark Dignan, PhD,[2] Polly Kratt, PhD,[1] Mary Evans, MA,[1] Heather Prayor-Patterson, MS,[1] Peter Houston, BA,[1] Lydia Cheney, MA[1] and Maria Pisu, PhD[1]

[1]University of Alabama at Birmingham, Birmingham, AL and [2]University of Kentucky, Lexington, KY.

Introduction: Although an estimated 12 million Americans are cancer survivors, little is known about their informational needs or whether available resources are of value. This is particularly true of lower income, minority survivors. This project examines one available resource for this population. **Methods:** Participants were randomized to: 1) the American Cancer Society's *I Can Cope* (ICC) information program that included the topics of Learning about Cancer, Understanding Cancer Treatments, Managing Pain, and Keeping Well in Mind and Body; or 2) a general health and wellness (GHW) program that included relaxation, meditation, music and humor therapy sessions. Information needs on ICC topics were assessed at baseline (N=80), immediately post-intervention (1–2 months after baseline, N=60), and at 6 months post-intervention (N=24) using an 18-item measure with a 4-point scale where 0=no need for information and 3=a great need for information. T-tests were used to compare groups at each assessment point. **Results:** Participants were: 71% female, >80% Black, 60% high school or less, >50% with annual incomes <$10,000, mean age 53.4 ±9.6 years, and predominantly in treatment. The most common cancers were breast and colorectal. Scores for informational needs at baseline ranged from 2.11 for Learning about Cancer to 2.59 for Keeping Well. No differences were found between groups at baseline or immediately post-intervention. At 6 months post-intervention, scores for each topic were significantly lower among ICC than among GHW participants ($p<.05$): Cancer: 1.92 vs. 2.35; Treatment 1.92 vs. 2.40; Pain 1.89 vs. 2.39; Keeping Well 2.02 vs. 2.58. **Conclusions:** Although data collection is ongoing, our preliminary findings suggest that *I Can Cope* meets the topic objectives and informational needs of minority, lower income cancer survivors. Future research should explore the mechanism by which long-term treatment effects may be maintained.

CORRESPONDING AUTHOR: Michelle Martin, PhD, University of Alabama at Birmingham, Birmingham, AL, 35205; mymartin@uab.edu

D-12

GENDER AND CANCER: A 15-YEAR UPDATE ON GENDER ASSUMPTIONS IN BIOMEDICAL TREATMENT STUDIES

Michael A. Hoyt, PhD[1] and Lisa Rubin, PhD[2]

[1]Psychology, University of California, Los Angeles, Los Angeles, CA and [2]Psychology, New School for Social Research, New York, NY.

Background:

In 1995 Myerowitz and Hart surveyed the medical literature to examine gender representation in published reports of biomedical cancer treatment studies in the years 1983 and 1992 in the journal Cancer. They concluded that women were under-represented in studies of non-gender specific cancers based on incidence patterns, whereas men were under-represented in studies of gender-specific cancers. The purpose of the current study is to examine gender representation in studies published in Cancer in 2007, 15 years after findings reported by Myerowitz and Hart.

Methods:

Exacting methods utilized by Myerowitz and Hart (1995), all articles published in Cancer were systematically reviewed and coded by a team of 4 raters for inclusion. Only empirical studies related to cancer treatment were included. Animal research, pediatric studies, studies not reporting gender, histological studies, and psychosocial-only interventions were excluded. Raters had 99% agreement; discrepancies were resolved through discussion.

Results:

Across studies, 42.5% of all subjects were female, which compared to 59.5% in both 1983 and 1992. 57.8% of men had gender-specific cancer. This represented a sizeable increase from 1983 and 1992 in which 12.5% and 12.3% of men had gender-specific cancer, respectively. In women, 49.6% had reproductive organ or breast cancer. This represented a decline from 1983 and 1992 in which 69.1% and 64.6% of women had gender-specific cancer, respectively. Finally, of those with gender non-specific cancer 46.8% were women. This reflected a smaller gender gap than observed in 1983 and 1992 where women represented 41.4% and 42.5% of those with gender non-specific cancer.

Conclusion:

Our results suggest a changing picture of the study of cancers among women and men despite that the proportion of deaths attributable to gender-specific and non-specific cancers have remained relatively stable, reflecting increased awareness of gender-specific cancers among men and changing awareness and attitudes towards cancer in general.

CORRESPONDING AUTHOR: Michael A. Hoyt, PhD, Psychology, University of California, Los Angeles, Los Angeles, CA, 90049; mhoyt@ucla.edu

D-13

HEALTH DISPARITIES IN THE QUALITY OF LIFE OF AFRICAN AMERICANS (AA) AND CAUCASIANS (CA) WITH CANCER

Thomas V. Merluzzi, PhD, Carolyn A. Heitzmann, MA and Errol J. Philip, MA

Psychology, University of Notre Dame, Notre Dame, IN.

BACKGROUND: Health disparities research has focused little attention on psychosocial disparities. For example, most studies investigating mean differences between AA and CA patients on quality of life (QOL) have ignored within-group correlations between QOL and other variables. This study compared not only the level of coping and QOL for AA and CA cancer patients, but also the within-group correlations.

METHOD: 357 CA (M age=59) and 121 AA (M age=60) persons with cancer completed the Cancer Behavior Inventory (CBI; a measure of self-efficacy for coping), the FACT (a measure of QOL), and a demographic sheet as part of a larger project.

RESULTS: In all analyses education and income were covariates. FACT Functional (AA=26.01;CA=27.40; $p=.05$) and Social/Family (AA=26.90;CA=28.56;$p=.004$) QOL scales revealed group differences. CBI scales also revealed differences: Maintenance of Activity (AA=37.35;CA=36.84;$p=.04$); Accepting Cancer/Positive Attitude (AA=38.50;CA=37.79;$p=.005$); Seeking Medical Information (AA=39.28; CA=38.68;$p=.02$). These differences were not remarkable as they were no more than 2 units apart. However, the within-group correlations of the CBI and FACT revealed differences. For all domains of QOL (Physical, Social/Family, Emotional, & Functional) within-group differences in correlations emerged for the CBI Stress Management and Seeking Social Support scales. For FACT Social/Family and Emotional QOL scales, within-group correlational differences emerged for the CBI Affective Regulation and Maintaining Activity scales. All correlations were at least .10 (and up to .31) higher for the AA patients compared to the CA patients.

DISCUSSION: There was a stronger relationship between coping efforts and quality of life for AA patients than CA patients, especially in coping efforts to reduce stress and emotional arousal as well as increase support. Furthermore, increasing coping efficacy in AA patients may result in greater increases in QOL for AA patients because coping and QOL are more closely related. Research is needed to understand these differences.

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CORRESPONDING AUTHOR: Thomas V. Merluzzi, PhD, Psychology, University of Notre Dame, Notre Dame, IN, 46556; tmerluzz@nd.edu

D-14

FEASIBILITY STUDY OF A TELEHEALTH DELIVERED, PSYCHOEDUCATIONAL SUPPORT GROUP FOR ALLOGENEIC HAEMATOPOIETIC STEM CELL TRANSPLANT PATIENTS

Joshua Lounsberry, BSc,[1] Helen MacRae, PhD,[1] Maureen Angen, PhD,[1] Michelle Hoeber, BSc[1] and Linda E. Carlson, PhD[1,2]

[1]Psychosocial Resources, Alberta Cancer Board, Calgary, AB, Canada and [2]Faculty of Medicine, University of Calgary, Calgary, AB, Canada.

Allogeneic haematopoietic stem cell transplant survivors struggle with a particularly difficult treatment regimen and concomitant physical and psychological sequelae. Many patients in western Canada are required to travel to the Tom Baker Cancer Centre (TBCC) in Calgary, Alberta in order to receive the transplant procedure. During the acute post-transplant phase these patients must plan for a three-month stay in the city. Following this stay, patients return home to dramatically reduced access to appropriate psychosocial resources. In order to address this need for accessible psychosocial resources, the TBCC developed a pilot project utilizing videoconferencing technology to provide a psychoeducational support group. Four groups were successfully implemented serving a total of 19 participants. Each group consisted of six two-hour long sessions held at local health facilities equipped with videoconferencing equipment. Intervention evaluations were completed post-group using a satisfaction questionnaire developed for this program. The effects of group participation were evaluated using a battery of questionnaires in a pre/post design. Participants had a mean age of 45.8yrs (range 19 - 66), 63% were female, and 67% were either married or living common-law. Seventy-four percent of participants attended five or more sessions and 100% of participants stated that they were satisfied with the program. Following the program, participants showed statistically significant improvements (51%) in quality of life as measured by the Functional Assessment of Cancer Therapy - Bone Marrow Transplant subscale (FACT-BMT). These results suggest that videoconferencing interventions for remote patients are feasible, well accepted by patients and may improve quality of life.

CORRESPONDING AUTHOR: Joshua Lounsberry, BSc, Psychosocial Resources, Alberta Cancer Board, Calgary, AB, T2S 3C1; joshualo@cancerboard.ab.ca

D-15

IS EMPATHY ENOUGH? HEALTH CARE PROVIDER ELICITATION OF CLIENT INSIGHT

Lee Ellington, PhD,[1] Debra Roter, DrPH,[2] Seth Latimer, BS,[1] Amiee Maxwell, BS[1] and Kimberly Kelly, PhD[3]

[1]University of Utah, Salt Lake City, UT; [2]Johns Hopkins University, Baltimore, OH and [3]Ohio State University, Columbus, OH.

Cancer genetic providers typically offer clients probabilistic risk information and screening guidelines, often prompting client feelings of confusion and uncertainty about developing cancer. Health communication experts suggest that it is important for providers to empathically respond to client concerns. Empathic responses may decrease clients' feelings of emotional vulnerability. However, according to theories of emotional expression, empathy alone is unlikely to promote client insight or engender a meaningful understanding. Providers who facilitate client exploration of personally relevant health information are likely to guide them towards deeper insights, thus leading to adoption of health behaviors. 57 genetic counselors (GC) were recruited as part of a large national study on genetic risk communication. GC were randomly assigned to counsel 1 of 6 simulated clients (SC) portraying a woman seeking information about BRCA1/2 genetic testing. From the videotaped sessions, Roter's medical communication analysis system was used to identify GC emotional responses and GC open-ended questions (psychosocial & opinion). Pennebaker's Linguistic Inquiry & Word Count was used to identify words indicative of SC cognitive processing (e.g., think, question, because). A hierarchical linear regression, controlling for SC, revealed that GC questions about client psychosocial issues and opinions were significantly related to SC cognitive processing words (β=.17, t=24.52, p<.001). GC emotional responses and SC cognitive processing words were not significantly related. The positive relationship between GC questions and SC use of cognitive words in this tightly controlled study has implications for clinical encounters. Providers who prompt clients to share opinions and openly discuss psychosocial issues may promote personal insight into risk and health behaviors.

CORRESPONDING AUTHOR: Lee Ellington,
10 S 2000 E, CON University of Utah, SLC UT, 84112-5880
Lee.ellington@nurs.utah.edu

D-16

DO LEVELS OF EDUCATION MATTER IN HOW INDIVIDUALS PROCESS HEALTH COMMUNICATION MESSAGES?

Linda Ko, PhD,[1] Marci Campbell, PhD[1,2] and Carol Carr, MS[1]

[1]Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC and [2]Nutrition, University of North Carolina, Chapel Hill, NC.

This study examined the mediation effect of health communication strategies on fruit and vegetable (F&V) consumption in two groups (non-high school graduates vs. high school graduates) among participants from a population-based randomized trial. NC STRIDES tested the efficacy of two health communication strategies to promote F&V consumption among a population based sample. A conceptual model was developed to investigate if communication variables such as message relevance, trust, and recall mediated the relationship between health communication and F&V consumption among different levels of education.

469 participants come from one of four intervention groups: control, tailored print communication (TPC), tailored telephone-based motivational interviewing (TMI), or combined (TPC+TMI). Multi-sample structural equation model was conducted to observe differences in the parameter estimates of the mediation pathways between the two levels of educational.

The final model fit resulted in $\chi2$ (42, N=468)=51.34, *p*=.15, *CFI*=.99, *TLI*=.99, and *RMSEA*=.03. Among non-high school graduates, the intervention had an indirect effect on FVC through message relevance and message recall. Those who perceived the message to be more relevant (β=0.61, p<.001) recalled receiving more messages (β= 1.48, p<.05). More recall influenced more FVC (β=0.75, p<.05). Among high school graduates, the intervention also had an indirect effect on FVC through message relevance, message trust, and message recall. The intervention was related to perception of message relevance (β=0.60, p<001). Message relevance was related to message trust (β=1.09, p<.001) and trust was associated with message recall (β= 0.24, p=.001). More recall was related to FVC (β=0.34, p<.05).

Identifying important processes can ultimately help us design more effective health communication messages promoting health eating for individuals with different levels of education.

CORRESPONDING AUTHOR: Linda Ko, PhD, Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC, 27599; lindako@email.unc.edu

D-17

MEDIATORS OF HEALTH COMMUNICATION INTERVENTION AND FRUIT AND VEGETABLE CONSUMPTION AMONG COLON CANCER SURVIVORS LIVING IN NORTH CAROLINA

Linda Ko, PhD,[1] Marci Campbell, PhD[1,2] and Carol Carr, MS[1]

[1]Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC and [2]Nutrition, University of North Carolina, Chapel Hill, NC.

This study investigated information processing of health communication and mediating effects on fruit and vegetable (F&V) consumption among colon cancer survivors in a population-based randomized trial, the North Carolina Strategies to Improve Diet, Exercise, and Screening project (NC STRIDES). NC STRIDES tested the efficacy of two health communication strategies to promote F&V consumption among a population based sample. A conceptual model was developed to investigate if communication variables such as message relevance, trust, and recall mediated the relationship between tailored health communication and F&V consumption.

304 colon cancer survivors come from one of four intervention groups: control, tailored print communication (TPC), tailored telephone-based motivational interviewing (TMI), or combined (TPC+TMI). A path model was constructed to observe the mediation pathway between intervention groups and F&V consumption.

The TPC+TMI intervention was indirectly associated with F&V consumption through perception of message relevance and message trust. The final model fit resulted in ($\chi2$(17, N=304)=25.50, p=0.08, CFI=0.99, TLI=0.99, and RMSEA= 0.041. The TPC+TMI influenced message relevance (β=0.46, p=0.023), and relevance improved message trust (β=0.99, p<0.001). Greater trust improved F&V consumption (β=0.71, p=0.040). Greater trust also improved message recall, but greater recall did not improve F&V consumption. The TPC and TMI alone were not directly associated with F&V consumption.

Conclusions: Determining mediators of health communication is important for developing more effective interventions. Further research can investigate ways to enhance message relevance and trust in interventions aimed at colon cancer survivors.

CORRESPONDING AUTHOR: Linda Ko, PhD, Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC, 27599; lindako@email.unc.edu

D-18

VALIDATION OF THE GROUP-BASED MEDICAL MISTRUST SCALE IN A SAMPLE OF URBAN BLACK MEN

Rachel C. Shelton, ScD, MPH,[1] Hayley S. Thompson, PhD,[2] Gary Winkel, PhD,[3] Stacy Davis, MPH,[4] Nicole Roberts, MPH,[2] Debbie Guha, MS,[2] Heiddis Valdimarsdottir, PhD,[1] Simon J. Hall, MD[1] and Vinay Yalamanchi, BS[2]

[1]Mount Sinai School of Medicine, New York, NY; [2]Memorial Sloan-Kettering Cancer Center, New York, NY; [3]City University of New York Graduate Center, New York, NY and [4]Temple University, Philadelphia, PA.

Socioculturally relevant measures of medical mistrust are needed to better address health disparities, especially among Black men, a group with lower life expectancy and higher death rate compared to other race/gender groups. The aim of this study was to investigate, in a Black male sample, the psychometrics of the Group-Based Medical Mistrust Scale (GBMMS), a 12-item/3 subscale measure developed to assess mistrust of care provided to one's racial group and previously validated in a female sample. Participants were 201 Black men recruited as part of a longitudinal study, age 40–75 years (mean age=49.8) and baseline data was used for the following analyses. An exploratory factor analysis showed that, similar to previous work, a 3-factor structure fit the data well. A confirmatory factor analysis using LISREL further supported the 3-factor model (chi-square=10.9; p=0.45; RMSEA=0). Internal consistency was high for the total GBMMS (α=.87) and the 3 subscales: Suspicion, Group Disparities, and Lack of Support (α=.65-.89). Convergent/ discriminant validity was supported by positive correlations between GBMMS and avoidance of healthcare (p<.0001) and racial identity (p=.005) and negative correlations with healthcare access (p<.0001), satisfaction (p=.01), and attitudes about prostate cancer (PCa) screening (p=.02). Regression analyses showed that the GBMMS was associated with greater residential racial segregation (p=.004). In multivariable logistic regression analyses, higher total GBMMS scores were associated with not having a physician visit in the last year (p=.0002), thus supporting concurrent validity. Results also revealed that higher Suspicion scores were related to being undecided about PCa screening in the future (p=.05). Taken together, these findings provide strong additional evidence that the GBMMS is a valid and reliable measure that may be used in diverse populations.

CORRESPONDING AUTHOR: Rachel C. Shelton, ScD, MPH, Department of Oncological Sciences, Mount Sinai School of Medicine, New York, NY, 10029; Rachel.Shelton@mssm.edu

D-19

METHODOLOGICAL REPRESENTATION OF ANALYSES FOR MULTIPLE BEHAVIOR CHANGE INTERVENTIONS

Bettina F. Drake, PhD, MPH,[1,2] Lisa Quintiliani, PhD,[1,2] Amy Sapp, ScD,[2] Yi Li, ScD,[3] Karen M. Emmons, PhD[1,2] and Glorian Sorensen, PhD[1,2]

[1]Department of Society, Human Development & Health, Harvard School of Public Health, Boston, MA; [2]Center for Community-Based Research, Dana-Farber Cancer Institute, Boston, MA and [3]Department of Biostatistics, Harvard School of Public Health, Boston, MA.

OBJECTIVE: Traditionally, health behavior interventions focused on changing a single behavior which could be assessed at the individual- or population-level. More recently, interventions have targeted simultaneous change in multiple health behaviors, raising questions about appropriate methods to assess such change. Our objective is to explore four methods that quantify change in multiple risk behaviors using data from two interventions targeting four health behaviors.
METHODS: We analyzed baseline and follow-up data from 2 randomized controlled intervention trials in the Harvard Cancer Prevention Program Project, one population-based (Small Business) and the other individual-based (Health Centers). These settings were selected because they employed or served multiracial/multiethnic working-class populations. Both studies were conducted between 1999 and 2003, and targeted four health behaviors - fruit and vegetable consumption, red meat intake, leisure-time physical activity (LTPA), and multivitamin use. The four evaluation methods were: 1) change in each behavior individually; 2) a combined change score; 3) an optimal linear combination change score; and 4) an intervention impact score.
RESULTS: Analysis for the Health Centers dataset revealed consistent results across the four evaluation methods; whereas for the Small Business dataset, consistent results were found for all health behaviors except LTPA. Methods 2 and 4 showed significant change in LTPA, whereas methods 1 and 3 did not.
CONCLUSIONS: Methods assessing change in a multiple behavior intervention may vary depending on whether your intervention is population- or individual-based. Researchers should consider the study design, as well as the relevance of the intervention outcome when determining the method used in assessing multiple behavior change.

CORRESPONDING AUTHOR: Bettina F. Drake, PhD, MPH, Harvard School of Public Health, Boston, MA, 02115; bettina_drake@dfci.harvard.edu

D-20

HEALTHY WEIGHT IN CANCER SURVIVORS: WHO ATTEMPTS TO LOSE?

Michelle Martin, PhD, Young Kim, PhD, Heather Prayor-Patterson, MA, Polly Kratt, PhD and Maria Pisu, PhD

University of Alabama at Birmingham, Birmingham, AL.

Background: Maintaining a healthy weight is important for cancer survivors. Evidence suggests that for some cancers, especially breast, overweight status is associated with cancer recurrence and increased mortality. **Methods:** Data from the 2005 Health Information Trends Survey was used to explore weight loss attempts among cancer survivors. We identified 490 participants diagnosed with cancer as adults and with a BMI $\geq$ 25. These were stratified by their report of weight loss attempts in the past year (72% Yes vs. 28% No). We compared characteristics of these two groups using t-tests and chi-square analysis and used a logistic regression to identify independent predictors of having weight loss attempts. **Results:** Breast cancer was the most common cancer (19.8%). Participants were primarily white(87%), obese (Mean BMI 30.1 ± 5.1) and middle-aged (Mean age: 54.89 ± 15.3 years.) Participants reporting a weight loss attempt in the past year were more likely to report better health (p=.02) and talking to friends/family about their health (62% vs. 22%, p=0.03). They did not differ from those not attempting weight loss in behaviors such as weekly exercise, fruits or vegetables consumed per day, or time spent watching television. Psychological distress levels were also similar across groups. Logistic results suggested that those more likely to report weight loss attempts were 1) younger (OR 2.25 CI 1.01-5.00 for those 35–49 and OR 1.96 CI 1.07 - 3.6 for those 50–64, compared to those 75+); 2) spoke to friends/family about their health (OR 1.97; CI 1.15-3.4), and 3) had a college degree (OR 3.23 CI 1.4-7.48 compared to those with < high school), while minorities were less likely than whites (OR 0.51; CI 0.28-0.93) to report weight loss attempts. **Conclusions:** Although reporting attempts to lose weight, overweight cancer survivors did not show any difference in weight loss behaviors compared to those who did not report trying to lose weight. Weight loss programs may be needed for minority, less educated and older survivors. Social support for health may play a key role in supporting weight loss efforts.

CORRESPONDING AUTHOR: Michelle Martin, PhD, University of Alabama at Birmingham, Birmingham, AL, 35205; mymartin@uab.edu

D-21

PARENTAL RESPONSE TO THE AVAILABILITY OF HPV VACCINE

Mary A. Gerend, PhD, Eilene Weibley, MS and Harold Bland, MD

Florida State University College of Medicine, Tallahassee, FL.

Purpose: To examine parental response to the quadrivalent human papillomavirus (HPV) vaccine approximately two years after its licensure.
Methods: Parents (n=82) with at least one child under age 18 were recruited from pediatric clinics to complete a self-administered survey assessing HPV-related knowledge, beliefs, attitudes, HPV vaccine uptake, and future intentions to vaccinate a daughter/son for HPV.
Results: Awareness of HPV and the HPV vaccine were relatively high, although some knowledge gaps were observed. The majority of parents felt that the HPV vaccine should be given to preadolescents or adolescents. Parents expressed ambivalence about the extent to which their daughters should be involved in the decision to get vaccinated and roughly half were reluctant to give their child a vaccine that was relatively new. Nevertheless, nearly half of parents with a daughter eligible for HPV vaccination reported that she had already been vaccinated. Parents with vaccinated daughters (compared to parents without) had older daughters and higher HPV vaccine knowledge, were more likely to have received a recommendation for HPV vaccination from their pediatrician, were more comfortable giving their child a new vaccine, and reported positive vaccine attitudes. The two groups did not differ on demographic characteristics or personal experience with HPV-related disease. Among parents without a vaccinated daughter, over half were planning to have their daughter/son vaccinated for HPV. Black/ African American parents and parents with lower incomes reported greater interest in vaccinating their daughters than White parents and parents with higher incomes. Parental concerns about HPV vaccination promoting sexual promiscuity were rare and were not associated with HPV vaccine uptake or intentions.
Conclusions: Results were largely consistent with studies conducted prior to FDA approval of the HPV vaccine, and provide new insight into parental reactions since the vaccine's licensure. Findings can guide health providers and vaccination campaigns to help parents make informed decisions about HPV vaccination.

CORRESPONDING AUTHOR: Mary A. Gerend, PhD, Florida State University College of Medicine, Tallahassee, FL, 32306-4300; mary.gerend@med.fsu.edu

D-22

LONGITUDINAL STUDY OF PHYSICAL ACTIVITY IN BREAST CANCER SURVIVORS

Alyson Littman, PhD, MPH,[1,2] Mary Anne Rossing, PhD[2] and Mei-Tzu C. Tang, PhD[2]

[1]Veterans Affairs, Seattle, WA and [2]Fred Hutchinson Cancer Research Center, Seattle, WA.

In several previous studies, women with breast cancer who reported greater amounts of physical activity (PA) had lower risks of recurrence and death. PA has also been associated with less fatigue and greater quality of life, providing numerous reasons for women with breast cancer to be active. The aim of this study was to describe how PA levels changed following breast cancer diagnosis and treatment using a population-based longitudinal study design. Participants were 315 female residents of Washington State, aged 21–74 years, diagnosed with a first primary invasive breast cancer between 2002 and 2004, and identified by a population-based cancer registry. We assessed PA via an interviewer-administered questionnaire that inquired about specific activities performed and their usual frequency, duration, and intensity before diagnosis and at three time points after diagnosis (approximately 10 months, 16 months and 24 months). From these questions, we calculated average metabolic equivalent task (MET) hours per week and the prevalence of meeting the Centers for Disease Control and Prevention (CDC) PA recommendations. Before breast cancer diagnosis, 54% of women met PA recommendations and the median MET-hrs/wk were 10.9. Approximately 10 months after diagnosis, 35% met PA recommendations; median MET-hrs/wk were 4.6, equivalent to 120 minutes less of moderate walking per week compared to pre-diagnosis levels. PA had returned to pre-diagnosis levels at approximately 16 and 24 months after diagnosis. There were greater reductions in duration and frequency for high- and moderate-intensity activities 10 months after breast cancer diagnosis than for low-intensity activities. Absolute and relative changes in PA for subgroups defined by age, breast cancer stage, and body mass index were also assessed and are presented. These results provide valuable descriptive data on changes in PA after breast cancer diagnosis collected prospectively and suggest subgroups that may be further studied to understand barriers and facilitators to PA and to inform the design of interventions to promote PA.

CORRESPONDING AUTHOR: Alyson Littman, PhD, MPH, Epidemiology, University of Washington, Seattle, WA, 98101; alyson@u.washington.edu

D-23

PARENT HEALTH BELIEFS AND HPV VACCINE UPTAKE OF ADOLESCENT GIRLS: RACIAL AND RURAL/URBAN DIFFERENCES

Paul L. Reiter, PhD, Noel T. Brewer, PhD, Annie-Laurie McRee, MPH and Jennifer S. Smith, PhD

University of North Carolina, Chapel Hill, NC.

Introduction. We aimed to identify parent health beliefs associated with human papillomavirus (HPV) vaccine uptake, using the Health Belief Model as a theoretical framework, and whether associations vary by race and rural/urban status.

Methods. We conducted a cross-sectional survey of parents ($n=889$) of adolescent girls aged 10–18 living in areas of southeastern North Carolina with elevated cervical cancer mortality rates. The sample was 94% female, 23% African American, and 49% from rural areas. Analyses used multivariate logistic regression.

Results. Few parents reported their daughters had received any shots of HPV vaccine (106/889). Parents were more likely to report vaccine uptake if they believed the vaccine is effective against cervical cancer ($OR=2.08$, $p=0.002$) or had received doctors' recommendations that their daughters get HPV vaccine ($OR=6.17$, $p<0.001$). Parents were less likely to report vaccine uptake if they perceived their daughters to have higher chances of developing cervical cancer ($OR=0.25$, $p<0.001$) or had more perceived barriers to obtaining HPV vaccine for their daughters ($OR=0.58$, $p=0.001$). Perceived severity of cervical cancer, anticipated regret, and history of cervical cancer were not associated with vaccine uptake among surveyed parents. Vaccine uptake among white parents was associated with perceived likelihood of their daughters getting cervical cancer, while perceived severity of cervical cancer was associated with vaccine uptake among black parents. Among rural parents, anticipated regret of HPV vaccine possibly promoting sexual activity was associated with vaccine uptake, while history of cervical cancer was a correlate among urban parents.

Discussion. While these potentially modifiable beliefs offer well-defined targets for future HPV vaccine interventions, they may differ in importance by groups and regions. Our cross-sectional study's findings should be viewed as tentative until they are confirmed using longitudinal data.

CORRESPONDING AUTHOR: Paul L. Reiter, PhD, University of North Carolina, Chapel Hill, NC, 27599; preiter@email.unc.edu

D-24

THE SIGNIFICANT, BUT VARIABLE, IMPACT OF RISK PERCEPTIONS ON PATIENTS' REPORTED APPROACH TO MAKING CANCER SCREENING TEST DECISIONS

Amanda J. Dillard, PhD,[1,2] Brian J. Zikmund-Fisher, PhD[1,2] and Mick P. Couper, PhD[1]

[1]University of Michigan, Ann Arbor, MI and [2]VA Ann Arbor Healthcare System, Ann Arbor, MI.

Most theories of health behavior hypothesize a positive relationship between perceived risk and motivation to engage in self-protective behavior. For example, a woman who believes her chances of developing breast cancer are higher than average may be more likely than a woman who believes her chances are lower than average to be screened for the disease. But, little is known about how such risk perceptions influence the way that patients approach cancer screening decisions, and whether the relationship between perceptions and decision-making processes differs for different types of screening tests. To address these questions, we performed a secondary data analysis on data from the National Survey of Medical Decisions (DECISIONS) study. This study involved telephone interviews of a nationally representative random digit-dial sample of adults age 40 and older about common medical decisions. In DECISIONS, 1,770 respondents were surveyed about their colon, breast, and/or prostate cancer screening decisions. Across all three types of screening decisions, higher risk perceptions were associated with a greater likelihood of a) initiating the discussion of cancer screening, b) saying that the final screening test decision was made primarily by the patient instead of the doctor or shared, c) wanting more involvement in the decision, and d) searching for information about screening on the internet, (all p's<0.05). The strength of the associations between risk perceptions and these decision process variables varied by cancer type. However, comparisons of colon cancer screening decisions to breast and prostate cancer screening decisions revealed that this variability was likely due to gender differences rather than cancer-specific issues. We identify a consistent pattern in which women tended to take more active roles in screening test decisions regardless of their risk perceptions, but only men who perceived themselves as at above average risk did so.

CORRESPONDING AUTHOR: Amanda Dillard, PhD, Center for Behavioral and Decision Sciences, University of Michigan, Ann Arbor, MI, 48105; amandad@med.umich.edu

D-24

ADJUSTMENT AND GROWTH IN COUPLES WITH RECURRENT OVARIAN CANCER

Julie A. Ponto, PhD,[1] Lee Ellington, PhD,[2] Suzanne Mellon, PhD[3] and Susan Beck, PhD[2]

[1]Graduate Nursing, Winona State University, Rochester, MN; [2]College of Nursing, University of Utah, Salt Lake City, UT and [3]College of Health Professions, University of Detroit Mercy, Detroit, MI.

The purpose of this study was to describe relationships among demographic, illness, appraisal and dyad resource variables and adjustment and growth in couples with recurrent ovarian cancer. A descriptive, correlational, cross-sectional design was used in a sample of 32 married couples who had experienced ovarian cancer recurrence. Network and snowball sampling via national cancer advocacy groups was used to recruit participants who then completed an online or paper survey. Measures of appraisal included the Constructed Meaning Scale, Fear of Recurrence Questionnaire and Mishel Uncertainty in Illness Scale. Dyad resource variables were measured by the Revised Dyadic Adjustment Scale and Family Problem-Solving Communication Index. Psychological Adjustment to Illness Scale-Self-Report and Posttraumatic Growth Inventory were used to measure adjustment and growth. Pearson correlations and paired t tests were used to analyze individual characteristics. The mean age of survivors and spouses were 61.5 (7.6SD)and 63.9(8.9SD) respectively. All participants were Caucasian; the majority were college educated with an income >$60,000. 56% of survivors had known disease or a high/rising CA125, 40.6% had an ECOG Performance status of 1. Age, symptom distress, uncertainty and fear of recurrence were correlated with adjustment for both survivors and spouses. No variables were related to posttraumatic growth. Spouses had greater fear of recurrence than survivors (M=91.99[SD=9.4] vs M=83.95[SD=13.8]), while survivors reported more growth (M=66.7[SD=19.7 vs M=48.9[SD=21.3]). This study demonstrates that individual and couple characteristics, including age, symptom distress, uncertainty and fear of recurrence, are important variables in adjustment for couples with recurrent ovarian cancer, and that positive changes (i.e. growth) can exist despite cancer recurrence. Predictors and outcomes of inter-couple differences in fear of recurrence and posttraumatic growth should be explored further.

CORRESPONDING AUTHOR: Julie A. Ponto, PhD, Winona State University, Rochester, MN, 55901; jponto@winona.edu

D-26

PHYSICAL ACTIVITY IMPROVES PERCEPTIONS OF THE PHYSICAL SELF IN BREAST CANCER SURVIVORS

Shannon L. Mihalko, PhD,[1] Thomas P. McCoy, MS,[2] Lauren N. Cook, BS,[1] Erica Rosenberger, MS,[2] Edward A. Levine, MD,[2] Paul M. Ribisl, PhD[1] and Roger Anderson, PhD[3]

[1]Wake Forest University, Winston-Salem, NC; [2]Wake Forest University School of Medicine, Winston-Salem, NC and [3]Pennsylvania State University, Hershey, PA.

Despite improved breast cancer (BC) survival rates, more women are coping with the physical and psychological effects of the disease and its treatment. One major challenge BC survivors face is a decreased body image. While there is clear evidence that physical activity positively influences self-perceptions of the physical self, BC survivors may be sedentary (Irwin, 2003). The purpose of the present study was to determine the effects of physical activity on social physique anxiety (SPA), body area satisfaction (BASS), and appearance-related self-efficacy (AE). We also sought to examine the relationships between physical self-perceptions and health-related quality of life (HRQL). Women with stage I-III BC (N=104) were recruited within 6–12 weeks of surgery and randomized to treatment or control. Treatment participants began a center-based exercise intervention based on social cognitive theory gradually shifting to the home at 6 months. Controls received patient education. Mean age 53.7 years; 88% Caucasian; 43%/28% overweight/obese. Repeated measures ANCOVA was used to model the SPA, AE, and BASS scores. Pearson correlations were estimated for assessing association of body image measures with HRQL. Participants in the intervention group had significantly improved AE and BASS scores compared to controls: adjusted means (SE) were 58.7 (2.74) and 49.0 (3.65; $p=0.011$); 3.35 (0.10) and 3.05 (0.13; $p=0.028$), respectively. SPA scores in the intervention group were not significantly different compared to controls. After intervention, decreased SPA was related to increased HRQL ($r=-0.45$ to -0.56, all $p<0.001$). These data have meaningful implications for integrating physical activity into cancer treatment programs. The extent to which changes in physical, psychological, and behavioral factors may mediate changes in physical self-perceptions among BC survivors awaits further study.

CORRESPONDING AUTHOR: Shannon L. Mihalko, PhD, Health and Exercise Science, Wake Forest University, Winston-Salem, NC, 27109; mihalksl@wfu.edu

D-27

PREVALENCE AND PREDICTORS OF NON-SPECIFIC DISTRESS AMONG CANCER SURVIVORS IN THE UNITED STATES

Jason E. Owen, PhD, MPH, Natalie Kaiser, MA and Narineh Hartoonian, MS

Loma Linda University, Loma Linda, CA.

PURPOSE: Understanding the prevalence of depression in cancer survivors is necessary for allocation of appropriate resources for screening, prevention, and treatment efforts.
METHODS: Using data from the 2003 - 2005 National Health Interview Surveys, 5,700 adults with a history of cancer were compared with 54,683 adults with a non-cancerous chronic health condition and 33,223 healthy adults. Weighted analyses were conducted in SUDAAN, using the Taylor Series Method to estimate variances. Non-somatic distress was evaluated with the six-item Kessler-6 Scale.
RESULTS: Cancer survivors reported significantly higher levels of depression than those with other chronic health conditions or healthy participants, $F(2, 399)=1884.9$, $p<0.0001$. Within cancer survivors, greater distress was associated with younger age, $F(1, 339)=49.5$, $p<0.0001$, less education, $F(2, 339)=12.4$, $p<0.0001$, being unmarried, $F(4, 339)=6.2$, $p=0.0001$, lack of health insurance, $F(1, 339)=9.9$, $p=0.002$, poor health status, $F(2, 339)=111.4$, $p<0.0001$, pain, $F(1, 339)=136.7$, $p<0.0001$, and cancer type, $F(9, 339)=2.0$, $p=0.038$. Distress was not associated with time since diagnosis. Using established cut-scores, significant mental illness (SMI) was higher in those with female reproductive cancers (10.6%), lung cancer (7.4%), colon or rectal caner (6.2%), multiple cancers (6.2%) , or “other” cancers (5.8%) relative to those with any other cancer type. Risk factors for significant distress in cancer survivors predicted depression differently than in healthy adults or those with other chronic disease conditions.
CONCLUSIONS: Significant distress is more prevalent in cancer survivors than those with other chronic health conditions, and there are a number of clear risk factors for significant distress in cancer survivors. Results from nationally-representative samples may inform population-based efforts to reduce the mental health impact of cancer.

CORRESPONDING AUTHOR: Jason E. Owen, PhD, MPH, Loma Linda University, Loma Linda, CA, 92350; jowen@llu.edu

D-28

THE RELATIONSHIP BETWEEN PATIENT CO-MORBIDITIES AND PERCEIVED BARRIERS IN A GROUP OF UNDERSERVED PATIENTS WITH CANCER OR AT RISK FOR CANCER

Peter Raich, MD,[2,1] Patricia A. Valverde, MPH,[1] William Thorland, PhD,[2] Kristin Kilbourn, PhD MPH,[4] Elizabeth Whitley, PhD RN,[3] Evelinn Borrayo, PhD[4] and Betsy Risendal, PhD[1]

[1]UCCC, University of Colorado Denver, Aurora, CO; [2]Oncology, Denver Health, Denver, CO; [3]Community Voices, Denver Health, Denver, CO and [4]Psychology, University of Colorado Denver, Denver, CO.

Underserved populations often experience unique barriers that are associated with delays in seeking or receiving medical treatment which may explain the increased rates of mortality and morbidity compared to mainstream populations. The aim of this study is to evaluate the relationship between physical and psychological comorbidities and perceived barriers to care. The sample consists of 289 patients enrolled in the Patient Navigation Research Program (PNRP) at Denver Health who have had an abnormal cancer screening test or a diagnosis of breast, GI or prostate cancer. Co-morbidity data was collected via medical records, while perceived barriers to care were measured using a survey of 22 potential barriers experienced during the preceeding 12 months. Participant characteristics include 50% Latino, 20% African American, 25% Spanish-speaking only, 41% with annual income of less than $10,000, 22% employed full-time, 36% with less than high school education, and more than 40% with no insurance coverage. The six most prevalent co-morbidities are hypertension (52%), mood disorders (34%, tobacco use (30%), arthritis (25%), COPD (23%) and diabetes (23%). Seventy-one percent of participants who experienced 6 or more barriers had a High School level of education or less and 57% of them had an annual household income of less than $10,000. Although the most common medical co-morbidities were not significantly associated with reported barriers, we found a strong correlation between psychiatric co-morbidities and reported barriers such that participants reporting a history of mood disorders and tobacco use also reported a greater number of barriers to care than other participants. Programs designed to improve underserved populations’ access to healthcare need to particularly tailor their interventions to those with a history of behavioral health issues.

CORRESPONDING AUTHOR: Patricia A. Valverde, MPH, UCCC, University of Colorado Denver, Aurora, CO, 80045-0508; patricia.valverde@ucdenver.edu

D-29

HEALTHY LIFESTYLE BEHAVIORS OF CANCER CAREGIVERS ACROSS SEASONS OF CAREGIVERSHIP

Youngmee Kim, PhD,[1] Charles S. Carver, PhD[1] and Rachel L. Spillers, BS[2]

[1]Psychology, University of Miami, Coral Gables, FL and [2]Behavioral Research Center, American Cancer Society, Atlanta, GA.

One ultimate goal of caregivership from the cancer caregiver’s perspective would be preventing their own major illnesses—including cancer—by fostering healthy lifestyle behaviors through stressful times associated with the patients’ illness as well as after bereavement. This study documents the degree to which cancer caregivers practice healthy lifestyle behaviors at different seasons of caregivership. Five data sets from community-based and national surveys for cancer caregivers that represent different seasons of caregivership were used: ns=161, 1635, 1020, 146, and 171 at 2-month, 2-year, 5-year, end-of-life, and bereaved, respectively. Outcomes studied include fruit and vegetable consumption (FVC), physical activity (PA), routine physical examination, and screening for colorectal cancer. Univariate analyses for each outcome revealed that cancer caregivers’ behaviors in many cases do not meet the recommended levels in any timepoint of caregivership. Specifically, with regard to FVC, caregivers consumed an average 3 servings, which falls below the recommended level (5 servings a day) at all assessment points. Caregivers’ PA levels, however, were comparable across all assessment points to the recommended levels of 30 minutes of PA a day. An average 80% of caregivers had physical examinations during the past 2 years, lower during the end-of-life care period. An average 60% of caregivers had any kind of colorectal cancer screening, lower at the 5-year assessment. These findings provide evidence that cancer caregivers practice healthy lifestyle behaviors at far less than recommended levels, and suggest there is plenty of room to improve their behaviors for preventing major illnesses. Further investigation to identify psychosocial and demographic correlates of unhealthy levels of behaviors is needed, which will have significant implication for public health programs.

CORRESPONDING AUTHOR: Youngmee Kim, PhD, University of Miami, Coral Gables, FL, 33124-0751; ykim@psy.miami.edu

D-30

RISK PERCEPTIONS AND SCREENING AMONG WOMEN AT RISK FOR LYNCH SYNDROME

Taja Ferguson, MPH, K. Hurley, PhD, S. Jhanwar, MA, T. Garcia-Collins, MPH, J. Hansen, BA, J. Guillem, MD and K. Offit, MD MPH

Memorial Sloan Kettering Cancer Center, New York, NY.

Background: Women with Lynch syndrome (HNPCC) face higher than average lifetime risks of colorectal (CRC) (80%), uterine (UC) (40–60%), & ovarian cancers (OC) (10–15%), as well as metachronous tumors & multiple primaries. Patients may have difficulty assimilating the complexities of their multiple risks & surveillance recommendations. Method: 79 women meeting Amsterdam I/II criteria who had completed genetic counseling, received high risk screening recommendations & were awaiting final genetic test results completed surveys on perceived cancer risk & screening behaviors. Results: Most patients were affected: 28.2% UC, 20.5% CRC, 11.5% OC, 5.1% breast, & 11.5% other non-Lynch cancers vs. 23.1% no cancer. Of women with a cancer history, 41% were diagnosed with a 2nd ca, 3.24 yrs. after their 1st diagnosis & of those with a history of UC, 32% were diagnosed with CRC, 2.6 yrs. after their 1st diagnosis. Nearly all (97.4%) reported ever having a colonoscopy. Yet, 67.9% reported ever having a TVU; 73.8% reported ever having a CA-125 test; & 20.3% reported ever having endometrial biopsy; GYN screening in the last year was even lower. Most (68%) accurately ranked their risks of CRC > UC, however, only 15% ranked their UC > OC (excluding women at risk for OC recurrence). Inconsistent with their actual risk, ratings of “not at all” or “a little” were endorsed by 44% for CRC vs. 74% for UC, & 65% for OC. A subgroup of women (10/61) substantially underestimated their UC risk relative to CRC; they had less confidence in TVU, CA-125 & routine biopsy, & all (10/10) reported they were undecided/unsure when they were likely to undergo future GYN screenings. Conclusion: Most women at risk for Lynch syndrome are up-to-date on their CRC screenings, but fewer obtain GYN, particularly those who underestimate their UC risk relative to their CRC risk. Even after counseling, many patients underestimate magnitude of risk, either lifetime or for metachronous tumors & second primaries.

CORRESPONDING AUTHOR: Taja Ferguson, MPH, Memorial Sloan Kettering Cancer Center, New York, NY, 10022; fergusot@mskcc.org

D-31

SOCIAL SUPPORT AND QUALITY OF LIFE AFTER CANCER DIAGNOSIS: MODERATING EFFECTS OF GENDER

J. Lee Westmaas, PhD, Kevin Stein, PhD and Chiew-kwei Kaw, MS

Behavioral Research Center, American Cancer Society, Atlanta, GA.

Higher levels of social integration and emotional support predict decreased mortality and better coping with stressors. Social support may be especially important for cancer patients, many of whom experience decreased quality of life resulting from their illness. This study examined the relationship between perceived support from family, friends, and significant others on emotional and physical functioning among male and female cancer survivors. Participants were 4,240 survivors of 10 cancers from a nationwide, population-based longitudinal quality of life study. Survivors completed surveys at 1-year (T1) and 3-years (T2) post-diagnosis. All analyses controlled for socio-demographic variables, cancer severity and type. For perceived family support, significant interaction effects of gender were obtained at T1 (all $p<.01$). For women, greater family support was associated with better mental health ($\beta=.59$), lower depressive symptoms ($\beta=-.30$), and lower fear of recurrence (all $p<.0001$). In contrast, for men there were no associations between family support and these outcomes at T1. It was only at T2 that men’s greater perceptions of family support were associated with fewer depressive symptoms ($\beta=-.21$) and better emotional functioning ($\beta=.35$). Greater perceived friend support, for both genders at both time points, was significantly associated with better emotional and physical functioning (βs=.21 to .46, ps<.001), including lower depressive symptoms (βs=-.17 to -.21, ps<.00001). However, it was only among men for whom greater perceived friend support at T1 predicted better mental health at T2, controlling for T1 levels. Soon after cancer diagnosis, family support may play a greater role in women’s quality of life whereas for men this benefit occurs later. For men, perceived friend support was particularly important in predicting current and future mental health. Further research on the causal directions and interpersonal dynamics responsible for these differing effects of social support among men and women cancer survivors is needed.

CORRESPONDING AUTHOR: J. Lee Westmaas, PhD, Behavioral Research Center, American Cancer Society, Atlanta, GA, 30303; lee.westmaas@cancer.org

D-32

CAREGIVER GUILT AND BEREAVEMENT STATUS: HOW DO THEY AFFECT THE LONG-TERM MENTAL HEALTH OF CANCER CAREGIVERS?

Rachel L. Spillers, BS,[1] Youngmee Kim, PhD[2] and Chiew Kwei Kaw, MS[1]
[1]Behavioral Research Center, American Cancer Society, Atlanta, GA and [2]Department of Psychology and Sylvester Comprehensive Cancer Center, University of Miami, Miami, FL.

Family members often experience feelings of caregiver guilt because of the high standards they set when providing care for a loved one with cancer. These feelings can be aggravated when the care recipient is deceased. Although existing studies have examined the short-term effects of caregiver guilt on caregiver mental health, the long-term effect of caregiver guilt on mental health among bereaved and non-bereaved caregivers remains unknown. A sample of family caregivers participating in a nationwide, longitudinal quality of life study was used to fill this gap in knowledge. Demographics, caregiver guilt, bereavement status, and mental health indicators (subscales of SF-36 or SF-12) were measured at 2 (T1) and 5 (T2) years post-diagnosis. A total of 382 caregivers provided complete data for study variables (62% female; mean age 60 years; 7% bereaved; 72% spousal caregivers). Hierarchical general linear modeling analysis was conducted on four subscales of mental health components at T2. After controlling for T1 scores and demographics, results revealed that greater feelings of caregiver guilt at T1 was related to poorer social functioning ($p<.05$) and poorer mental health at T2 ($p<.01$). Bereaved caregivers reported better social functioning than non-bereaved caregivers ($p<.05$). In addition, the adverse effect of caregiver guilt on role-emotional functioning was more pronounced among non-bereaved caregivers ($p<.05$). The findings suggest that caregiver guilt had a persistent adverse effect, particularly among non-bereaved caregivers. Our findings may help clinicians identify caregivers who are vulnerable to poor psychosocial adjustment due to their unrealistic expectations about their caregiver role years after their loved one’s cancer diagnosis. These caregivers may benefit from programs designed to help mitigate their feelings of guilt, thereby improving their mental health.

CORRESPONDING AUTHOR: Rachel L. Spillers, BS, Behavioral Research Center, American Cancer Society, Atlanta, GA, 30303-1002; Rachel.Spillers@cancer.org

D-33

CURVILINEAR ASSOCIATIONS BETWEEN BENEFIT FINDING AND ADJUSTMENT TO CANCER

Patricia L. Tomich, PhD,[1] Vicki Helgeson, PhD[2] and Justin Downing, BS[1]

[1]Kent State University, Kent, OH and [2]Carnegie Mellon University, Pittsburgh, PA.

A longitudinal design was used to assess individuals’ reports of benefit finding following trauma and to examine curvilinear effects of benefit finding on quality of life among 62 individuals diagnosed with colorectal ($n=34$) or lung ($n=28$) cancer (87% Caucasian; 42% male; mean age 63). Interviews were conducted approximately 3 months post-diagnosis with follow-up interviews approximately 3 months later. Quality of life (physical health, mental health, depression) was measured using the SF-36 and CES-D. Benefit finding was assessed using a modified version of the Post-Traumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) that included both positive and negative consequences that may follow a cancer diagnosis. Internal consistencies indicated the negative items detracted from the reliability of the positive items. Thus, these items ultimately represented two distinct constructs: benefits and deficits. There were cross-sectional linear associations between deficits and worse mental functioning and more depression at both T1 and T2 (p’s<.001), but not between deficits and physical functioning; no quadratic effects for deficits emerged. By contrast, there were no cross-sectional linear associations between benefits and quality of life at T1 or T2, but there were two quadratic effects. An inverted U-shaped function emerged for the relation between benefits and depression at T1 and a U-shaped function emerged for the relation between benefits and physical health at T2 (p’s<.05). In both cases, the intermediate levels of finding benefits were related to worse quality of life, confirming the findings of Lechner et al. (2006). Inconsistencies in the literature regarding relations between benefits and adjustment may be due to relations being more complex than previously assumed. Overall, individuals who report low, medium, and high levels of benefits may represent distinct groups of people. Whether it is an advantage to encourage individuals with medium levels of benefits to change their levels of perceived benefits is an empirical question that awaits further investigation.

CORRESPONDING AUTHOR: Patricia L. Tomich, PhD, Psychology, Kent State University, Warren, OH, 44483; ptomich@kent.edu

D-34

METHODOLOGICAL QUALITY OF 25 YEARS OF RESEARCH INVESTIGATING PSYCHOSOCIAL INTERVENTIONS FOR CANCER PATIENTS

Anne Moyer, PhD, Stephanie J. Sohl, PhD, Sarah K. Knapp, PhD and Stefan Schneider, Dipl Psych

Stony Brook University, Stony Brook, NY.

The considerable amount of research examining psychosocial interventions for cancer patients makes it important to examine its methodological quality. We evaluated 669 reports forming 489 unique projects conducted over a 25-year period. Although the majority of projects specified inclusion and exclusion criteria, for only 73 was it possible to examine the proportion excluded, 33%. For approximately a third of the projects, 179, it was possible to calculate the mean proportion of eligible participants who declined to be involved in the intervention study, 28%. Fewer than 10% provided information on the representativeness of their sample by comparing the characteristics of participants to eligible non-participants. Although the majority of projects (63%) involved randomized designs, fewer than 20% of these included methods to prevent subterfuge of the randomization process. Where applicable (where the intervention was delivered by a person), fewer than one-third of projects mentioned using manuals to standardize delivery. More than half, however, monitored the integrity of treatment. Process analyses, which examine the means by which interventions have their effect, were pursued only in 24%. A majority (85%) of applicable multiple-group projects reported that groups were compared at baseline for equivalence on select variables, but far fewer, 11%, investigated if there was differential dropout. Intention-to-treat analyses were performed in relatively few (13%) projects. Strengths of this literature as a whole include using predominantly randomized designs, testing for group equivalence, and monitoring treatment. However, deficiencies in other areas, such as examining treatment mechanisms and the adequacy of reporting of methodology, essential for useful syntheses of this area, remain to be addressed.

CORRESPONDING AUTHOR: Anne Moyer, PhD, Stony Brook University, Stony Brook, NY, 11794-2500; anne.moyer@sunysb.edu

D-35

PREDICTING HEALTH OUTCOMES FROM GLOBAL MEANING AND ILLNESS-SPECIFIC MEANING AMONG STEM CELL TRANSPLANT PATIENTS

Allen C. Sherman, PhD,[1] Stephanie Simonton, PhD,[1] Umaira Latif, MSc,[2] Thomas G. Plante, PhD[3] and Elias J. Anaissie, MD[4]

[1]Behavioral Medicine, Winthrop P. Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR; [2]Cancer Program, Methodist Medical Center, Dallas, TX; [3]Psychology Department, Santa Clara University, Santa Clara, CA and [4]Myeloma Institute for Reseach and Therapy, Little Rock, AR.

Meaning-making processes have drawn increasing attention from health investigators in recent years. However, a salient problem in much of this research has been the conceptual ambiguity re: dimensions of meaning, and the use of measures that are confounded with psychosocial adjustment. This prospective study evaluated two conceptually important facets of meaning, among 94 multiple myeloma patients undergoing autologous stem cell transplantation (SCT). Average age was 55.7, 61.8% were male, and median time since diagnosis was 6 months. Indices of global meaning (selected items from the Meaning subscale of the Sense of Coherence scale, alpha= .77) and illness-related meaning (items re: sense-seeking and benefit-seeking, alpha= .72) were assessed at stem cell collection. Health outcomes (FACT-G and BMT scales, Brief Symptom Inventory anxiety and depression, IES cancer-related stress) were subsequently evaluated in the acute aftermath of transplantation, when toxicities are most pronounced. As expected, global meaning at baseline predicted more favorable outcomes after transplant, with respect to anxiety (β=-.20, $p<.05$), depression (β=-.34, $p<.001$), cancer-related stress (β=-.33, $p<.01$), and overall quality-of-life (FACT-G, β=.26, p<05), after controlling for any significant covariates. In contrast, indicators of illness-specific meaning were not strongly predictive (all p's $\geq$.09). Results highlight the value of differentiating among conceptually-derived dimensions of meaning.

CORRESPONDING AUTHOR: Allen C. Sherman, PhD, Behavioral Medicine, Winthrop P Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR, 72205; shermanallenc@uams.edu

D-36

ANTICIPATORY SYMPTOMS RELATED TO CHILDHOOD CANCER SURVIVORS' EATING

Jin-Shei Lai, PhD,[1,2] David Cella, PhD[1,2] and Stewart Goldman, MD[2]

[1]CORE, Evanston, IL and [2]Northwestern University, Chicago, IL.

OBJECTIVE. Some childhood cancer survivors exhibit problematic cognitions and behaviors related to eating. Whether this is related to their previous cancer treatment experiences is not well understood. The purpose of this study was to explore whether cancer treatment impacted survivors' eating behaviors and contributed to adverse anticipatory symptoms. METHODS. 49 cancer survivors were recruited from Children's Memorial Hospital, Chicago. The sample was 50% female, with a mean age of 16 (range 12–21) yrs, and were 9.5 yrs since diagnosis of leukemia (42%), brain tumor (25%) or other type of cancer. All received chemotherapy (mean 7.3 yrs since last treatment) and 47% received radiotherapy. Using age and gender adjusted BMI, 4% were underweight and 28% overweight/obese. The SCID for DSM-IV-TR, was used to make a formal eating disorder diagnosis. In addition, survivors completed the Anticipatory Symptom Assessment (ASA; Cella 1986) and the Functional Assessment of Anorexia and Cachexia Therapy (FAACT, Lai et al, 2005). RESULTS. One survivor (2.1%) was identified as having binge eating but none was found having any type of eating disorders on the SCID. Using the ASA, 31% were reminded about their cancer treatment by certain smells and 53% of them felt distressed (score >5 on a 0–10 rating) by these odors; 54% were triggered by seeing some places with 8% feeling distress; 54% were reminded of treatment by certain food or drinks and 37% felt distressed when eating them. An additional 5 survivors (10%) refused to consume trigger foods/drinks since their treatment. Based on the FAACT, 10% reported getting full quickly when they ate; 23% worried about their weight, 10% concerned with how thin they look, while 97% had good appetite. CONCLUSION. In our pilot study, most childhood cancer survivors had good appetite and only one had a formal eating disorder. However, it was noted that previous treatment experience did impact their eating, resulting in certain level of distress. Future research should identify those at risk for problematic eating for targeted intervention.

CORRESPONDING AUTHOR: Jin-Shei Lai, PhD, Center on Outcomes, Research and Education, Evanston, IL, 60201; js-lai@northwestern.edu

D-37

IMPACT OF HNPCC TEST RESULTS ON QOL

Sabrina M. Jhanwar, MA, Karen Hurley, PhD, Taja Ferguson, MPH, Tara Garcia-Collins, MPH, Jessica Hansen, BA, Emily Glogowski, MS, Jose Guillem, MD and Kenneth Offit, MD, MPH

Memorial Sloan-Kettering Cancer Center, New York, NY.

OBJECTIVE: HNPCC patients are advised to undergo multi-organ cancer screening. Even those with a family history of CRC but do not meet HNPCC criteria screen via colonoscopy(3–5 yrs) more frequently than average. We assessed attributions about impact of cancer risk & screening on Quality of Life (QOL). METHODS: 42(age X= 53.5,76% female,76% affected) patients undergoing genetic counseling & testing for HNPCC were categorized as high risk (N=18, mutation + or Amsterdam +) or familial risk (N=24; mutation neg. & Amsterdam neg.). Each rated overall & cancer specific QOL after their initial genetic counseling appointment(Time 1) and one year after receiving final screening recommendations based on genetic test results & family history (Time 2). RESULTS: Most participants rated overall QOL high at Time 1 (X=7.88) and remained so at Time 2 (X=8.0), with no significant differences by age, cancer history or risk status. Interference by thoughts of cancer risk on daily activities declined for both high($p<0.02$) & familial($p<0.06$) risk groups. A proportion even reported that cancer risk (35.3%) & screening (41.2%) had a positive impact on QOL. Some individuals, however,reported that QOL was affected by cancer risk concerns. Specifically, the percentage of familial risk individuals reporting that cancer risk negatively affected QOL increased from 12.7% at Time 1 to 47.7% at Time 2 ($p<0.04$). In addition, the percent of familial risk individuals reporting that cancer screening tests negatively affected their QOL increased from 12.5% at Time 1 to 33.3% at Time 2 ($p<0.01$). Some vulnerable patients reported a decrease in overall QOL; this was associated with an increase from Time 1 to Time 2 of how worried they get before cancer screening tests ($r= -0.62$, $p< 0.001$),and thoughts about cancer risk making them feel different from others ($r= -0.37$, $p<0.02$). CONCLUSION: Most people adjust well to HNPCC results & screening. Some vulnerable individuals feel increasingly worried & different from others, leading to decrease in overall QOL.

CORRESPONDING AUTHOR: Sabrina M. Jhanwar, MA, Psychiatry & Behavioral Sciences, MSKCC, New York, NY, 10022; jhanwas1@mskcc.org

D-38

PRELIMINARY EVIDENCE OF EFFICACY OF HEALTHY EXPRESSIONS: AN EXPRESSIVE DISCLOSURE SUPPORT GROUP PROGRAM FOR DISTRESSED COLORECTAL CANCER PATIENTS

Cindy Carmack Taylor, PhD,[1] Karen Basen-Engquist, PhD,[1] Trina Barker, MEd,[1] Mercedes Villarreal, MA[1] and James Pennebaker, PhD[2]

[1]Behavioral Science, The University of Texas M.D. Anderson Cancer Center, Houston, TX and [2]The University of Texas, Austin, TX.

Background: Adjusting to traumatic events, such as cancer, requires effective cognitive and emotional processing of the event. Both written and verbal disclosure are strategies for facilitating healthy processing and have been studied independently in cancer survivors. We propose that a combined written and verbal expressive disclosure program may be more effective than either alone. Thus, we developed a 12-session expressive disclosure group program for distressed colorectal cancer patients and tested its efficacy in a small randomized trial.

Method: Forty colorectal cancer patients (stages I-III), who had completed treatment and were identified as psychologically distressed using the Brief Symptom Inventory (BSI), were randomly assigned to an Expressive Disclosure Group Program or to Standard Care (no group). Assessments were completed at baseline, 2 months, and 4 months. Primary outcomes were psychological functioning and quality of life.

Results: Data presented include 27 patients (17 treatment; 10 control) who have completed the ongoing trial. Participants are mostly female (59%), married (63%), white (85%), and non-Hispanic (82%). Group members attended an average of 7.5 sessions. Repeated measures ANOVA controlling for baseline indicate significant improvements in mood as measured by the BSI Global Severity Index (F (1,21)= 5.87, p=.025) and BSI Positive Symptom Total (F (1,21)=5.96, p=.024). The Emotional Functioning subscale of the EORTC QLQ-C30 approached significance (p=.110). Scores on the BSI Positive Symptom Distress Index (p=.238), CES-D (p =.256), and the EORTC QLQ-C30 global scale (p=.238) were not significant.

Conclusions: The Expressive Disclosure Group Program shows promise for improving psychological functioning in distressed colorectal cancer patients. At trial completion, we will estimate effect sizes on outcomes and explore correlations between outcomes and hypothesized mediators for a future larger randomized trial.

CORRESPONDING AUTHOR: Cindy Carmack Taylor, PhD, Behavioral Science, The University of Texas M.D. Anderson Cancer Center, Houston, TX, 77230-1439; ccarmack@mdanderson.org

D-39

EFFECTS OF GLOBAL MEANING AND ILLNESS-RELATED MEANING ON HEALTH OUTCOMES AMONG BREAST CANCER PATIENTS

Allen C. Sherman, PhD, Stephanie Simonton, PhD, Umaira Latif, MSc and Lewis Bracy, PhD

Behavioral Medicine, Winthrop P. Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR.

Growing interest has focused on meaning-making processes and their health effects among cancer patients. However, much of this work has been limited by conceptual confusion, and by use of measures of meaning that are confounded with psychosocial outcomes. The current prospective study evaluated two theoretically-derived dimensions of meaning (global and illness-specific) among 73 breast cancer survivors. Median time since diagnosis was 24.0 months, and most participants were off-treatment except for hormonal therapy (49.3%). Average age was 58.4 (SD=10.8) and 80.8% were Caucasian. At time 1, global meaning was assessed via selected items from the Meaning subscale of the Sense of Coherence scale (alpha=.80), while illness-related meaning was assessed from written narratives, using the Linguistic Inquiry and Word Count. Health outcomes (FACT-BC scales, Brief Symptom Inventory) were assessed at Time 2, 4 months later. As predicted, higher global meaning predicted significantly better outcomes with respect to emotional distress (β=-.25, p<05), FACT physical wellbeing (β= .25, p<05), emotional wellbeing (β= .24, p<05), social wellbeing (β= .25, p<05), and breast cancer-related concerns (β= .34, p<01), and marginally better emotional wellbeing (β= .20, p=.08), after controlling for significant demographic and medical covariates. On the other hand, illness-specific meaning (i.e., efforts to cognitively process the experience) was not tied to these outcomes (all p's >.18). Findings suggest that discrete dimensions of meaning may have different health correlates.

CORRESPONDING AUTHOR: Allen C. Sherman, PhD, Behavioral Medicine, Winthrop P Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR, 72205; shermanallenc@uams.edu

D-40

DETERMINANTS OF RELIGIOUS STRUGGLE AMONG STEM CELL TRANSPLANT PATIENTS

Allen C. Sherman, PhD,[1] Stephanie Simonton, PhD,[1] Thomas G. Plante, PhD,[2] Umaira Latif, MSc[3] and Elias J. Anaissie, MD[4]

[1]Behavioral Medicine, Winthrop P. Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR; [2]Psychology Department, Santa Clara University, Santa Clara, CA; [3]Cancer Program, Methodist Medical Center, Dallas, TX and [4]Myeloma Institute for Research and Therapy, Arkansas for Medical Sciences, Little Rock, AR.

Negative aspects of religious experience, such as religious struggle, are eliciting growing attention from health researchers. However, very little research has focused on the factors that may influence religious struggle. This study explored factors prospectively associated with illness-related religious struggle among 94 patients undergoing autologous stem cell transplantation. We anticipated that greater symptom burden at baseline, or deterioration over time, would activate greater religious struggle in response. Participants were predominantly Protestant (67.0%), 61.8% were male, and mean age was 55.7. A range of relevant demographic, medical, functional, and psychosocial variables were assessed at stem cell collection (i.e., baseline). Religious struggle was assessed following transplantation (when toxicities are most demanding), using the Brief RCOPE. In bivariate analyses, significant predictors of post-transplant religious struggle included greater co-morbidity, non-white ethnicity, lower general religiousness (SCSRF), limited social support (Social Provisions Scale), poorer baseline quality-of-life (FACT-G and BMT scales), higher baseline depression and anxiety (Brief Symptom Inventory), and worsening of depression over time (all p's<.05). In multivariate analyses which controlled for baseline religious struggle, post-transplant struggle was predicted by lower general religiousness (β=-.18, p<.05) and greater transplant-related concerns at baseline (β=-.34, p <.01). Findings suggest a number of important factors that may heighten risk for illness-related religious struggle among cancer patients.

CORRESPONDING AUTHOR: Allen C. Sherman, PhD, Behavioral Medicine, Winthrop P Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR, 72205; shermanallenc@uams.edu

D-41

ASSESSING POST-TRAUMATIC GROWTH AMONG CANCER PATIENTS IN INDIA

Avinash Thombre, PhD[1] and Allen C. Sherman, PhD[2]

[1]Department of Speech Communication, University of Arkansas at Little Rock, Little Rock, AR and [2]Behavioral Medicine, Winthrop P Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR.

Although considerable attention has focused on post-traumatic growth (PTG) in response to serious illness, very little is known about this experience in cultural groups outside of western developed nations. The current study is part of an international collaborative initiative to examine dimensions and determinants of PTG (or "perspective transformation") among cancer patients in western India. A critical first step is to ensure that instruments are culturally appropriate and sensitive to lower literacy levels. This report describes efforts to modify and cross-validate the Post-traumatic Growth Inventory (PTGI) for use in this setting. Following an earlier qualitative study, we administered an adapted version of the PTGI (simplified response format) to a new sample of patients with non-metastatic lung, head-and-neck, or breast cancer receiving active treatment in Pune, India. Average age was 49.1, and 50.9% were female; most were Hindu (83.1%) and roughly half were of Maharashtrian ethnicity. Median time since diagnosis was 3 months. The instrument demonstrated adequate internal consistency (alpha= .75). Convergent validity was demonstrated by moderate correlations with modified measures of Benefit-Finding (r=.53, p<.0001), Stress-Related Growth (r=.45, p<.001), and altered life perspectives (World-views, r=.55, p<.0001). Patient self-reports were modestly corroborated by proxy ratings from family members on the same instrument (r =.25, p<.05). Demographic and clinical variables were not strongly related to PTGI scores. These results from initial field-testing are promising, and provide a mechanism to assess PTG in a cultural setting that, to our knowledge, has never been examined.

CORRESPONDING AUTHOR: Allen C. Sherman, PhD, Behavioral Medicine, Winthrop P Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR, 72205; shermanallenc@uams.edu

D-42

ANTECEDENTS OF RELIGIOUS COPING AMONG BREAST CANCER PATIENTS

Stephanie Simonton, PhD, Allen C. Sherman, PhD, Umaira Latif, MSc and Lewis F. Bracy, PhD

Behavioral Medicine, Winthrop P. Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR.

Although a growing database has examined religious coping (RC) among medical patients, very little empirical research has focused on the antecedents or determinants of RC. Clearly, a fuller understanding of these factors would be important for theory-development and clinical care. This prospective investigation explored these relationships among 73 breast cancer patients. In accord with the "mobilization" hypothesis, we anticipated that greater health problems (i.e., physical or psychosocial symptomatology) at baseline, or further deterioration over time, would subsequently activate greater RC efforts. Socioeconomic status in this sample varied widely, most participants were Protestant (89.8%), and 80.8% were Caucasian. Median time since diagnosis was 24.0 months, and most patients had completed adjuvant treatment. We evaluated a range of conceptually-relevant personal and contextual factors, including demographics, medical characteristics, general religious orientation (SCSRF), optimism (LOT), and physical and psychosocial health status (FACT-BC scales, Brief Symptom Inventory). Positive and negative RC were assessed 4 months later, using the Brief RCOPE. Multivariate analysis indicated that positive RC at Time 2 was significantly predicted by the following factors at Time 1: stronger general religiousness (β= .29, p<.01), lower income (β=-.26, p<.05), and longer time since diagnosis (β=.26, p<.05). Negative RC at Time 2 was predicted by ethnicity (β=-.31, p<.01), shorter time since diagnosis (β=-.29, p<.01), and greater increase in depression (from baseline to follow-up; β= .24, p<.05). Findings offer partial support for the mobilizing effects of depression (but not physical symptoms) on negative RC. (That is, increased depression over time may elicit greater negative RC). Mobilization effects were not evident for positive RC.

CORRESPONDING AUTHOR: Allen C. Sherman, PhD, Behavioral Medicine, Winthrop P Rockefeller Cancer Institute, University of Arkansas for Medical Sciences, Little Rock, AR, 72205; shermanallenc@uams.edu

D-44

EVALUATION OF A BIBLIOTHERAPY INTERVENTION FOR IMPROVING PATIENTS' ADHERENCE TO ANTIHYPERTENSIVE MEDICATIONS

Megan Oser, PhD[1,2] and William O'Donohue, PhD[2]

[1]VA Palo Alto Health Care System, Palo Alto, CA and [2]Psychology, University of Nevada Reno, Reno, NV.

Many patients do not adhere sufficiently to medication regimens, thereby greatly limiting their effectiveness. The purpose of this research study is to develop and assess the efficacy of a bibliotherapy intervention for improving patients' adherence to antihypertensive medications. This theoretically based intervention incorporates principles of motivational interviewing and empirically supported cognitive behavioral strategies for improving adherence behaviors. The intervention aims to teach patients self-tailoring skills to fit general adherence strategies into their lifestyle, while enhancing long-term compliance. Participants were 22 male patients with hypertension who reported current difficulties with adherence to antihypertensive medication(s). Participants completed self-report and objective pill count measures of adherence, in addition to psychosocial measures at baseline, one month, and two month follow-ups. It was hypothesized that participants who received the adherence intervention would experience improvements on self-report and objective measures of adherence at one- and two-month follow-ups as compared to those patients in the wait list condition. It was also expected that participants in the experimental group would experience improvements on measures of psychosocial predictors of adherence from baseline to the two-month follow-up as compared to the wait list condition. The results partially supported these hypotheses. Participants receiving the adherence intervention were found to have significantly greater percentages of adherence (as measured by pill counts) over time as compared to the control group F(1, 19)=18.49, p<.01. However, self-reports of adherence did not significantly differ between groups. Psychosocial measures of depression, self-efficacy, social support for medications, patient-provider relationship, and the impact of adherence barriers on adherence all significantly changed in the predicted directions between groups.

CORRESPONDING AUTHOR: Megan Oser, PhD, Palo Alto Health Care System, San Francisco, CA, 94107; Megan.Oser@va.gov

D-45

WORRIED SICK: THE EFFECTS OF WORRY ON RESPIRATORY SINUS ARRHYTHMIA AND CARDIAC VAGAL CONTROL

Paul W. Goetz, MS, Jebediah J. Northern, MA, William H. O'Brien, PhD and Carmen K. Oemig, MA

Psychology, Bowling Green State University, Bowling Green, OH.

Research has shown that worry leads to a decrease in respiratory sinus arrhythmia (RSA) and cardiac vagal control. Chronic low vagal tone has been associated with a variety of physical ailments, including cardiovascular disease. The relationship between worry and RSA has been studied primarily in student and clinical populations and the assessment of actual thought content during worry inductions is lacking within the literature. The present study investigated effects of trait and experimentally induced worry on RSA in a community sample of mental health workers. As part of a larger study, 49 community mental health workers completed a trait worry measure. Participant heart rate variability was measured (RSA) as they engaged in a 5-minute resting baseline phase, a 5-minute worry phase, a 5-minute control phase, and a 5-minute recovery phase. Between each phase, participants were asked to write about their thoughts that occurred during the preceding phase. At this time, they also rated mood descriptors and provided intensity and duration ratings of worry for each proceeding phase.

A one-way repeated measures ANOVA using experimental condition as the within subjects factor was used to evaluate the extent to which the induction of worry elicited changes in RSA. Results revealed a significant effect for condition, F(1, 3)=3.55, p=.02, such that the worry induction condition, relative to the control and recovery conditions, lead to a significant reduction in RSA. Moreover, trait worry appears to moderate this relationship, which will be emphasized further in the presentation. These findings lend support to the impact worry has on cardiovascular reactivity, vagal function, and, ultimately, cardiovascular health. Further implications will be discussed in line with the polyvagal perspective.

CORRESPONDING AUTHOR: Paul W. Goetz, MS, Psychology, Bowling Green State University, Bowling Green, OH, 43403; pgoetz@bgsu.edu

D-46

CHRONIC PSYCHOSOCIAL STRESS IS RELATED TO DECREASED DIASTOLIC FUNCTION IN YOUTH

Gaston K. Kapuku, MD,PhD,[1,2] Harry Davis, MS,[1] Okwatayo George, Student,[1] Kashala Carter, Student,[1] Gwen Bullock, Associate,[1] Sharika Leverett, student,[1] Shanita Tolbert, BS,[1] James Halbert, Student,[1] Vernon Barnes, PhD[1] and Gregory Harshfield, PhD[1]

[1]Pediatrics &Medicine, Medical College of GA, Augusta, GA and [2]Medicine, Medical College of GA, Augusta, GA.

Background. Psychosocial factors contribute to the manifestation of congestive heart failure (CHF). However,little is known on the effect of chronic stress on diastolic function (DF) which is a strong predictor of CHF.We evaluated whether acute stress induced changes in DF may be accounted for, in part, by self reported chronic stress. Methods. Following a 3 day standardized diet,26 youth (aged 15 to 18) underwent repetitive measures of DF every 30 minutes during a 3 hour protocol,one hour each of: rest,competitive video game and recovery. The ratio of early (E) to late (A) filling from mitral inflow (E/A),mitral annulus early (E') and late (A')velocities,their ratio (E'/A'), and filling pressure (E/E') were used to characterize DF. A battery of questionnaires was administrated to assess chronic stress. Results. Lower E/A ratio during stress was associated with higher anger out (r=-.49, p=0.006)and although not quite statistically significant higher anger expression and lower anger control(r=-.32 and .29, both ps<0.08). Higher E/E' and lower E' during stress were associated with higher neighborhood educational disadvantage(r=.50, p<.01 and r=-.52, p<0.01, respectively). Lower resting and stress E'/A' were associated with higher educational disadvantage (both r= -57, p<.005). The change from rest to stress for E/A was positively related to anger control and expression within the family (r= 41, p=.02; r=.37,p<.04,respectively) while it was negatively related to anger out, anger expression,hostility and feelings of paranoia (r range from-36 to -.53). These associations persisted after controlling for BMI. Controlling for race the change in E'/A' was negatively associated with neighborhood disorder (r=-.36, p <.05). Conclusion. Our results suggest a link between chronic stress and decreased diastolic function in basal condition and during acute mental stress. Further evaluation is needed to ascertain the role of chronic stress on the manifestation of CHF.

CORRESPONDING AUTHOR: Gaston K. Kapuku, MD,PhD, Medical College of Georgia, Augusta, GA, 30912; gkapuku@mail.mcg.edu

D-47

THE EFFECTS OF DEPRESSION AND SLEEP ON HEAR RATE REACTIVITY

Cynthia Karlson, MA, Nancy Hamilton, PhD, Christy Nelson, MA, David Luxton, PhD and Shashank Singh, BA

Psychology, University of Kansas, Lawrence, KS.

Depression has been found to be a risk factor for cardiovascular disease; however, the mechanism driving this relationship is not yet well understood. The present study tested the hypothesis that depression predicted heart rate reactivity to, and recovery from, two stress tasks. Furthermore, we sought to determine whether disturbed sleep mediated or moderated this relationship. Participants were 19 (14 females. 5 males) depressed and 28 never-depressed (10 females, 18 males) undergraduate students (mean age=19.85 years; 87.2 % Caucasian). Depression was diagnosed using the Structured Clinical Interview for Diagnosis (SCID) and sleep (averaged across two preceding nights) was measured using a wrist-worn actigraph device. Following an acclamation period, heart rate was measured continuously during a 10-minute rest period, a 4-minute forehead cold-pressor task, a 6-minute speech task, and a 10-minute recovery period. Task order was counterbalanced. Multilevel modeling was used to evaluate the independent contribution of sleep quality and depression to heart rate during the experimental tasks and recovery period. For the cold pressor task, there was no overall task effect. However, depressed participants had a marginally higher heart rate during recovery ($B=.26$, $p=.09$). In addition, for depressed participants, lower sleep efficiency was related to higher heart rate ($B=-.53$, $p=.02$). Main task effects were observed for the speech task, such that heart rate significantly increased during the task ($B=1.50$, $p<.001$) and decreased during the recovery period ($B=-.70$, $p<.001$). There were no effects of depression on either speech task reactivity or recovery. However, participants with shorter sleep duration had higher heart rates over the course of the speech task and recovery period ($B=-.05$, $p<.01$). These effects were independent of task order, age, gender, ethnicity, BMI, and current medications. These results indicate that sleep and depression are related to cardiovascular functioning. Moreover, clinically depressed individuals who also have poor sleep quality may have a higher tonic heart rate.

CORRESPONDING AUTHOR: Cynthia Karlson, MA, Psychology, University of Kansas, Lawrence, KS, 66046; ckarlson@ku.edu

D-48

THE INFLUENCE OF MARITAL QUALITY AND A “WARM TOUCH” SUPPORT ENHANCEMENT INTERVENTION AMONG MARRIED COUPLES ON AMBULATORY BLOOD PRESSURE, OXYTOCIN

Julianne Holt-Lunstad, PhD,[1] Wendy Birmingham, BS[2] and Kathleen Light, PhD[2]

[1]Psychology, Brigham Young University, Provo, UT and [2]University of Utah, Salt Lake city, UT.

This study investigated whether marital quality influenced physiological stress systems in response to a support intervention (warm touch enhancement) among 34 married couples (n=68) ages 20–39 (m=25.2). Couples were randomly assigned to a “behavior monitoring” control group or participated in a 4-week intervention study in which clinic levels of plasma oxytocin, and 24-hour ambulatory blood pressure were obtained pre- and post-intervention, while salivary oxytocin was taken at home during week 1 and week 4. Marital quality as measured by the Dyadic Adjustment Scale was significantly related to time 1 salivary ($b=.26$; $p<.01$) and plasma ($b=.15$; $p<.01$) oxytocin. Likewise, relationship quality was significantly associated with time 2 salivary ($b=.20$; $p<.01$) and plasma ($b=.13$; $p=01$) oxytocin; however, there was no significant interaction with either intervention condition or sex. Relationship quality was significantly related to 24-hour ambulatory DBP at time 1 ($b=.32$; $p<.05$) and at time 2 ($b=.11$; $p<.05$), but unrelated to 24-hour SBP at either time 1 or 2. Overall, it appears that relationship quality is associated with oxytocin and ambulatory DBP across time regardless of the intervention condition. Although our prior research found an effect of the intervention (Holt-Lunstad, Birmingham, & Light, 2008), lack of an interaction with the intervention condition suggests that relationship quality is influential yet the intervention was associated with improvements across levels of marital quality. In other words, improvement wasn’t isolated to those in distressed marriages; or alternatively that happy couples were more receptive to the intervention.

CORRESPONDING AUTHOR: Julianne Holt-Lunstad, PhD, Psychology, Brigham Young University, Provo, UT, 84602; julianne.holt-lunstad@byu.edu

D-49

IMPACT OF TRANSCENDENTAL MEDITATION® ON LEFT VENTRICULAR MASS IN AFRICAN AMERICAN ADOLESCENTS

Vernon A. Barnes, PhD, Frank A. Treiber, PhD and Gaston K. Kapuku, MD PhD

Georgia Prevention Institute, Medical College of GA, Augusta, GA.

Background: The recurrent and/or sustained exaggerated increases in blood pressure responses to stress are associated with concomitant increases in cardiac and vascular wall tension. It is hypothesized that over time this leads to secondary cardiovascular structural adaptation, that is, vascular and ventricular remodeling to help normalize wall tension. An early sign of ventricular remodeling is increased left ventricular mass which over time may lead to left ventricular hypertrophy, the strongest predictor of cardiovascular morbidity and mortality, other than advancing age. Transcendental Meditation® (TM) has been shown to slow the progression of left ventricular hypertrophy in older African Americans.

Methods: 49 subjects (27 TM; 22 CTL) African American adolescents (age 16.2 ±1.3 years) with high normal systolic blood pressure, were randomly assigned to either 4-month TM or health education control groups. The echocardiographic derived measure of LVM, as well as LVMI (LVM/ht2.7) were measured before and after the 16-week TM study. 2-D guided M mode echocardiography using a Hewlett Packard 5500. M-mode was used to determine interventricular septal thickness, LV cavity dimension and LV free (posterior) wall thickness in triplicate in accordance with the American Society of Echocardiography (ASE) convention. LVM was determined using the following validated formula. LVM=0.8 [1.04 x ((IVSd + LVEDd + LVPWd)3 - LVEDd3)]+0.6.

Results: The TM group exhibited a greater decrease in LVM (-3.3 vs.+ 4.6 gm, $p<.05$), as well as LVMI (-.85 vs +1.1, gm/ht2.7 $p<.03$), compared to the CTL group.

Conclusion: These preliminary results, which require cross validation, indicated significant decreases in LVM and LVMI in the TM group compared to CTL. These findings indicate significant improvements in measures of ventricular structure and function (i.e., decreased LVMI) in African American adolescents at risk for essential hypertension.

CORRESPONDING AUTHOR: Vernon A. Barnes, PhD, Georgia Prevention Institute, Augusta, GA, 30912; vbarnes@mail.mcg.edu

D-50

SES AND BLOOD PRESSURE: COMPARING CAUSAL PATHWAYS IN URBAN YOUTH

Gavin Elder, BSc, Marta Kadziolka, BA, Nina Stoeckel, BA, Michelle Payeur, BA and Craig Ewart, PhD

Psychology, Syracuse University, Syracuse, NY.

Epidemiologic research links socioeconomic status (SES) to cardiovascular (CV) health; evidence that subjective perceptions of SES predict health more strongly than objective indices suggests that psychological processes may contribute to the SES-health gradient. Subjective perceptions of SES take many forms, from global impressions of one’s relative social standing to highly specific perceptions of events in one’s neighborhood. We examined relationships between multiple SES indicators and CV health in urban youth.

Participants (176, age=14.5+ 0.5 years; 40.9 % Black, 39.2% White; 47.7% Female) attended a large urban high school in Upstate New York. Indices of SES included: objective measures of family income and education by parent self report (SR); subjective global SES (parent SR); and frequency of exposure to stressful events in one’s neighborhood (adolescent SR; City Stress Inventory, CSI). Indices of CV health were: blood pressure (BP) and heart rate (HR) recovery following anger recall in the Anger Transcendence Challenge (ATC); and mean level of ambulatory BP (ABP) in the normal environment. BP/HR recovery curves were used to assess recovery from the anger task. Participants wore ABP monitors for 48 hours to estimate their prevailing BP levels.

Results: CV health outcomes were predicted by subjective, but not objective indices of SES. Parents’ global SES ratings were inversely correlated with adolescents’ BP/HR recovery rates after anger, (e.g., SBP, $r=-.19$, $p<.05$), but did not predict ABP levels. Adolescents’ CSI scores predicted ABP levels (e.g., SBP, $r=.17$, $p<.05$), but not BP/HR recovery curves. Conclusions: Subjective SES indices predicted CV outcomes but suggested the influence of different causal mechanisms. Parents’ favorable global perceptions of family SES may enhance their children’s ability to manage negative emotions such as anger. But youths’ daily exposures to neighborhood stressors may have a greater impact on their chronic levels of BP. Other data from this project suggest that exposure to neighborhood disorder may raise BP by inducing stressful personal strivings.

CORRESPONDING AUTHOR: Gavin Elder, BSc, Psychology, Syracuse University, Syracuse, NY, 13210; gjelder@syr.edu

D-51

RELATIONSHIP OF MENTAL AND PHYSICAL COMPONENTS OF QUALITY OF LIFE WITH TREATMENT OF HYPERTENSION

Neha A. Sathe, BA,[1] Michelle Ulmer, BA,[1] Douglas Hirth, BA,[1] Jennifer Friedberg, PhD[1,2] and Sundar Natarajan, MD, MSc[1,2]

[1]VA NY Harbor Healthcare System, New York, NY and [2]NYU School of Medicine, New York, NY.

Treatment for chronic conditions often requires lifelong adherence to prevent serious adverse outcomes, but this may cause side effects. Health-related quality of life (HRQL) is critical in evaluating long-term treatments for chronic conditions, as it captures both the physical and psychosocial ramifications of these conditions. Hypertension is a common chronic disorder associated with physical and psychological symptoms from both the treatment and the disease itself. We evaluated which factors affect the physical and mental health components of HRQL in patients on treatment for hypertension.

We assessed the physical and mental components of HRQL using standardized Mental and Physical Component Scores (MCS and PCS) from the Veterans SF-36. Clinical and psychological predictors evaluated were BMI, perceived stress (PS), medications, exercise, and blood pressure. Since HRQL was not normally distributed, we ran separate robust regressions to test which factors affected MCS, and which affected PCS.

We evaluated 366 adults with hypertension. In univariate analyses, systolic blood pressure (BP) was associated with lower HRQL ($p<.005$), while diastolic BP demonstrated a similar trend ($p=.0568$). In multivariate analyses, including number/frequency of antihypertensive medications, age, BMI, stress, and exercise, BP was no longer significant. PS was a strong negative predictor of PCS ($p<.0001$), even when controlling for BMI. High PS also was associated with low MCS ($p<.0001$), along with the number of antihypertensive pills taken each day ($p<.05$).

The findings offer insight regarding factors that affect HRQL in hypertensive adults. Since the number of antihypertensive pills is associated with lower MCS, approaches that limit the number of pills taken could reduce the psychological impact of the regimen. Further, the influence of PS on both the mental and physical components of HRQL suggests an important target to improve HRQL among hypertensive patients.

CORRESPONDING AUTHOR: Neha A. Sathe, BA, Research and Development, VA NY Harbor Healthcare System, New York, NY, 10010; neha.sathe@va.gov

D-52

CARDIOVASCULAR REACTIVITY AND THE METABOLIC SYNDROME IN ADOLESCENTS

\Amanda Countryman, BS, Patrice G. Saab, PhD, Stephanie L. Fitzpatrick, MS, Judith R. McCalla, PhD, Maria M. Llabre, PhD and Neil Schneiderman, PhD

Psychology, University of Miami, Miami, FL.

Cardiovascular reactivity and the metabolic syndrome in youth have both been shown to predict cardiovascular disease in adulthood. To date, several studies have investigated the relationship between reactivity and individual metabolic syndrome variables. The purpose of this study was to examine whether reactivity was associated with the metabolic syndrome in adolescents. Adolescent boys ($n=109$) and girls ($n=39$), ages 15–17, with systolic (S) and/or diastolic (D) blood pressure (BP) at or above the 90th percentile adjusted for gender, age, and height ($n=57$), as well as normotensive controls ($n=91$), participated in a screening of metabolic variables, as well as laboratory assessment of cardiovascular reactivity. Heart rate (HR), SBP, and DBP reactivity change scores to three tasks (evaluated speaking, star tracing, and cold pressor) were calculated, and individuals were categorized as meeting ($n=23$) or not meeting ($n=125$) the metabolic syndrome designation according to adult AHA criteria.

In separate logistic regression analyses, cold pressor and star tracing reactivity were associated with increased likelihood of the metabolic syndrome. The odds of having the metabolic syndrome decrease by 8.0% for every 1 bpm increase in cold pressor HR reactivity, while the odds of having the metabolic syndrome increase by 8.9% for every 1 mmHg increase in star tracing DBP reactivity. The cold pressor ΔHR for the metabolic vs. no metabolic syndrome groups were 4.4 and 11.3 bpm, respectively. The star tracing ΔDBP for the metabolic vs. no metabolic syndrome groups were 10.0 and 7.0 mmHg, respectively.

The results demonstrated that cardiovascular reactivity to vascular tasks is associated with expression of the metabolic syndrome in adolescents. Furthermore, the attenuated HR response to the cold pressor is consistent with evidence of autonomic dysfunction. Cardiovascular reactivity may be a useful tool in assessing autonomic dysfunction and identifying the metabolic syndrome in youth at risk for cardiovascular disease.

CORRESPONDING AUTHOR: Amanda Countryman, BS, Psychology, University of Miami, Miami, FL, 33143; amanda.countryman@gmail.com

D-53

DO DISPOSITIONAL FACTORS MODERATE ADJUSTMENT TO ICD THERAPY?

Lephuong Ong, PhD,[1,2] Robert Cribbie, PhD,[2] Sabine Johnson, MSc,[5] Ana Bilanovic, BA,[2] Jill Stanley, PhD,[2] Paul Ritvo, PhD,[2] Paul Dorian, MD,[3] David Newman, MD,[4] Louise Harris, MD,[5] Samuel Sears, PhD[6] and Jane Irvine, DPhil[2]

[1]Psychiatry, Duke University Medical Center, Durham, NC; [2]Psychology, York University, Toronto, ON, Canada; [3]Cardiology, St. Michael's Hospital, Toronto, ON, Canada; [4]Cardiology, Sunnybrook Hospital, Toronto, ON, Canada; [5]Cardiology, Toronto General Hospital, Toronto, ON, Canada and [6]Psychology, East Carolina University, Greenville, NC.

Previous research suggests that implantable cardioverter defibrillator (ICD) discharges may be related to poor adjustment. However, the data are inconsistent, and it is unclear whether dispositional factors moderate this relationship. We tested a diathesis-stress model to predict psychological symptoms in 130 ICD patients enrolled in a randomized clinical trial of a psychosocial intervention. Patients completed the Anxiety Sensitivity Index, Life Orientation Test, Hospital Anxiety and Depression Scale, and Impact of Events Scale Revised at baseline and 12 month follow-up. Two path models were tested to examine whether anxiety sensitivity (AS) and pessimism moderate the relationships between ICD discharges (Model 1: shocks, 0 vs. ≥1 shocks; Model 2: electrical storm status, 0 vs. ≥3 discharges in 24 hours) and symptoms of anxiety, depression, and posttraumatic stress (PTSD). Treatment group, sex, age, and heart function were entered as covariates. Most patients were male (81%), with a mean age of 59.9 years ($SD=14.3$). Five percent experienced ≥1 storms and 22% received ≥1 shocks (median for both=1.0) over the study period. None of the interactions were reliable in Model 1. In Model 2, AS moderated the relationship between storm status and change in PTSD ($\beta=.23$, $p=.02$). Simple slope analyses showed that patients who experienced an electrical storm and who had elevated AS exhibited greater increases in PTSD symptoms over the study period, compared to patients with low AS scores. Pessimism predicted change in PTSD in both models ($\beta=.26$, $p=.02$; $\beta=.25$, $p=.01$). No other paths were significant. Although limited by a low incidence of ICD discharges, the results support the use of a diathesis-stress model to understand adjustment to ICD therapy. The clinical implications of these findings require further study.

CORRESPONDING AUTHOR: Lephuong Ong, PhD, Psychiatry/Behavioral Sciences, Duke University Medical Center, Durham, NC, NC, 27710; lephuong.ong@duke.edu

D-54

DEPRESSION AFTER CORONARY BYPASS SURGERY: MODERATORS OF TREATMENT OUTCOMES

Kenneth Freedland, PhD,[1] Rebecca L. Reese, MA,[2] Brian C. Steinmeyer, MS[1] and Robert M. Carney, PhD[1]

[1]Department of Psychiatry, Washington University School of Medicine, St. Louis, MO and [2]Department of Psychology, Washington University School of Medicine, St. Louis, MO.

Background: Depression affects many patients during recovery from coronary artery bypass graft (CABG) surgery, and it increases the risks of rehospitalization and mortality. However, there has been little research on the treatment of post-CABG depression. In the first randomized, controlled trial of psychotherapy for this problem, we randomly assigned 123 patients who met the DSM-IV criteria for major or minor depression within one year after CABG surgery to 12 weeks of cognitive behavior therapy (CBT), supportive stress management (SSM), or usual care (UC). Approximately 50% of the participants were taking nonstudy antidepressants. The primary outcomes have been reported elsewhere (Freedland et al., in press). The purpose of this secondary analysis was to determine whether gender, race, age, anxiety (Beck Anxiety Inventory; BAI), or heart disease attributions predicted depression outcomes or moderated the effects of treatment on depression, as measured by the Beck Depression Inventory (BDI). Method: Each factor was entered into a mixed model along with its interaction with group. Results: There were significant main effects for age ($p<0.0002$), anxiety ($p<0.0001$), and heart disease attributions ($p=0.04$) but not gender or race. There were no significant interactions between treatment group assignment and any of these factors. Conclusions: Older, anxious patients who attribute their heart disease to stress or other emotional factors tend to have worse depression outcomes than other patients. None of the candidate moderates that were examined predicted differential responses to CBT, SSM, or UC for depression after CABG surgery.

CORRESPONDING AUTHOR: Kenneth Freedland, PhD, Washington University School of Medicine, St. Louis, MO, 63108; FreedlaK@bmc.wustl.edu

D-55

FACTORS AFFECTING HEALTH-RELATED QUALITY OF LIFE AMONG PATIENTS WITH HYPERTENSION

Neha A. Sathe, BA,[1] Natalie Young, MSIII,[1] Donald Robinaugh, MA,[1,2] Lily Mundy, Student[1] and Sundar Natarajan, MD, MSc[1,3]

[1]VA NY Harbor Healthcare System, New York, NY; [2]Harvard University, Cambridge, MA and [3]NYU School of Medicine, New York, NY.

Improving health-related quality of life (HRQL) is an important goal in treating chronic conditions such as hypertension. Since pharmacologic treatment is seldom curative, non-pharmacologic treatment, such as aerobic exercise, dietary changes, and reducing stress, is an attractive alternative. As adherence to these modalities requires significant behavioral and lifestyle changes, the related psychological effects may influence HRQL. Our goal is to further clarify which treatment factors affect HRQL in hypertensive patients.

HRQL was measured using the EuroQol, a validated questionnaire that covers 5 health domains (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression) during an ongoing clinical trial of hypertensive adults. Separate questionnaires assessed habits related to diet, medication, and exercise. Perceived stress was measured using the Perceived Stress Scale. Because HRQL scores were not normally distributed, we used robust regressions to analyze whether behaviors aimed at controlling hypertension correlated with HRQL.

Data from 381 adults were analyzed. Increased number of antihypertensive pills taken each day (p<.005) and higher perceived stress (p<.0001) were associated with lower HRQL. In contrast, increasing age (p<.01) and more exercise (p<.0002) were associated with higher HRQL.

The findings indicate that methods to treat hypertension, and not only the condition itself, influence HRQL. In our sample, younger patients reported lower HRQL, which may stem from psychosocial consequences of diagnosis ("labeling") with a chronic disease at a young age. To improve HRQL, clinicians should emphasize treatment plans that reduce stress, increase exercise, and reduce the number of pills/day, particularly among younger patients.

CORRESPONDING AUTHOR: Neha A. Sathe, BA, Research and Development, VA NY Harbor Healthcare System, New York, NY, 10010; neha.sathe@va.gov

D-57

PATTERNS OF COPING BY SELF-MANAGEMENT BARRIER AND TASK IN ADOLESCENTS WITH TYPE 1 DIABETES

Shelagh Mulvaney, PhD,[1] Kenneth Wallston, PhD,[1] Russell Rothman, MD[1] and Alison Hartog, BA[2]

[1]Vanderbilt University Medical Center, Nashville, TN and [2]Vanderbilt Peabody College, Nashville, TN.

Several studies recently have identified patterns of diabetes self-management (SM) or coping across individuals. It may be that coping with barriers to SM varies by barrier type and SM task. The purpose of this study was to take a first step toward identifying possible coping by barrier or task interactions in adolescents with type 1 diabetes (T1DM). Methods: The data are baseline measures from a randomized trial of a problem solving intervention. Subjects were recruited from a diabetes clinic within an academic medical center. Measures analyzed here were selected from the baseline battery and include: a modified Brief COPE, Diabetes Management Behavior Scale, and most recent HbA1c values. Coping behaviors were assessed for frequency and perceived helpfulness. Results: At the time of analyses, 46 adolescents (mean age 15.0, SD 1.5) were enrolled. The most common barriers were those associated with a situation (41%) or feeling (30%). The most common self-management behaviors affected were blood glucose monitoring (33%) and dealing with high/low blood sugars (30%). The frequency of specific coping behaviors from the Brief COPE did not differ across internal (thoughts/feelings) and external (people/situations) barriers. Adaptive coping behaviors were reported more frequently than maladaptive coping for both external (t=11.2, p<.001) and internal barriers to SM (t=7.03, p<.001). Maladaptive coping was not related to any type of SM task (preventive, modifying, high blood, low blood, other), but adaptive coping was related to higher levels of preventive SM (r=.34, p<.05) and managing high blood glucose (r=.40, p<.05). Conclusion: The results indicate that SM task may be more relevant for predicting coping than type of SM barrier. Future analyses will allow for alternate categorizations of barriers, multivariate analyses and examination of interaction terms in predicting successful SM.

CORRESPONDING AUTHOR: Shelagh Mulvaney, PhD, Vanderbilt University Medical Center, Nashville, TN, 37240; shelagh.mulvaney@ vanderbilt.edu

D-58

AN INTENSIVE LIFESTYLE INTERVENTION CAN REDUCE CARDIOVASCULAR RISK FACTORS IN LOW-INCOME PATIENTS WITH DIABETES

Nancy Misicko, MD,[2] Michael Jeremiah, MD[2] and Yvonne Hodgkins, BS[1]

[1]Office of Sponsored Projects, Carilion Clinic, Roanoke, VA and [2]Carilion Family Medicine, Roanoke, VA.

Diabetes affects more than 24 million people in the United States. In this pilot study, we offered the Coronary Health Improvement Project (CHIP - an intensive lifestyle modification program) to a low-income patient population (75% on Medicare, Medicaid or self-pay). Seventeen patients consented to participate in this pilot study and 14 patients completed the study. The CHIP program focuses on a low-fat, plant-based diet and exercise. Study participants participated in lectures, workshops, cooking demonstrations, and discussion sessions over 4 weeks. CHIP program leaders and staff met with participants for 4 nights per week for two-hour sessions. All intervention components were delivered by personnel who would ultimately deliver the program if it were delivered in typical practice (i.e., local physicians and clinical staff). Significant changes in cholesterol (178.6 vs. 152.8), LDL (89.2 vs. 78.4), HDL (40.7 vs. 35.1), triglycerides (282.5 vs. 198.6), hemoglobin A1c (8.2 vs. 7.9), glucose (163.1 vs. 120.6), BMI (38.9 vs. 38.2) and pulse (76.3 vs. 75) were detected from baseline to 4 week follow-up (p's<.05). It was concluded that improvements in health and positive behavioral changes can be made in populations with significant life challenges, and that it is not unreasonable to conclude that similar improvements could be made across populations of varying demographics. Follow-up studies should focus on the cost and longer term effectiveness of CHIP.

CORRESPONDING AUTHOR: Yvonne Hodgkins, BS, Office of Sponsored Projects, Carilion Clinic, Roanoke, VA, 24013; yhodgkins@carilion.com

D-59

GEOGRAPHIC SOCIOECONOMIC STATUS, HEALTH LITERACY AND PERCEIVED BARRIERS TO SELF-CARE IN AT-RISK, UNDERSERVED ADULTS WITH TYPE 2 DIABETES

Kelty Richardson, BA, Whitney Rogers, BA, Jason Bonner, MA, Chelsea Rothschild, MA, Jeff Meyer, MA, Nandita Das, MA, Sri Prakash Mokshagundam, MD, Sathya Krisnasamy, MD, Maiying Kong, PhD and Barbara Stetson, PhD

University of Louisville, Louisville, KY.

Objective: Traditional educational efforts aimed at improving diabetes self-care may not utilize content and delivery approaches that are optimal for persons from socioeconomic and resource limited backgrounds. Understanding of disease-related information and perceived relevance of health care recommendations are critical to their actual implementation. The objectives of this study were to assess diabetes health literacy and perceived "cost-effectiveness" of diabetes care and examine associations between these constructs and SES related variables in an at-risk sample of underserved adults with diabetes receiving care in urban, underserved locales.

Methods: Participants were 254 adults recruited from health department diabetes education programs and university-based medical clinics. Participants completed self-report measures of self-care (SDSCA), diabetes literacy (Diabetes Knowledge Test; DKT) and perceptions of costs and benefits of care (Diabetes Experience of Treatment Benefits and Barriers Scale). Residential geographic SES was coded from census tract data.

Sample Characteristics: Participant M age=57.93, 61% female, 44 % of African American ethnicity; 18% less than high school educated. M diabetes duration diabetes=5.26 years. Census tracts reflected 97% urban locales, with M of 19 % of households (HH) below the poverty threshold, M % home ownership=58%, M % single parent HH=27%. Participants had multiple health conditions with an average of 4.78 comorbidities; M BMI=33.88 (SD=7.99).

Results: Overall, diabetes literacy was low (DKT M=61% correct). Perceived benefits of diabetes care exceeded barriers (p<.001). Participants residing in census tracts with lower home ownership had lower diabetes literacy (p<.057) as did those residing in tracts with more single parent HH (p<.05). Individuals with lower personal educational attainment had lower DKT scores than those with higher education (p<.001) and had lower perceived benefits of self-care scores (p<.01).

Conclusions: Geographic residential location and educational attainment are associated with diabetes health literacy and perceived benefits of diabetes care. Despite an apparent overall perception of benefits of diabetes care, perceived benefits were lower in those with the lowest educational attainment. Perceived relevance of health care and diabetes literacy may be enhanced by targeting individuals of lower educational attainment in at-risk communities using community outreach approaches. Such outreach efforts may help to reduce disparities in diabetes morbidity and mortality.

CORRESPONDING AUTHOR: Barbara Stetson, PhD, University of Louisville, Louisville, KY, 40292; barbara.stetson@louisville.edu

D-60

MATERNAL AND PATERNAL INVOLVEMENT IN ADOLESCENT DIABETES MANAGEMENT ACROSS REGIMENS

Deborah Wiebe, PhD, MPH,[1] Cynthia A. Berg, PhD[2] and Jorie Butler, PhD[2]

[1]Psychology, University of Texas Southwestern Medical Center, Dallas, TX and [2]Psychology, University of Utah, Salt Lake City, UT.

Adolescents with type 1 diabetes display better outcomes when parents remain involved in diabetes care, but we know little about the separate contributions of mother and father involvement, nor about how changing medical technologies (e.g., insulin pump vs multiple daily injections (MDI)) alter families' diabetes experiences. Teens with type 1 diabetes (N=252; aged 10–14 yrs; duration < 1 yr; 54% female; 51% on pump therapy) described their most stressful diabetes events and appraised mother and father involvement in coping (parent appraised as uninvolved, supportive, collaborative, or controlling). Teens completed adherence and quality of life measures, and metabolic control (A1c) was indexed from medical records. Teens on MDI vs pump did not differ on appraised maternal or paternal involvement, p > .27; regardless of regimen, teens appraised fathers as more uninvolved, and less supportive, collaborative, and controlling than mothers, p <.001. Hierarchical regression analyses indicated teens on MDI displayed poorer metabolic control than those on pump, and interactions indicated this occurred primarily when fathers were appraised as uninvolved, p<.05. Similarly, teens on MDI reported poorer adherence, but interactions revealed this was buffered when mothers were appraised as collaborative, p<.05. Across diabetes regimen, appraised maternal collaboration was associated with better A1c, and appraised paternal uninvolvement was associated with poorer adherence, p<.05. Effects occurred independent of age, sex, and illness duration. Results suggest teens benefit in different ways from involvement of both mother and father, particularly when they are on MDI regimens.

CORRESPONDING AUTHOR: Deborah Wiebe, PhD, MPH, Psychology, University of Texas Southwestern Medical Center, Dallas, TX, 75244-9044; deborah.wiebe@utsouthwestern.edu

D-61

PARENTAL WELL-BEING IS ASSOCIATED WITH PARENTAL MONITORING FOR ADOLESCENTS WITH DIABETES

Jorie M. Butler, PhD,[1] Cynthia Berg, PhD,[1] Debra Palmer, PhD[3] and Deborah J. Wiebe, PhD[2]

[1]Psychology, University of Utah, Salt Lake City, UT; [2]Psychiatry, UT Southwestern Medical Center, Dallas, TX and [3]Psychology, UWSP, Stevens Point, WI.

Parental monitoring of adolescents' diabetes management and general behavior is related to better metabolic control among adolescents with diabetes.However, we know little about factors that promote parental monitoring. Parents who are developing successfully even in the stressful family context of diabetes management may be more likely to monitor their adolescents.The current study examined maternal and paternal well-being and parental monitoring.Participants included 252 mothers of adolescents diagnosed with Type 1 diabetes for at least 1 year(92% Caucasion; child age M=12.5;46% male) and 195 participating fathers. Mothers and fathers individually completed questionnaires regarding psychological well-being including personal growth(PG), purpose in life(PL), life satisfaction (LS),and environmental mastery(EM),as well as reporting their monitoring of adolescents' behavior. Diabetes specific and general monitoring for both mothers' and fathers were associated with better metabolic control. After controlling for adolescent age, and including all well-being scales in the model, fathers' EM was associated with his general monitoring and diabetes specific monitoring (β=.26;β =.36, ps<.05.Mothers' EM and PG was associated with her diabetes specific monitoring only (β=.21;β=.20,ps<.05). Parents' positive well-being, particularly both parents environmental mastery (ability to control their own lives) and mothers' personal growth (openness to new experiences), may contribute to psychological resources needed to monitor their adolescents health (for both parents) and general behavior (for fathers). This monitoring important because it is associated with adolescents' concurrent better metabolic control as measured by HbA1c scores, and such metabolic control is associated with long term health outcomes (DCCT, 1993). Further research is necessary to determine whether improving parental well-being could improve adolescents' metabolic control.

CORRESPONDING AUTHOR: Jorie M. Butler, PhD, Psychology, University of Utah, Salt Lake City, UT, 84112; jorie.butler@psych.utah.edu

D-62

DEPRESSIVE SYMPTOMS AND DIABETES SELF-CARE IN RELATION TO GLUCOSE CONTROL IN TYPE 2 DIABETES: EXAMINING THE MODERATING EFFECT OF TREATMENT INTENSITY

Jeffrey S. Gonzalez, PhD,[1,2] Deborah J. Wexler, MD,[3] James B. Meigs, MD[3] and Richard W. Grant, MD[3]

[1]Ferkauf Graduate School of Psychology, Yeshiva University, Bronx, NY; [2]Medicine, Albert Einstein College of Medicine, Bronx, NY and [3]Medicine, Harvard Medical School/Massachusetts General Hospital, Boston, MA.

Aims: We examined the moderating effect of treatment intensity on the relationship between depressive symptoms and glucose control in type 2 diabetes and evaluated diabetes self-care as a potential mediator of the relationship. Methods: 548 type 2 diabetes patients in primary care (mean age=67 y; 56% male; 81% white; 26% on insulin) who had a plasma sample of hemoglobin A1c (HbA1c) drawn within six months prior to the assessment completed the Harvard Department of Psychiatry/ National Depression Screening Day Scale (HANDS) to measure depressive symptom severity and the Summary of Diabetes Self-care Activities to measure diabetes self-care. Linear regression analyses controlled for age, body mass index, and comorbid illnesses. Results: HANDS score was not significantly related to HbA1c in the overall analysis but better adherence to dietary recommendations was associated with lower HbA1c (β=-.11, p=.003). However, insulin use significantly moderated the relationship of HANDS (interaction β=.17, p=.001) and diet adherence (interaction β=-.15, p=.001) to HbA1c. Analyses revealed that diet (β=-.29, p<.001) and HANDS scores (β=.22, p=.009) were only significantly related to HbA1c among patients prescribed insulin. Furthermore, HANDS (β=.20, p=.013) and dietary adherence (β=-.27, p=.001) were independently related to HbA1c in this group when simultaneously entered in a regression model. Conclusions: Both depression and diet were significantly and independently related to HbA1c but only among type 2 diabetes patients on insulin therapy. These findings suggest that these patients, who are most severely affected by the disease, may be particularly vulnerable to the effects of depression and poor diet on glucose control and may benefit most from interventions aimed at treating depression and improving diabetes self-care.

CORRESPONDING AUTHOR: Jeffrey S. Gonzalez, PhD, Ferkauf Graduate School of Psychology, Albert Einstein College of Medicine, Yeshiva University, Bronx, NY, 10461; jsgonzale@aecom.yu.edu

D-63

PREDICTORS OF QUALITY OF LIFE IN PATIENTS WITH SCHIZOPHRENIA AND COMORBID DIABETES

Thomas Wykes, BA,[1] Mayra Anguiano, BS[2] and Christine McKibbin, PhD[1]

[1]University of Wyoming, Laramie, WY and [2]University of California, San Diego, La Jolla, CA.

BACKGROUND: Patients with schizophrenia are twice as likely as the general population to have diabetes. Literature shows that having both schizophrenia and diabetes results in lower quality of life (QOL) than having schizophrenia alone. Although a growing body of literature identifies determinants of QOL in schizophrenia and diabetes populations independently, little work has been done to examine predictors of QOL in patients with both disorders. The purpose of this study was to identify determinants of QOL in patients with both schizophrenia and diabetes.

METHODS: A total of 64 participants with schizophrenia or schizoaffective disorder (mean age 53.8, SD=9.0) were included in this study. A majority was male (58.5%) and Caucasian (56.9%). The interview included socio-demographics, diabetes complications, negative psychiatric symptoms, depressive symptoms, cognitive functioning, and QOL. Significant correlates of QOL were identified and entered into a direct linear regression.

RESULTS: Lower QOL was correlated with more severe depressive symptoms (p<.01), more diabetes complications (p<.05), and better cognitive functioning (p<.05), but not with gender or negative psychiatric symptoms. Results of our regression analysis revealed that greater depressive symptom severity (t(63df)= 2.8, p<.05) and better cognitive functioning (t(62df)=2.3, p<.05) predicted poor QOL. These predictors accounted for 28% of the variance in QOL.

CONCLUSION: Our results suggest that depressive symptoms may be an important target for interventions aimed at improving quality of life in patients with schizophrenia and diabetes - possibly even more important than targeting diabetes complications.

CORRESPONDING AUTHOR: Thomas Wykes, BA, Psychology, 3415, University of Wyoming, Laramie, WY, 82071; twykes@uwyo.edu

D-64

SOCIAL ISOLATION IS ASSOCIATED WITH GEOGRAPHIC SOCIOECONOMIC STATUS AND QUALITY OF LIFE IN AT-RISK, UNDERSERVED ADULTS WITH TYPE 2 DIABETES

Whitney Rogers, BA, Jeff Meyer, MA, Chelsea Rothschild, MA, Jason Bonner, MA, Nandita Das, MA, Kelty Richardson, BA, Sri Prakash Mokshagundam, MD, Sathya Krisnasamy, MD, Maiying Kong, PhD and Barbara Stetson, PhD

University of Louisville, Louisville, KY.

Objective: Low SES is associated with a disproportionate burden of chronic disease morbidity and mortality. Demanding living conditions and limited social support may pose considerable difficulties. This study examined social isolation and its association with SES and health related outcomes in an at-risk population of adults with type 2 diabetes.

Methods: Participants were 254 adults recruited from health department diabetes education programs and university medical clinics providing care for primarily underserved, indigent adults. Outcomes were self-reported diabetes history, self-care, psychosocial functioning and quality of life.

Sample Characteristics: Participant M age=57.93, 61% were female, 44 % were African American. Geographic SES data was obtained via U.S. census tracts reflected a M % of households (HH) below the poverty threshold=19% and M % of single parent homes=27.5%. Self-report indicated that 39% of the sample lived alone. For those aged 70 and older (n=41), 61% lived alone. Health risks were high, with 92% overweight or obese and 78% hypertensive M number of chronic health conditions=4.78. Norm-based scores on the SF-12 were lower while self-reported depressive symptomology was high, with the M score on the CES-D 10 (9.41) nearly at the accepted instrument "cut off" for "probable depression" (> 10).

Results: Those living alone vs with others did not differ by age, ethnicity or gender. Age was significantly associated with health conditions and the SF-12. Analyses, controlling for age, examined the effects of social isolation (i.e. solitary living status). Outcomes were geographic SES, self-care, number of health conditions and quality of life. ANCOVAs indicated that social isolation was significantly associated with both geographic SES and quality of life. No significant associations were observed for self-care or number of health conditions. Those living alone were more likely to dwell in census tracts with higher % of HH below the poverty threshold ($p<.05$) and higher %s of renters ($p<.01$). Social isolation was associated with lower SF-12 Physical Component Summary score ($p<.01$) and Physical Function and Role Physical subscale scores ($p<.05$).

Conclusions: Results suggest that those living alone (more likely in the oldest adults in this sample) resided in more low-resource and transient neighborhoods and despite equivalent levels of diabetes knowledge and self-care had lower quality of life reflecting physical function. Interventions to enhance social and community support for living with diabetes may enhance functioning and quality of life in underserved communities.

CORRESPONDING AUTHOR: Barbara Stetson, PhD, University of Louisville, Louisville, KY, 40292; barbara.stetson@louisville.edu

D-65

A FORMATIVE EVALUATION FOR ADAPTING A PATIENT NAVIGATION PROGRAM IN DIABETES CARE: OPPORTUNITIES AND CHALLENGES

Kuang-Yi Wen, PhD, Linda Fleisher, MPH, Theresa Berger, MBE, Rachel Gallo, BS, Danielle Crookes, MPH, Suzanne Miller, PhD and Gillian Smith, BS

Fox Chase Cancer Center, Cheltenham, PA.

Patient navigation has been used to improve cancer care including screening, diagnosis, treatment and follow-up. Little is known about its potential and effectiveness with other chronic diseases. Sponsored by the Pennsylvania Department of Health, we conducted a formative evaluation and needs assessment at three healthcare organizations regarding the need for and practicality of developing a patient navigation program in diabetes disease.

Semi-structured interviews and focus groups were conducted to identify gaps in existing clinical practice and potential role for a navigation program. Total of 24 participants were interviewed across three sites and roles of participants in providing diabetic care varied including clinicians, administrators, coordinators, educators, and operation managers. Content analysis of the interview transcripts was conducted to understand professionals' needs in providing diabetes care, potential opportunity for adapting a navigation program, and possible challenges with such adaptation.

Lack of patient education was reported as the most significant unmet need in managing diabetes. Secondarily, assisting patients for medical insurance and financial programs was also cited as a major factor in patient's compliance. Monitoring patient over time and facilitating communication between various providers were recommended for navigator roles. The most significant challenge frequently stated for implementation was available funding. Establishing a champion at the upper levels of the institution was also raised as an important implementation factor. Diabetic patients need continuity of support, monitoring, and resources for a disease management. There support that there is great potential for a patient navigation in diabetic care, but more research is needed to develop the appropriate models to fit the needs of individual institution and seek supporting funds.

CORRESPONDING AUTHOR: Kuang-Yi Wen, PhD, Fox Chase Cancer Center, Cheltenham, PA, 19012; Kuang-Yi.Wen@fccc.edu

D-67

IMPROVING MEDICAL CARE FOR LIMITED ENGLISH PROFICIENT POPULATIONS: A BEHAVIORAL ANALYSIS OF PRACTICES AND FACTORS OF QUALITY INTERPRETING BY BILINGUAL STAFF

Stergios Roussos, PhD, MPH,[1] Melbourne Hovell, PhD, MPH,[2] Linda Hill, MD, MPH,[3] Amelia Newsam, MS,[5] Mary-Rose Mueller, PhD, RN[4] and Nadia Salas, MPH[2]

[1]ACRD/SDSU CBEACH, Merced, CA; [2]GSPH, SDSU/CBEACH, San Diego, CA; [3]UCSD, San Diego, CA; [4]USD, San Diego, CA and [5]ACRD, Merced, CA.

Language barriers significantly affect the delivery and effectiveness of medical care. Because most providers do not speak the foreign languages represented among patients, bilingual staff who are not formally trained in and whose primary job role is not interpreting are commonly used as interpreters. Increasingly, governmental and professional organizations who monitor quality are calling for assessment and improvement of interpreting. Interpreting in behavioral medicine faces specific challenges due to complex cultural factors that interact with language in patient-provider communication. At the current time, there is not a systematic method to monitor and assure the quality of interpreting in medical care. A behavior analysis was conducted to understand the conditions that may influence the quality of interpreting by bilingual staff. National and state standards for medical interpreting were reviewed to describe practices and skills indicative of quality interpreting (e.g., identifying the main message to interpret, slowing down the speed of communication, asking for clarity). The literature on the practice and effectiveness of interpreting in medical care was reviewed to identify antecedents and consequences that shape and sustain practices recommended by national and state medical interpreting associations. Discussions with bilingual staff who interpret in medical settings and trainers of medical interpreters were conducted to clarify and validate the factors that may influence the quality of interpreting by bilingual staff. The analysis offers a description of the practices that illustrate quality interpreting and the conditions that influence these practices (e.g., provider, patient, staff, and organizational factors). Recommendations for how to identify and support quality interpreting are offered for providers and administrators working to reduce health and health care disparities.

CORRESPONDING AUTHOR: Stergios Roussos, PhD, MPH, ACRD/CBEACH, Merced, CA, 95340; sroussos@acrd.us

D-68

A DEVELOPMENTAL PERSPECTIVE IN HEALTH PSYCHOLOGY RESEARCH: PRINCIPLES AND RATIONALE

Mary J. Naus, PhD, Teona Amble, BA, Irene Teo, MA, Lance Chamberlain, BA and Lisa Hughes, BA

Health Psychology Research Group, University of Houston, Houston, TX.

Many health psychology studies measure the health experience at one time point and average quality of life outcomes across individuals. However, health and illness are ongoing and dynamic and extend beyond a single point of reference. The absence of theory-driven work and the difficulties of longitudinal designs are obstacles to incorporating a developmental perspective in health psychology research. We derived three principles from developmental psychology and developmental psychopathology to overcome these obstacles and to facilitate the transition to a developmental perspective. This paper defines these principles, providing empirical examples, such as our research on breast cancer survivorship and parental illness, and methodological implications for each. First, change across the lifespan focuses on the interaction between developmental factors and health experience on adjustment, adopting Baltes's (1996) lifespan perspective, and the assessment of outcomes during critical developmental periods and critical time periods of the illness or health behavior. Second, we propose that an individual's developmental and health experiences are ongoing and dynamic, through the continuous interaction between active and changing individuals and their active and changing environment (Steinberg & Avenevoli, 2000) with growth curves and trajectories capturing the ongoing and dynamic nature. Third, consideration of the individual's context addresses contributing factors to variation in the health experience, which can be understood by testing moderators of outcomes and using cohort designs. We demonstrate the three principles with theories from traditional health psychology (i.e. Leventhal), developmental psychology (i.e. Bowlby), and developmental psychopathology (i.e. Cicchetti & Toth). In all, the paper provides the rationale for a developmental perspective in health psychology and practical ways to incorporate the perspective into research questions, study design, and the interpretation and application of empirical findings.

CORRESPONDING AUTHOR: Teona Amble, BA, Health Psychology Research Group, University of Houston, Houston, TX, 77064; altita62@ yahoo.com

Meritorious Student Poster

D-70

CAN THE BRIEF COPE AND RCOPE BE USED IN HIV+ SAMPLES?

David A. Martinez, BA,[1] Kathy Goggin, PhD,[1] Mary M. Gerkovich, PhD,[1] Karen B. Williams, PhD[2] and Delwyn Catley, PhD[1]

[1]Psychology, University of Missouri-Kansas City, Kansas City, MO and [2]Dentistry, University of Missouri-Kansas City, Kansas City, MO.

Despite becoming more of a chronic condition, coping with HIV is still difficult. Having reliable and valid measures of coping for this population is important and to date has not been established. The purpose of this study was to examine the underlying structure and reliability of two established coping scales, the Brief COPE and Religious Cope (RCOPE) among HIV+ patients on antiretroviral therapy (ART). Both coping measures were adapted for use with HIV+ patients and assessed general forms of coping (Brief COPE) and specific types of religious/spiritual coping (RCOPE). Patients (n=202) enrolled in Project MOTIV8 (mean age 40.5, SD=9.5, 57.2% African American) provided demographic information and completed both coping scales. Factor analysis with oblique rotation of the Brief COPE revealed that items loaded (loadings > .4) on seven factors with eigenvalues >1 and accounted for 59.8% of the variance. With one exception, seven factors were consistent with the previously published sub-scales of: Positive Reframing, Denial, Venting, Social Support, Religious/Spirituality, Substance Use, and Self-Distraction. Factor analysis with oblique rotation of the RCOPE revealed that items loaded (loadings > .7) on three factors with eigenvalues >.91 and accounted for 78.5% of the variance. Again emerging factors, Collaborative, Self-directing, and Deferral Religious Coping, were consistent with previous studies. Chronbach's α analyses of all multi-item sub-scales revealed strong reliability (α=.74 -.87) for all scales except the Brief COPE's Venting (α=.35) and Self-Distraction (α=.61) subscales. Findings indicate that our adapted versions of the Brief COPE and RCOPE were reliable, produced similar factor structures as other published studies, and may be useful in inquiries with HIV+ individuals.

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CORRESPONDING AUTHOR: David A. Martinez, BA, Psychology, University of Missouri-Kansas City, Kansas City, MO, 64110; dam7v7@ umkc.edu

D-71

ASSOCIATIONS BETWEEN THE MILLON BEHAVIORAL MEDICINE DIAGNOSTIC (MBMD) AND PHYSIOLOGICAL INDICES OF DISTRESS AND DISEASE PROGRESSION IN HIV/AIDS

Caitlin B. Burbridge, MA,[1] Dean G. Cruess, PhD,[1] Michael H. Antoni, PhD[2] and Theodore Millon, PhD[3]

[1]Clinical Psychology, University of Connecticut, Storrs, CT; [2]Center for Psycho-Oncology Research, University of Miami, Coral Gables, FL and [3]Institute for Advanced Studies in Personology and Psychopathology, Port Jervis, NY.

Psychological, social, and behavioral factors may impact physiological indices of distress and rate of disease progression among individuals with HIV/AIDS. The present study examined the association of psychosocial and behavioral characteristics, assessed by the Millon Behavioral Medicine Diagnostic (MBMD; Millon et al., 2001), biological markers of distress (24-hour urinary cortisol output), and HIV disease progression (lymphocyte counts: CD4 and CD8 cells; HIV viral load), among an ethnically diverse sample of 147 HIV-positive individuals (63% men, 37% women). A number of specific indices and summary scales of the MBMD were significantly associated with the physiological markers. Lower urinary cortisol output was related to higher scores on several adaptive MBMD Coping Style scales, including confidence (r=-.296, p<.01), sociable (r=-.243, p<.01), and respectful (r=-.315, p<.01), and to lower scores on Problematic Compliance (r=.235, p<.01). Greater scores on Denigrated Coping Style (r=-.187, p<.05), and Problematic Compliance (r=-.177, p<.05) were related to lower CD8 cell counts. Higher scores on the overall MBMD Psychiatric Referral Summary Scale (r=.233, p <.05) were related to higher HIV viral load. Individuals scoring in the highest clinical range for Psychiatric Referral had significantly higher HIV viral load levels (t=-3.146, p<.05) and lower CD8 cell counts (t=2.379, p<.05) than those in the lowest quartile. These results suggest that the MBMD may help identify psychosocial characteristics associated with biomarkers of distress and disease progression in persons with HIV and thus may be useful in predicting individual differences in response to treatment.

CORRESPONDING AUTHOR: Caitlin B. Burbridge, MA, Clinical Psychology, University of Connecticut, Storrs, CT, 06269-1020; caitlin.burbridge@uconn.edu

D-72

CONDOM USE IN HIV+ ADULTS: RELIGION/SPIRITUALITY & OPTIMISM UNIVERSITY OF NORTH TEXAS PSYCHOLOGY DEPT.; 1155 UNION CIRCLE #311280, DENTON, TEXAS 76203-5017. 940-565-4715; VOSVICK@UNT.EDU

Tara C. Steinberg, MA (earning PhD),[1] Mark A. Vosvick, PhD[1] and Nathan G. Smith, PhD[2]

[1]Psychology, University of North Texas, Denton, TX and [2]Psychology, Texas Woman's University, Denton, TX.

HIV infection rates are disproportionate in U.S. communities (73% male; 49% African American and 18% Latino(a)(CDC, 2003). Unsafe sex accounts for 67% of transmission in MSM and 80% in heterosexual women, with one third of HIV + continuing to engage in unprotected sex (Hirky et al., 2003). The Theory of Planned Behavior (Ajzen, 1985) explains intentions via attitudes, social norms and perceived behavioral control; thus we examined religion/spirituality and optimism as correlates of decision making with sex. We hypothesized a model including these predictors to explain a significant portion of the variance in unsafe sex in an HIV+ gender balanced sample.

Participants (n=267; 49.4% women; 54% African American, 30% European American, 12% Latino(a) and 4% Other) recruited in the Dallas Metroplex reported an average age of 41.7 years (SD=8.1) and completed a medical, demographic, and sexual relationships questionnaire, the Ironson-Woods S/R Index (spirituality/religion)and the Extended Life Orientation Test (for optimism; Chang et al., 1997). Logistic regression analyses of three models revealed that our predictors explained 15.6% of the variance in condom use with an HIV+ partner (B=.46, S.E.=.12, p<.01; OR=1.6; the most significant predictor was optimism (OR=1.9; CI 95%=1.16, 3.08; p=.01)); 14.6% of the variance in condom use with an HIV- partner (B=1.05, S.E.=.14, p<.01; OR= 2.9; spirituality was most significant(OR= 1.0; CI 95%=1.01, 1.06; p=.01)); and 12.7% of the variance in condom use with a partner whose HIV status was unknown (B=1.11, S.E.=.14, p<.01; OR=3.1); optimism was most significant (OR=1.9; CI 95%= 1.13, 3.32; p=.01)). The only demographic variable examined that demonstrated significant variation was ethnicity; non-European Americans used condoms more when HIV status was unknown, t (265)=2.11, p=.04.

These findings suggest that religion/spirituality and optimism are predictors of condom use in HIV+ adults.

CORRESPONDING AUTHOR: Tara C. Steinberg, MA (earning PhD), Clinical Health Psychology, University of North Texas, Dallas, TX, 75219; tcs0079@unt.edu

D-73

PERSPECTIVES OF RISK COMPENSATION AND MALE CIRCUMCISION AMONG MEN AND WOMEN ATTENDING STI CLINICS IN SOUTH AFRICA

Lisa Eaton, MA and Seth Kalichman, PhD

University of Connecticut, Storrs, CT.

Multiple recent studies have supported the effectiveness of male circumcision for providing protection against HIV infection. However, the protection that male circumcision provides is not 100% and is estimated to provide about a 60% reduction in HIV transmissions. For the current study, we examined the potential for risk compensation to occur-an increase in risk behaviors as a result of perceived lowered risk for HIV transmission-with male circumcision. Clients attending STI clinics in South Africa participated in cross sectional surveys on risk compensation and male circumcision. We measured attitudes toward condom use and male circumcision, motivations for male circumcision (traditional and health reasons), HIV risk histories, substance use, and risk behaviors. Additionally, participants were asked to rate the HIV risk associated with different sexual behaviors which included asking about behaviors when the male partner is circumcised. In total, 400 participants completed assessments. Preliminary data analyses demonstrate that participants who engage in high risk behaviors for HIV infection are also more likely to believe that male circumcision reduces the need for condom use. Moreover, these participants reported more favorable attitudes about the benefits of male circumcision. With increases in numbers of men seeking male circumcision for HIV prevention more efforts need to be made to understand how male circumcision affects sexual risk decision making. With a further understanding of the effects of male circumcision, interventions to reduce the potential for increases in risk behavior can be better informed and mitigate the likelihood of risk behavior offsetting the benefits of male circumcision.

CORRESPONDING AUTHOR: Lisa Eaton, MA, University of Connecticut, Storrs, CT, 06268; lisa.eaton@uconn.edu

D-74

HIV TESTING BELIEFS AND BEHAVIORS AMONG AN AFRICAN AMERICAN CHURCH POPULATION

Jannette Y. Berkley-Patton, PhD,[1] Starlyn Hawes, BA,[1] Carole Bowe Thompson, BA[2] and Erin Moore, BA[1]

[1]Psychology, University of Missouri-Kansas City, Kansas City, MO and [2]Calvary Community Outreach Network, Kansas City, MO.

African Americans who are unaware of their HIV-positive status likely contribute to the disproportionately high reported rates of HIV in this population. Updated HIV testing guidelines advise routine screening of all individuals aged 13 and 64 in medical settings. However, studies indicate disparities in health care access for many African Americans and that the travel distance to HIV testing sites may prohibit some from seeking HIV testing services. Given their reach and influence, African American churches are potentially ideal settings for providing HIV testing. However, little is known about HIV screening behaviors and beliefs among African American church populations. In the current study, we surveyed members (N=346; 65% female; mean age=47 (SD=15); 80% Baptist) from African American churches in a Midwestern city on their beliefs and practices related to HIV screening. Overall, 87% of our sample attended church weekly or more often. Our findings indicated that 68% of respondents had received an HIV test in their lifetime with significantly more men reporting receipt of an HIV test than women (p=.016). Only 45% of respondents received an HIV test in the last year. The most frequently reported reason for getting an HIV test was concern about personal HIV risks (23%). Primary HIV testing locations used by respondents included their physician's office (37%), health clinic (21%), and hospital outpatient department (11%). Furthermore, a large majority of respondents moderately to strongly believed HIV testing should be discussed (86%) and offered (77%) in their church. However, 61% of respondents reported being somewhat to very concerned about being treated differently if they tested positive for HIV. This study's findings suggest that HIV screening may be well accepted in church settings among African American church members, and future design of church-based HIV screening interventions should address HIV-related stigma.

CORRESPONDING AUTHOR: Jannette Y. Berkley-Patton, PhD, Psychology, University of Missouri-Kansas City, Kansas City, MO, 64110; berkleypattonj@umkc.edu

D-75

TAKING IT TO THE PEWS: A FEASIBILITY STUDY ON AN HIV EDUCATION AND PREVENTION TOOL KIT APPROACH TAILORED FOR AFRICAN AMERICAN CHURCHES

Jannette Y. Berkley-Patton, PhD,[1] Carole Bowe Thompson, BA,[2] Andrea Bradley-Ewing, MPA[1] and Eric Williams, BA[2]

[1]Psychology, University of Missouri-Kansas City, Kansas City, MO and [2]Calvary Community Outreach Network, Kansas City, MO.

Few studies have explored how the African American church - an institution with high African American attendance rates - can serve as a viable partner in delivering HIV education and prevention interventions. Taking It to the Pews (TIPS) is a pilot intervention(N=12 churches) to promote HIV education and prevention using culturally/religiously tailored materials with African American churches in metro Kansas City. Intervention materials (e.g., sermons guides, responsive readings, interactive games) and procedures were packaged in an HIV Prevention and Action Tool Kit. Key intervention strategies included: a) pastors and church liaisons delivering Tool Kit activities through churchwide services and ministry groups, and b) ongoing training and technical assistance with church leaders on Tool Kit use. TIPS church leaders participated in focus groups on facilitators and barriers to TIPS implementation and completed event logs on delivery of TIPS activities. TIPS church members participated in surveys on exposure to TIPS activities and beliefs about church involvement with HIV issues. On average, church leaders delivered two Tool Kit activities per month through churchwide services (e.g., Sunday morning services, Wednesday night bible studies) and ministry groups (e.g., men's ministries, choir). Focus group findings indicated HIV stigma, lack of HIV information, and topics on sex were critical barriers to implementing church-based HIV interventions. Surveys completed by church members (N=312) indicated that they were highly exposed (>80%) to intervention activities. Also, they received significantly more encouragement from other church members to get tested for HIV than from family or friends, and the majority held strong beliefs that the church should be involved in providing HIV-related services. Strategies for working collaboratively with faith leaders in delivering African American church-based HIV interventions will also be discussed.

CORRESPONDING AUTHOR: Jannette Y. Berkley-Patton, PhD, Psychology, University of Missouri-Kansas City, Kansas City, MO, 64110; berkleypattonj@umkc.edu

D-76

A CULTURAL PERSPECTIVE ON SEXUAL HEALTH: HIV+ AND HIGH RISK MONOLINGUAL HISPANIC WOMEN

Olga M. Villar-Loubet, PsyD, Szonja Vamos, BS, Deborah Jones, PhD and Weiss Stephen, PhD, MPH

Psychiatry & Behavioral Sciences, University of Miami, Miami, FL.

Miami has one of the largest, most diverse Hispanic populations in the US. With a population of 2.3 million, the county is primarily Hispanic (61%) (Miami-Dade County Health Department, 2004). NOW en Español is a culturally and linguistically adapted cognitive behavioral sexual risk reduction intervention for Hispanic women, created to address the needs of an underserved sub-group of the Hispanic community, HIV positive and high risk, monolingual Spanish speaking women. We sought to examine issues such as HIV, sexual health, and cultural values and beliefs, from the perspective of these less-acculturated Hispanic women. The intervention targeted psychosocial, behavioral and environmental factors that might influence the initiation and maintenance of sexual barrier use. Qualitative data was collected to assess participant reactions to intervention topics such as HIV/STD prevention and transmission, reproductive choice, conflict resolution, communication, sexual negotiation and an educational/experiential program to increase use of and adherence to sexual barriers. 82 HIV positive (n=30) and high risk (n=52) women (Central American, n=38; South American, n=17; Puerto Rican, n=15; Cuban; n=12) participated in the intervention. Average age was 44 years, SD=12.05; average age of immigration to the US was 31 years (SD=12.08). Sixty-four percent were unemployed (n=53), 18.3% were on disability (n=15). Mean income was less than $5000 annually (54%, n=44), and mean level of educational attainment was 10th grade (SD=3.63) or equivalent. Qualitative feedback in response to the intervention suggested that cultural values and beliefs influenced attitudes toward intimate partner violence, sexual negotiation and assertiveness, independent of sero-status. Hispanic cultural values and beliefs, such as Machismo, Marianismo, Sexual Silence, beliefs about illness and stigma-related diseases, were highly salient to sexual health issues, thereby highlighting the need for high levels of cultural sensitivity in the development of sexual risk reduction interventions.

CORRESPONDING AUTHOR: Olga M. Villar-Loubet, PsyD, Psychiatry & Behavioral Sciences, University of Miami, Miami, FL, 33136; OVillar2@med.miami.edu

D-77

DEMOGRAPHIC AND PSYCHOSOCIAL PREDICTORS OF HEALTHCARE UTILIZATION AMONG MINORITY HIV+ WOMEN

Olga M. Villar-Loubet, PsyD, Eliot Lopez, BS, Deborah Jones, PhD and Stephen Weiss, PhD, MPH

Psychiatry & Behavioral Sciences, University of Miami, Miami, FL.

SWPII is a CBSM intervention for HIV+ minority women in Miami and NY. Baseline analyses explored the relationships between demographic and psychosocial factors and healthcare utilization. Participants (N=455) from Miami (n=205) and NY (n=250) were African American (Miami 49%, NY 35%), Hispanic (Miami 22%, NY 51%), Haitian (Miami 20%, NY 7%) and White non-Hispanic (Miami 5%, NY 2%). Women were primarily unemployed (75%), mean age of 42; primary route of HIV infection was sexual contact (70%). The majority (77%) of participants were on antiretroviral medications. Most women in Miami (66%) and nearly half in NY (46%) were living in poverty (<$5000/yr). Many had drug (34%) and/or alcohol dependence (18%) histories. Medical utilization (F [4,432]=2.820, p=.025) and psychological services (F [4,432]=3.475, p=.008) differed by ethnicity. Hispanics reported greater utilization of medical and psychological services than all other ethnicities. Sites differed in medical utilization rates (t[445]=-2.196, p=.029); NY reported greater rates, possibly due to differing ethnic ratios within sites. There were no ethnic differences in the perceived quality of services; NY reported higher perceived quality of services (t [369]=2.729, p=.007). Higher educational attainment was negatively associated with use of Religious (r=-.223, p<.01) and Social Support Services (r=-.105, p=.028). Having children was not associated with increased utilization of medical, psychological, support, or religious services. Results support existing literature on ethnic differences in healthcare and social service utilization and perceived quality of care. Higher rates of service utilization by Hispanics may be due to cultural factors (somatization, respect for authority). Higher rates in utilization of services by NY women may be due to accessible public transportation and proximity to service locations. Multi-disciplinary interventions should be developed to respond to factors associated with minority women's access to and utilization of healthcare and social services.

CORRESPONDING AUTHOR: Olga M. Villar-Loubet, PsyD, Psychiatry & Behavioral Sciences, University of Miami, Miami, FL, 33136; OVillar2@med.miami.edu

D-78

MENTAL HEALTH CORRELATES IN HIV+ ADULTS: SELF-EFFICACY, CONTROL & LONELINESS

Marissa C. Perales, BA[1] and Mark A. Vosvick, PhD[2]

[1]Psychology, University of North Texas, Lewisville, TX and [2]Psychology, University of North Texas, Denton, TX.

The relationship between person, environment and behavior is complex in disease settings (Bandura 2001). Self-efficacy plays an important role in medical outcomes in chronic disease populations (Wu et al., 2006). People living with HIV (PLH) who successfully adjust to their disease report decreased or no symptoms (Pakenham & Rinaldis, 2001). Additionally, not ascribing events to chance (Burns et al., 2005) and less loneliness are linked to higher levels mental health (Ransom, 2008).

We hypothesized self-efficacy (Self-Efficacy for Managing Chronic Disease; Lorig et al., 2001), locus of control (Locus of Control - Health; Reid & Ware, 1973), and loneliness (UCLA Loneliness Scale; Russell, 1996) are associated with mental health (MOS-HIV; Ware & Sherbourne, 1992) in HIV+ adults. Participants (N=60, 51.7% female) recruited from the DFW Metroplex self-identified as African-American (68.3%), European-American (30.0%), and Latino(a) (1.7%), with an average age of 47.6 (SD=7.59). A linear regression analysis, controlling for gender and whether participants had health insurance, revealed our model accounted for 34% of variance in mental health [Adj. R2=.34,F(5,54)=6.96,p<.001]. Higher levels of self-efficacy (β=.11,t=2.54,p<.05) and locus of control (β=.20,t=2.82,p<.01), but lower levels of loneliness (β=-.20,t=-2.74,p<.01) were significantly associated with improved mental health.

We also hypothesized that self-efficacy may serve as a moderator. Additional regression analyses revealed that self-efficacy moderated both the relationships between mental health and the two predictor variables: locus of control (B=.01,t=3.94,p<.001) and loneliness (B=-.01,t=-1.98, p<.05).

Psychosocial factors, particularly self-efficacy, interact to determine behavior and quality of life outcomes (Bandura 2001). Clinical interventions that improve self-efficacy for managing HIV, locus of control and help to reduce loneliness may improve mental health for PLH.

CORRESPONDING AUTHOR: Marissa C. Perales, BA, Psychology, University of North Texas, Lewisville, TX, 75067; mariceleste@gmail.com

D-79

GENDER DIFFERENCES IN COPING STRATEGIES OF HIV+ ADULTS: TRAUMA AND FORGIVENESS

Kyle A. Deaton, Psychology, Mark Vosvick, Ph d and Jonathan Hill, BA

University of North Texas, Denton, TX.

Forgiveness is associated with better mental and physical health (Lawler et al., 2005). Trauma has been linked to psychosocial difficulties such as anger, anxiety, depression, etc. (Friedberg et al., 2005). Men tend to take direct action, whereas women endorse more passive coping strategies (i.e. prayer) (Thoits, 1991). We hypothesize that gender differences will be found in adaptive coping strategies when dealing with trauma and forgiveness in people living with HIV (PLH), where men will practice more active coping and women will utilize passive coping.

We used a cross-sectional, correlational design to explore the relationship between trauma, forgiveness, and adaptive coping in 61 PLH (51.6% female; 66.1% African-American, 29% European American). Participants completed the Brief Cope Scale (BCS: Carver, 1997), the Heartland Forgiveness Scale (Thompson et al., 2005), and Trauma History Questionnaire (Green, 1996). Religion, acceptance, active coping, emotional support, instrumental support, planning, humor, and positive reframing were the adaptive coping measures used in the BCS. Our model consisted of trauma, forgiveness, and gender as the predictor variables and the adaptive coping strategies as the outcome variables. Linear regression analyses revealed that trauma (β=.24,t=2.02, p<.05) and forgiveness (β=.37,t=3.09,p<.01) accounted for 20% (adj. R2=.20,f=7.75, p<.01) of variance in positive reframing. Trauma (β=.30,t=2.67, p<.01) and forgiveness (β=.46,t=3.98, p<.01) also accounted for 30% (adj. R2=.30,f=9.08,p<.01) of variance in acceptance. Interestingly, gender (β=.36,t=3.05, p<.01) and forgiveness (β=.33,t=2.97,p<.01) explained 26% (adj. R2=.26,f=7.45, p<.01) of variance in religious coping. Our findings suggest that religious coping, acceptance, and positive reframing are utilized more by an HIV+ population due to the need to assign meaning to external hardships in life. Clinical interventions may include teaching forgiveness, which is a teachable skill, to train PLH to cope more adaptively to traumatic situations.

CORRESPONDING AUTHOR: Kyle A. Deaton, Psychology, University of North Texas, Denton, TX, 76201; Deaton212@msn.com

D-80

QUALITY OF LIFE AMONG HIV+ INDIVIDUALS INVOLVED IN SMOKING CESSATION TREATMENT

Marcel A. de Dios, PhD, Cassandra Stanton, PhD and Raymond Niaura, PhD

Department of Psychiatry and Human Behavior, Warren Alpert Medical School of Brown University, Providence, RI.

Introduction: Advances in the treatment of HIV in the US have led to a greater emphasis on enhancing quality of life (QOL) among individuals living with the virus. Tobacco use among HIV+ individuals is 2–3 times higher than that of the non-HIV population and is known to impact QOL. Objective: This study investigated the relationship between change in tobacco use and change in QOL among HIV+ smokers involved in a tobacco cessation clinical trial. Method: Participants were 444 HIV+ smokers recruited from eight immunology clinics in the Northeastern US. At intake and 6-month follow-up, participants completed the Multidimensional Quality of Life Questionnaire for Persons with HIV (MQOL-HIV). Tobacco use was assessed with the Timeline Follow-back procedure and expired carbon monoxide testing. Linear regression and ANOVA were used to predict MQOL-HIV subscale scores using change in cigarette use and abstinence as predictors. Results: Severity of cigarette use at intake was not significantly associated with overall quality of life change [β=-.092, t=-1.5, p=.134]. Change in the mean number of daily cigarettes from intake to follow-up did not significantly impact MQOL-HIV total score change [β=.054, t=.767, p=.444]. Likewise, when comparing smokers who increased their cigarette use with those decreasing their use, there were no significant group differences in MQOL-HIV score change [F (1, 268)=.497, p=.481]. Lastly, when comparing abstinent versus non-abstinent participants there were no significant group differences in MQOL-HIV change [F (1, 310)=.366, p<.546]. Conclusions: Despite previous studies that have found greater tobacco use to be associated with poorer QOL, this relationship was not found in our sample of HIV+ smokers. Findings may suggest that the deficiencies in QOL experienced by HIV+ individuals may be severe enough that changes in tobacco use have little impact on QOL. Further research is needed to develop smoking cessation interventions that adequately address the QOL problems of this unique population.

CORRESPONDING AUTHOR: Marcel A. de Dios, PhD, Psychiatry and Human Behavior, Warren Alpert School Medical School of Brown University, Providence, RI, 02906; mdedios@butler.org

D-81

FORGIVENESS IN HIV+ ADULTS: ANGER, STIGMA, AND HEALTH DISTRESS

Ashley L. Wray, Psychology, Mark Vosvick, PhD and Chwee-Lye Chng, PhD

UNT, Denton, TX.

HIV can trigger anger, stress, and stigmatization resulting in negative health outcomes that may limit the ability to forgive in persons living with HIV (PLH). Forgiveness may increase hope (Maltby et al., 2000), decrease anger (Lin et al., 2004), and improve psychological health in PLH (Doi et al., 2007). Health distress, such as anxiety and fear, may reduce quality of life in PLH (QOL; Wu et al., 1994). While expressive anger is a behavioral response for PLH, chronic anger may seriously affect their physical and mental health (Lawler-Row et al., 2008). Our variables of interest (anger, stigma, health distress) may enhance forgiveness in PLH.

Using the Lazarus-Folkman stress and coping model (1984), we hypothesize the more anger a person expresses (maladaptive coping), the less control-in anger used (adaptive coping), the more distressed they are over their health (stress); the higher report of stigma experiences (stress) the less likely the ability to use forgiveness as a coping strategy. Participants (63 HIV+ adults) completed the MOS-HIV Health Survey (Wu et al., 1994), State-Trait Anger Expressive Inventory (Spielberger, 1999), HIV Stigma Scale (Berger et al., 2001), and the Heartland Forgiveness Scale (Yamhure et al., 2002). Multiple regression analysis revealed our model explains 28% of the variance in forgiveness (adj. R^2=.28,F(4,55)=6.73,p<.001). Expressive anger (β=-.24,t=-2.11,p<.05), health distress (β=-.24,t=-2.11,p<.05), and HIV-related stigma (β=-.25,t=-2.19, p<.05) were significantly negatively correlated, while controlled anger-in (β=.23,t=1.96;p<.05) was significantly positively correlated with forgiveness. Results suggest PLH who express anger, experience HIV-related stigma, and are distressed over their health will be less likely to forgive. Results also show PLH who use control-in anger are more likely to forgive. Clinical interventions should address how to adaptively manage anger and HIV-related stigma to improve forgiveness in PLH and lead to mental and physical well-being.

CORRESPONDING AUTHOR: Ashley L. Wray, Psychology, UNT, Denton, TX, 76201; alw0206@yahoo.com

D-82

MENTAL HEALTH &COGNITIVE FUNCTIONING IN HIV+ ADULTS: ANGER AND SOCIAL SUPPORT

Joshua A. Lewis, NA and Mark Vosvick, PhD

UNT, Corinth, TX.

People living with HIV (PLH) face complications associated with quality of life (QOL) such as mental health (MH), i.e., anxiety and depression, and cognitive functioning (CF), i.e., reasoning and problem solving (Vosvick et al., 2001). Although anger is common among PLH, chronic anger may affect physical and MH (Smith, 2006). Social support (SS) buffers the negative effects of HIV stress by providing a sense of belonging and self-worth (Lam, Naar-King, & Wright 2007) and may also defend against HIV-related psychological distress (Hill & Vosvick, 2008). Based on the stress-buffer model of SS theory (Cobbs, 1976), we hypothesized that a decrease in anger and an increase in SS will be associated with higher levels of both MH and CF in our HIV+ sample.

Participants (N=63, 55.6% female, 68.3% African-American, 28.6 European-American, 3.2% Other) completed the Medical Outcome Study-HIV (Ware & Sherbourne, 1992), the State-Trait Anger Expression Inventory-2 (Spielberger, 1999) and the Multidimensional Scale of Perceived Social Support (Zimet et al., 1990). Significant correlations were identified between variables of interest. Using a cross-sectional correlational design, we tested two models to explore the relationship between anger and SS with MH and CF. Multiple regression analyses revealed surprising relationships between anger and our outcome variables. Our first model found state anger (SA) ($\beta=.49, t= 4.50, p<.001$) to explain 27% of variance in MH [Adj. $R2=.27, F(2,60), p<.001$]. However, our second model showed SA ($\beta=-.41, t=-3.48, p<.001$) to be negatively associated with CF, explaining 14% of variance [Adj. $R2=.14, F(2,60), p<.01$). SS was not a significant predictor in either model.

While these findings appear to be contradictory, they suggest the relationship between MH and CF is more complex than assumed. While state anger may lower ones CF it might also prevent anger from becoming chronic thus helping raise MH. More research is needed for further insight into dynamics of psychological health.

CORRESPONDING AUTHOR: Joshua A. Lewis, NA, UNT, Corinth, TX, 76210; bushy_9_30@hotmail.com

D-84

PHYSICAL ACTIVITY AND DEPRESSIVE SYMPTOMS IN A TRI-ETHNIC SAMPLE

Kristen Chambliss, PhD, Patricia van den Berg, PhD MPH and Abbey Berenson, MD

University of Texas Medical Branch, Houston, TX.

Objective

To examine the longitudinal association between baseline physical activity and later depressive symptoms in a tri-ethnic sample of women.

Methods

Data were drawn from a larger study of birth control methods and bone mineral density. Participants were 124 women aged 16–33 who were using non-hormonal methods of birth control, recruited from a university outpatient gynecology clinic. Forty-four participants were Hispanic, 31 were African-American, and 48 were Caucasian. Participants were assessed at baseline and 12 month follow-up. Depressive symptoms were measured with the Beck Depression Inventory (BDI). Physical activity was assessed using the physical activity module from the CDC's Behavioral Risk Factor Surveillance System, expressed as minutes per week of moderate or vigorous physical activity. Follow-up depressive symptoms were regressed onto baseline physical activity, controlling for baseline depressive symptoms, income, and education. An interaction term between baseline physical activity and race was included to assess differences across race in the association between depression and physical activity.

Results

Examination of the interaction between race and baseline physical activity revealed no significant differences between the groups in the association between baseline physical activity and later depression, so the groups were collapsed and race was used as a control variable. Results of the regression indicated that weekly minutes of moderate or vigorous physical activity was not a significant predictor of depressive symptoms 12 months later.

Conclusion

Controlling for education, income, race, and baseline depressive symptoms, physical activity does not appear to be associated with fewer depressive symptoms one year later in this sample of Caucasian, African-American, and Hispanic young adult women. Future studies should examine this association over longer periods and in a larger sample.

CORRESPONDING AUTHOR: Kristen Chambliss, PhD, University of Texas Medical Branch, Houston, TX, 77046; khchambl@utmb.edu

D-85

EFFECT OF AN ECOLOGICAL INTERVENTION ON DIETARY BEHAVIORS OF HOSPITAL EMPLOYEES

Stephenie C. Lemon, PhD,[1] Wenjun Li, PhD,[1] Jane Zapka, ScD,[2] Barbara Estabrook, MSPH,[1] Milagros Rosal, PhD,[1] Janet Hale, PhD, APRN, BC,[1] Robert Magner, BS,[1] Victoria Andersen, RD, MS[1] and Amy Borg, MS, MEd[1]

[1]UMass Medical School, Worcester, MA and [2]Medical University of South Carolina, Charleston, SC.

Worksites are a promising venue for interventions that target diet, physical activity and weight. Step Ahead is a site-randomized controlled trial conducted at 6 central MA hospitals to test the effectiveness of an ecological intervention on weight gain prevention, dietary behaviors and physical activity among hospital employees. The intervention included activities targeted at individuals and the interpersonal, cultural and physical environments. A representative sample of 810 employees was assessed longitudinally at baseline, 12 and 24 months to evaluate effectiveness. In this paper, we analyzed 12 and 24 month changes in fruit and vegetable and saturated fat consumption, measured by the Block screeners. Dietary changes were estimated and compared using linear regression models weighted according to the probability sampling design. Analyses were performed for the total employee population and subgroups according to baseline BMI category, socio-demographic (gender, age, race/ethnicity, education, income) and occupational (shift, job category) factors. Most employees were female (79%), non-Hispanic white (87%), with less than a college degree (60%). At 12 months, there was an improvement in fruit and vegetable consumption in the intervention condition, compared to the control condition ($\beta=.29$, $p=.05$), but the effect was no longer evident at 24 months ($\beta=.13$, $p=.43$). At 12 months, there were increases in fruit and vegetable consumption among non-Hispanic blacks ($\beta=.81$, $p=.002$) and Hispanics ($\beta=.68$, $p=.08$), but there were no effects at 24 months. There were trends toward improvements among overweight employees, persons age 50+, and third shift workers at 24 months. Although there was no effect on saturated fat consumption in the total population, fat consumption decreased among employees in the lowest household income category group (≤$45,000) ($\beta=-6.74$, $p=.05$ at 12 months, $\beta=-6.40$, $p=.06$ at 24 months). Ecological interventions may result in dietary behavior change in certain subgroups of the hospital workforce.

CORRESPONDING AUTHOR: Stephenie C. Lemon, PhD, UMass Medical School, Worcester, MA, 01606; Stephenie.Lemon@umassmed.edu

D-86

WHO USES AUTOMATED TELEPHONE SYSTEMS? EXAMINING PREDICTORS OF USING AN EVIDENCED-BASED DIET SYSTEM

Julie A. Wright, PhD,[1,2] Amy Rubin, PhD,[1] Tim C. Heeren, PhD[1,2] and Robert H. Friedman, MD[1,2]

[1]Medicine, Boston University, Boston, MA and [2]Boston University School of Public Health, Boston, MA.

Interactive, totally automated telephone counseling interventions are proving to be effective yet little is known about the population that uses them. The purpose of this study was to explore predictors of using an automated telephony diet system (TLC-EAT) that has proven effectiveness in two RCTs. TLC-EAT includes a weekly call on a variety of healthy eating topics (fruit, vegetable, meat, fats, grains, and dining out). The two completed studies demonstrated clinically and statistically significant effects of TLC-EAT on intake of fiber, fruit and vegetable (FV), and saturated fat in different study populations. The comparison group in one of these RCTs explored gender, race, age, BMI, and physical activity outcome as potential predictors of use. No predictors were identified. The present study examined TLC-EAT use in a sample recruited from an urban population using list-assisted methods. The sample consisted of 738 unhealthy eaters who completed a TLC training call. The sample was 53% female, 75% white, with a mean age of 41.3(sd 11.4), 60% college educated, 45% in Precontemplation for FV, mean BMI 26.6 (sd 5.7) and mean FV serv/day 2.9 (sd 1.5). The mean number of calls completed was 5.9 (sd 4.2) in the 3 months following training (11% never completed a call). Multiple linear regression was used to examine predictors of the number of TLC calls completed. Predictors included those tested in prior studies and two other variables of interest (education as a marker of SES and stage of change). The adjusted R-squared for the model was .09 ($p<.001$), and significant beta coefficients were age (.14, $p<.001$), race (.14, $p<.002$), education (.14, $p<.001$), and FV intake (.13, $p<.01$). Gender, BMI, and stage were not significant. Whites made 1.9 calls more than non-whites. These findings suggest that TLC-EAT may be better suited for those who are older, more educated, and white. Future studies should examine how automated telephony systems for diet can be better tailored to all populations, especially non-whites.

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CORRESPONDING AUTHOR: Julie A. Wright, PhD, Medicine, Boston University, Boston, MA, 02118; jwright@bu.edu

D-87

EXAMINATION OF CALORIC INTAKE AND MACRONUTRIENTS FOR SEDENTARY INDIVIDUALS IN AN EXERCISE INTERVENTION

Laura Carpenter, BA,[1] Renea Nilsson, BA,[1] Sara Anne Tompkins, PhD[1] and Angela Bryan, PhD[2]

[1]University of Colorado, Boulder, CO and [2]University of New Mexico, Albuquerque, NM.

Prior research refutes the misconception that increased exercise leads to energy intake exceeding needs (Saris, 1996). However, it is unclear if physical activity behavior affects the specific foods consumed (i.e., ratios of macronutrients). While some studies have shown increased physical activity to correlate with a higher intake of carbohydrate-rich foods (e.g., Westerterp et al., 1996), it is uncertain if variability can be accounted for by external factors (e.g., the media, advice) or by physiological needs arising when people become active (Saris, 1996). This study investigates possible correlations between physical activity initiation and changes in dietary intake over 6 months. Method: 3-day food intake records are completed at baseline and 6 months by a subset of non-active individuals (n= 68) randomized into either an intervention to increase exercise (CO Stride) or a health and wellness control group. Average caloric intake is explored based on group and physical activity initiation from baseline to 6 month follow-up. The sample is 86% female; Age (M=30.52, SD=7.23); BMI (M= 26.26, SD=5.02). Results: Overall, there were no condition effects on change in caloric intake, only an overall effect of decreasing intake over time ($p<.05$). It appeared that the subset that did not initiate physical activity (58%) significantly decreased intake ($p<.05$), while those who initiated physical activity (42%) did not ($p>.05$). Initiation of physical activity did not differ by condition ($p>.05$). Macronutrients were explored but show no significant change based on group or initiation ($p>.05$). Discussion: Findings suggest that since participants decrease energy intake regardless of group, materials specific to either intervention do not impact intake; rather, some other facet of participation is responsible. Possibly, participants who did not initiate physical activity are attempting to compensate for lack of expenditure by decreasing intake. Implications include informing future design of weight loss and exercise interventions.

CORRESPONDING AUTHOR: Laura Carpenter, BA, Psychology, University of Colorado at Boulder, Boulder, CO, 80309-0345; laura.carpenter@colorado.edu

D-88

PSYCHOSOCIAL PREDICTORS OF NUTRITION BEHAVIOR CHANGE IN A WORKSITE SAMPLE

Shawna Doerksen, PhD[1,2] and Edward McAuley, PhD[1]

[1]Kinesiology and Community Health, University of Illinois, Urbana, IL and [2]Recreation, Park and Tourism Management, Penn State University, University Park, PA.

The benefits of good nutrition are well documented; however, nutrition behaviors are less than ideal throughout adult life. An optimal setting through which to target adult health behaviors may be the workplace. Despite the resounding need for intervention, few studies have focused on the mechanisms that drive participation in these behaviors; a precursor to the development of programs to improve health behaviors in this setting.

This prospective study was conducted to examine the psychosocial determinants of nutrition behaviors in university employees (N=179; M age=45.59). Participants completed questionnaires at baseline and again five months later. Fruit and vegetable consumption (FVC) and low fat food consumption (LFC) were assessed using subscales of the Rapid Eating and Activity Assessment for Patients (REAP). Social cognitive constructs including self-efficacy, outcome expectations for both FVC and LFC, and nutrition goals were also assessed.

Standardized change scores were calculated for each measure. Multiple regression analyses were conducted to determine the relationships between the change in social cognitive constructs and the change in FVC and LFC.

Both overall regression equations were significant and accounted for a unique proportion of variation (FVC: r2=.061, $p<.05$; LFC: r2=.074, $p<.05$). For FVC, only outcome expectations for fruit and vegetable consumption were significant independent predictors ($\beta=2.57$, $p<.05$). For LFC, both self-efficacy ($\beta=2.59$, $p<.05$) and outcome expectations for eating low fat foods ($\beta=2.02$, $p<.05$) were significant independent predictors.

Differences in the social cognitive predictors existed between LFC and FVC. However, these differences may be a reflection of the context of the measures rather than the constructs themselves.

Further research should be conducted to develop social cognitive measures for nutrition that examine predictors of both healthy eating habits and resisting unhealthy eating to guide future worksite interventions.

CORRESPONDING AUTHOR: Shawna Doerksen, PhD, Recreation, Park and Tourism Management, Penn State University, University Park, PA, 16802; sxd49@psu.edu

D-89

THE IMPORTANCE OF ATTACHMENT STYLE AND GENDER IN FOOD CONSUMPTION

Laurette Dubé, PhD and Aida Faber, BA

Management, McGill University, Montreal, QC, Canada.

BACKGROUND: Human beings have a wired-in preference for sweet and a dislike for bitter tastes. Because of this biological handicap, they inherently prefer high caloric alternatives as opposed to fruits and vegetables (F&V). A secure attachment style, first acquired by infants when caregivers respond positively to their proximity seeking attempts, is associated with increased exploration of novel stimuli in children and adults alike. The present study examines the relationship between attachment styles and eating. We hypothesize that a secure attachment style will have a positive effect in promoting F&V consumption and reducing consumption of less healthy alternatives. Moreover, because males have poorer diets than females, we hypothesize that a secure attachment style, by making them explore new alternatives, will be more beneficial for males.

METHOD: 235 children (Mage=10.15) and 210 of their parents (Mage=41.05) filled out an online questionnaire. Attachment style, F&V knowledge, F&V consumption, high caloric food (HCS) and snacks (HCS) were measured.

RESULTS: Main effects of attachment showed that a more secure attachment style was associated with higher F&V consumption in parents, $p<.10$, negatively associated with HCF and HCS consumption in both parents and children, $p<.05$, and positively associated with F&V knowledge in children, $p<.05$, and parents, $p<.10$. Significant attachment and gender interactions were found for vegetable consumption in children and parents, ps<.05, and HCF and HCS consumption in adults, ps<.05. More (vs. less) securely attached males ate more vegetables (boys: M low attach.=1.19 vs. M high attach.=1.27; adults:M low attach.=1.36 vs. M high attach.=1.49) and less HCF (M low attach.=2.73 vs. M high attach.=2.46) and HCS (M low attach.=1.61 vs. M high attach.=1.28). A significant attachment and gender interaction was also found in children for F&V knowledge, $p<.05$, in that more securely attached boys knew more F&V (M low attach.=47.68 vs. M high attach.=49.30).

CONCLUSION:Attachment style is an important factor affecting the eating behaviors of adults and children and particularly that of males.

CORRESPONDING AUTHOR: Aida Faber, BA, Management, McGill University, Montreal, QC, H3A1G5; aida.faber@mcgill.ca

D-90

SELF-EFFICACY AND SELF-CONTROL AS PREDICTORS OF DIETING AND DIETARY CHANGE AMONG OVERWEIGHT PARTICIPANTS OF A WEIGHT LOSS TRIAL

Kerstin Schroder, PhD, Sydney H. Davies, BS, Robert M. Allred, BS and Aaron B. Garbett, BS

Department of Psychology, Utah State University, Logan, UT.

Self-efficacy beliefs are widely acknowledged as predictors of health behavior and presumed to play a major role in health behavior change. However, long-term behavior change may require self-control skills above and beyond mere self-efficacy beliefs.

These hypotheses were tested in a sample of 91 participants of a weight-loss trial (14 men, 77 women) with an average age of 42.6 years and an average BMI of 34.6 at intake. Nutrition records were collected for an 8-day period before and a minimum of 7 days following a nutrition education intervention. Predictors were dieting-specific self-efficacy beliefs ($\alpha=.90$), and habitual self-control ($\alpha=.87$) assessed at intake. The primary outcomes were self-reported bingeing ($\alpha=.86$ at T1 and .90 at the 6-month follow-up) and estimates of the average daily calorie, carbohydrate, and total fat consumption before and after the intervention. Participants' nutrition records were transformed into percentage scores relative to the individualized maximum USDA "Recommended Daily Allowance" based on participants' height, age, gender, and a maximum BMI of 25.

Hierarchical regressions were performed, controlling for age, gender, BMI at intake, treatment group, and (in analyses focusing on behavior change) pre-intervention behavior. Self-control and self-efficacy were entered in the second and third steps of the hierarchical regressions.

Both self-efficacy and self-control were strong predictors of dieting behavior, explaining between 4 and 25% of the variance. Relative to habitual self-control, dieting self-efficacy was a stronger predictor of dieting behavior at Time 1, but lost predictive power with post-intervention nutrition intake as the dependent variable. Only self-efficacy remained a significant predictor of dietary change; self-efficacy beliefs did not predict change in nutrition intake over time.

We conclude that self-control and behavior-specific self-efficacy beliefs are non-redundant predictors of dieting behavior but self-control is the more powerful predictor of dietary change.

CORRESPONDING AUTHOR: Kerstin Schroder, PhD, Department of Psychology, Utah State University, Logan, UT, 84322-2810; kerstin.schroder@usu.edu

D-92

WEIGHT STATUS AND SCHOOL CONTEXTUAL FACTORS IN AN ADOLESCENT POPULATION

Betty S. Lai, MS, MST, Stephanie L. Fitzpatrick, MS, Patrice G. Saab, PhD and Judith R. McCalla, PhD

University of Miami, Miami, FL.

Overweight adolescents are susceptible to chronic diseases and are likely to become overweight adults. Most adolescents spend the majority of their days in school. Thus, schools may exert great influence over adolescents' energy intake and expenditure. This study examined body mass index (BMI) and its association with school level contextual factors among an adolescent population. As part of a high school screening, 11,983 tenth-graders (50.9% girls, 49.1% boys; 66.0% Hispanic, 24.7% Black, 9.3% White) were examined. Study population was nested within 39 public schools in the Southeastern United States. BMI was calculated from height and weight. Gender-stratified multilevel modeling was used to examine associations of individual attributes and school level variables with BMIs. Among girls, when examining only individual-level variables, age (B=.03, p <.001) was positively associated with BMI. Hispanic girls (B=.73, p<.01) and Black girls (B=1.62, p<.001) had higher BMIs when compared with White girls. Among boys, similar patterns of relationships were found; age (B=.68, p<.01), Hispanic race/ethnicity (B=.87, p=.001), and Black race/ethnicity (B=.02, p=.02) as compared to White race/ethnicity were all positively associated with BMI. Two school level variables, average teacher salaries and percent of students on free or reduced lunch, were then added to the model. Teacher salaries were not a significant predictor of BMIs. Higher percentages of students in free or reduced lunch programs was associated with higher BMIs in both girls (B=.03, p<.01) and boys (B=.02, p<.01). This suggests a contextual effect of schools.

Findings suggest that schools with lower socioeconomic status (as indexed by percent of students on free or reduced lunch) contribute to disparities in adolescent health outcomes. Further, school lunch programs and resources available to schools may be mechanisms through which schools impact BMIs. School interventions that promote a healthy lifestyle (e.g. nutritious food choices, increased physical activity options) may have beneficial effects on BMI.

CORRESPONDING AUTHOR: Betty Lai, MS, MST, University of Miami, Miami, FL, 33133; bettylai10@gmail.com

D-93

CAN REDUCING TV VIEWING DECREASE ENERGY INTAKE IN OVERWEIGHT AND OBESE ADULTS? A RANDOMIZED CONTROLLED TRIAL

Jennifer Otten, MS, RD, Benjamin Littenberg, MD and Jean Harvey-Berino, PhD, RD

University of Vermont, Burlington, VT.

Background: Two fold increased risks of obesity have been observed in adults with television (TV) viewing time greater than 3–4 hours per day. Early research in children has shown that reducing TV time decreases caloric intake and improves body weight and composition. Similar experimental studies have not been conducted in adults.

Objective: The aim was to determine if reducing TV viewing time would be associated with a significant decrease in energy intake (EI) compared to controls.

Methods: Subjects participated in single 6 week protocols between January and July 2008. Monitors that recorded TV time in minutes/day were installed on all home TVs at study entry (n=40). After a 3 week observation-only phase (Phase I), subjects were stratified by BMI and randomly assigned to an observation-only control group or an intervention group for 3 additional weeks (Phase II). Subjects in the intervention group had TV viewing time reduced by 50% of baseline. This reduction was enforced by a lock-out system on the TV monitors. EI was assessed using the USDA Automated Multiple Pass Method. Calorie intake was averaged over 2 weekdays and one weekend day during week 3 and 6.

Results: Subjects completing all measures (n=36) had a BMI of 31.94±5.43 kg/m^2 and a mean age of 42.72 (range: 22–61); 56% were obese (BMI>30), 69% female, and 94% non-Hispanic white. EI across all subjects was 2348±654 kcal/d (mean±SD) in Phase I and 2166±644 in Phase II. Overall, both groups significantly decreased EI in Phase II by -181±435 kcal/d (95% CI [-329, -34]). Change between phases, although not statistically significant, was greater in controls (n=16) (-233±488.00 vs. -140 ±396, *P*=0.52), even after controlling for baseline EI and BMI, age, gender, and race.

Conclusions: Both groups significantly reduced their EI in Phase II with no apparent effect of the intervention. These findings are limited by small sample size, short duration, and difficulty in enforcing the TV restriction. Additional reasons for the lack of significant findings will be discussed.

CORRESPONDING AUTHOR: Jennifer Otten, MS, RD, Nutrition and Food Sciences, University of Vermont, Burlington, VT, 05405; jotten@ uvm.edu

D-94

THE EFFECT OF A WARM-UP VIDEO GAME ON ACTIVITY LEVELS DURING NINTENDO WII GAME PLAY

Elizabeth J. Lyons, MPH,[1,3] Deborah F. Tate, PhD,[1,2] Karen E. Erickson, MPH, RD[3] and Dianne S. Ward, PhD[2,3]

[1]Health Behavior & Health Education, University of North Carolina, Chapel Hill, NC; [2]Nutrition, University of North Carolina, Chapel Hill, NC and [3]Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC.

Recently, researchers have shown increasing interest in active video games, which have great potential to increase physical activity and decrease sedentary screen time. However, methodology in published studies has varied greatly. Games are rarely played in randomized order, and warm-up play does not always occur. This pilot study investigated the effects of a warm-up game on activity level in a subsequent game. Nineteen overweight children (10 M, 9 F) aged 8–13 (mean: 10.80 ± 1.59 y) with a BMI ≥ 85th percentile (mean: 95.93 ± 4.53) played two minigames on a Nintendo Wii console: a dancing minigame (Rayman Raving Rabbids) and tennis minigame (Wii Sports). Both games require arm movement. Seven children played Rayman first, and 12 children played tennis first. Activity was measured in 30-second epochs using uniaxial accelerometers mounted at the hip. Children were categorized as not playing a game if their activity level was under 25 counts/30s and observation confirmed lack of play. Mean activity counts were 199.9 ± 244.9 counts/30s for tennis and 116.2 ± 118.9 counts/30s for Rayman. However, only 10 children were included in the Rayman analysis, due to 9 not truly playing the game. Playing Rayman or not was significantly associated with game order (Fisher's exact test, p=.017); only 1 of 7 children who played Rayman first truly played the game according to the criteria, as opposed to 9 of 12 who played it second. Only one child did not play tennis. Playing Rayman first was significantly associated with higher activity counts during the tennis game (F(1)=6.625, p=.020). It appears that the presence of a warm-up game significantly increases the likelihood of play in some games as well as the level of physical activity during a subsequent game. Video game researchers should include orientation play periods prior to experimentation and should randomize game order to reduce potential order effects.

CORRESPONDING AUTHOR: Elizabeth J. Lyons, MPH, Health Behavior and Health Education, University of North Carolina at Chapel Hill, Chapel Hill, NC, 27707; elyons@email.unc.edu

D-95

COMMON SOURCES OF WEIGHT AND HEALTHY EATING ADVICE AMONG AFRICAN AMERICAN WOMEN

Tya M. Arthur, MPH[1] and Angele J. Arthur, MD[2]

[1]Health and Kinesiology, Texas A&M University, College Station, TX and [2]7th Aeromedical Dental Squadron, Abilen, TX.

Introduction: Obesity is a precursor to many chronic diseases and African American women are more likely to become obese compared to Caucasian women in the United States. Eating behaviors and body weight norms largely contribute to this disparity. African American women receive information regarding weight and healthy eating behaviors from a variety of sources. The purpose of this study was to explore common education sources on weight matters and nutrition among African American women. Methods: A cross-sectional survey was administered in July of 2008 to participants recruited at an annual festival in New Orleans, Louisiana. Participants in the study were a random sample (N=188) of African American women (mean age=43.4, SD= 10.8) who completed measures on socioeconomic demographics, health status, and their most common sources of healthy eating and weight advice (e.g. losing, gaining or maintaining weight). Body mass index (BMI) was calculated using self-reported height and weight measures. Results: The vast majority of respondents had at least some college (84.6%) and more than half had an annual household income greater than $50,000. The mean BMI of the respondents was 30.1 (SD=6.87). The respondents who were categorized as overweight or obese included 79.5% of the sample. Physicians were the most common source of advice about weight and healthy eating with 70.7% and 64.4% of respondents selecting this source, respectively. The top remaining sources of advice about weight included television (27.1%), magazines (25.5%), family (20.7%), and health fairs (20.2%). The other top sources of healthy eating advice were: magazines (38.3%), television (37.8%), internet (23%), and friends (21.3%). Respondents who reported receiving advice about their weight and healthy eating from a physician were largely categorized as obese. Conclusion: African American women readily receive weight and nutrition advice from a physician. As a recognized and credible source of nutrition and health information, physicians can contribute to the reduction of obesity among African American women by expanding the weight and nutrition counseling provided. Health educators can use other sources of weight and nutrition information (e.g. television and magazines) to develop targeted approaches to educate African American women on healthy eating and weight control.

CORRESPONDING AUTHOR: Tya M. Arthur, MPH, Health and Kinesiology, Texas A&M University, College Station, TX, 77843; tmarthur@hlkn.tamu.edu

D-96

PEDIATRICIANS′ PERSPECTIVES ON A HEALTH PROMOTION PROGRAM FOR GRANDPARENTS

Amanda S. Birnbaum, PhD, MPH,[1] B. J. Carter, MS[2] and Woodie Kessel, MD, MPH[3]

[1]Montclair State University, Montclair, NJ; [2]Healthy Directions, Inc., New York, NY and [3]University of Maryland, College Park, MD.

The Healthy GrandFamilies Initiative (HGFI) is a community-based physician led health promotion program helping grandparents and grandchildren. Grandparents often play an important role in caregiving, especially in lower income families. Yet their special contributions are frequently overlookedin behavior modeling and establishing healthy habits for grandchildren. In formative evaluation with caregiver grandparents, pediatricians were identified as a key trusted source of information. Consequently, HGFI developed a set of 6 workshops facilitated by community pediatricians for grandparents. Aims were to help grandparents lead healthier lifestyles for themselves and serve as role models for their grandchildren by preparing and eating healthy meals and snacks and becoming more physically active. Workshop topics were: “Healthy - Kitchens, Messages, Portions, Screen Time, Activities, and Healthy Eating In and Out.” The workshops and program materials were developed for and pilot-tested with lower income families. The population included Latino, African American, and Caucasian grandparents from Chicago, Dallas, Houston, and New York. This presentation describes process evaluation based on 27 participating pediatricians; each led approximately 2 workshops. They reported high satisfaction with the workshops and materials, described their interactions with the grandparents as “enriching,” and expressed interest in participating in HGFI again. Pediatricians identified a need for more in-depth nutrition education beyond their traditional training, particularly given the epidemic of childhood overweight and obesity. Many also identified needs for location-specific information on physical activity resources and for more cultural competence in program materials, especially regarding food choices and preparation. HGFI demonstrates the feasibility and acceptability of pediatrician-led community-based workshops focused on behavioral change for caregiving grandparents and identifies factors to enhance effectiveness in future programs.

CORRESPONDING AUTHOR: Amanda S. Birnbaum, PhD, MPH, Health & Nutrition Sciences, Montclair State University, Montclair, NJ, 07043; birnbauma@mail.montclair.edu

D-97

SELF-REPORTED CALORIC INTAKE AND WEIGHT LOSS: PREDICTIVE VALIDITY OF FOOD RECORDS AND THE BLOCK FOOD FREQUENCY QUESTIONNAIRE

Kathryn M. Ross, BS, Vanessa A. Milsom, MS, Rachel Andre, MS, Lisa M. Nackers, MS, Valerie J. Hoover, BA, Lori A. Buhi, MPH and Michael G. Perri, PhD

Clinical and Health Psychology, University of Florida, Gainesville, FL.

Research has demonstrated significant associations between nutritional intake as measured by daily food records and the Block Food Frequency Questionnaire (FFQ), however no studies have investigated the predictive validity of these methods within a weight loss intervention. We addressed this question in the context of a six month lifestyle intervention for obesity that incorporated a low-calorie eating pattern coupled with an aerobic exercise program consisting of 30 min/day of brisk walking. We examined the responses of 205 women (mean age=59.5; mean BMI=36.5) from this larger intervention who had baseline and six month calorie information from both food records and the FFQ. A repeated measures ANOVA was used to examine the differences between predicted weight loss based on food records, predicted weight loss based on the FFQ, and actual weight loss at six months. Compared to baseline intake, participants reported eating an average of 435.3 kcal less per day using food records, and 441.6 kcal less per day using the FFQ. Decreases in calories as measured by both food records and the FFQ were significantly correlated with weight loss, r=.20, p<.01 and r=.15, p <.05, respectively. Based on these reduced caloric intakes, participants were predicted to have a -9.1 kg weight loss using calorie data from food records, and a -9.2 kg weight loss using calorie data from the FFQ. Actual mean weight loss at six months was -10.3 kg. No significant differences were found between actual weight loss at six months and predicted weight loss using FFQ calorie data, or calorie data from 6 month food records, p=.372. Thus, change in self-reported caloric intake as measured by both food records and the FFQ was able to predict individual weight loss at six months. Further, the predictions did not differ significantly between measures. These results suggest that both the FFQ and food records have similar predictive validity within the context of weight loss interventions.

CORRESPONDING AUTHOR: Kathryn M. Ross, BS, Clinical and Health Psychology, University of Florida, Gainesville, FL, 32610-0165; kmross@phhp.ufl.edu

D-98

THE PARENT MEALTIME ACTION SCALE (PMAS): DEVELOPMENT AND ASSOCIATION WITH CHILDREN’S WEIGHT AND DIET

Helen M. Hendy, PhD,[1] Keith E. Williams, PhD[2] and Thomas S. Camise, MEd, MEd[3]

[1]Psychology, Penn State University, Schuylkill Campus, Schuylkill Haven, PA; [2]Pediatrics, Penn State Hershey Medical Center, Hershey, PA and [3]Schuylkill Haven Area School District, Schuylkill Haven, PA.

A new and comprehensive Parent Mealtime Action Scale (PMAS) identified dimensions of parent mealtime behaviors, then examined usefulness of the PMAS to explain children’s weight and diet status. Exploratory factor analysis with 2008 mothers and two confirmatory factor analyses with 541 mothers and 439 fathers produced a 30-item scale with nine dimensions: SNACK LIMITS, POSITIVE PERSUASION, DAILY FV AVAILABILITY,INSISTENCE ON EATING, USE OF REWARDS, SNACK MODELING,MANY FOOD CHOICES, SPECIAL MEALS, PUNITIVE ACTION. The PMAS dimensions were also examined for their interenal reliability, test-retest reliability, and convergent validity. Mothers reported more gentle PMAS dimensions such as using DAILY FV AVAILABILITY, and fathers reported more forceful PMAS dimensions such as INSISTENCE ON EATING during meals and use of PUNITIVE ACTION if children do not eat. Both parents reported allowing MANY FOOD CHOICES more for boys than girls. Seven of the nine PMAS dimensions explained variance in children’s weight status (measured as BMI%) and diet status (measured as daily servings of FV and snack foods), even when in competition with three well-known predictors that included genetic risk, exercise, and television time. Children with healthier weight and diet had parents who were more likely to set SNACK LIMITS, ensure DAILY FV AVAILABILITY, and use INSISTENCE ON EATING and POSITIVE PERSUASION during meals, but who rarely show SNACK MODELING, allow children too MANY FOOD CHOICES, or make them SPECIAL MEALS different from the shared family meal. The present study provides correlational data, so future experimental studies must determine whether the parents’ mealtime actions influence the children’s diet and weight, or the other way around. For now, the PMAS offers a new research, clinical, and educational tool to guide parents in choosing actions most associated with children’s weight and diet quality.

CORRESPONDING AUTHOR: Helen M. Hendy, PhD, Psychology, Penn State University, Schuylkill Campus, Schuylkill Haven, PA, 17972; HL4@PSU.EDU

D-99

REWARD RESPONSE, IMPULSE CONTROL, AND HIGH FAT FOOD PREFERENCE DO NOT DIFFER ACROSS SUCCESSFUL WEIGHT LOSERS, OBESE AND NORMAL WEIGHT PARTICIPANTS

Melissa M. Crane, MA,[1] Jeanne M. McCaffery, PhD,[1] Suzanne Phelan, PhD,[2] Hollie A. Raynor, PhD[3] and Rena R. Wing, PhD[1]

[1]Weight Control and Diabetes Research Center/ The Miriam Hospital, Providence, RI; [2]California Polytechnic State University, San Luis Obispo, CA and [3]University of Tennessee Knoxville, Knoxville, TN.

Background: This study is part of a larger fMRI study designed to look at whether normal weight (NW), obese (OB), and successful weight losers (SWL) show differential responses to rewarding food stimuli. Here, we examine whether these groups differed in self-reported reward responsivity, impulsivity, and preference for high fat foods. Methods: A sample of 19 NW (mean BMI=21.7 ± 2.0), 17 OB (mean BMI=34.5 ± 3.7), and 17 SWL (mean BMI=23.7 ± 1.6) completed this study. Participants were 47.0 ± 9.3 years, 88% female. SWL had reduced from obesity (mean BMI=33.0 ± 3.0) to normal weight (mean BMI=23.7 ± 1.6) maintaining a 26.0 ± 9.2 kg weight loss for 14.7 ± 10.2 years. Participants completed the Three Factor Eating Questionnaire, the Food Preference Questionnaire, reward response and drive subscales of the Behavioral Activation System scale, and the Barratt Impulsiveness Scale. Results: Consistent with prior literature, SWL reported significantly higher levels of dietary restraint and lower levels of dietary disinhibition compared to OB and NW (p’s ≤ .003). Surprisingly, however, the three groups did not differ significantly on the total impulsivity score (p=.65), or motor (p=.58) or nonplanning (p=.70) impulsivity subscales. There were also no significant group differences in reward responsiveness (p=.72), drive (p=.92), or reported preference for high fat foods (p=.81). Conclusions: OB, NW, and SWL do not appear to differ in impulse control, reward responsiveness, or food preference as measured by self-report. Future research will examine the correspondence of these self-report measures to fMRI measures in these three distinct groups.

CORRESPONDING AUTHOR: Melissa M. Crane, MA, Weight Control and Diabetes Research Center/ The Miriam Hospital, Providence, RI, 02903; mcrane@lifespan.org

D-100

PATIENTS' PREFERENCES FOR OBESITY-RELATED TERMINOLOGY USED BY THEIR PHYSICIAN

Gareth R. Dutton, PhD,[1] Melissa Dancer-Brown, RD,[2] Krystin Reuter, BS,[1] Erika O'Neil, BS,[1] Michelle Harper, BS,[1] Mary Goble, RN,[2] Nancy Van Vessem, MD[2] and Michael G. Perri, PhD[3]

[1]Florida State University College of Medicine, Tallahassee, FL; [2]Capital Health Plan, Tallahassee, FL and [3]University of Florida, Gainesville, FL.

Although there is limited research available, findings indicate that obese individuals find certain terms used to describe excess weight more desirable than others. This study examined overweight and obese patients' preferences for a variety of weight-related terms. Participants (N=154; mean age=46.7; mean weight=99.5 kg; 65% Caucasian; 89% female) were members of a health maintenance organization (HMO) involved in a behavioral weight loss program provided through the HMO. Participants were presented with a hypothetical scenario and were asked to rate the desirability of 12 terms that could be used by their physician to broach the topic of weight during a clinical encounter. Each word was rated on a 5-point Likert scale (1 =very desirable, 5=very undesirable). Six terms fell in the desirable range, including weight (M=1.91), BMI (M=2.30), unhealthy BMI (M=2.59), unhealthy body weight (M=2.61), weight problem (M==2.77), and excess weight (M=2.85). Six terms fell in the undesirable range, including overweight status (M=3.26), heaviness (M=3.72), obesity (M=3.88), large size (M=4.01), excess fat (M=4.08), and fatness (M=4.27). The term "weight" was rated as significantly more desirable than all other terms, while "fatness" was rated as significantly more undesirable than all other terms, p's<.001. In comparing the responses of overweight (BMI=25-29.9) and obese (BMI>30) patients, no differences in preferences were observed, indicating similar preferences in terminology regardless of the individual's weight status. This study is novel in examining the terminology preferences of both overweight and obese patients. Findings are consistent with past research among obese samples and indicate that clinicians should be aware of the terminology they use to address weight with patients.

CORRESPONDING AUTHOR: Gareth R. Dutton, PhD, Medical Humanities/ Social Sciences, Florida State University College of Medicine, Tallahassee, FL, 32306-4300; gareth.dutton@med.fsu.edu

D-101

EMPLOYEE PERCEPTIONS OF THE IMPORTANCE AND JOB RELATED OUTCOMES OF LOSING WEIGHT AS IT RELATES TO BMI STATUS AND GENDER

Serena L. Parks, BS and Paul A. Estabrooks, PhD

Human Nutrition, Foods and Exercise, Virginia Tech, Blacksburg, VA.

The literature suggests that obesity in the workplace is related to decreased productivity. A number of policies and programs have attempted to address this issue. However, little is known about how overweight and obese employees, when compared to those with healthy weight, perceive the need to lose weight, if weight loss would improve personal productivity and enjoyment of their jobs, or if these relationships would vary by gender. The purpose of this investigation was to determine whether weight status and/or gender would predict perceptions of the importance of weight loss and the relationship between weight loss, job productivity, and enjoyment. Employees (n=1,006) from six worksites completed a brief measures of the importance of weight loss and if weight loss would improve productivity and job enjoyment (rated on 0 [not at all] to 10 [very much]) . Employees were classified as normal weight (BMI=18.5 to 24.9; n=288), overweight (BMI=25.0 to 29.9; n=328), and obese (BMI ≥ 30; n=390) based on self-reported height and weight measurements. A MANOVA resulted in significant main effects for gender (p's<.01) and weight status (p's<.01), but no interaction between these variables. Women, regardless of weight status, were more likely to endorse weight loss as: (1) being important (7.4 vs 6.1), (2) to improve productivity (4.7 vs 4.1), and (3) to improve job enjoyment (4.6 vs 3.9). Post hoc analyses showed that obese, overweight, and healthy weight individuals significantly differed on perceptions of the importance of weight loss (8.7; 7.1; 4.8, respectively; p<.01) and the likelihood that weight loss would improve job productivity (5.7; 4.6; 2.8, respectively; p<.01) and enjoyment (5.7; 4.3; 2.7, respectively; p<.01). These findings suggest that overweight and obese employees view weight loss as important and that it may influence job performance and enjoyment. One implication may be that overweight and obese employees would be motivated to engage in worksite weight loss programs.

CORRESPONDING AUTHOR: Serena L. Parks, BS, Human Nutrition, Foods and Exercise, Virginia Tech, Roanoke, VA, 24016; slp1220@vt.edu

D-102

HOME SWEET HOME: EMOTIONAL REINFORCEMENT AS PROTECTIVE FACTOR FOR HEALTHY EATING IN DOMESTIC SETTING

Ji Lu, Doctoral Student, Catherine Huet, Doctoral Student and Laurette Dube, PhD

McGill University, Montreal, QC, Canada.

BACKGROUND:
Food consumed at home (H) has been shown to be healthier than food consumed away-from-home (AFH). We propose that this protective effect of H maybe tied to a superior emotional reinforcing value of food consumed in this context, since more intense positive and less negative emotions are reported in H compared to other every day life settings. We further propose that because many food/meal qualified as "healthy" have lower biologically programmed nutrient-based reinforcing value, superior emotional reinforcement in home setting would be particularly stronger for healthy food/meals.
METHOD:
160 non-obese adult women reported 3 meals a day in 10 observation days, on the relative nutritional quality of the meal they had consumed (healthier vs. less healthy than baseline meal) and post-meal emotions. By using series hierarchical generalized linear models (controlling for between subject variance), we compared H versus AFH meals and examined its interaction with the relative nutritional quality of the meals, in terms of their emotional reinforcement value.
RESULTS:
Consistent with other studies, we found H meals were healthier than AFH ($\chi 2$ (1)=3.79, p<.05). Supporting our hypothesis, H meals were more reinforcing than AFH in the sense that they followed by more intense general positive emotions ($\chi 2$ (1)=15.19, p<.001) and less anxiety ($\chi 2$ (1)=4.98, p<.03). Furthermore, this effect was stronger for healthier meals. Healthier meals were found more emotionally reinforcing than baseline meals only at H, (more general positive emotions: t(2843)=3.05, p<.01; more calm: t(2828)=2.07, p<.04; less negative emotions: t(2792)=-2.55, p<.02). No such facilitation effect of healthier meals was found in AFH.
CONCLUSION:
The protective effect of H, as a setting for meals, at least partly lies in its superior reinforcing value attached to healthy food. This result suggests that novel interventions would emphasize the emotions associated to healthy eating, and H is an important place for building such association.

CORRESPONDING AUTHOR: Ji Lu, Doctoral Student, McGill University, Montreal, QC, H1W3W2; ji.lu@mail.mcgill.ca

D-103

THE IMPACT OF PEDIATRIC WEIGHT MANAGEMENT PROGRAMS ON EATING ATTITUDES

Katherine F. Junger, BA and David M. Janicke, PhD

University of Florida, Gainesville, FL.

Behavioral interventions targeting overweight children have been successful in producing weight loss. It is unclear if these programs exacerbate disordered eating attitudes among participants. Factors such as body dissatisfaction, peer victimization, parental feeding practices and concern about child weight have been identified as risk factors for disordered eating attitudes among non-treatment seeking youth, but limited research has evaluated these factors among treatment-seekers. The purpose of this study was: (1) to determine if overweight youth receiving a behavioral intervention were more likely to report disordered eating attitudes at follow-up compared to a waitlist control; and (2) to determine psychosocial predictors of eating disordered attitudes. Participants were 68 overweight youths, ages 8–13, and their parent(s) enrolled in a behavioral intervention. Parents completed a demographic form and the Child Feeding Questionnaire. Children completed the Children's Eating Attitudes Test, Schwartz Peer Victimization Scale, and Children's Body Image Scale. Youth in the intervention did not report significant increases in disordered eating attitudes at follow-up compared to the waitlist control. However, the groups were not statistically equivalent. Among children in the intervention, higher levels of body dissatisfaction, peer victimization, parent restrictive feeding practices and concern for child weight at baseline predicted higher levels of disordered eating attitudes at follow-up. These data do not provide evidence that behavioral interventions lead to an increase in unhealthy eating attitudes, however, individuals with higher levels of body dissatisfaction, peer victimization, parent restriction or concern about child weight may be at greater risk for developing unhealthy attitudes. Future research should address these factors during treatment to minimize negative effects that participation in a supervised pediatric weight management program may have on disordered eating attitudes.

CORRESPONDING AUTHOR: Katherine F. Junger, BA, Clinical and Health Psychology, University of Florida, Gainesville, FL, 32607; kfollansbee@ phhp.ufl.edu

D-104

PREDICTING WEIGHT-RELATED BEHAVIORS: ARE GOOD INTENTIONS ENOUGH?

Nida Corry, PhD[1] and Rebecca Merritt, PhD[2]

[1]Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD and [2]Psychological Sciences, Purdue University, West Lafayette, IN.

Unhealthy dietary habits and physical inactivity are among the leading causes of preventable death and illness in America (Mokdad et al, 2000). The current study applied an extended Theory of Planned Behavior (TPB; Ajzen, 1991) model to predict prevalent preventive (i.e., exercise, fruit/vegetable intake) and risky (i.e., binge eating, fasting) weight-related behaviors. The TPB holds that intentions are proximal predictors of future behavior and poses attitude (evaluation of behavior), subjective norm (social pressure to perform behavior), and perceived behavioral control for completing behavior as predictors of intentions.

The study assessed the behavioral intentions of 161 (85 female) predominantly Caucasian undergraduates, 135 of whom reported behavior after two weeks. Participants completed the TPB questionnaires and Mizes Anorectic Cognition Scale (Mizes & Klesges, 1989). Variables hypothesized to strengthen the prediction of risky behaviors included dysfunctional weight-related cognitions, past behavior, and anticipated affective reaction to engaging in the behavior. Multiple hierarchical regression analysis was used to analyze results.

More frequent past exercise alone predicted future exercise, F(2, 128)=37.73, R2=.54, p<.001, and only previous fruit and vegetable intake predicted increased future intake, F(2, 128)=63.66,R2=.67,p< .001. However, intention, past behavior, and dysfunctional weight-related cognitions were all associated with future binge eating, F(2, 128)=48.35, R2=.70,p<.001, and fasting, F(2, 128)=18.86,R2=.47, p<.001. Past behavior was a robust predictor of future preventive behaviors to the exclusion of TPB variables, while intention and automatic distortions also contributed significantly to risky eating behaviors. These findings suggest that intentions are relatively weak predictors of future behavior and that variables related to habit and automaticity may help guide treatment of eating disordered behaviors and yield essential information in the prediction of risky health behaviors.

CORRESPONDING AUTHOR: Nida Corry, PhD, Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD, 21224; ncorry1@jhmi.edu

D-105

PSYCHOSOCIAL CORRELATES OF WEIGHT LOSS AMONG LOW-INCOME MIDLIFE WOMEN

Carmen D. Samuel-Hodge, PhD, MS, RD,[1] Ziya Gizlice, PhD,[2] Thomas C. Keyserling, MD, MPH[4,2] and Kelley Wekheye, MPH[3]

[1]Nutrition, University of North Carolina, Chapel Hill, NC; [2]Health Promotion & Disease Prevention, University of North Carolina, Chapel Hill, NC; [3]Biostatistics, University of North Carolina, Chapel Hill, NC and [4]School of Medicine, University of North Carolina, Chapel Hill, NC.

Weight loss behaviors are influenced by a number of individual and interpersonal factors, and factors such as depression and social support have been shown to be important. This research examines the concurrent associations between selected psychosocial variables and weight loss measured at the end of a 16-week behavioral weight loss intervention among low-income midlife women. Weight loss was also evaluated relative to changes in scores from baseline to post-intervention follow-up.

Participants (N=143) in an intense behavioral weight loss intervention completed telephone administered surveys measuring depressive symptoms, health-related quality of life, family functioning, and social support for dietary, physical activity (PA), and weight loss behaviors at baseline and at 16-weeks post-intervention. We evaluated the bivariate and multivariate associations between these psychosocial variables measured at the end of the intervention, their change scores, and weight loss.

Data from 121 (85%) of the enrolled participants (38% Non-Hispanic Blacks, mean age of 53 years, BMI of 35, and average weight loss of 3.7 kg) were used in this analysis. Greater weight loss was significantly associated with higher concurrent values for physical well-being (r=-.33, p=.0003), and family and friends complimenting weight loss (r=-.38 and -.47, p<.0001). Improvements in depressive symptoms(r=.18, p=.05), family support for PA (r=-.23, p=.02), and physical well-being (r=-.34, p=.0002), were all significantly associated with greater weight loss. In multivariate analysis, weight loss compliments from friends and improvements in physical well-being were the only significant independent predictors of weight loss, in a model explaining 37% of the weight loss variance.

These results suggest that among low-income women, weight loss is associated with improved psychosocial status.

CORRESPONDING AUTHOR: Carmen D. Samuel-Hodge, PhD, MS, RD, Nutrition, University of North Carolina, Chapel Hill, NC, 27599-7426; carmen_samuel@unc.edu

D-106

WRITTEN EMOTIONAL EXPRESSION: EFFECTS ON WEIGHT LOSS AND MAINTENANCE

Jill Hockemeyer, PhD,[1] Olivia L. Chang, MA,[2] Amelia Winsby, BA,[2] Joseph E. Donnelly, EdD[2] and Paula C. Rhode, PhD[3]

[1]VA Palo Alto, Atherton, CA; [2]University of Kansas, Lawrence, KS and [3]University of Houston, Houston, TX.

Behavioral treatments for obesity have been successful in producing weight loss, but weight loss maintenance remains a challenge. Several studies suggest that emotional factors play a role in weight loss and maintenance, but historically behavioral treatments have not adequately addressed these factors. Interventions designed to target emotional distress may attenuate the negative effects of distress on weight loss and maintenance through improved emotional regulation. This study examined the effects of expressive writing on weight regain, stress, and emotional eating among an overweight and obese sample that recently lost weight. Participants (n=64) were randomized to either an emotional expressive (EEW) or a placebo control (PC) writing intervention. Baseline assessments of body weight, stress, and emotional eating were completed followed by once weekly writing sessions across four consecutive weeks. Follow-up assessments were completed at the end of the final writing session, and at 1 and 3 months. Results indicated no support for EEW on weight regain or levels of emotional eating; however, ANCOVAs revealed a trend toward significance in the impact of minor stressors post-writing and at 3-months. Specifically, EEW participants reported a greater negative impact from minor stressors post-writing [F (1, 51)=2.99, p=0.09]. Interestingly, this pattern of results was reversed at 3-months, revealing that EEW participants reported less negative impact from minor stressors compared to PC participants [F (1, 50)=3.15, p=0.08]. Although the results from this pilot study do not support a therapeutic effect of EEW on buffering weight regain or emotional eating following weight loss, there is some evidence that EEW may produce favorable effects on the impact of minor life stressors. Given that daily life stressors may have a direct, immediate impact on eating and exercise behavior, the potential value of expressive writing to lessen the impact of minor stress may be important in future interventions.

CORRESPONDING AUTHOR: Jill Hockemeyer, PhD, VA Palo Alto, Atherton, CA, 94027; jhockemeyer@gmail.com

D-107

RELATIONSHIP BETWEEN BODY WEIGHT AND HEALTH RELATED QUALITY OF LIFE AMONGST A LARGE GROUP OF HIGHLY ACTIVE INDIVIDUALS

Joseph T. Ciccolo, PhD,[1] John B. Bartholomew, PhD,[2] Matthew Stults-Kolehmainen, MS,[2] John Seifert, PhD[3] and Robert Portman, PhD[4]

[1]Brown Medical School/The Miriam Hospital, Providence, RI; [2]Exercise Psychology Laboratory, The University of Texas, Austin, TX; [3]Montana State University, Bozeman, MT and [4]Signal Nutrition, LLC, Fair Haven, NJ.

Perceptions of overweight are associated with a reduced quality of life (QOL). The desire for weight loss also negatively affects QOL and is linked to increases in physically/mentally unhealthy days. These associations have been studied with sedentary and overweight populations. It would be of interest to study these factors in fit individuals who are at a normal weight to determine: perceptions of their weight, their weight fluctuation, and the impact that these fluctuations have on their mental and physical health. Therefore, the purpose of this study was to examine the relationship between perceived body weight and a health related QOL in a group of endurance-trained individuals (triathletes, swimmers, cyclists & runners). A total of 2756 individuals completed an online survey detailing their physical activity and physical/mental health. The majority was male (79.7%), 35–54 yrs (55.0%), with a mean BMI of 24.1 kg/m2. Most participants exercised 5+ d/wk (69.8%), for at least 60 min/day (85.6%). Despite this, the majority indicated that they were dissatisfied with their body weight (54.2%). When asked to compare their ideal vs their heaviest weight, differences were found for having more energy (net difference +9.8%), a better appearance (+8.1%), more social interactions + 8.9%), eating more nutritiously (+11.3%), less stress (+5.6%), and fewer aches and pains (+4.3%). The greatest differences, however, were found for better sleep (+13.3%), more motivation (+12.0%) and more confidence (+19.6%). Men reported the greatest differences for sleep (+13.9%), motivation (+11.7%) and confidence (+19.7%); and women reported the greatest differences for eating more nutritiously (+12.0%), motivation (+12.6%), and confidence (+18.8%). Interestingly, these results occurred with as little as a 3% self-reported weight fluctuation.

CORRESPONDING AUTHOR: Joseph T. Ciccolo, PhD, Community Health, Brown Medical School, Providence, RI, 02903; joseph_ciccolo@brown.edu

D-108

A COMPARISON OF DIFFERENT LEVELS OF ENGAGEMENT IN THE KNOWLEDGE TRANSLATION PROCESS

Lucie Levesque, PhD, Amy E. Latimer, PhD, Caitlin Mason, MSc, Colleen Daly, BSc and Alisa Yocom, BSc(Hons)

School of Kinesiology & Health Studies, Queen's University, Kingston, ON, Canada.

The process of knowledge translation (KT) in health research has shifted from a top-down "push" of evidence by research producers to one that acknowledges a need for reciprocity between researchers and knowledge users through knowledge translation and exchange (Jacobson, et al., 2003). KT may take different forms, varying in intensity, complexity and level of engagement (CIHR). Given the importance of personal interaction in KT (Choi et al., 2005), research dissemination activities that offer opportunities for interaction are considered to be especially beneficial to practitioners. The purpose of this study was to compare the effectiveness of disseminating research evidence through two different venues (i.e., scientific conferences and community workshops). Participants were 83 delegates attending the International Conference on Physical Activity and Obesity in Children (ICPAOC; c.f. Katzmarzyk et al., 2008) and 50 delegates (Mage=40.07 ± 10.38; 81.1% female; 40.7% >15 yrs of field experience) attending Ontario Heart & Stroke Foundation Knowledge to Action workshops based on the ICPAOC. Participants' perceived knowledge and skill capacity (5 items), resource capacity (3 items), intentions (6 items), and self-efficacy (6 items) (Woodward, 2004) for implementing evidence-based child-hood obesity prevention interventions were assessed one week after attending the conference or workshop. A between groups MANOVA, F(4, 128)=3.61, p< <.01, Pillai's Trace=.10, with follow-up ANOVA revealed that participants attending the conference had greater self-efficacy to take action to prevent obesity than the workshop participants a week after the conference/workshop, F(1, 131)=9.13, p<.01. There were no differences in intentions or skill, knowledge capacity or resource capacity between the two groups. Potential benefits of interactive community workshops might be more accurately captured by other indicators (e.g., community capacity) and/or through longitudinal study.

CORRESPONDING AUTHOR: Lucie Levesque, PhD, School of Kinesiology & Health Studies, Queen's University, Kingston, ON, K7L 3N6; levesqul@ queensu.ca

D-109

MOTIVATIONAL INTERVIEWING FOR WEIGHT LOSS: A META-ANALYTIC REVIEW

Katherine Bailey, MA,[1] Audrey Ruderman, PhD,[1] Kristin Schneider, PhD[2] and Andrea Kozak, PhD[3]

[1]University of Illinois at Chicago, Chicago, IL; [2]University of Massachusetts – Worcester, Worcester, MA and [3]Oakland University, Rochester, MI.

Obesity is a major public health problem with increasing prevalence rates in the U.S. and around the world (WHO 2006). The paucity of behavioral interventions that promote sustained weight loss (USPSTF 2003) highlights the need for novel and efficacious interventions for maintaining healthy weight. Motivational Interviewing (MI; Rollnick & Miller, 1995), an efficacious treatment for substance abuse, has emerged as a promising obesity treatment. Three meta-analyses demonstrated that MI improved diet and exercise behaviors (Burke et al., 2003; Rubak et al., 2005; Hettema et al., 2005), but none focused exclusively on the outcome of weight loss. Because diet and exercise changes do not always insure weight loss, the effect of MI for weight loss should be examined separately from the effect of MI for diet and exercise changes.

This meta-analysis included studies that: used MI or adapted MI, reported an objective weight outcome, reported statistics necessary to compute a standardized mean gain (d-statistic); promoted weight loss via behavior change; were published in peer-reviewed journals, used random assignment and a control group (either placebo or active treatment), and were reported in English. This study used multiple search strategies (e.g. electronic research databases, internet search engines, reference lists of relevant studies, examining motivationalinterviewing.org bibliography, the Social Citation Index, perusal of Motivational Interviewing manuals) to locate all published studies of MI for weight loss. Among sixteen trials that met inclusion criteria, the effect size of MI for weight loss was small, but significant (d=0.22, z=4.04, p<.01). Potential moderators of the effect of MI on weight loss (e.g., whether weight loss was a primary or secondary aim, whether single or multiple weight loss behaviors were targeted) were examined, but none were significant. Recommendations for future research are suggested.

CORRESPONDING AUTHOR: Katherine Bailey, MA, University of Illinois at Chicago, Chicago, IL, 60607; kbaile3@uic.edu

D-111

LESSONS FROM THE DARK SIDE: PROMOTING THE HEALTH BENEFITS OF SMOKE BREAKS (SANS CIGARETTE) TO NON-SMOKERS IN THE WORKPLACE

Lydia Ievleva, PhD

[1]Faculty of Business, University of Technology, Sydney, Sydney, NSW, Australia and [2]Psychology, YourHealth Manly, Sydney, NSW, Australia.

While taking smoke breaks at the office represents a negative addiction, developing such a habit without the cigarette, could be considered a positive addiction, a concept initially proposed by William Glasser (1985). The ritual nature and benefits of the habit, explains part of the reason it can be so difficult to give up. This paper will outline the documented health enhancement benefits for the habit, with a call to promote such breaks for non-smokers - who are less inclined for such recovery breaks throughout the work day, with the concomitant health and mental decrements (aka stress). Benefits are: 1) taking regular breaks from work; 2) engaging in short bursts of activity (versus being sedentary) to go outside; 3) being out in the fresh air and maybe even enjoying a lovely view? 4) interacting with others (aka social support); 5) taking long deep breaths (oxygenating the body and mind), savouring the sensation reaching deep within the lungs, and releasing it with a long trail on the exhalation (detox of excess CO2 stored in the lungs) (aka mini meditation); 6) When the ritual is complete (signalled by the end of the cigarette for smokers), returning back to the office/task feeling refreshed. Taking such regular recovery breaks, to stretch ones legs and eyes, spend time in nature, with company and breathing deep – all provide significant health benefits both mental and physical. The beauty of the smoking habit, however, is the inbuilt cue for taking such breaks, i.e., the addiction/craving, as well as the cue for when to end the break, i.e., reaching the end of the cigarette. We may tend to judge this habit, but we do not question it. Whereas, this is often not the case for non-smokers, who tend to not avail themselves of such breaks with such regularity - thereby missing out on the benefits? This is a call for developing and heeding cues for non-smokers, and providing and taking more opportunities to take such breaks.

CORRESPONDING AUTHOR: Lydia Ievleva, PhD, SLST, University of Technology, Sydney, Lindfield, NSW, 2070; Lydia.ievleva@uts.edu.au

D-112

SELF-ASSESSMENT OF HEALTH, OCCUPATIONAL STRESSORS, AND SOCIAL SUPPORT IN FIREFIGHTERS

Christian Herwitz, ALB 09,[1,2] Erin Keppel, BA,[1,2] David Meyer, PhD,[1,2] Rose Zimering, PhD,[1,2] Barbara Kamholz, PhD,[1,2] Sandra Morissette, PhD,[4,3] Jeffrey Knight, PhD[1,2] and Suzy Bird Gulliver, PhD[4,3]

[1]Veterans Affairs Medical Center, Boston, MA; [2]Boston University, Boston, MA; [3]Texas A&M, Waco, TX and [4]Veterans Affairs Medical Center, Waco, TX.

Because of a lack of extant literature on the relationship of perceptions of occupational stress to measures of health (Murphy et al., 2002), this poster attempts to examine change in health as predicted by occupational stress and social support. Change was measured by self-assessment over the first year of professional fire service.

Perceptions of health were measured using the SF-12 at four and twelve months of first year fire service. Hierarchical regression was used to determine the impact of social support (using modified versions of the SOSS) and occupational stress (using a modified version of the SOOS) on self-assessment of health in a subsample of 40 participants.

After controlling for participants' baseline SF-12 scores (mean=54.37), the modified SOSS, and SOOS measures account for only 12.6% of SF-12 variance (9.5% for the SSS scales at .030 F Change Significance, followed by 3.1% for SOOS at .116 F Change Significance) at 12 months of service (mean=53.95).

Surprisingly, these variances account for very little of the change in firefighters' self-assessment of health over the course of their first year. Additional data will be evaluated to further explore the relationship between firefighters' self-reports of health, and their resilience to occupational stressors.

CORRESPONDING AUTHOR: Christian Herwitz, ALB 09, Harvard Extension School, Allston, MA, 02134; herwitz@gmail.com

D-113

FREQUENT ATTENDANCE IN PRIMARY HEALTH CARE CENTRES: PREVALENCE, PATIENTS' CHARACTERISTICS AND ASSOCIATED FACTORS

Saad A. Alghanim, PhD

Health and Hospital Administration, King Saud University, Riyadh 11352, Saudi Arabia.

Methods: The study employed a self-administered questionnaire to collect data from patients aged 18 years or older who visited a PHC centre in Riyadh City. The questionnaire was designed to collect data on a number of variables including socio-demographic, access-related and health-related variables. In addition to the descriptive statistics, stepwise discriminant analysis was used to determine the variables which may discriminate between frequent and non-frequent users.

Results: The results show that a small group of patients accounted for a high proportion of the workload in the PHC centre. Results of the stepwise discriminant analysis show that eight of the 16 variables were statistically significant discriminating variables between frequent and non-frequent users.

Conclusion: The study highlights the importance of factors which motivate patients to attend PHC centres frequently. Health policy makers should understand these factors before implementing any intervention plans which attempt to persuade people to modify their health-seeking behaviour. Further research is needed to expand this study, and, in particular, to examine the appropriateness of visits made by the frequent users.

CORRESPONDING AUTHOR: Saad A. Alghanim, PhD, Health and Hospital Administration, King Saud University, Riyadh 11352, Riyadh; sagksu@yahoo.com

D-115

PSYCHOLOGICAL ASSESSMENT ON INTERDISCIPLINARY CRANIOFACIAL TEAMS

Megan M. Hood, MS(R),[1] Mary M. Cradock, PhD[2] and Jillon S. Vander Wal, PhD[1]

[1]Psychology, Saint Louis University, St Louis, MO and [2]St Louis Children's Hospital, St Louis, MO.

The biopsychosocial model of health posits that clinicians must attend to the biological, psychological, and social dimensions of an illness in order to adequately understand and treat the illness. In craniofacial disorders in particular, research has suggested a variety of medical and psychological domains that may be impacted for a child and family. These findings have lead to the development of parameters of treatment, which advocate ideal functions of the craniofacial team and each of its members. Yet, little is known about the actual practices of these teams, particularly of the team's assessment of mental health concerns. This study explored the role of mental health professionals on craniofacial teams and to determine how craniofacial teams assess for mental health concerns in this population. Surveys were sent to craniofacial team coordinators and the mental health professionals who are consistent team members. Respondents included 61 team coordinators and 50 mental health professionals, representing teams from across the United Stated. 88% of respondents stated that their team had a mental health consultant available. Mental health professionals listed as consistent team members included social workers (67% of teams) and psychologists (34% of teams). Mental health assessments are primarily conducted via interview, and 76% of teams did not endorse using any formal measures in their assessment of mental health concerns. According to the data, mental health professionals assess a wide variety of potential areas of concern and are generally satisfied with the referral sources available to their patients. Survey response patterns varied little by years of experience with the population or training background (i.e. medical versus mental health). While mental health assessment appears to be well-integrated into the practice of interdisciplinary craniofacial teams, the use of formal measures of mental health concerns is lacking, which limits the opportunity to increase the evidence base for the assessment of concerns relevant for this population.

CORRESPONDING AUTHOR: Megan M. Hood, MS(R), Psychology, Saint Louis University, Chicago, IL, 60622; meganmhood@gmail.com

D-116

PEDIATRIC DEVELOPMENTAL DELAY: DEVELOPMENTAL FUNCTIONING OF CHILDREN DIAGNOSED WITH HOLOPROSENCEPHALY

Anne Morton, PhD, Russ Riddle, MS, Kellye DeBerry, MA, Nancy Clegg, RN, CNS, PhD and Mauricio Delgado, MD

Texas Scottish Rite Hospital, Dallas, TX.

Holoprosencephaly (HPE) is a complex congenital brain malformation, occurring in less than .01% of live births. HPE is classified into four subtypes, ranging from most to least severe: alobar, semilobar, lobar, and middle interhemispheric (MIH) variant. Each possesses a degree of non-separation of the cerebral hemispheres. Clinical findings suggest a wide variance in cognitive functioning, with severity of deficit generally correlating with severity of brain malformation (Hahn & Plawner, 2004). We completed standardized psychological testing to examine developmental levels in a sample of 6 MIH and 5 lobar patients (mean age=9; 6 males/5 females). The Peabody Picture Vocabulary Test - 4 (PPVT-4) was administered to patients. Parents completed the Vineland Adaptive Behavior Scales and Child Behavior Checklist (CBCL). Gross motor function was rated using the Gross Motor Function Classification System (GMFCS) - lower ratings indicating greater functional abilities. Brain imaging and tests for genetic and chromosomal anomalies were also completed.

The sample exhibited significant developmental delay, receiving low Vineland Adaptive Behavior (mean=61) and PPVT-4 (mean=59) standard scores. In contrast, the sample obtained standard scores within normal limits on CBCL Internalizing and Externalizing subscales, accompanied by low scores on the Activities subscale. Lobar patients, while tending to have poorer scores on most developmental indices, leaned toward better GMFCS scores. Overall, GMFCS ratings were inversely related to gross motor functioning scores from the Vineland [$r=-.87$, $p=.002$]. A chromosomal abnormality was identified in one lobar patient, and 3 patients had gene mutations (1 lobar; 2 MIH). The data cumulatively highlight the complexities of this syndrome, as well as the variability with which findings from complex neurological diagnostics are manifested both behaviorally and cognitively.

CORRESPONDING AUTHOR: Russ Riddle, MS, Texas Scottish Rite Hospital, Dallas, TX, 75219; russ.riddle@tsrh.org

D-117

SUBGROUPING IN CHRONIC FATIGUE SYNDROME BASED ON CO-OCCURRING MEDICAL AND PSYCHIATRIC CONDITIONS

Mariya Zaturenskaya, BA,[1] Molly Brown, BS,[2] Leonard Jason, PhD[2] and Susan Torres-Harding, PhD[3]

[1]University of Cincinnati, Cincinnati, OH; [2]Center for Community Research, DePaul University, Chicago, IL and [3]Roosevelt University, Chicago, IL.

Individuals with chronic fatigue syndrome (CFS) vary greatly in terms of types and severity of symptoms, functional status, and psychiatric co-morbidity. Research suggests that stratifying the sample into subtypes may be beneficial in recommending more appropriate treatments for individuals with similar illness manifestations. Using a sample of 114 patients with CFS, we hypothesized that a subgroup of patients with co-occurring fibromyalgia (FM) or multiple chemical sensitivity (MCS) will have poorer physical and psychosocial functioning than those with CFS only. We also predicted that patients with a co-occurring psychiatric disorder would demonstrate significantly poorer functioning. The following measures were used to assess functioning: Brief Pain Inventory, Quality of Life Scale, Perceived Stress Scale, Pittsburgh Sleep Inventory, Beck Depression Inventory, Back Anxiety Inventory, and Medical Outcome Study-Short Form-36 (MOS-SF-36). Participants with concurrent Axis I diagnosis scored significantly worse comparing to individuals without concurrent diagnosis on Standardized Mental Component of MOS-SF-36 ($t=2.56$, $p<.01$), Brief Pain Inventory ($t=2.13$, $p<.04$), Quality of Life Scale ($t=2.08$, $p<.04$), Beck Depression Inventory ($t=4.01$, $p<.01$), Beck Anxiety Inventory ($t=3.20$, $p<.01$), and on Pittsburgh Sleep Inventory ($t=3.51$, $p<.01$). Participants with co-morbid medical conditions such as Fibromyalgia and/or Multiple Chemical Sensitivity Disorder scored significantly worse comparing to individuals with just CFS on Standardized Physical Component of MOS-SF-36 ($t=3.67$, $p<.01$), Brief Pain Inventory ($t=4.60$, $p<.01$), Beck Depression Inventory ($t=2.36$, $p<<.02$), and on Pittsburgh Sleep Inventory ($t=3.34$, $p<.01$). These findings suggest that various CFS subtypes based on co-morbid psychiatric and medical conditions identify different groups of patients with varying types of impairment, which may have further implications for treatment as well as prevention approaches.

CORRESPONDING AUTHOR: Mariya Zaturenskaya, BA, University of Cincinnati, Cincinnati, OH, 45208; zaturem@email.uc.edu

D-118

VAGAL REAGIBILITY AS A PHYSIOLOGICAL MODULATOR OF STRESS COPING: ASSOCIATION WITH BIOPSYCHOLOGICAL RESPONSES TO PSYCHOSOCIAL STRESS

Roberto La Marca, MS,[1] Patricia Waldvogel, BS,[1] Hanna Thörn, BS,[1] Mélanie Tripod, BS,[1] Myrtha Arnold, MS,[2] Wolfgang Langhans, Prof Dr,[2] Jens Pruessner, Prof Dr[3] and Ulrike Ehlert, Prof Dr[1]

[1]Clinical Psychology and Psychotherapy, University of Zurich, Zurich, Switzerland; [2]Physiology and Behavior, ETH Zurich, Zurich, Switzerland and [3]Douglas Mental Health Institute, Department of Psychiatry, McGill University, Montreal, QC, Canada.

Stress is associated with several physiological responses and considered an important factor in the development and progression of numerous psychiatric and somatic disorders. Since some of these disorders show an impaired vagal functionality vagal nerve stimulation (VNS) emerges as a promising intervention in the treatment of otherwise therapy-resistent disorders. The purpose of the current study was to examine the role of vagal reactivity in biopsychological responses to a psychosocial stress task.

Thirty-three healthy male subjects participated in a standardized computerized stress task (Montreal Imaging Stress Task, MIST) combining challenging arithmetic problems with social evaluative threat. Saliva was collected repeatedly before, during and after the MIST to determine cortisol and alpha-amylase (AA) levels, while heart rate (HR) and respiratory sinus arrhythmia (RSA) were studied continuously with the LifeShirt system (Vivometrics). To assess mood changes subjects filled out questionnaires before and after the MIST. Vagal reagibility was measured using the Cold Face Test (CFT) which induces a trigeminal-vagaly mediated bradycardia.

The MIST induced an increase in cortisol ($p<.001$), HR ($p<.001$) and AA ($p=.004$) and a decrease in RSA and salivary flow rate (both $p<.001$). In contrast, the CFT resulted in a decrease in HR and increase in RSA (both $p<.001$). After controlling for MIST credibility the linear regressional model with latency of max. CFT-bradycardia predicted 22% of cortisol-AUCi ($\beta=.43$, $p=.025$) and 32% of mood response ($\beta=-.56$, $p<.001$) to stress.

The results indicate that a fast vagal reactivity is associated with a reduced HPA-response and improved mood after acute stress and therefore underlines the role of the vagal nerve as a physiological modulator of stress coping.

CORRESPONDING AUTHOR: Roberto La Marca, MS, Clinical Psychology and Psychotherapy, University of Zurich, Zurich, 8050; r.lamarca@ psychologie.uzh.ch

D-119

INTRAUTERINE GROWTH RETARDATION AMONG YOUNG PSYCHIATRIC PATIENTS BORN FULL-TERM WITH BIRTH WEIGHTS OVER 2,500 G

Nicole G. Smolla, PhD, Marie-Julie Béliveau, PhD, Suzanne Lépine, MD, MSc, Alain Lévesque, MD, DESS and Véronique Martin, BSc

Research Unit, Riviere-des-Prairies Psychiatric Hospital, Montreal, QC, Canada.
N Smolla, PhD, RDP Psychiatric Hospital
MJ Béliveau, PhD, UQÀM
S Lépine, MD, MSc, Université de Montréal
ALévesque, MD, DESS, RDP Psychiatric Hospital
V Martin, BSc, UQÀM

Effects of intrauterine growth retardation (IUGR) on development and behavior in the preschool years are still unclear, although cognitive deficits have been found in children with very low birth weight. However, IUGR in full-terms with birth weights over 2,500 g is usually overlooked. Prevalence, developmental and behavioral outcomes for these infants are less studied. Objective: To report prevalence of IUGR among young psychiatric patients, especially those born at term with birth weights over 2,500 g, and to examine links with types of disorders. Method: Medical files of all preschool children assessed at the Early Childhood Clinic (RDP Psychiatric Hospital, Montreal, Canada) since 2000 ($n=431$) were reviewed for the following data: DSM-IV-TR diagnoses, gender, gestational age (GA), birth weight (BW), and family demographics (parental age, education, country of birth). IUGR was computed using the curves for intrauterine growth for the Canadian population. Results: 252 files had complete data. Although rates for prematurity (<37 weeks of GA; 9.5%) and low BW (<2,500 g; 6.7%) were similar to or below norms for the Quebec population, IUGR (<10th percentile) was 13.8%. Among the 252 children, 228 were born full-term with BW over 2,500 g. IUGR among them was 12.2%, which is the upper limit of rates (8–12%) published by Frisbie et al. (1997). Two subgroups of children were then created: (1) those with a language disorder often associated with a developmental coordination disorder ($n=195$); (2) those with a behavioral/affective disorder only ($n=57$). IUGR reached 19.3% among children with a behavioral/affective disorder, compared to 8.2 % in the other subgroup ($p<.03$). Conclusion: Infants born without any apparent medical condition except than being smaller than expected might be at a higher risk of developing behavioral disorders in their preschool years.

CORRESPONDING AUTHOR: Nicole G. Smolla, PhD, Research Unit, Riviere-des-Prairies Psychiatric Hospital, Montreal, QC, H1E 1A4; nicolesmolla@videotron.ca

D-120

RACE AND COMMUNITY CHARACTERISTICS PREDICT CHRONIC DISEASE CO-MORBIDITIES

Chandra Y. Osborn, PhD, MPH,[1,2] Leslie D. Kirby, PhD[3] and David Schlundt, PhD[2,3]

[1]Division of General Internal Medicine & Public Health, Vanderbilt School of Medine, Nashville, TN; [2]Vanderbilt Eskind Diabetes Center, Diabetes Research & Training Center, Vanderbilt School of Medicine, Nashville, TN and [3]Psychology, Vanderbilt University, Nashville, TN.

Although chronic disease-specific disparities have been well documented in the US, very little is known about the relationship between minority status and multiple diagnoses. This study examined the effect of race and community characteristics on the number of chronic disease co-morbidities across Nashville, TN.

Three random telephone surveys were conducted in Nashville with adults 18 and older between 2001 and 2004 ($n=10{,}752$, age=48, %female=53, %Black=42). Phone numbers were randomly sampled from commercial lists and household addresses were geocoded using a geographic information system (GIS). Each household was located in a census tract ($n=141$) and five factor analytically derived measures of census tract characteristics were computed: Educational Elites, Poverty Distress, Elderly Burden, Native Immigrant, and Family Distress. The HLM program (Scientific Software International) was used to create a two level hierarchical linear model. The dependent variable was the number of self-reported chronic conditions (diabetes, hypertension, high cholesterol, obesity: mean 0.68 SD 0.84). Significant predictors in the level 1 model were race/ethnicity, age, income, education, and employment. A level 2 intercept model showed that, after controlling for individual difference, rates of chronic disease are lower in neighborhoods with a high concentration of educational elites ($p<0.0001$). A level 2 slope model for African American showed that race/ethnicity is a stronger predictor of chronic disease in neighborhoods with a greater concentration of Tennessee natives ($p<0.002$).

Clinical practice guidelines, as currently designed to focus on a single disease, are woefully inadequate for dealing with patients who have multiple co-morbidities. Clustering of chronic disease co-morbidities and ethnic disparities in certain neighborhoods suggests the need to develop appropriate public health interventions.

CORRESPONDING AUTHOR: David Schlundt, PhD, Psychology, Vanderbilt University, Nashville, TN, 37240-7817; david.schlundt@vanderbilt.edu

D-121

CHILD EXTERNALIZING BEHAVIOR, PARENTING, AND SUICIDAL BEHAVIOR: ETHNIC AND GENDER DIFFERENCES

Janice Gilliland, MSPH, PhD[1] and Sylvie Mrug, PhD[2]

[1]Public Health, University of Alabama at Birmingham, Birmingham, AL and [2]Psychology, University of Alabama at Birmingham, Birmingham, AL.

Suicide is the 3rd leading cause of death in 10–14 year olds. Suicidal ideation and behaviors are the strongest predictor for suicide, making it important to understand how these relate to aspects of child and parent behaviors. This study examines whether children's aggressive fantasies and disruptive behaviors and parent discipline and nurturance are associated with higher risk for suicidal ideation and behaviors in pre-adolescents, and if so, whether the risk varies by gender or ethnicity. Birmingham Youth Violence Study data from child and parent interviews ($n=702$) were used. The sample was 76% Black and 24% White, 51% male and mean age 11.8 years. Children were asked if they had seriously considered, planned or attempted suicide. Responses were summed to compute a suicidal behaviors score (range 0–3). Child gender, ethnicity, and family income (as co-variates), child reported aggressive fantasies and harsh discipline, and child- and parent-reported parental nurturance and disruptive behaviors were included in an ordinal logistic regression model. Main effects and two-way interactions were examined. Being female, White, and having higher family income($50,000 plus)was associated with higher risk for suicidal behaviors ($p<.05$). Child-reported disruptive behaviors, aggressive fantasies and harsh discipline predicted suicidal behaviors after adjusting for sociodemographics. No parent-reported variables predicted child suicidal behavior. Two-way interactions showed significant differences by gender and ethnicity. Aggressive fantasies were positively associated with suicidal behaviors for both gender and ethnicity. Disruptive behavior was positively associated with suicidal behavior for boys and Blacks, but not girls and Whites. Harsh discipline predicted suicidal behavior in girls and Whites, but not in boys or Blacks. These results suggest risk factors for suicide vary by gender and ethnicity, and that parents may be not be aware of children's externalizing behaviors that put them at risk.

CORRESPONDING AUTHOR: Janice Gilliland, MSPH, PhD, School of Public Health, MCH, University of Alabama at Birmingham, Birmingham, AL, 35294-1200; mjgill@uab.edu

D-122

ASSOCIATION BETWEEN FAMILIAL EXPRESSED EMOTION AND RISK FACTORS FOR SCHIZOPHRENIA

Maria C. Papastergiou, BA, BSW, MSc student[1,2] and Suzanne King, PhD[2,1]

[1]Dept of Psychiatry, McGill University, Montreal, QC, Canada and [2]Douglas Research Institute, Montreal, QC, Canada.

Background: Schizophrenia is a severe mental disorder. Epidemiological studies implicate multiple genetic and non-genetic risk factors for the development of schizophrenia. The course of schizophrenia, however, can be reliably predicted with the construct of Expressed Emotion (EE), reflecting the family's attitude towards a mentally ill family member. "High EE" reflects a family with members who are critical of the patient and/or emotionally overinvolved with the patient. Although High EE predicts relapse in schizophrenia, it is unknown to what extent patients who elicit either High or Low EE from relatives have different forms of the illness, perhaps associated with different etiological patterns. Objective: Our goal was to determine how the patterns of risk factors for schizophrenia may differ between patients whose families are either High EE or Low EE. Methods: 29 outpatients (22 males, 7 females) aged 21–48 with DSM-III-R schizophrenia (SCID) participated in this study. Their families were classified into High ($n=14$) or Low EE ($n=16$) groups using the Camberwell Family Interview (CFI) with key relatives. Several risk factors for schizophrenia were assessed through interviews with patient and parents: family history of schizophrenia, obstetric complications, prenatal maternal stress, season of birth, premorbid drug use and, more specifically, LSD use and amount of cannabis use. Results: Patients from Low EE families were more likely to have been exposed to prenatal stress than those in High EE families ($p<.01$). Patients from High EE homes were more likely than those in Low EE families to have the following risk factors: winter birth (Dec - Mar; $p<.05$), any premorbid drug use ($p<.05$), and especially LSD use ($p<.01$). The High EE group also averaged more premorbid cannabis use (197 grams) than the low EE group (2 grams; $p<.05$). Conclusion: These results suggest that etiological profiles may influence the nature of the schizophrenic illness in patients, which, in turn, influences both familial reactions to patients and the patients' clinical course.

CORRESPONDING AUTHOR: Maria C. Papastergiou, BA, BSW, MSc student, Psychiatry, McGill University, Montreal, QC, H2X-3R2; maria.papastergiou@douglas.mcgill.ca

D-123

NEIGHBOURHOOD SOCIAL CAPITAL AND SELF-RATED HEALTH ACROSS MONTREAL

Spencer Moore, PhD, MPH,[1,2] U. Bockenholt, PhD,[4] M. Daniel, PhD,[2,5] K. Frohlich, PhD,[3] L. Gauvin, PhD,[2,3] Y. Kestens, PhD[3] and L. Richard, PhD[3]

[1]Queen's University, Kingston, ON, Canada; [2]Centre de recherche du Centre Hospitalier de l'UdeM, Montreal, QC, Canada; [3]Université de Montréal, Montreal, QC, Canada; [4]McGill University, Montreal, QC, Canada and [5]University of South Australia, Adelaide, SA, Australia.

Background: Published research on social capital has been generally supportive of the idea that persons with more social capital tend to report higher self-rated health. Findings of an area-level association of neighbourhood social capital (NSC) with health have been more mixed when individual social capital (ISC) is also measured. In this study, we use formal network data on ISC and NSC to examine the association of area- and individual-level social capital and self-rated health.

Methods: Data come from the Montreal Neighbourhood Networks and Healthy Aging study (MONET- Healthy Aging). MONET used a stratified cluster sampling with clusters consisting of Montreal census tracts ($n=862$); these clusters were stratified into tertiles of high, medium, and low mean income. From each, 100 CTs were. Within each CT, we randomly selected 9 households with residents older than 25 years, but adhered to an age quota to oversample older adults ($n=2707$). We measured ISC using a position generator instrument asking about people's connections to various occupations. We aggregated ISC to the CT level to create a NSC measure. Self-rated health (SRH) was measured on a 5-point Likert scale from poor to excellent. Using a multilevel proportional odds model, we assessed the association of NSC with self-rated health, while adjusting for individual and neighbourhood factors. We evaluated NSC using the median odds ratio (MOR) and percentage change in variance (PCV).

Results: SRH had, in the null model, an MOR of 1.31. In the full model, neighbourhood social capital was associated with SRH ($\text{MOR}=1.14$; $\text{PCV}=-62.5\%$) after accounting for individual variables and neighbourhood median income.

Conclusion: Neighbourhood social capital has a stronger association with self-rated health than individual social capital in Montreal.

CORRESPONDING AUTHOR: Spencer Moore, PhD, MPH, Queen's University, Kingston, ON, K7K 3N6; mooresp@queensu.ca

D-124

THE CATHI PILOT STUDY: EVALUATING THE ACCEPTABILITY FOR DELIVERING PARENT SKILLS TRAINING USING AN INTERACTIVE VOICE RESPONSE SYSTEM

Meredith Whitney, Masters of Health Informatics,[1] Vanessa Varalli, Masters in Occupational Therapy,[1] Cyndi Brannen, PhD Psychology,[1,2] Patrick J. McGrath, PhD Psychology[1,2] and Charles E. Cunningham, PhD[3]

[1]Centre for Research in Family Health, IWK Health Centre, Halifax, NS, Canada; [2]Dalhousie University, Halifax, NS, Canada and [3]McMaster University, Hamilton, ON, Canada.

The Computer Automated Telephone Help and Information System (CATHI) Pilot Study evaluated the feasibility of using an interactive voice response system to provide parent skills training for the management of mild to moderate behaviour problems in children. Parents ($n=29$) with children aged 4–12 years participated in a 4-week distance treatment program. Participants were assigned to one of two groups: CATHI supported (called CATHI only) or CATHI and live coach supported (called coach for 1 week and CATHI for 3 weeks). CATHI was designed to facilitate skills training, monitor progress, and help parents schedule weekly call-in times.

At the end of treatment, parents completed the Client Satisfaction Questionnaire (CSQ-8) and the CATHI Survey (CS) to determine overall satisfaction and satisfaction with specific aspects of the system. One additional measure explored if a therapeutic alliance developed between the parent and CATHI.

Participants reported positive ratings for the CATHI system. There were no significant differences between groups on the CSQ-8 ($t=-0.30$, $p=0.77$) and the CS ($t=1.33$, $p=0.21$). Increased severity of behaviour problems was strongly correlated with more positive ratings regardless of group ($r=0.45$, $p<0.10$). Both groups combined found the system easy to use ($M=4.2$ on a 5-point Likert scale) and would recommend the system to parents ($M=3.73$ on a 4-point Likert scale). The participants liked the tone of the system's voice and felt that someone was tracking their calls into the system. Generally, parents are satisfied with the services they had received ($M=3.13$ on a 4-point Likert scale).

This study provides preliminary evidence of parental support for the use of interactive voice response technology in parent skills training. CATHI has the potential to provide highly accessible and cost-effective parent skills training.

CORRESPONDING AUTHOR: Meredith Whitney, Masters of Health Informatics, Centre for Research in Family Health, IWK Health Centre, Halifax, NS, B3K-6R8; Meredith.Whitney@iwk.nshealth.ca

D-125

CONTENT ANALYSIS OF A WEB-BASED GUIDED WRITING INTERVENTION FOR MIGRAINES

Rebecca A. Stout, PhD, A. Burger, MA, J. Khuong, BA and M. Lumley, PhD

Wayne State University, Detroit, MI.

This abstract presents results of a content analysis of a web-based guided written emotional disclosure (WED) intervention for migraine sufferers. Participants completed 4 days of WED in a blog-based format in either a guided or standard writing condition. Guided participants received personalized feedback from a trained therapist after each writing day. It was predicted that the writing of guided participants would include more effective elements compared to standard writing, and that these effective writing elements would, in turn, more strongly predict improved outcomes. This study is the first to directly compare guided writing to standard WED on writing content and relationship to outcome.Participants were 84 undergraduates reporting migraine headaches at least once per month. Outcomes were self-reported measures of migraine headache severity, frequency, and disability at baseline and 10-week follow-up. Participants were randomly assigned to 4 days of either guided or standard writing about a stressful experience. Guided feedback followed a protocol that empathically supported the experience of the writer, while also encouraging use of writing elements such as eliciting more severe stressors, increased emotional identification, insight, writing structure, and coping options. Writings were coded for these elements as well as submitted to computerized text analyses (LIWC).

Analyses indicated that, as expected, writings of guided participants had significantly more effective elements than standard writing. Controlling for baseline health status, partial correlations showed that writing content predicted migraine outcomes differently for the two conditions. Guided participants who wrote on more severe stressors or with more emotionality had improved outcomes, whereas standard participants greater use of insight, coping, and writing structure predicted improvement.

This study suggests that the addition of a therapist guide may enhance effective writing content in WED, compared to standard writing. However, providing writing feedback in a blog format may have unexpected effects on how writing influences outcomes.

CORRESPONDING AUTHOR: Rebecca A. Stout, PhD, University of Illinois-Chicago, Chicago, IL, 60622; reb4334@yahoo.com

D-126

EXPOSURE TO PRENATAL MATERNAL STRESS PREDICTS DEVELOPMENT RESEMBLING THAT OF HIGH RISK AND PRE-SCHIZOPHRENIC CHILDREN

Suzanne King, PhD,[1,2] David P. Laplante, PhD,[1] Alain Brunet, PhD,[1,2] Deborah J. Walder, PhD[3] and Antonio Ciampi, PhD[2]

[1]Douglas Institute Research Center, Verdun, QC, Canada; [2]McGill University, Montreal, QC, Canada and [3]City University of New York, New York, NY.

Because retrospective studies suggest that stress to the pregnant mother increases risk for schizophrenia, our goal was to determine whether prenatal maternal stress (PNMS) explains variance in childhood characteristics seen in pre-schizophrenic and high risk populations using a prospective approach. We have followed 150 children whose mothers were pregnant during the January 1998 Quebec ice storm crisis, to determine if effects could be seen on the children's cognitive, behavioral, or physical development. Ice storm stress was separated into objective aspects of exposure (e.g., days without power, financial loss) and subjective reaction (PTSD-like symptoms). Previously, we reported that greater PNMS from the ice storm was associated with poorer IQ and language at 2 years, more behavioral problems at 3 years, and greater dermatoglyphic asymmetry. Here, we report results when the children were 5 years of age. Results indicate significant effects of the severity of objective PNMS from the ice storm on cognitive and language development: IQs were significantly lower for the high PNMS group than for the low PNMS group, especially verbal IQ; and the high PNMS group had significantly lower receptive vocabulary abilities than the low PNMS group. Children from the high objective PNMS group exhibited significantly more severe autistic-like symptoms, whether rated by parents or teachers, than those in the low PNMS group. Effects of exposure are also seen on physical markers. The ratio of the 2nd to 4th fingers is a sexually dimorphic trait, with women having lower ratios than men. Our results show that PNMS from the ice storm predicted this ratio. Results also show that exposure to the ice storm was associated with a feminization of the ratio; other studies show that schizophrenic men and women tend to have more feminine ratios than controls. In conclusion, we find that PNMS from a natural disaster is associated with many traits seen in pre-schizophrenic or high risk children.

CORRESPONDING AUTHOR: David P. Laplante, PhD, Psychosocial, Douglas Institute Research Center, Verdun, QC, H4H 1R3; david.laplante@douglas.mcgill.ca

D-127

PREDISPOSING, ENABLING, AND NEED FACTORS ASSOCIATED WITH MENTAL HEALTH SERVICES USE AMONG VERY YOUNG CHILDREN

Christina Studts, PhD

Behavioral Science, University of Kentucky, Lexington, KY.

Uptake of mental health services by very young children is an understudied phenomenon. However, such services are vital to secondary and tertiary prevention efforts to reduce devastating outcomes associated with early onset mental health problems. This cross-sectional study assessed factors theoretically relevant to very young children's uptake of mental health services, based on Andersen's Behavioral Model of Health Services Use. Parents of children ages 3–5 followed in pediatric primary care ($N=900$) completed a battery of instruments including the Pediatric Symptom Checklist-17 (PSC-17, with Attention, Internalizing, and Externalizing subscales) and a sociodemographic questionnaire. Most participants were female (86%), with high school educations or less (60%) and incomes below $30 K (66%). Half of the children were white (50%) and male (52%); most were covered by public health insurance (71%). By parent report, 9% of the children had ever received mental health services. Logistic regression analyses were performed to identify *predisposing*, *enabling*, and *need* factors associated with receipt of mental health services. In the final model, the only significant *predisposing* variable was parent age ($p<.05$; $OR=1.05$). Of the *enabling* factors, only child public health insurance coverage approached significance ($p=.06$; $OR=2.72$). However, significant *need* predictors ($p<.01$) included parent belief that the child had behavioral problems ($OR=3.65$); parent report that someone else had expressed concerns regarding the child's behavior ($OR=3.11$); and PSC-17 Attention subscale score ($OR=1.22$). As posited by Andersen, need factors appeared most important in predicting usage of mental health services. Notably, ADHD-related symptoms were significantly associated with service receipt, while parent-reported internalizing and externalizing symptoms were not. Enabling factors such as type of health insurance coverage and predisposing factors such as parental age may also influence uptake in this population. Further investigation of patterns of mental health services use among very young children is warranted.

CORRESPONDING AUTHOR: Christina Studts, PhD, Behavioral Science, University of Kentucky, Lexington, KY, 40536-0086; tina.studts@uky.edu

D-128

AGE AND GENDER VARIATIONS IN PERCEPTIONS OF SOCIAL ROLE IMPORTANCE AND HEALTH IMPACT ON ROLE FUNCTIONING

Milena Anatchkova, PhD and Jakob Bjorner, MD, PhD

Science, QualityMetric Inc., Lincoln, RI.

Role functioning is an important construct in the assessment of health-related quality of life, but is hard to assess due to the wide definition of roles and fluctuations in role participation across the life-span. The aim of this study was to explore gender and lifespan variations in role functioning using qualitative approach. Eight focus groups were conducted with a convenience sample of 38 English-speaking, adults (18–79 years; 43% women; 79% White, 13% African American, 62% with chronic conditions) recruited in Rhode Island. Groups were stratified across 4 age groups and conducted separately by gender. Participants identified relevant social roles, ranked them by importance and discussed perceptions of the impact of health on their role functioning. Focus groups were taped, transcribed, and analyzed for thematic content. Participants of all ages and both genders identified family roles as most important. There was age variation in the importance of social life roles, with younger and older adults rating them as more important than middle aged adults. Occupational roles were identified as important by younger and middle aged participants. All participants recognized the potential of health problems to affect role functioning. Men expressed stronger concerns with disease impact on their role as provider for the family, while for women stronger concern was of interference with the ability to take care of family members. Older participants were most worried about losing their independence. Results suggested age and gender differences existed in the perceptions of importance of social roles, as well as concerns related to health impact across gender and age. Findings from this qualitative study will be used to inform the development of a computerized adaptive test of health impact on role functioning with high score precision and low respondent burden.

CORRESPONDING AUTHOR: Milena Anatchkova, PhD, Science, QualityMetric Inc., Lincoln, RI, 02865; manatchkova@qualitymetric.com

Meritorious Student Poster

D-129

LONGITUDINAL STUDY OF APOE GENOTYPE AND SEX EFFECTS ON ALLOSTATIC LOAD LEVELS

Robert-Paul Juster, BA,[1] Marie-France Marin, BA,[1] Andrea Perna, BA,[1] N. P. Vasavan Nair, MD,[2] George Schwartz, MA,[2] Ying Kin Ng, PhD,[2] Jude Poirier, PhD,[2] Alexandra J. Fiocco, PhD[3] and Sonia J. Lupien, PhD[1]

[1]Fernand-Seguin Research Centre, University of Montreal, Montreal, QC, Canada; [2]Douglas Hospital Research Centre, McGill University, Montreal, QC, Canada and [3]Endocrine Research Unit, University of California in San Francisco, Montreal, CA.

The allostatic load (AL) model posits that cumulative dysregulation of multiple physiological systems increases one's susceptibility to various pathologies over time. While chronic stress is conceptualized as causal of increased AL levels, no studies to date have investigated genetic susceptibilities. Because carriers of the epsilon 4 (E4) allele for the ApoE gene are at greater risk of cardiovascular and neurodegenerative disorders, we investigated a cohort of ApoE4 or non-ApoE4 carriers and AL changes over four years. As part of the Douglas Hospital Longitudinal Study of Normal and Abnormal Aging, 37 older adults aged 53 to 69 were followed. Biomarkers included plasma cortisol, total cholesterol, HDL cholesterol, triglycerides, and glucose, as well as aggregated systolic and diastolic blood pressure all measured at baseline, two, and then four years afterwards. Values falling within the upper and lower 25th percentile were dichotomized and added to yield AL indices based on cut-points for the group's distributions, as well as reference ranges used in clinical practice. Repeated measures ANOVA revealed statistically significant decreases in AL levels over time for non-ApoE4 carrying females when using the group cut-points. Conversely, using the clinical reference cut-points revealed significant decreases in both ApoE4 and non-ApoE4 carrying females. Previous research has shown that decreasing AL levels, even in old age, are associated to improved health outcomes. That we would find this adaptive pattern in ApoE4 carrying women deemed more vulnerable when using the clinical reference ranges but not when using the group's range warrants further investigation in a larger sample. The inclusion of alternative AL indices calculated from both empirically and clinically derived distributions might increase the biomedical detection of individuals more susceptible to stress-related diseases.

CORRESPONDING AUTHOR: Robert-Paul Juster, BA, Neurology & Neurosurgery, McGill, Montreal, QC, H3X2K7; robert.juster@mail.mcgill.ca

D-130

THE IMPACT OF PERCEIVED ILLNESS SEVERITY ON EMOTIONAL DISTRESS IN YOUNG ADULTS WITH ADOLESCENT PARENTAL ILLNESS

Teona Amble, BA,[1] Mary J. Naus, PhD,[1] Krissy Harper, BA[1] and Amie E. Grills-Taquechel, PhD[2]

[1]Health Psychology Research Group, University of Houston, Houston, TX and [2]Center for Anxiety and Depressive Disorders in Youth, University of Houston, Houston, TX.

Few studies have investigated the long-term effects of adolescent parental illness and the mechanisms by which the experience impacts emotional well-being. The current study examined the effects of perceived parental illness severity during adolescence on emotional distress in young adulthood. The study tested a pathway from Pedersen and Revenson's (2005) model of adolescent parental illness, where illness severity impacts the stress response, which in turn impacts psychological well-being. We defined the stress response as coping strategies and psychological well-being as levels of emotional distress. Parent-child attachment during adolescence was investigated as a moderator of the pathway between perceived illness severity and emotional distress. Participants were young adults at a diverse university, aged 18 to 23 (N=85) who reported parental illness during high school. Parental illness included chronic physical and mental illnesses (i.e. diabetes, cancer, depression, schizophrenia). Participants completed self-report measures of parent-child attachment (IPPA), current coping strategies (B-COPE), and perceived illness severity (parental illness questionnaire). Emotional distress included anxiety (STAI), depression (BDI-II), and negative affect (PANAS). A factor analysis was used to group coping strategies and to explore which coping factors were related to less distress. First, it was expected that less perceived illness severity predicts less emotional distress. Second, we expected that coping strategies significantly mediate the relationship between perceived illness severity and emotional distress. Third, it was predicted that attachment moderates the effects of perceived illness severity on emotional distress such that the relationship is stronger for individuals with more secure attachment. Results are discussed in terms of future research on the long-term effects of parental illness and clinical implications for helping families to cope with this experience.

CORRESPONDING AUTHOR: Teona Amble, BA, Health Psychology Research Group, University of Houston, Houston, TX, 77064; altita62@yahoo.com

D-131

A MEASUREMENT MODEL IN THE STUDY OF ILLNESS BEHAVIOR

Jenifer J. Thomas, PhD[1] and Evelinn A. Borrayo, PhD[2]

[1]University Counseling Center, Colorado State University, Fort Collins, CO and [2]Psychology, University of Colorado-Denver, Denver, CO.

The accuracy of self-report health behavior is at times questionable (Degnan et al., 1992). For example, individuals differ with regard to the meaning attributed to health center visits (Mathis & Lecci, 1999) and to the labeling and perception of symptoms (Herbert & Cohen, 1994). The seriousness of these limitations is a function of the measurement instrument and the conditions in which it is used (Streiner & Norman, 2003). To reduce the effect of measurement error in the study of psychosocial factors related to illness behavior, a confirmatory factor analysis (CFA) procedure was conducted to test the indicators presumed to measure the underlying latent variables of interest (social support satisfaction, coping, perceived stress). Sociodemographic information and complete surveys were obtained from the 303 undergraduate students. To identify which items were used as indicators in the CFA model, a principal component analysis was conducted to find the four items with the highest factor loadings on that construct. The final CFA model resulted in a significant Chi Square value, X2(125)=234.39, p=.00. Other fit indices indicated the trimmed CFA as a reasonably good fitting model (RMSEA=.05, CFI=.94, and PNFI=.64). The confirmatory factor analysis procedure provided important information about the measurement of health-related constructs and the relationships between these constructs, as well as support for this method in future illness behavior research. First, rather than relying on a total score, the items used were those that were important for this particular sample. Second, although each item loaded significantly on its respective construct in the model fitting procedure, examination of the regression weights for each item provided information about relative importance of particular items. Third, several constructs in the model were not interrelated which suggested the potential for examination of moderating and mediating relationships in future models.

CORRESPONDING AUTHOR: Jenifer J. Thomas, PhD, University Counseling Center, Colorado State University, Fort Collins, CO, 80523-8010; jjthomas@lamar.colostate.edu

D-132

AVERSION TO AMBIGUITY REGARDING MEDICAL TESTS AND TREATMENTS: MEASUREMENT, PREVALENCE, AND RELATIONSHIP TO SOCIODEMOGRAPHIC FACTORS

Paul Han, MD,[1] Richard Moser, PhD,[1] Bryce Reeve, PhD[1] and William Klein, PhD[2]

[1]Division of Cancer Control and Population Sciences, National Cancer Institute, Rockville, MD and [2]Psychology, University of Pittsburgh, Pittsburgh, PA.

Aversion to "ambiguity"—uncertainty about the reliability, credibility, or adequacy of risk-related information—is an important problem that may influence judgments and decisions about medical interventions. However, ambiguity aversion (AA) varies among individuals and has been understudied in the health domain. To explore this phenomenon further, we developed a new theory-based measure of aversion to ambiguity regarding medical tests and treatments, and examined the prevalence and association of AA with sociodemographic factors. The AA scale was developed and fielded using a large survey sample of the US public (n=4398), and scale psychometric properties and the population distribution of AA were evaluated. The final 6-item AA scale demonstrated acceptable reliability (α =.73) and validity as ascertained by association with respondents' interest in a hypothetical new cancer screening test, under different conditions of ambiguity: missing information (β=-.362, $p<.001$) and conflicting information (β=-.331, $p<.001$). AA was associated with older age, non-white race, lower education and income, and female sex. The AA scale is a promising new measure, and ambiguity aversion is associated with several sociodemographic factors. These findings shed light on the prevalence and potential determinants of ambiguity aversion, and have implications for future research and health communication efforts.

CORRESPONDING AUTHOR: Paul Han, MD, Division of Cancer Control and Population Sciences, National Cancer Institute, Rockville, MD, 20892; hanp@mail.nih.gov

D-133

HEALTHY ADAPTATION TO ILLNESS: A QUALITATIVE EXAMINATION OF POSITIVE PSYCHOLOGICAL FUNCTIONING IN NEUROLOGICAL DISORDERS

John Salsman, PhD,[1] David Victorson, PhD,[1,2] Sofia Garcia, PhD,[1,2] Cindy Nowinski, MD, PhD,[1,2] Amy Peterman, PhD,[3] Allen Heinemann, PhD,[4,2] Hongyan Du, MS,[1] Lori Perez, PhD,[5] Jennifer Huang, PhD,[5] Liz Jansky, PhD[5] and Dave Cella, PhD[1,2]

[1]Center on Outcomes Research and Education, NorthShore University HealthSystems, Evanston, IL; [2]Northwestern University Feinberg School of Medicine, Chicago, IL; [3]University of North Carolina at Charlotte, Charlotte, NC; [4]Rehabilitation Institute of Chicago, Chicago, IL and [5]Westat, Rockville, MD.

As part of a Quality of Life Outcomes in Neurological Disorders Study (Neuro-QOL) to develop a patient reported outcomes assessment system for use with a variety of neurological diseases, patient and caregiver focus groups were conducted to identify relevant health-related quality of life (HRQL) content areas, which included positive psychological functioning (PPF). A total of 7 groups were conducted with people diagnosed with pediatric and adult epilepsy, stroke, multiple sclerosis (MS), Alzheimer's disease, amyotrophic lateral sclerosis syndrome (ALS) and Parkinson's disease (Mean age: adult=52.1, pediatric=16.38) as well as 3 focus groups with caregivers (Mean age: adult care recipients=60.4, pediatric care recipients=11.3). To ensure socioeconomic, geographic, and ethnic diversity across the United States, focus groups were held in Chicago, IL, Merced, CA, Columbia, MD and Cleveland, OH. Multiple coders analyzed the data using grounded theory. PPF was spontaneously identified as an important HRQL domain for the following conditions: Alzheimer's disease, ALS, MS, and stroke. Within these conditions, themes of spirituality, life appreciation, self-acceptance, and mastery/control were identified as examples of PPF. Across conditions, mastery/control emerged as a primary theme. Participants in five out of six adult focus groups reported examples of: engaging and managing activities secondary to their conditions, identifying compensating strategies, understanding their physical limitations, and planning activities more intentionally. This data informed subsequent phases of PPF item development and testing of a PPF item bank as a part of the Neuro-QOL measurement system is underway.

CORRESPONDING AUTHOR: John Salsman, PhD, Center on Outcomes Research and Education, NorthShore University HealthSystems, Evanston, IL, 60201; jsalsman@northshore.org

D-134

CANADIANS' PERCEPTIONS OF FOOD RISKS AND PSYCHOLOGICAL STRESS

Marie-Pierre L. Markon, BA Hons in Psychology,[1,2] Castonguay Myriam, BA Hons Psychology,[1,2] Jennifer Zlepnig, BA Hons Psychology,[2,3] Robin Meyer-MacLeod, BScH Psychology,[2,3] Louise Lemyre, PhD Psychology MSRC/FRSC[2,3] and Daniel Krewski, PhD, MHA[2,4]

[1]Psychology, University of Ottawa, Ottawa, ON, Canada; [2]Institute of Population Health, University of Ottawa, Ottawa, ON, Canada; [3]GAP-Santé Research Unit, University of Ottawa, Ottawa, ON, Canada and [4]McLaughlin Research Centre, University of Ottawa, Ottawa, ON, Canada.

The impact of major food contamination on individual behaviours and stress reactions has received some attention in the literature. For instance, there has been extensive research on how the outbreak of Mad Cow Disease in Europe has affected population psychological health and well-being. However, less has been said regarding the extent to which stress can be linked to the mere perception of such threat, prior to the occurrence of a specific event. The aim of this research is to investigate whether differences in perceived risk for food contamination is related to the variance in individuals' psychological stress. This research presents the results of analysis performed on a national survey representative of the Canadian population on perceived food risk threat (N= 1517). First, positive correlations were found between psychological stress (measured with the PSM 9) and different risk appraisal dimensions, such as the perceived likeliness of crises arising from food in Canada ($p<0.01$) as well as perceived level of uncertainty ($p<0.01$). These dimensions were then entered into a regression analysis and together contributed to the prediction of psychological stress ($p<0.05$). Findings will be discussed within an ecological framework to show how psychological variables of health such as psychological stress can be studied in relation to distal global challenges.

CORRESPONDING AUTHOR: Marie-Pierre L. Markon, BA Hons in Psychology, Psychology, University of Ottawa, Ottawa, ON, K1N 6N5; mlala099@uottawa.ca

D-135

ASSOCIATION BETWEEN SELF-REPORTED CHILDHOOD MALTREATMENT AND CORTISOL PROFILES IN PSYCHOTIC PATIENTS

Luc Valiquette, MSc, Karène Brenner, MSc, Ridha Joober, MD, PhD and Suzanne King, PhD

Douglas Mental Health University Institute, Montreal, QC, Canada.

Childhood maltreatment is extremely common in patients diagnosed with psychotic disorders. Moreover, it has been linked with impaired functioning of the Hypothalamic-Pituitary-Adrenal axis. Furthermore, abnormality of the HPA has been found in psychotic patients. Presence of childhood maltreatment could then explain why the HPA axis is dysfunctional in these subjects. Our objective was to clarify the role of childhood trauma in the cortisol profiles of psychotic patients. Thirty-one patients underwent assessments of childhood maltreatment. Diurnal cortisol and cortisol after a controlled psychosocial stress were also collected. Our results show that childhood trauma is associated with lower cortisol levels during the morning and during 24 hours. In men diagnosed with psychosis, childhood trauma is also associated with a higher cortisol response during psychosocial stress. This suggests an alteration of the HPA axis in psychotic patients, resulting from early trauma. Moreover, our results suggest that looking at specific types of childhood abuse may also be important.

CORRESPONDING AUTHOR: Luc Valiquette, MSc, Douglas Mental Health University Institute, Montreal, QC, H4H 1R3; luc.valiquette@douglas.mcgill.ca

D-136

THE RELATIONSHIP BETWEEN EMPATHIC ACCURACY, MARITAL QUALITY, AND PERCEIVED SPOUSE SUPPORT FOR MARRIED LUPUS AND VASCULITIS PATIENTS

Delesha M. Carpenter, MSPH,[1] Carolyn Thorpe, PhD,[3] Megan Lewis, PhD[2] and Robert DeVellis, PhD[1]

[1]Health Behavior and Health Education, University of North Carolina at Chapel Hill, Chapel Hill, NC; [2]RTI International, Research Triangle Park, NC and [3]Population Health Sciences, University of Wisconsin, Madison, WI.

Background: Empathic accuracy, defined as "everyday mind reading", has been associated with marital quality and dyadic adjustment for newly married couples as well as couples who are experiencing marital distress. However, no research to date has investigated whether empathic accuracy is associated with marital quality and spouse support for married couples in which one partner is coping with chronic illness.

Methods: PAIRS is an observational study of married couples where one spouse has had ANCA-vasculitis or lupus for at least six months. 134 couples completed the dyadic interaction paradigm interview (from which unadjusted and adjusted empathic accuracy scores were calculated) as well as a baseline questionnaire, which included measures of marital quality (α=.95), marital satisfaction (α=.96), marital commitment (α=.93), and perceived spouse support (α=.93). The Actor-Partner Interdependence Model (APIM) was used to determine the effect of patient's and spouse's empathic accuracy on both their own and their partner's perceptions of marital quality and spouse support.

Results: The overall level of unadjusted empathic accuracy was relatively high for both patients (mean=38.8, sd=17.0) and spouses (mean=37.3, sd= 16.0) when compared with previous studies. The APIM analysis revealed a significant actor effect, in which patients' own empathic accuracy was positively associated with their own perceived spouse support. This actor effect remained significant after controlling for age, gender, race, marriage duration, and marital quality. These results indicate that in our sample, patients' own empathic accuracy may help them elicit the support they need from their spouses, and may be more important than the empathic accuracy of their spouses.

CORRESPONDING AUTHOR: Delesha M. Carpenter, MSPH, Health Behavior and Health Education, University of North Carolina at Chapel Hill, Chapel Hill, NC, 27599; dlmiller@email.unc.edu

D-137

THE IMPACT OF PEER VICTIMIZATION ON CHILDREN'S HEALTH CARE UTILIZATION

Nicole Kahhan, BS and David Janicke, PhD

Department of Clinical and Health Psychology, University of Florida, Gainesville, FL.

Peer victimization has been linked to a myriad of negative psychosocial outcomes, psychosomatic symptoms, and health problems in children. No research has been done however to examine whether the experience of peer victimization is related to health care utilization (specifically costs). Currently only 30–40% of the variance in children's health care use has been accounted for, with family variables, demographics, and child mental/physical health status represented. The purpose of this study was: (1) to determine if peer victimization is related to healthcare utilization (specifically acute care costs); and (2) to determine if this relationship is mediated by child or parent reported psychosocial variables, or the presence of a mental health diagnosis. Participants were 213 children enrolled in Medicaid, ages 7–15, and their parent(s), recruited from pediatric primary care clinics. Parents completed a demographic form and the Child Behavior Checklist. Children completed the Social Experience Questionnaire and the PedsQL. Acute care costs and previous mental health diagnosis, as noted by ICD-9 codes, were extracted from the Medicaid database. Child perception of peer victimization was significantly related to healthcare costs. Moreover, total child behavioral and emotional problems as measured by the CBCL, and the presence of a mental health diagnosis, each mediated the relationship between peer victimization and health care costs. These data suggest that peer victimization may lead to an increase in health care costs, and that child behavioral and emotional functioning may create an important pathway leading to increased acute medical care. Given that current health care use patterns are predictive of future use, further elucidating the relationship between peer victimization and health care use may provide insight into potential points of intervention to decrease children's medical costs.

CORRESPONDING AUTHOR: Nicole Kahhan, BS, Department of Clinical and Health Psychology, University of Florida, Gainesville, FL, 32601; nkahhan@phhp.ufl.edu

D-138

THE ROLE OF SOCIAL AND DISPOSITIONAL VARIABLES ASSOCIATED WITH POST-TRAUMATIC GROWTH IN A HETEROGENEOUS SAMPLE OF TRAUMA SURVIVORS

John Schmidt, PhD,[1] Kristi Graves, PhD[2] and Michael Andrykowski, PhD[3]

[1]Department of Psychiatry and Psychology, Mayo Clinic, Rochester, MN; [2]Lombardi Cancer Center, Georgetown University, Washington, DC and [3]Department of Behavioral Science, Unversity of Kentucky, Lexongton, KY.

Traumatic experiences often result in long-term distress. Recent research in benefit finding after trauma has lead to the conceptualization of Post-Traumatic Growth (PTG) as a construct associated with mental schema change after a traumatic event. Cognitive and emotional processing is critical to successful adjustment to trauma and may significantly contribute to PTG. Such processing can be facilitated by dispositional and social factors. This study investigated the relationship between dispositional (emotional intelligence (EI) and regulation (ER)) and social (social support (SS), social constraints (SC)) characteristics theoretically linked to cognitive and emotional processing and PTG in 761 trauma survivors (mean age=39.5 yrs). Participants were recruited from internet-based trauma support groups. Participants completed measures of affect, PTSD symptoms, SS, SC, EI, ER, and PTG. The Impact of Events (IES) scale assessed current trauma-related cognitive intrusions and active avoidance of trauma-related thoughts. Participants reported experiencing an average of 2.6 traumatic events. The majority of respondents met criteria for clinically significant PTSD symptomatology (n=557,75.8%). Hierarchical regression analyses indicated higher PTG scores were associated with higher social support, higher emotional intelligence, more use of 'reappraisal' as an emotion regulation strategy, lower depression, and higher IES-intrusion scores (p's <.05). Surprisingly, higher social constraints were predictive of PTG scores (p <.01). Results provide support of a social-cognitive processing model of trauma adaptation, and suggest post-traumatic growth is a multi-faceted construct influenced by dispositional characteristics such as emotional intelligence and emotion regulation strategies. These results also demonstrate the utility of internet based surveys for recruiting large data samples in behavioral research.

CORRESPONDING AUTHOR: John Schmidt, PhD, Mayo Clinic, Rochester, MN, 55902; schmidt.john1@mayo.edu

D-139

DEPRESSIVE SYMPTOMS AND PHYSICAL ILLNESS ACROSS 10 YEARS

Sandra Pahl, MA,[1] Charles Holahan, PhD,[1] Rebecca North, MA,[1] Brent Kenney, MA,[1] Carole Holahan, PhD,[1] Ruth Cronkite, PhD[2,3] and Rudolf Moos, PhD[2,3]

[1]University of Texas at Austin, Austin, TX; [2]V.A. Palo Alto Health Care System, Palo Alto, CA and [3]Stanford University, Stanford, CA.

The World Health Organization has identified depression as the leading global cause of life-years lived with disability. In addition to its psychosocial consequences, depression may be linked to physical illness. We examined the cross-sectional and prospective relationship between depressive symptoms and physical illness across a 10-year period. Data on 424 depressed patients and 424 matched community controls were collected through the Center for Health Care Evaluation at Stanford University Medical School. Fourteen physical illnesses from participants' self-report of physician-diagnosed illnesses in the previous 12-months were classified into moderately serious and very serious illnesses. The likelihood of experiencing any illness was examined in Chi Square analyses. At baseline, compared to community controls, depressed patients were over 60% more likely (p<.01) to experience a moderately serious illness and more than twice as likely (p<.01) to experience a very serious illness. Among individuals who were healthy at baseline, compared to community controls, depressed patients were almost 50% more likely (p<.01) to experience a new moderately serious illness and over 50% more likely (p<.01) to experience a new very serious illness across the 10-year follow-up. We also tested integrative structural equation models. Depression was indexed by depression-control status and level of baseline depressive symptoms; physical illness was indexed by number of moderate and serious illnesses. At baseline, the parameter between depression and physical illness was significant at the .01 level (χ2=.48), explaining 23% of the variance in illness. Prospectively, controlling for baseline illnesses, the parameter between depression and physical illness was significant at the .01 level (χ2=.39), explaining 15% of the variance in new illness. Recognizing and treating depression early may prevent the onset of potentially debilitating physical illnesses, improving the overall quality of life for depressed individuals.

CORRESPONDING AUTHOR: Sandra Pahl, MA, University of Texas at Austin, Austin, TX, 78712-0187; sandra.pahl@mail.utexas.edu

D-140

ATTRIBUTIONAL STYLES AND SOCIAL INFORMATION-PROCESSING IN URBAN AFRICAN-AMERICAN BOYS

Ricardo D. LaGrange, PhD

Children's National Medical Center, Washington, DC.

According to the reformulated social information-processing model (Dodge, 1994), children who tend to attribute hostile intent to peers often select aggressive behavioral responses. The result is damaged peer relations for those children with limited social-cognitive resources and an increased risk of interpersonal disputes. Although violence is not a gender, age, or socioeconomic-specific problem, it disproportionately affects young African-American males from low-income families. This study sought to fill a gap in the literature on social cognition in two ways: (a) By establishing whether the attributional styles of African-American boys determine their behavioral responses and whether these styles affect their subsequent peer relationships, and (b) by investigating whether there are ways that African-American boys can maintain a high level of social adaptability despite having hostile attributional biases. African-American students in the fourth, fifth, and sixth grades from two neighboring urban, public elementary schools located in the northeastern United States were administered three instruments consisting of provocational questionnaires, peer assessments, and sociometric measures. Within the total number of boys participating in the study (N=151), a MANOVA revealed significant main effects for intent on behavioral choice and peer acceptability, Λ=.77, F(4, 294)=10.48, p<.001. A MANOVA calculated on the sub-sample of boys who demonstrated having a hostile attributional bias (n=83) revealed a significant main effect for strength of judgment on the dependent measures behavioral choice and peer adaptability, Λ=.61, F(6, 156)=7.30, p<.001. Post-hoc analyses revealed that the boys with both aggressive and inconsistent attributional styles were significantly more likely to make aggressive behavioral responses, but only the former group suffered damaged peer relations. Conclusions are drawn from these findings regarding social-cognitive processing in African-American boys.

CORRESPONDING AUTHOR: Ricardo D. LaGrange, PhD, Children's National Medical Center, Washington, DC, 20010; RLaGrang@cnmc.org

D-141

PSYCHOSOCIAL AND QUALITY OF LIFE OUTCOMES IN EARLY-AGE LOWER-LIMB AMPUTATIONS

Anne Morton, PhD, Russ Riddle, MS, Kellye DeBerry, MA and John Birch, MD

Texas Scottish Rite Hospital, Dallas, TX.

Fibular Hemimelia, characterized by partial or complete absence of the fibula, is the most common lower limb deficiency. Problems include leg-length discrepancies and serious foot deformities often requiring amputation. We examined psychosocial and health-related quality of life (HRQOL) outcomes in 19 children (74% males; mean age=9.8 years; 9 Caucasians, 9 Hispanics, 1 African-American) with severe fibular deficiency treated by foot amputation in childhood. Average age at amputation was 1.4 years. Children completed the Pediatric Quality of Life Inventory (PedsQL™), Piers-Harris Children's Self-Concept Scale 2 (Piers-Harris 2), and the Behavior Assessment System for Children, Second Edition (BASC-2), along with measures of satisfaction with amputation. Parents completed the PedsQL™ Quality of Life Inventory and Family Impact Modules, BASC-2, and measures of treatment satisfaction and impact of the child's condition on participation in activities.

Children obtained HRQOL, self-concept, and emotional/behavioral scores within normal limits, and reported being very satisfied with their amputation. Parent-proxy ratings were below child reports for total HRQOL [t(18)=2.9, *p*=.01] and inversely correlated with age [r=-.66, p=.002]. Thirty-three percent of parents reported their child was somewhat dissatisfied with the overall result of amputation while 67% reported their child being quite satisfied.

On the PedsQL™ Family Impact Scale, parents overall scored below the norm on the Worry subdomain while Hispanic parents reported lower total scores than Caucasians [F(1, 16)=5.7, p=.03]. Hispanics tended to report lower socioeconomic status as well. Parent ratings of the prostheses' impact on child participation in activities were related to child self-concept [r=.59, p=.026]. In general, children tend to adjust positively to early-age amputation. Parents nevertheless may perceive concerns in their children and retain anxiety about their children's future and how others may react to their condition.

CORRESPONDING AUTHOR: Russ Riddle, MS, Texas Scottish Rite Hospital, Dallas, TX, 75219; russ.riddle@tsrh.org

D-142

EVALUATING THE "GAP" BETWEEN RESEARCH AND PRACTICE WITH STUDIES FUNDED BY THE NATIONAL INSTITUTES OF HEALTH

Peter R. Giacobbi, PhD,[1] Matthew P. Buman, PhD,[2] Heather A. Hausenblas, PhD[3] and Mari J. Stoddard, MS[1]

[1]Mel and Enid Zuckerman College of Public Health, University of Arizona, Tucson, AZ; [2]Stanford Prevention Research Center, Stanford University, Stanford, CA and [3]Applied Physiology and Kinesiology, University of Florida, Gainesville, FL.

This study examined the gap between research and practice by evaluating subscription information of published research funded by the National Institutes of Health (NIH). Because NIH funds research in multiple disciplines, the review was narrowed to the Kinesiology discipline which focuses on the prevention and treatment of disease from several disciplines: physiology, psychology, biomechanics, athletic training, health behavior, and physical education. A web-based search identified 1,197 tenured or tenure-eligible faculty members in 61 Kinesiology departments in the United States in October 2007. Faculty names were entered into the Computer Retrieval of Information on Scientific Projects (CRISP) database maintained by NIH and 207 were identified as principal investigators (PI's) who received funding from October 1969 to November 2007. The PI's were input into the PubMed database and 2,612 articles published before March 2008 were linked to NIH grants. Over 40% of the publications were in 10 journals with the remaining articles in 246 journals. An examination of subscription information from the top 10 journals revealed that the majority of readers were scientists and not practitioners with some exceptions. These findings support what has been described as a "passive" process of diffusion of scientific findings (Kerner, 2002).

CORRESPONDING AUTHOR: Peter Giacobbi, PhD, University of Arizona, Tucson, AZ, 85724; giacobbi@email.arizona.edu

D-144

THE USE OF SOMATIZATION IN THE CONCEPTUALIZATION OF SICKLE CELL DISEASE SCD)

Christopher L. Edwards, PhD,[1] Chante C. Wellington, PhD,[1] Mary Wood, MA,[1] Miriam Feliu, PsyD,[1] Markece J. Mathis, BA,[2] Camela McDougald, MA,[3] Malik Muhammad, MS[1] and Elwood Robinson, PhD[4]

[1]Psychiatry, Duke University Medical Center, Durham, NC; [2]Biology, A&T State University, Greensboro, NC; [3]Psychology, East Carolina State University, Greenville, NC and [4]Psychology, North Carolina Central University, Durham, NC.

The unpredictable nature of Sickle Cell Disease (SCD) and its social and environmental consequences can produce an unhealthy focus on physical functioning. At the upper range of this focus on health concerns is somatization. In the current study, using 156 adult patients (55.13% female; 86) with SCD, mean aged 35.59 +- 12.73, we explored the relationship of somatization to pain. We found somatization to be associated with pain severity ($r=.47$, $p<.0001$), current pain intensity ($r=.32$, $p<.006$), average weekly pain intensity ($r=.32$, $p<.006$), and average monthly pain intensity ($r=.48$, $p<.0001$). We further found a relationship of somatization to the amount reduction in pain perceived to be need to bring about noticeable pain relief ($r=.41$, $p=.001$). We interpret these data to suggest that traditional cognitive behavioral approaches which emphasize factors such as distraction may have substantial utility in reducing focus on illness and subsequent pain in patients with SCD. Further that the treatment of somatization may facilitate the effectiveness of traditional pharmacological interventions and ultimately reductions in healthcare utilization.

CORRESPONDING AUTHOR: Chante C. Wellington, PhD, Psychiatry, Duke University Medical Center, Durham, NC, 27705; chante.wellington@duke.edu

D-145

THE EFFICACY OF AN INNOVATIVE REHABILITATION PROGRAM FOR THE TREATMENT OF CHRONIC PAIN IN A PEDIATRIC POPULATION

Barbara k. Bruce, PhD, Jennifer L. Kerkvliet, MS, Tracy Harrison, MD, Cynthia O. Townsend, PhD and Susan Bee, CNS

Department of Psychiatry and Psychology, Mayo Clinic, Rochester, MN.

It has been reported that 15–20% of children and adolescents experience chronic pain, and up to 5% can be so debilitated by pain that they are unable to attend school, maintain social relationships with their peer group, participate in daily exercise or activities with their family. Medical care for chronic pain in children is often interventional or pharmacological in approach and generally does not involve cognitive-behvavioral rehabilitatiive approaches. Few resources exist that focus upon rehabilitation in children despite significant literature on the effectiveness of comprehensive pain rehabilitation in adults. Functional goals are the priority of rehabilitation programs and include return to school/work, discontinuation of all opioids, improved physical conditioning, improved mood/level of depression, decrease in medical utilization and return to social/recreational/leisure activities. Twenty-seven adolescents and their parents completed a 3-week hospital-based outpatient interdisciplinary pediatric pain rehabilitation program. Adolescents were involved in 40 hours a week of cognitive-behaviorally based treatment. Parents were involved in 15 hours of treatment a week. Outcome measures included patient satisfaction, parent satisfaction, depression, pain catastrophizing, anxiety, physical functioning, social functioning, return to school, discontinuation of opioids, and pain levels. The mean age of the patients was 15 years (range 11–18). Headache and abdominal pain were the most frequent primary pain disorders, although a significant percentage of patients also had a diagnosis of postural-orthostatic-tachycardic syndrome (POTS) that contributed to their poor functioning upon admission. Statistical analyses showed significant improvement from admission to discharge on all clinical outcome variables. The group-based treatment program and use of allied health personnel were cost-effective. Key financial indicators were positive and indicated excellent insurance reimbursement for this program.

CORRESPONDING AUTHOR: Barbara k. Bruce, PhD, Department of Psychiatry and Psychology, Mayo Clinic, Rochester, MN, 55905; bruce.Barbara@Mayo.edu

D-146

PAIN AND DEPRESSION IN BLACK MEN WITH SICKLE CELL DISEASE (SCD)

Markece Mathis, BA,[1] Christopher L. Edwards, PhD,[2] Lekisha Edwards, PhD,[2] Sonia Marrone, MA,[2] Chante C. Wellington, PhD,[2] Goldie Byrd, PhD,[1] Malik Muhammad, MS[2] and Miriam Feliu, PsyD[2]

[1]Biology, North Carolina A & T State University, Greensboro, NC and [2]Psychiatry, Duke University Medical Center, Durham, NC.

The health of black men with chronic illnesses is an increasing topic of scientific inquiry. Little, if anything, is known about the health status of Black men with Sickle Cell Disease. In the current study, and using survey methodology, we explored the relationship of depression to relevant sickle cell disease outcomes in 70 adult Black men, mean aged 31.14 +- 8.97. Mean level of education was 12.28 +- 1.93. Depression was found to be associated with average pain intensity over the past month ($r=.36$, $p=.04$) with a trend for significance on pain over the past week ($r=.31$, $p<.07$). Depression did not predict current pain intensity or pain frequency. Pain intensity and depression were not associated with measures of functionality. Black men with SCD may find that treating their depression reduces their pain. We conclude that longer durations of pain is associated with negative affective reactions such as depression. Future studies should integrate psychological models into our conceptualization of effective management strategies in this complicated genetic disorder.

CORRESPONDING AUTHOR: Chante C. Wellington, PhD, Psychiatry, Duke University Medical Center, Durham, NC, 27705; chante.wellington@duke.edu

D-147

INTERACTIVE VOICE RESPONSE AS A THERAPEUTIC TOOL FOR CHRONIC PAIN AND OPIOID USE REDUCTION

Ginger Cloud, BS,[1,3] Michael Krauthamer, MA,[1] Alan Howard, PhD[1,2] and Magdalena R. Naylor, MD, PhD[1]

[1]Psychiatry, University of Vermont, Burlington, VT; [2]Academic Computing, University of Vermont, Burlington, VT and [3]Counseling Department, University of Vermont, Burlington, VT.

OBJECTIVE: To test whether the Therapeutic Interactive Voice Response (TIVR) system can be used to decrease opioid medication use.

METHOD: Fifty-one subjects with chronic musculoskeletal pain enrolled in 11 weeks of group CBT. Following CBT, these subjects were randomized to two groups. Twenty-five subjects participated in 4 months of Therapeutic IVR (TIVR), while a control group of twenty-six subjects received standard care only. TIVR is an automated phone system designed to reinforce pain coping skills learned in group CBT. TIVR has four components: a daily self-monitoring questionnaire, didactic review of coping skills, prerecorded behavioral rehearsals of coping skills, and monthly therapist feedback. All four components can be accessed on demand by patients via touch-tone phones.

RESULTS: The effectiveness of CBT was evaluated by a paired t-test. All subjects showed post-CBT significant improvements in MPQ Typical Pain (p<.01), TOPS Total Pain Experience(p<0.001) and TOPS Life Control (p<0.01) measures. Change in Life Control was inversely related to change in Pain (p<.01). The TIVR group showed maximum improvement over baseline at the 8-month follow-up for 8 of the 10 outcome measures (p ≤ 0.001). Between-group analysis (independent sample t-tests) revealed significant differences at both 4 and 8-month follow-ups for MPQ Typical Pain (p< 0.001), TOPS Total Pain Experience (p<0.01), and the TOPS Life Control dimension (p <0.01). Moreover, there were a significant decrease in opioid medication use in TIVR group as compared to controls at 8-month follow-up (p<0.001)

CONCLUSION: Results demonstrate that TIVR can be used not only to decrease pain while improving perception of Life Control, but also to decrease opioid medication use.

CORRESPONDING AUTHOR: Magdalena R. Naylor, MD, PhD, Psychiatry, University of vermont, Burlington, VT, 05401; magdalena.naylor@uvm.edu

Citation Poster
D-148

MPI PROFILE CLASSIFICATIONS AND ASSOCIATED CLINICAL FINDINGS AMONG LITIGATING MOTOR VEHICLE COLLISION PATIENTS

Melanie P. Duckworth, PhD,[1] Stacey Cherup-Leslie, MA[1] and Tony Iezzi, PhD[2]

[1]Psychology, University of Nevada-Reno, Reno, NV and [2]Behavioral Medicine, London Health Sciences Centre, London, ON, Canada.

The present investigation examined pre-, peri-, and post-collision differences among litigating chronic pain patients who were classified as dysfunctional (DYS), interpersonally distressed (ID), and adaptive copers (AC) based on their responses to the Multidimensional Pain Inventory (MPI; Kerns, Turk, & Rudy, 1985). Chi-square analyses revealed significant differences in the proportion of DYS patients, ID patients, and AC patients reporting neck/cervical pain at the time of the MVC [X2(237)=6.98, p=.03], with 77% of DYS patients, 80% of ID patients, and 60% of AC patients reporting neck/cervical pain. Univariate analyses revealed significant group differences in the total number of pain sites reported at the time of assessment [F(2, 235)=13.7, p=.0001], with the DYS group and the ID group reporting more pain sites than the AC group. Patient groups also differed significantly in their report of pain across various body sites at the time of assessment, with a significantly greater percentage of DYS patients reporting head [X2(236)=13.1, p=.001], neck [X2(237)=14.9, p=.001], and lower back pain [X2(237)=8.5, p=.01]. Significant group differences in the total number of contact with health care providers were observed [F(2, 236)=5.5, p=.005], with the DYS group reporting more contacts than the AC group. Chi-square analysis revealed significant differences in the proportion of DYS, ID, and AC patients endorsing depression symptoms [X2(237)=32.53, p=.0001] and phobic responding [X2(237)=6.80, p=.03] at the time of assessment. The DYS, ID, and AC groups did not differ significantly in their endorsement of PTSD symptoms at the time of assessment. The three groups did differ in ratings of psychological disability [X2(235)=30.2, p=.0001], with 34% of the DYS group, 38% of the ID group, and 17% of the AC group receiving a total disability rating.

CORRESPONDING AUTHOR: Stacey Cherup-Leslie, MA, University of Nevada-Reno, Sparks, NV, 89441; scherup@gmail.com

D-149

PRESURGICAL ANTICIPATION OF PAIN PREDICTS THE AMOUNT OF ANESTHETIC NEEDED TO ACHIEVE ADEQUATE SEDATION DURING SURGERY AND 24-HOUR POSTOPERATIVE DENTAL PAIN

Leora C. Swartzman, PhD[1] and Kevin J. McCann, DDS, FRCD(C)[2]

[1]Department of Psychology, The University of Western Ontario, London, ON, Canada and [2]Private Practice, Waterloo, ON, Canada.

GOAL: To examine the extent to which anticipated pain affects surgical outcomes, particularly postoperative pain and surgical anesthetic requirements. METHODS: A total of 106 patients (42% male; mean age=29 years, range= 18–86), treated in an identical fashion by one surgeon, underwent a variety of dentoalveolar surgical procedures (e.g., tooth removal, dental implants). Prior to surgery, they estimated the amount of pain (on a 0–10 point scale) they expected to experience 24 hours post surgery, and used the same scale to report their pain a day after surgery. RESULTS: Patients overestimated the amount of pain they would actually experience 24-hours post surgery (5.87(1.92) vs 2.7 (2.0); paired t (df=99)=15.1 p<.0001). In a regression predicting 24-hours postsurgical pain, anticipated pain accounted for a significant amount of variance (6.1%, F change (1,93)=7.41, p=.008) above and beyond that accounted for by the covariates (age, gender, length of surgery, presurgical pain; Total Model r2=19.9%, F(5,93)=5.88, p <.0001). In a regression predicting the amount of fentanyl/kilo needed to maintain an appropriate level of conscious sedation during surgery (gauged by a bispectral index monitor), anticipated pain accounted for a significant amount of variance (6.8%, F change (1,94)=8.38, p=.005) beyond that accounted for by the covariates (age, gender, presurgical pain, initial dose of fentanyl/kilo, and length of surgery; Total Model r2= 19.2%, F(6,94)=4.97, p<.0001). CONCLUSION: We have demonstrated that, within an acute clinical pain model, expected pain not only predicts experienced pain, but also the amount of surgical anesthetic needed to achieve adequate sedation. Extrapolating from these findings, one might predict that alerting presurgical patients to their tendency to expect more pain than they will actually experience might serve to diminish their postsurgical pain and decrease the need for surgical anesthetic.

CORRESPONDING AUTHOR: Leora C. Swartzman, PhD, Department of Psychology, The University of Western Ontario, London, ON, N6A 3K7; lswartzm@uwo.ca

D-150

MY PAIN PROFILE: A WEB-BASED BIOPSYCHOSOCIAL PAIN ASSESSMENT FOR PRIMARY CARE

Susan A. Stoner, PhD, Kelly M. Carpenter, PhD, Jennifer M. Mundt, MS and KrisAnn L. Schmitz, MSW

Talaria, Inc., Seattle, WA.

Experts recognize that assessment and treatment of chronic pain must include psychosocial variables. Primary care providers (PCPs) are particularly in need of tools to efficiently improve care. This project created and evaluated a website, My Pain Profile (MPP), that conducts a biopsychosocial pain assessment and prepares a high-quality report for PCPs. MPP assesses pain intensity, characteristics, medications, treatment history, confidence in behavior change, disabling beliefs, opioid treatment risk, alcohol and recreational drug use, mental health, stress, and quality of life. We evaluated MPP in the context of a randomized controlled trial also examining the effectiveness of a pain management intervention. At baseline, participants (N=143, 83% female, 22% racial/ethnic minority, mean age=42.5) were randomly assigned to complete either MPP or a telephone interview consisting of the questions contained in MPP. They were then randomly assigned to an intervention or waitlist control condition. At the end of the 3-week intervention/wait period, all participants completed MPP. Compared to those completing the phone interview, those completing MPP endorsed lower confidence in behavior change, t(134)=3.65, p<.001 and lower overall mental health, t(140)=3.32, p=.001. Among waitlist controls (who had not yet received an intervention), those who completed MPP at baseline and again 3 weeks later showed no significant differences; however, those who completed the interview at baseline showed significantly lower confidence in behavior change, t(32)=3.34, p=.002, and lower overall mental health, t (32)=4.01, p<.001, on the subsequent MPP. Among those receiving an intervention, MPP showed significant improvement in confidence in behavior change, t(29)=-2.78, p=.009, and disabling beliefs, ts(29)=2.80–3.52, ps=.001-.009, which significantly correlated with Survey of Pain Attitudes subscales. Overall, these results indicate that MPP is sensitive to change, has good convergent validity and test-retest reliability, and may be less subject to socially desirable responding than a phone interview.

CORRESPONDING AUTHOR: Susan A. Stoner, PhD, Talaria, Inc., Seattle, WA, 98122; sstoner@talariainc.com

D-151

PRIMING THE CONCEPT OF PAIN REDUCES PLACEBO ANALGESIA

Suzanne Helfer, PhD,[1] Justin A. Wellman, MS,[2] Andrew L. Geers, PhD[2] and Christopher R. France, PhD[3]

[1]Psychology, Adrian College, Adrian, MI; [2]Psychology, University of Toledo, Toledo, OH and [3]Psychology, Ohio University, Athens, OH.

A large portion of the literature on placebo effects focuses on expectations. Fewer studies have examined the factors that moderate the effect of placebo expectations on clinical or experimental pain. This study was designed to test the influence of pain-related cognitions on placebo analgesia during an experimental pain task, the cold pressor. One hundred fourteen undergraduate volunteers (57 men, 57 women) were randomly assigned to a 2 (placebo expectation) x 2 (priming) design. After completing a health history and a demographic questionnaire, participants were asked to complete a priming task that activated the concept of pain, or a neutral priming task. Following the priming task, an inert cream with a medicinal smell was applied to participants' hands. Half of the participants were told that the cream would reduce the pain sensations associated with the cold pressor. The other half were told it was a hand cleanser. Then participants were asked to immerse their hand in water and ice at 4 degrees Celsius for 2 minutes. After the cold pressor, participants completed the short form of the McGill Pain Questionnaire. ANOVAs exploring the effect of priming condition and placebo expectation showed a main effect of expectation on pain sensitivity and total pain (p's$<.05$) and a marginal effect on present pain intensity ($p=.08$). Planned comparisons showed that the placebo effect was exhibited by participants in the neutral prime condition. That is, within this condition, those participants given a placebo expectation reported less pain than those not given a placebo expectation. However, participants in the pain prime condition did not experience placebo analgesia. This pattern of results was revealed on pain sensitivity, total pain, and present pain intensity subscales. This suggests that activating the concept of pain may prevent placebo analgesia. In general, those who are extremely concerned about pain may be less likely to benefit from placebo analgesia. Supported by NIH-NS051687.

CORRESPONDING AUTHOR: Suzanne Helfer, PhD, Adrian College, Adrian, MI, 49221; shelfer@adrian.edu

D-152

ACCEPTANCE AND COPING WITH MIGRAINE HEADACHE

Christine C. Chiros, PhD[2] and William H. O'Brien, PhD[1]

[1]Psychology, Bowling Green State University, Bowling Green, OH and [2]Psychology, Minneapolis VA Medical Center, Minneapolis, MN.

Prior studies have demonstrated acceptance is correlated with higher quality of daily emotional, social, and physical functioning in various chronic pain populations. No investigations of the role of acceptance among migraine headache populations have as yet been published.

The present study was designed to clarify the nature of the relationship between acceptance, appraisals that are common and relevant in chronic pain populations (i.e., control and catastrophizing), and coping among migraine headache sufferers, and to determine whether the relationships conform to the same pattern observed in other chronic pain populations.

Seventy four participants with migraine headaches completed self report measures assessing appraisal, coping strategies, acceptance, and pain related disability. Sixty three participants also completed a 28-day daily dairy assessing these same variables. Hierarchical regression and multilevel modeling were used to examine the relations among these variables.

Results indicated that higher levels of pain-related acceptance were significantly associated with lower levels of catastrophizing and pain-related interference and higher levels of perceived control (all p values $<.05$). Participants who endorsed higher levels of pain related acceptance also reported engaging in significantly higher levels of activity and indicated they used significantly fewer coping strategies (all p values $<.05$).

Though many of the primary hypotheses were supported, it is clear that a different pattern of relationships was observed between acceptance, coping, and appraisal among migraine headache sufferers. Unlike previous studies with other chronic pain populations, pain severity was significantly related to many of the constructs tested. This could have important implications in developing appropriate acceptance-based treatments with headache sufferers. Acceptance continues to show promise as a way of viewing pain that lessens the detrimental impact of certain types of thoughts (i.e., catastrophizing), and leads to increased participation in daily life.

CORRESPONDING AUTHOR: William H. O'Brien, PhD, Bowling Green State University, Bowling Green, OH, 43403; wobrien@bgsu.edu

D-153

DO OPTIMISM AND POSITIVE AFFECT MODERATE THE RELATIONSHIP BETWEEN PAIN INTENSITY AND PAIN INTERFERENCE IN MS?

Brenda L. Stoelb, PhD, Dawn M. Ehde, PhD, Mark P. Jensen, PhD and George H. Kraft, MD

Rehabilitation Medicine, University of Washington, Seattle, WA.

Numerous studies have explored the role that negative cognitions/affect play in pain intensity and pain interference. Fewer studies have examined how positive cognitions/affect may also influence the experience of pain. Research demonstrates that positive states of mind may buffer the impact of negative life events. The present study, therefore, investigated trait and state measures of positive psychological functioning as moderators of the relationship between pain intensity and pain interference in multiple sclerosis (MS). A sample of 112 community-dwelling adults with MS completed a self-report mail survey. Seventy-four participants indicated that they had experienced pain in the 3 months prior to the survey. Pain intensity was assessed with an 11-point numerical rating scale and pain interference was measured with a modified version of the Brief Pain Inventory (BPI). The Life Orientation Test-Revised (LOT-R) and the Positive and Negative Affect Scale (PANAS) were used to assess optimism and positive affect, respectively. In the first set of regression analyses, pain intensity ($\beta=.551$, $p<.001$) and optimism ($\beta=-.670$, $p<.001$) were related to pain interference. Although optimism was not a significant moderator of the relationship between pain intensity and pain interference, optimism predicted pain interference, even when controlling for pain intensity ($\beta=-.554$, $p<.001$). In the second set of analyses, positive affect was related to pain interference ($\beta=-.613$, $p<.001$), but did not moderate the aforementioned relationship. Positive affect was, however, a significant predictor of pain interference ($\beta=-.506$, $p<.001$) again controlling for pain intensity. These results suggest that optimism and positive affect are significant predictors of pain interference, above and beyond any effects of pain intensity. Although these results should be interpreted with caution due to study limitations, future research exploring the efficacy of positive psychological interventions for pain appear warranted.

CORRESPONDING AUTHOR: Brenda L. Stoelb, PhD, Rehabilitation Medicine, University of Washington, Seattle, WA, 98195; bstoelb@u.washington.edu

D-154

PAIN REACTIVITY TO INTERPERSONAL STRESS IN FIBROMYALGIA PATIENTS: A MULTI-ASSESSMENT STUDY

John A. Sturgeon, BA, Patrick H. Finan, MA, Alex J. Zautra, PhD and Mary C. Davis, PhD

Arizona State University, Tempe, AZ.

There is a well-established link between interpersonal stress and exacerbations of pain in chronic pain disorders such as fibromyalgia (FM). Recent findings have indicated that individuals with FM demonstrate a higher level of susceptibility to negative effects of interpersonal stress than those with osteoarthritis (OA). In the current study, 260 individuals diagnosed with FM, OA, or with a diagnosis of both FM and OA (FM/OA) completed a 30-day daily diary. Clinical outcomes were overall perceived pain, soft tissue pain, and joint pain. Predictors included negative interpersonal events and overall perceived interpersonal stress. All measures were collected daily across 30 days. Daily pain measures of overall pain, soft tissue pain, and joint pain were regressed on indicators of daily stress and diagnosis using multilevel modeling. Main effects for perceived stress and diagnosis were found on soft tissue, joint, and average pain (for all, $p<0.05$), and total negative events significantly predicted soft tissue pain ($p<0.05$). However, diagnosis did not significantly moderate any of the main effects observed. Despite the use of multiple stress and pain assessments and statistical methods that provided substantial power, the widespread notion that FM patients experience greater pain reactivity to interpersonal stress than other chronic pain populations was not evident in our study. These findings may indicate the need for more sophisticated data measurement techniques (e.g., multiple within-day assessments) in order to clearly delineate differences in pain reactivity and pain-related outcomes between FM and OA.

CORRESPONDING AUTHOR: John A. Sturgeon, BA, Arizona State University, Tempe, AZ, 85281; jasturge@asu.edu

D-155

RELATIONSHIPS BETWEEN OBJECTIVE MEASURES OF RHEUMATOID ARTHRITIS AND PATIENTS' REPORTS OF PAIN, PHYSICAL FUNCTIONING, AND INDICATORS OF PSYCHOLOGICAL FUNCTIONING

Neha Godiwala, BS,[1] Tamara J. Somers, PhD,[1] Angelia Mosley-Williams, MD,[2] Mark A. Lumley, PhD,[2] David Caldwell, MD,[1] John R. Rice, MD,[1] Mark Connelly, PhD,[1] Sandra J. Waters, PhD[1] and Francis J. Keefe, PhD[1]

[1]Duke University Medical Center, Durham, NC and [2]Wayne State University, Detroit, MI.

Rheumatoid arthritis (RA) patients experience high levels of pain and physical dysfunction and often score poorly on indicators of psychological functioning. Rheumatologists regularly use objective disease measures to determine the management of RA. Although some research has reported associations between objective disease measures and RA pain and physical dysfunction, less research has examined the relationships between objective disease measures and indicators of psychological functioning. In a large sample (N=211) of RA patients (81% female; M=55 years), we examined the relationships between a comprehensive set of objective RA disease measures (rheumatologist's disease severity assessment, walking speed, abnormal joint count, C-reactive protein [CRP]) and patients' reports of pain, physical dysfunction, and psychological functioning (global psychological disability, self-efficacy, helplessness). Bivariate analyses showed significant relationships between these variables. Linear regression equations controlling for relevant demographic variables (age, education, race) were done to examine the independent relationship of objective disease measures to our dependent variables. The most robust finding was that rheumatologist's disease severity assessment was a significant predictor of a number of our dependent variables. Consistent with previous research, greater disease severity was related to increased pain (β=.26;p <.01) and greater physical dysfunction (β=.28;p<.001). Rheumatologist's disease severity assessment was also a significant predictor of indicators of psychological functioning such that greater disease severity was related to lower RA self-efficacy (β=-.24;p<.01) and greater helplessness (β=.31;p<.001). These findings highlight the importance of rheumatologist's assessment of RA; not only was rheumatologist's assessment related to pain and physical disability, it was also significantly related to indicators of psychological functioning. Our findings also showed that other objective measures (joint count, CRP) were not related to psychological functioning. Rheumatologist's assessment of RA is a readily available measure that can be useful in planning medical interventions as well as indicating which RA patients may benefit from psychological interventions.

CORRESPONDING AUTHOR: Neha Godiwala, BS, Duke University Medical Center, Durham, NC, 27708; neha.godiwala@duke.edu

D-157

A LONG WAY FROM HOME: UNDERSTANDING THE RELATIONSHIP BETWEEN DISTANCE AND ADHERENCE RATES TO CARDIAC REHABILITATION PROGRAMS

Jill M. McSweeney, BA and Chris M. Blanchard, PhD

Dalhousie, Halifax, NS, Canada.

Background: Hospital-based cardiac rehabilitation (CR) programs have been the standard mode of delivery for people needing rehabilitation after a cardiac event for many years. Unfortunately, a large proportion of patients living with heart disease are unable to attend such programs due to distance. As such, CR programs are now being implemented in the community to help alleviate this problem. However, little empirical evidence exists concerning the impact of the distance to CR programs on exercise adherence and whether this potential impact is the same for hospital- and community-based programs.

Purpose: To determine whether the impact of distance to CR on exercise adherence is the same for patients who attend hospital versus community-based CR programs.

Method: 137 patients (mean age=62.4; SD=10.15) were recruited at the beginning of a 12-week hospital (n=85) or community (n=50) based CR program and were asked to complete a baseline questionnaire that included their addresses. Distance from the patients' homes to their corresponding CR programs were subsequently calculated using Google Map and the median value was used to create two groups (I.e., < 10 km and ≥ 10 km). Exercise adherence was measured via the following formula:(number of sessions attended / by the number offered * 100).

Results: A series of analyses of covariance (ANCOVA) controlling for age and gender were conducted. Results showed that the average distance between patients' homes and their CR programs were the same for hospital and community-based programs ($F_{(1,\ 122)}$=.30; p= .58). However, distance had a significant effect on exercise adherence in hospital-based programs ($F_{(1,\ 75)}$=4.89; p> .05), but not community-based programs ($F_{(1,\ 39)}$=.48; p=.49).

Conclusion: People who attend hospital-base CR programs are more likely to be influenced by the amount of distance between their home and their CR program; whereas individuals attending CR programs through their community, are less likely to be affected by this distance.

CORRESPONDING AUTHOR: Jill M. McSweeney, BA, Dalhousie, Halifax, NS, B3H4K6; jill.mcsweeney@hotmail.com

D-158

A PROCESS EVALUATION OF TWO PILOT STUDIES TO PROMOTE COMMUNICATION AND PHYSICAL ACTIVITY IN UNDERSERVED POPULATIONS

Jennifer K. Carroll, MD, MPH,[1] Kevin Fiscella, MD, MPH,[1] Pascal Jean-Pierre, PhD,[1] Tamiko Byrd, MA,[3] Tamala David, FNP,[1] Antronette Yancey, MD, MPH,[2] Gary R. Morrow, PhD, MS[2] and Ronald M. Epstein, MD[1]

[1]University of Rochester Medical Center, Rochester, NY; [2]University of California, Los Angeles, Los Angeles, CA and [3]Soul Fitness Mobile Exercise Unit, Inc., Rochester, NY.

Introduction: We evaluated the process of conducting a) a cross-sectional observational study of clinician-patient communication about physical activity and b) a feasibility RCT to evaluate a clinician communication intervention incorporating a community program on physical activity for underserved patients.

Methods: Analysis of surveys and interviews from 64 patients, 12 clinicians, 5 health center staff members, 10 researchers, and 3 community program personnel). Goals were to (1) identify effective strategies for organizational (e. g. health care setting) capacity-building that facilitated studies' implementation, and (2) describe contextual factors which influenced study processes.

Results: Organizational capacity building was facilitated by partnerships that prioritized clinical and community partners' work consonant with their missions. Positive contextual factors included 1) clinician-researcher relationships fostering rapport and trust for research activities, 2) thorough knowledge of the clinical environment 3) practical research aims and procedures relevant to "real world" clinical practice and community priorities, and 4) flexibility of study processes to suit clinical and community schedules. Negative contextual factors consisted of administrative difficulties with data management and challenges due to conducting research in an underserved setting.

Conclusion: Partnership effectiveness and organizational capacity building are important process measures, and should be evaluated in association with study outcomes. Such measures can help frame evidence-based results within a real-world clinical setting.

CORRESPONDING AUTHOR: Jennifer K. Carroll, MD, MPH, Family Medicine, University of Rochester Medical Center, Rochester, NY, 14618; jennifer_carroll@urmc.rochester.edu

D-159

PHYSIOLOGICAL EFFECTS OF VIDEOGAME-ENHANCED EXERCISE FOR OLDER ADULTS: RESULTS FROM THE CYBERCYCLE STUDY

Paul J. Arciero, Doctorate,[1] Cay Anderson-Hanley, PhD,[2] Joe Nimon, BS,[2] Sarah Westen, BS,[2] Lindsay DeMatteo, BS,[2] Naoko Okuma, BS[1] and Ryan Klein, BS[1]

[1]Exercise Science, Skidmore College, Saratoga Springs, NY and [2]Psychology, Union College, Schenectady, NY.

The "Cybercycle Study" is a multi-site, randomized trial examining the effects of videogame-enhanced exercise for older adults from five independent living facilities. They were evaluated on behavioral, neuropsychological and physiological measures. The cybercycle is a recumbent exercise bike and computer that displays virtual 3-D cycling terrain and allows for competition and collaborative rides via internet. Participants were assigned to use cybercycle 3–5x/wk for 3mo. Half were assigned to wait-listed condition in which they rode cybercycle viewing only biofeedback information (HR, kcal, etc.). The remaining participants were assigned to progress through four 3-week conditions: biofeedback only, 3-D terrain rides with option to race past performances, option to race others, and riding as part of a league. Given the explosion in older adult population and concomitant rise of cardiovascular and metabolic disease, there has been increasing focus on interventions that promote physical and brain health. Exercise is one such targeted intervention and has been well-documented for its physical and cognitive benefits. Yet research shows that only 4% of adults exercise at recommended rate and intensity. Through funding from the Robert Wood Johnson Foundation, we examined a "Health Game," (cybercycle) and its effects on exercise behavior. At time of this submission, 44 seniors (mean±SD: age, yrs=78.5±9; Weight, kg=77±26; Height, cm=161±17; Resting Heart Rate, bpm=60±8; Blood Pressure, mmHg=131/74±18/13; %Bodyfat=41±8; Lean Body Mass, kg=41±7; Bone Mineral Content, kg=2.23±.5; Resting Metabolic Rate, kcals/day=1267±265; Muscular Strength of Lower Limbs % of Body Weight, Watts, Extension=305, Flexion=268) from five sites, had been pre-evaluated and were currently exercising on the cybercycle, with post-tests scheduled for December 2008. In this report, we will detail the physiological effects of exercise participation.

CORRESPONDING AUTHOR: Paul J. Arciero, Doctorate, Exercise Science, Skidmore College, Saratoga Springs, NY, 12866; parciero@ skidmore.edu

D-160

MEDIATING EFFECTS OF BDNF AND IGF-1 ON COGNITIVE OUTCOMES FROM VIDEOGAME-ENHANCED EXERCISE FOR OLDER ADULTS: RESULTS FROM THE CYBERCYCLE STUDY

Sarah C. Westen, pending,[1] Cay Anderson-Hanley, PhD,[1] Paul J. Arciero, PhD[2] and Joseph C. Nimon, BS[1]

[1]Psychology, Union College, Schenectady, NY and [2]Exercise Science, Skidmore College, Saratoga Springs, NY.

This is one in a series of reports on the results of the "Cybercycle Study," a multi-site, randomized trial examining the effects of videogame-enhanced exercise for older adults via funding from the Robert Wood Johnson Foundation. Seniors (n=44; mean age=79.3; SD=8.9; range=59–98 yo; mean educ=13.5; SD=1.8) from five independent living facilities were enrolled and evaluated on behavioral, neuropsychological and physiological measures. The cybercycle consists of an exercise bike and a computer display of a virtual 3-D cycling terrain. Participants were assigned to use the cybercycle 3–5x/wk for three months, with assignment to a biofeedback only condition or four 3-week videogame-enhanced conditions. Given the explosion of dementia, there has been increasing focus on interventions to promote brain health. Research has shown benefits from exercise in aging adults (Heyn, 2004); however, exploration of intervening biological variables has been limited (Kramer et al., 2006). Although the vast majority of neurons are formed prenatally, parts of the adult brain retain the ability to grow new neurons. BDNF is one of the most active neurotrophins that helps to stimulate and control neurogenesis (Bath, 2006). Low levels of BDNF hsve been linked to dementia (Longo et al., 2007). Exercise has been shown to protect against brain atrophy, which otherwise leads to a decrease in BDNF (Ang et al., 2007). Infusion of the IGF-1 has been shown to increase both proliferation and neurogenesis, and brain uptake of IGF-1 mediates the increase in neurogenesis induced by exercise (Anderson et al., 2002). Cassilhas et al. (2007) found an increase in IGF-1 after a few months of exercise in older adults. At the time of this submission pre-exercise blood serum had been collected (n=44), and post-intervention samples are slated to be collected in December. This report will detail possible mediating effects of BDNF and IGF-1 biomarkers on cognitive function after exercise on the cybercycle.

CORRESPONDING AUTHOR: Cay Anderson-Hanley, PhD, Psychology, Union College, Schenectady, NY, 12308; andersoc@union.edu

D-161

STAGES OF CHANGE, PROS, EFFICACY, MODERATE AND VIGOROUS PHYSICAL ACTIVITY IN AN AFRICAN AMERICAN COMMUNITY SAMPLE

Cerissa Creeden, BA, Colleen Redding, PhD, Andrea Paiva, PhD, Caitlin Burditt, MA, Elizabeth Dimond, MA and Mark Robbins, PhD

University of Rhode Island, Kingston, RI.

African Americans bear a disproportionate burden of chronic diseases. Regular physical activity reduces risk for most major chronic diseases and some cancers. Despite this evidence, 40% of Americans engage in no leisure-time physical activity and African Americans are among those reporting the least activity. These factors make it essential to enhance the evidence-base for interventions to increase physical activity among African Americans. This study examines physical activity levels, pros and cons, self-efficacy, and stages of change for physical activity among 536 community-based adults in North Carolina. The sample included 92% African-Americans, 80% females, mean age=37.4 years, 40% married/with a partner, 62% employed/self-employed, 44% with children, 77% with some college/technical training and mean BMI=29.1(sd =7.1). Stages of change for physical activity were Precontemplation=6.3%, Contemplation=8.2%, Preparation=38.9%, Action=13.7%, and Maintenance=33%. A series of MANOVAs and MANCOVAs by stage found significant stage effects and no gender or stage by gender interaction effects on moderate and vigorous activity levels, pros and efficacy, even while controlling for BMI, age and education levels. Stages of change accounted for 18% of the variance in vigorous activity, 15% in moderate activity, 9% in pros of physical activity and 8% in efficacy. Hypothesized TTM functional relationships between stages of change and physical activity levels, pros, and efficacy were confirmed. However, cons of physical activity did not vary by stage, contrary to TTM model-based predictions and may need refinement in this sample. These results suggest that tailoring interventions to stages of change, pros, and efficacy may be useful in increasing African Americans' physical activity levels, as they have been in other populations. Developing culturally appropriate, evidence-based and effective physical activity interventions can reduce the chronic disease burden among African Americans.

CORRESPONDING AUTHOR: Cerissa Creeden, BA, University of Rhode Island, Kingston, RI, 02881; cerissa_creeden@mail.uri.edu

D-162

RACIAL STATUS IMPACTS ADIPOSITY AND SOCIAL COGNITIVE CORRELATES TO PHYSICAL ACTIVITY IN FEMALE UNIVERSITY STUDENTS

Ellen M. Evans, PhD,[1,2] Matthew P. Thorpe, BS,[2] Idethia S. Harvey, PhD[1] and Julie S. Son, PhD[3]

[1]Kinesiology and Community Health, University of Illinois, Urbana, IL; [2]Nutritional Sciences, University of Illinois, Urbana, IL and [3]Recreation, Sport and Tourism, University of Illinois, Urbana, IL.

The obesity epidemic warrants study to determine motivations for weight management related health behaviors, specifically physical activity (PA), with a focus on Blacks who are disproportionately physically inactive and at risk for obesity compared to Whites. Constructs rooted in social cognitive theory (SCT) have proven useful in explaining PA behaviors; however, the impact of race on these relations remains inadequately characterized. Moreover, there is an increased public health focus on the young adult population for obesity prevention efforts, especially as these individuals transition from the parental home to campus. To gain insights into racial implications for SCT determinants of PA behaviors, university underclass females (N=83, n=27 Black, n=56 White; 18.8±0.7 y; 29.2±6.3 %Fat) were evaluated for habitual PA using self-report and pedometers, %Fat using dual X-ray absorptiometry (DXA), outcome expectations, self-efficacy, and health identity related to PA. Data were modeled using path analysis with PA measures scaled using Principal Components Analysis with intensities of PA (light/moderate vs. vigorous) being deemed dichotomous. Blacks had greater %Fat and lower PA compared to Whites, a difference that remained when performing a sub-set analysis matching on BMI (all $p<0.05$). Only vigorous PA was negatively related to %Fat (beta=-0.24). Vigorous PA was lower in blacks; an effect in part mediated by lower levels of PA identity, outcome expectations and efficacy, with betas of -.60, 0.29 and 0.25, respectively. Our results support racial disparities in risk for obesity partially explained by habitual PA in university females. Furthermore, the importance of social cognitive factors, particularly PA identity, in explaining PA behavior varies by race, a finding that may be useful to elucidate racially-sensitive approaches to promote PA behaviors and reduce the risk for obesity.

CORRESPONDING AUTHOR: Ellen M. Evans, PhD, Kinesiology and Community Health, University of Illinois, Urbana, IL, 61801; elevans@illinois.edu

D-163

DEVELOPMENT OF A FUNCTIONAL MEASURE TO ASSESS PERSON-ENVIRONMENT INTERACTION: RELIABILITY OF THE MOVEMENT AND ACTIVITY IN PHYSICAL SPACE (MAPS) SCORE

Stephen Herrmann, MS,[1] Brian Ragan, PhD,[2] CaraLynn Scott, BS,[3] Mickey Mack, PhD[3] and Thomas Dompier, PhD[4]

[1]Arizona State University, Queen Creek, AZ; [2]Case Western Reserve University, Cleveland, OH; [3]University of Northern Iowa, Cedar Falls, IA and [4]University of South Caroline, Columbia, SC.

The World Health Organization has defined functioning and disability to include a person's physical activity within their environment. Currently, there is a need to a develop a measure that can incorporate both a person's activity their interaction within their micro-environment. The purpose of this project was to develop a functional measure that combines physical activity and environment use data. This study employed two samples (age=28.9±12.0 years; height=171.9±8.4 cm; weight=80.9±16.6 kg) comprised of eighteen participants (Healthy (n=9); Pathologic group consisted of post-surgical knee patients (n=9; <7 days after surgery=4.1±2.8 days). Participants wore an Actigraph GT1M accelerometer and LandAirSea Tracking Key GPS receiver on their waist for three days on two separate occasions approximately two months apart (T=0 and T+2). The Movement and Activity in Physical Space (MAPS) measure includes both physical activity (step and activity count) and environmental data. Travel and activity locations were recorded using GPS. Locations other than home represented environmental interaction. Each location was assessed for step ($MAPS_v$) and activity counts ($MAPS_i$), divided by minutes-per-location, and summed each day. Reliability of MAPS scores were established using intraclass correlation coefficients (R). The minimum acceptable reliability level was considered ≥ 0.7. There was adequate reliability for MAPS scores at each time point. The healthy group had an acceptable reliability at T=0 (r=0.81–0.87) and T+2 (r=0.68–0.73). The pathologic group had an acceptable reliability at both T=0 (r=0.75-0.82) and T+2 (r=0.78-0.87). This study provides initial evidence of reliability for using MAPS in healthy individuals and a clinical population. Incorporating two measures to assess person-environment interaction may provide a more in depth understanding of disability and function.

CORRESPONDING AUTHOR: Stephen Herrmann, MS, Arizona State University, Queen Creek, AZ, 85252; stephen.herrmann@asu.edu

D-164

COMPARISON OF THE ACCURACY OF AN ON-PERSON GLOBAL POSITIONING SYSTEM DEVICE VERSUS TRAVEL DIARY UNDER FREE LIVING CONDITIONS

Brian G. Ragan, PhD,[1] Stephen D. Herrmann, MS[2] and CaraLynn Scott, MS[3]

[1]Family Medicine, Case Western Reserve University, Cleveland, OH; [2]Arizona State University, Mesa, AZ and [3]University of Northern Iowa, Cedar Falls, IA.

The potential contribution of geospatial technology, specifically GPS data, on better assessing the environment a person uses and adding context to physical activity could drastically improve our understanding of personal health behaviors and their contribution to disability. To date substantial fundamental work is needed to provide the methodological and psychometric support for the use of this new technology in order for it to be used in behavioral research. Thus, the specific aim of this project is to examine the validity of using on-person GPS devices to accurately capture and measure people's travel behavior under free-living conditions. For this study three female college students carried a GPS (LandAirSea Tracking key) device with them from leaving the house in the morning to bedtime for a total of 30 random days from December to April. They also completed a travel diary, a criterion measure, at the end of each day, which records all trips taken, when it occurred, and what was the purpose. The number of trips identified by the GPS device was compared to the travel diary to examine the accuracy of this objective passive new device in capturing travel behavior under free living conditions. Over the 30 days of data collection the GPS device recorded 154 total trips while the diary contained a total of 160 trips for an accuracy of 96.25%. The participants averaged 5.3 trips per day. One interesting finding was the small discrepancy between the diary and the GPS device. The diary recorded 22 trips that were not captured by the GPS and the GPS recorded 16 trips not log in the diary. Overall the on-person GPS device provides valid trip information when compared to the criterion diary. Because of the small discrepancy between the two measures on some trips perhaps, the best method for measuring people's travel behavior is using the GPS device with a very brief travel log. This would provide a better more comprehensive measure with minimal burden.

CORRESPONDING AUTHOR: Brian G. Ragan, PhD, Family Medicine, Case Western Reserve University, Cleveland, OH, 44106-7136; brian.ragan@case.edu

D-165

COST ANALYSIS OF INTERNET VS. PRINT INTERVENTIONS FOR PHYSICAL ACTIVITY PROMOTION

Beth Lewis, PhD,[1] David Williams, PhD,[2] Charles Neighbors, PhD,[3] John Jakicic, PhD[4] and Bess Marcus, PhD[2,5]

[1]School of Kinesiology, University of Minnesota, Minneapolis, MN; [2]The Miriam Hospital and Brown Medical School, Providence, RI; [3]The National Center on Addiction and Substance Abuse at Columbia University, New York, NY; [4]University of Pittsburgh, Pittsburgh, PA and [5]Brown University, Providence, RI.

Objective: Internet-based physical activity interventions have the potential for superior cost-efficiency over a large sample of users relative to traditional, print-based interventions. However, it is unclear whether this potential cost-efficiency in intervention delivery can overcome the significant start-up/development costs often associated with Internet interventions. The objective of this study was to compare the costs associated with Internet and print-based physical activity interventions. Method: The costs associated with developing and delivering tailored print and Internet-based interventions were estimated from a randomized controlled physical activity trial (n=163; trial conducted January, 2003-May, 2006; analysis in 2007 and 2008.). Both interventions were based on the same, previously developed expert system that provided individually tailored motivational messages. Per participant cost estimates were compared for the print and Internet-based programs based on research assistant time sampling surveys, web maintenance invoices, and other tracking procedures. Results: In the overall trial, the Tailored Internet and Print conditions significantly increased physical activity from baseline to 6 and 12 months. Web-development costs for the Internet intervention were $109,564. The intervention delivery cost per participant per month was $120.03 and $35.79 for the print-based and Internet-based interventions respectively. An extrapolation of the cost estimates indicated that the Internet intervention would have overcome its development costs and become more cost-efficient than the print intervention if the sample exceeded 352. Conclusion: Relative to print-based interventions, Internet-based interventions may be a more cost efficient way to reach a large number of sedentary individuals despite significant development costs.

CORRESPONDING AUTHOR: Beth Lewis, PhD, School of Kinesiology, University of Minnesota, Minneapolis, MN, 55455; blewis@umn.edu

D-166

EXAMINING THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND MENOPAUSE SYMPTOM REPORTING

Lisa M. McAndrew, PhD,[1] Melissa Napolitano, PhD,[2] Anna Albrecht, RN, MS,[3] Nancy Farrell, MPH, CHES,[3] Bess Marcus, PhD[4,3] and Jessica Whiteley, PhD[5]

[1]VA Medical Center East Orange, East Orange, NJ; [2]Temple University, Philadelphia, PA; [3]The Miriam Hospital, Providence, RI; [4]Brown University, Providence, RI and [5]UMASS, Boston, MA.

Background. The evidence regarding the relationship between physical activity (PA) and menopause symptom reporting is mixed. The lack of consistent findings may be related to specificity of symptom reporting. In particular, participation in PA may be related to reporting fewer "general" symptoms related to menopause (psychosocial and physical), while not related to "specific" menopause symptoms (sexual and vasomotor). Methods. We examined data from a PA intervention study which enrolled 280 women. Utilizing the Menopause Symptom and Quality of Life Questionnaire administered at month 12, menopause symptoms were endorsed by 113 women. For those experiencing menopause symptoms, regression analyses across groups were conducted to assess if change in PA levels were related to menopause symptoms. Baseline depressive symptoms were examined as a moderator. Results. Increased PA from baseline to month 12 was related to reporting fewer overall menopause symptoms (β= -.215, p=.025). Increased PA was related to fewer physical symptoms (β= -.225, p=.017) and showed a trend towards being significantly related to fewer psychological symptoms (β=-.182, p=.057), but was not significantly related to sexual or vasomotor symptoms. Depressive symptoms were found to moderate the relationship between change in PA and sexual menopause symptoms (β=-.267, p=.027), such that individuals who had higher depressed mood at baseline, and increased their PA, reported fewer sexual symptoms. Conclusion. Increases in PA were found to be related to general (psychosocial and physical) symptoms of menopause, but not to vasomotor symptoms. Increases in PA were related to lower reporting of sexual symptoms for individuals who were originally depressed. These data suggest that PA may be related to reducing general symptom reporting as opposed to directly impacting specific menopause symptoms.

CORRESPONDING AUTHOR: Lisa M. McAndrew, PhD, VA Medical Center East Orange, East Orange, NJ, 07018; ldunbar@ifh.rutgers.edu

D-167

PHYSICAL ACTIVITY, PERSONALITY, AND HEALTH: INTERACTIVE EFFECTS WITHIN A LIFESPAN PERSPECTIVE

Margaret L. Kern, MA, Howard S. Friedman, PhD and Chandra A. Reynolds, PhD

Department of Psychology, University of California, Riverside, Riverside, CA.

Physical activity has been associated with physical and mental health benefits, but this association may depend on the individual. The personality trait of conscientiousness has been related to both physical activity and health outcomes, but how personality and activity together impact subsequent health and well-being is less clear, especially as individuals age. Combining growth curve analyses with hierarchical regression, we used lifespan data from the Terman Life Cycle Study (begun in 1922) to examine the effect of patterns of physical activity across adulthood (reported between 1936 and 1972, average age 25 through 65) on older age health (reported in 1986, average age 76). Across this 50-year period, higher levels of activity predicted better physical health, increased social competence, and more productivity, for both males and females (N=715). However, this was moderated by conscientiousness. For males, low levels of activity at baseline and greater declines in activity over time were associated with worse physical health and less productivity in older age, but only for men who were low in conscientiousness. Likewise, for females, active, conscientious individuals were more socially competent and productive 50 years later. Activity-health links need to be considered within the context of personality differences.

CORRESPONDING AUTHOR: Margaret L. Kern, MA, Psychology, University of California, Riverside, Riverside, CA, 92507; margaret.kern@email.ucr.edu

D-168

AGE-RELATED CHANGES IN MOTIVATION TO EXERCISE AMONG HIGHLY ACTIVE INDIVIDUALS

Matthew A. Stults-Kolehmainen, MS,[1] Joseph T. Ciccolo, PhD,[3] John B. Bartholomew, PhD,[1] Robert S. Portman, PhD[4] and John J. Seifert, PhD[2]

[1]University of Texas at Austin, Austin, TX; [2]Montana State University, Bozeman, MT; [3]Brown Medical School and The Miriam Hospital, Providence, RI and [4]Signal Nutrition, Fair Haven, NJ.

Research on exercise motivation has largely been limited to inactive individuals. When active people are studied, it is often in the context of pathology, such as exercise dependence, overtraining, injury or along a narrow range of motivational factors, such as competency or socialization. Furthermore, only a few studies have examined exercise motivation for large cohorts of individuals across the lifespan. The purpose of this investigation was to determine differences in motivation across age and gender in a group of highly active individuals. A total of 2300 endurance athletes (triathletes, swimmers, cyclists and runners) completed online surveys regarding their physical activity and goals. These individuals (18–60 yrs) exercised an average of 5.01 d/wk, with 60% completing 75+ min/day.

Participants ranked their top 3 motivations to exercise from a list of 10 intrinsic and extrinsic factors: health, weight, performance, living longer, stress reduction, appearance, mood, fitness, enjoyment, and social interactions. The top 3 motivators across all age groups were enjoyment (56.9%), performance (53.0%), and health (52.2%). However, these were not invariant across ages. Performance motivation decreased from 79.7% for those aged 18–24 yrs to 37.8% for those 55–64 yrs. Living longer was a top motivator for only 8.2% of the youngest group, but 26.1% of the oldest. Improving fitness was more important than performance for only the oldest age-group. Women selected weight maintenance (26.8% vs. 17.4%) and appearance (15.7% vs. 7.0%) to a greater degree than men. Men endorsed improving performance (54.6% vs. 47.1%), living longer (18.5% vs. 9.7%), and feeling better (26.0% vs. 20.3%) as their top motivators. Results indicate that each age-group and gender has a variety of motivators and these differences should be considered when designing exercise prescriptions.

CORRESPONDING AUTHOR: Matthew A. Stults-Kolehmainen, MS, Kinesiology and Health Education, University of Texas at Austin, Austin, TX, 78751; kolehmainen@mail.utexas.edu

D-169

CONFIDENCE OF MENTAL HEALTH PROFESSIONALS TO PROVIDE PHYSICAL ACTIVITY COUNSELING

Bethany K. Gaddis, MPH,[1] Nicola W. Burton, PhD,[2] Jane P. Harris, MS[3] and Andrea L. Dunn, PhD[1]

[1]Klein Buendel, Inc, Golden, CO; [2]University of Queensland, Brisbane, QLD, Australia and [3]Jefferson Center for Mental Health, Wheat Ridge, CO.

Background: Physical activity (PA) could be an important adjunct in the treatment of depression if mental health professionals are confident in their ability to provide this specific counseling. This study sought to determine the confidence level, specific practices, and interest in additional training for PA counseling by mental health professionals.

Methods: An internet survey of 96 mental health practitioners across the U.S. was conducted to assess current practices and needs for PA counseling as part of depression treatment.

Results: Respondents included 8% Clinical Psychologists, 65% Social Workers, 18% Mental Health Counselors, 7% Marriage and Family Therapists and 2% Psychiatrists. The majority were female (67%) and White (95%). The average age was 54. Practitioners estimated that 48% of their clients experienced depression, including 17% who had severe, 41% moderate, and 34% mild symptoms. Only 50% of practitioners reported being confident in recommending PA to clients, and 67% were confident in providing general PA advice to their clients. Mental health professionals were somewhat to very confident they could identify clients' barriers to PA (82%); set specific PA goals (71%); and monitor PA levels (56%). The top three factors that practitioners took into account when providing PA advice included: severity of depressive symptoms, chronic physical illness that might make PA risky, and chronic physical illness that might be improved by PA. Most (89%) stated that they did not receive training in PA counseling while in school, and were definitely (65%) or possibly (28%) interested in receiving additional training. Of these, 95% would possibly or definitely like to receive continuing education credit for this training.

Conclusion: Many practitioners report they are confident in providing PA counseling to their depressed patients. Most are familiar with specific behavior change strategies, but most would like to receive additional training related to PA counseling.

CORRESPONDING AUTHOR: Bethany K. Gaddis, MPH, Klein Buendel, Inc, Golden, CO, 80401; bgaddis@kleinbuendel.com

D-170

LOOKING THE PART: THE EFFECT OF EXERCISE ATTIRE ON THE OVERWEIGHT STEREOTYPE

Kelli O'Reilly, BKin and Chris Shields, PhD

Acadia University, Wolfville, NS, Canada.

It has been consistently demonstrated that there exists a positive stereotype associated with being perceived as physically active and a negative stereotype associated with being overweight. While findings suggest that the overweight stereotype may be moderated by exercise participation, no study has examined whether simply sporting exercise attire will impact the impressions formed of overweight individuals. This may be important as research suggests that people wishing to identify with a group may adopt the attitudes and mannerisms they see as being characteristic of the group; including wearing group-appropriate clothing. The purpose of this study was to examine the effects of exercise attire and bodyweight on impression formation. Using a 2 (target bodyweight) x 2 (target attire) design, participants (N=239) were randomly assigned to view one of four photos and asked to rate the target on personality and physical dimensions. Analysis of the personality dimensions revealed a bodyweight x attire interaction (p=.002) where (a) the overweight target dressed in casual attire was rated as less happy and less confident than all other targets, (b) the healthy weight target dressed in exercise attire was rated as the least kind, and (c) the healthy weight target dressed in casual clothes was rated as the happiest. Analyses also revealed bodyweight and attire main effects (ps<.001) where being overweight resulted in consistently negative impressions while casual attire resulted in more positive impressions. Analysis of the physical dimensions revealed a bodyweight main effect (p<.001) where the overweight target was viewed more negatively. These results suggest that sporting exercise attire buffers the negative impressions made of overweight individuals while such attire may have a negative impact on the impressions made of healthy weight targets. This preliminary work contributes to the existing literature on impression formation related to exercise and provides insight into the social ramifications of wearing exercise attire.

CORRESPONDING AUTHOR: Chris Shields, PhD, Acadia University, Wolfville, NS, B4P 2R6; chris.shields@acadiau.ca

D-171

THE FEASIBILITY OF PHYSICAL ACTIVITY COUNSELING WITHIN A MENTAL HEALTH CARE SETTING

Jennifer S. Jewell, BS,[1] Phillippe Weintraub, MD,[2] Patricia M. Dubbert, PhD[3] and Andrea L. Dunn, PhD[1]

[1]Klein Buendel, Inc., Golden, CO; [2]University of Colorado Denver School of Medicine, Denver, CO and [3]VAMC, Jackson, MS.

Background: Physical activity (PA) could be an important component in the treatment of depression, but it is not known whether it is feasible to integrate PA counseling as part of treatment for depression. Key questions include whether mental health professionals already counsel patients about PA, acceptability of PA advice to clients, and the amount of time available to incorporate PA counseling into depression treatment.

Methods: An internet survey of 96 mental health practitioners from 49 states was conducted to assess current practices related to counseling for PA as part of depression treatment.

Results: The targeted sample had 65% Social Workers, 18% Mental Health Counselors, 8% Clinical Psychologists, 7% Marriage and Family Therapists, and 2% Psychiatrists. The majority were female, 67%, and most were White, 95%. The average age was 54. Most (57%) have been providing treatment for more than 20 years, and 33% saw 21–30 patients each week. On average, respondents saw a patient 13 times to treat an episode of depression. Cognitive-behavior therapy was used by 88% of respondents, and 90% of respondents said they discussed lifestyle behaviors with their clients more than 50% of the time. Nearly all (93%) considered it appropriate for mental health professionals to give PA advice to clients. Also, 90% felt that clients would consider PA advice from a mental health professional acceptable. Only 3% of respondents felt that asking a client to do PA created an unacceptable burden during treatment, and 6% thought that discussing PA might distract a client from discussing other important issues. Most (81%) agreed that PA can be beneficial for a variety of non-psychiatric medical illnesses, and more agreed PA can be beneficial for mental health difficulties (98%).

Conclusion: Many mental health professionals currently provide healthy lifestyle and PA advice as part of practice and believe it is feasible to integrate PA counseling into depression treatment.

CORRESPONDING AUTHOR: Jennifer S. Jewell, BS, Klein Buendel, Inc., Golden, CO, 80401; jjewell@kleinbuendel.com

D-172

BEHAVIORAL AFFECTIVE ASSOCIATIONS AND BENEFIT-BARRIER BELIEFS: RECIPROCAL RELATIONS BETWEEN FEELINGS ABOUT A HEALTH BEHAVIOR AND EXPECTED UTILITY BELIEFS

Marc T. Kiviniemi, PhD

Health Behavior, University at Buffalo, SUNY, Buffalo, NY.

Expected utility beliefs about the relative balance of benefits of and barriers to engaging in a health behavior have long been known to influence individuals' health behavior choices. More recently, the role of affective associations, feelings/emotions individuals associate with a particular health behavior, as an influence on health behavior choices has been examined. In a series of cross-sectional studies Kiviniemi and colleagues have shown that affective associations mediate the relation between cost-benefit beliefs and behavior (e.g., Kiviniemi, Voss-Humke, & Seifert, 2007). However, the relation between affective associations and cognitive beliefs over time has not been examined. This study used a two-wave, six-month longitudinal design to assess these relations in the context of physical activity and fruit and vegetable consumption. Community adult participants (N=346) reported decisional balance (perceived benefits versus perceived barriers) and affective associations with both fruit and vegetable consumption and physical activity in an initial telephone interview and in a second interview six months later. For each behavior, panel analysis techniques were used to examine the relation between decisional balance and affective associations over time. For both fruit and vegetable consumption and physical activity, a reciprocal relation was found. Decisional balance at Time 1 predicted affective associations at Time 2, controlling for Time 1 affective associations. In addition, Time 1 affective associations predicted Time 2 decisional balance, again controlling for Time 1 decisional balance. This suggests that, over time, a complex reciprocal interplay between thoughts about and feelings about a behavior exists. Given that both expected utility beliefs and affective associations have been shown to influence behavioral choices, a better understanding of this reciprocal relation is necessary to advance our knowledge of how individuals think about and self-regulate their behavioral choices.

CORRESPONDING AUTHOR: Marc T. Kiviniemi, PhD, Health Behavior, University at Buffalo, SUNY, Buffalo, NY, 14204; mtk8@buffalo.edu

D-173

SEX DIFFERENCES IN PHYSICAL ACTIVITY AND NUTRITION BEHAVIORS IN UNDERSERVED ADOLESCENTS

Sara E. Mijares, BA, Dawn K. Wilson, PhD, Nevelyn N. Trumpeter, MS, Hannah G. Lawman, BS, Heather Kitzman-Ulrich, PhD and Nicole Zarrett, PhD

Psychology, University of South Carolina, Columbia, SC, SC.

Although previous studies indicate that diet and physical activity (PA) behaviors cluster in individuals, little is known about the relationship among diet and PA behaviors in underserved adolescents (low income, minorities). This study examined sex differences in adolescent health behaviors (PA, fruit and vegetable (F&V) intake, and sports program enrollment) across body mass index (BMI) classifications. Participants (n=679, 56% female, 73.9% African American, Age=11.4±0.65) were enrolled in the first two cohorts of the Active by Choice Today (ACT) Trial, a randomized school-based trial for increasing PA in underserved 6th graders. Baseline data included BMI (calculated from objective height and weight data), levels of moderate-to-vigorous PA (MVPA; with 7-day accelerometry estimates), F&V intake (Prochaska & Sallis, 2004), and enrollment in a sports program. Participants were classified into normal (<85th percentile), at risk for overweight (85th- 95th percentile), or overweight (>95th percentile) BMI categories. Results indicated a significant difference between boys and girls on MVPA (57.1±26.2 vs. 41.2±18.4 min/day, $p<0.001$, respectively) with boys engaging in more minutes of MVPA per day than girls. Additionally, boys showed greater minutes per day of MVPA than girls at all levels of BMI classifications, and MVPA was positively related to sports program enrollment for boys ($r=.14$, $p<0.05$) but not for girls. In contrast, girls reported consuming more servings of F&Vs than boys (M=1.81±0.45 vs. M=1.71±0.56 s/day, $p<0.01$, respectively) and showed greater levels of F&V intake than boys across all levels of BMI classifications. For girls, sports program enrollment was positively related to F&V intake ($r=.17$, $p<0.001$), but not to MVPA. Findings indicate that enrollment in sports programs is differentially linked to MVPA and F&V intake in boys and girls. Future research should better integrate diet with MVPA in sports programs for both underserved boys and girls.

CORRESPONDING AUTHOR: Sara E. Mijares, BA, Psychology, University of South Carolina, Columbia, SC, SC, 29201; se.mijares@gmail.com

D-174

EXAMINING THE CHANGES IN MOTIVATION FOR FEMALE EXERCISE INITIATES ENROLLED IN A 12-WEEK CARDIOVASCULAR EXERCISE PROGRAM

Lindsay Duncan, MA,[1] Craig R. Hall, PhD,[1] Wendy M. Rodgers, PhD[2] and Philip M. Wilson, PhD[3]

[1]School of Kinesiology, The University of Western Ontario, London, ON, Canada; [2]Faculty of Physical Education and Recreation, The University of Alberta, Calgary, AB, Canada and [3]Department of Physical Education and Kinesiology, Brock University, St. Catharines, ON, Canada.

Recent research has used the Self-Determination Theory framework to identify the motivational profile of a regular exerciser (Duncan, O, Hall, Wilson, 2008). Integrated and identified regulations have been found to be the strongest predictors of regular exercise behavior which has positive consequences from an exercise adherence perspective. Research has also indentified a distinct contrast between the motivational profiles of regular exercisers and non-exercisers. Specifically, non-exercisers tend to demonstrate much lower levels of autonomous motivation. The purpose of the present research was to examine the changes that occur in the motivation of non-exercisers who initiated and carried out a 12-week cardiovascular exercise program. The participants were 61 females who exercised once or less per week. Each participant was given an individualized, 12-week cardiovascular exercise program. Motivation was assessed using a revised version of the BREQ-2 at baseline, 6-weeks, and 12-weeks. Participants experienced significant increases in identified ($p<.01$) and integrated ($p<.05$) regulations over the course of the 12-week program (d ranged from 1.23- 1.65), however, levels of identified and integrated regulation did not reach those commonly reported by regular exercisers. The findings from this research have practical significance as they demonstrate that after three months of regular exercise an exercise initiate still does not demonstrate the motivational pattern that is associated with long-term adherence.

CORRESPONDING AUTHOR: Lindsay Duncan, MA, The University of Western Ontario, London, ON, N6A 5B8; lduncan@uwo.ca

D-175

NEUROPSYCHOLOGICAL EFFECTS OF VIDEOGAME-ENHANCED EXERCISE FOR OLDER ADULTS: RESULTS FROM THE CYBERCYCLE STUDY

Cay Anderson-Hanley, PhD,[1] Paul J. Arciero, PhD,[2] Joseph P. Nimon, BS,[1] Sarah C. Westen, pending,[1] Lyndsay DeMatteo, pending[1] and Naoko Okuma, pending[2]

[1]Psychology, Union College, Schenectady, NY and [2]Exercise Science, Skidmore College, Saratoga Springs, NY.

This is one in a series of reports on the results of the "Cybercycle Study," a multi-site, randomized trial examining the effects of videogame-enhanced exercise for older adults. Older adults from five independent living facilities, were enrolled and comprehensively evaluated on behavioral, neuropsychological and physiological measures. The cybercycle consists of a recumbent exercise bike and a computer that can display virtual 3-D cycling terrain and allows for competition and collaborative rides via the internet. Participants were assigned to use the cybercycle 3–5x/wk for three months. Half were assigned to a wait-listed condition in which they rode the cybercycle viewing only biofeedback information (simple HR and kcal displays). The remaining participants were assigned to progress through four 3-week conditions: biofeedback only, 3-D terrain rides with option to race past performances, then with the option to race others, and finally, riding as part of a league. Given the explosion in the older adult population and the concomitant rise in risk of dementia, there has been increasing focus on interventions to promote brain health (Morrison-Bogorad et al., 2007). Exercise has been one such targeted intervention (Larson et al., 2006), and has been well-documented for its cognitive benefits (Colcombe et al., 2003). Yet research shows that only 4% of adults exercise at the recommended rate and intensity (Gordon-Larsen et al., 2004). Through a unique "Health Games" grant from the Robert Wood Johnson Foundation, we examined the effects of the cybercycle on exercise behavior. At the time of this submission, 44 seniors (mean age=79.3; SD=8.9; range=59–98 yo; mean educ=13.5; SD=1.8) from five sites, had been pre-evaluated and were currently exercising on the cybercycle, with post-tests scheduled for December. In this report, we will detail the neuropsychological effects of exercise participation as seen from a comprehensive test battery (e.g., Stroop, Trails, RAVLT, etc.).

CORRESPONDING AUTHOR: Cay Anderson-Hanley, PhD, Psychology, Union College, Schenectady, NY, 12308; andersoc@union.edu

D-176

THE THEORY OF PLANNED BEHAVIOR AND VIDEOGAME-ENHANCED EXERCISE FOR OLDER ADULTS: RESULTS FROM THE CYBERCYCLE STUDY

Joseph P. Nimon, BS,[1] Cay Anderson-Hanley, PhD,[1] Paul J. Arciero, PhD,[2] Sarah Westen, pending,[1] Lyndsay DeMatteo, pending[1] and Naoko Okuma, pending[1]

[1]Psychology, Union College, Schenectady, NY and [2]Exercise Science, Skidmore College, Saratoga Springs, NY.

This is one in a series of reports on the results of the "Cybercycle Study," a multi-site, randomized trial examining the effects of videogame-enhanced exercise for older adults. Through funding from the Robert Wood Johnson Foundation, we examined a "Health Game," the cybercycle, and its effects on behavioral, neuropsychological, and physiological outcomes. The cybercycle consists of a recumbent exercise bike and a computer that can display virtual 3-D cycling terrain and allows for competitive and collaborative rides via the internet. Participants were assigned to use the cybercycle 3–5x/wk for three months. Half were assigned to a wait-listed condition, viewing only biofeedback information during exercise (e.g. HR, kcal). The rest were assigned to progress through four 3-week conditions: biofeedback only, 3-D terrain rides with option to race past performances, then with the option to race others, and finally, riding as part of a league. Improving exercise behavior is important given the epidemic of health-related lifestyle diseases (e.g., obesity, cardiovascular and metabolic diseases). In this study, we incorporate several theoretical constructs (Lieberman, 2006) into the Theory of Planned Behavior (TPB; Ajzen, 2007) that may have a role in exercise behaviors and outcomes. These include: motivation (competition/collaboration, goal-oriented); self-concepts (pride in achievement, self-efficacy); social relationships (social approval, game communities), attitudes (disposition toward exercising); and values (beliefs regarding exercise benefits). At the time of this submission, 44 older adults (mean age=79.3; SD=8.9; range=59–98 yo; mean educ=13.5; SD=1.8) from five independent living facilities were enrolled, pre-evaluated and were currently exercising on the cybercycle, with post-testing to occur in Dec. In this report, we will use the constructs outlined above to ascertain the predictive capability of the TPB on cybercycling behaviors and health outcomes.

CORRESPONDING AUTHOR: Cay Anderson-Hanley, PhD, Psychology, Union College, Schenectady, NY, 12308; andersoc@union.edu

Meritorious Student Poster

Citation Poster

D-177

SYMPTOMS OF DEPRESSION AND THE RELATIONSHIP BETWEEN EXERCISE-RELATED AFFECT AND VOLITIONAL CONTROL OF EXERCISE BEHAVIOR: A DIARY STUDY

Caroline E. Stewart, BA, Bethany M. Kwan, MA, MSPH and Kyle J. Davis, MA

University of Colorado, Boulder, CO.

It is well established that exercise leads to improvements in affect for clinical and non-clinical populations. This "mood enhancement" effect subsequently contributes to more effective self-regulation of exercise behavior. We expected that affect related to exercise would predict ease of self-regulation and effort, and these effects would be stronger for those with symptoms of depression. College freshmen (N=104) beginning a new exercise regimen participated in a 4-week long diary study. They completed the Center for Epidemiological Studies Depression scale (CESD) at baseline. Each day they reported actual exercise, affective response to exercise (Feeling Scale, FS), expected enjoyment, expected mood enhancement (EME), ease of self-regulation (ESR) and self-regulatory effort (SRE). The results of multilevel modeling showed that more positive FS responses were associated with greater ESR (b=.43, p<.001) and SRE (b =.29, p<.001). EME was associated with greater ESR (b=.96, p<.001) and greater SRE (b=1.63, p<.001). CESD scores did not moderate these effects. Expected enjoyment was associated with greater ESR (b=1.27, p<.001) and SRE (b=1.28, p <.001). CESD scores moderated the relationship between enjoyment and ESR (b=.04, p<.01), but not SRE. Although this was the only evidence of moderation, CESD scores were negatively associated with FS scores (b=-.03, p<.05), expected enjoyment (b=-.03, p<.05), ESR (b=-.04, p<.001), and SRE (b=-.02, p<.05), but not EME. It appears that affect related to exercise contributes to volitional control of exercise (ESR and SRE). In general, this is equally true both for those who are experiencing symptoms of depression, and those who are not. However, symptoms of depression are associated with less positive affective experiences related to exercise and more challenging self-regulation of exercise behavior. We conclude that exercise interventions for the treatment of depression should pay special attention to anticipated and experienced affective responses to acute bouts of exercise.

CORRESPONDING AUTHOR: Caroline E. Stewart, BA, University of Colorado, Boulder, CO, 80309; caroline.stewart@colorado.edu

Citation Poster

D-178

PHYSICAL ACTIVITY AND QUALITY OF LIFE IN YOUNG ADULTS: EXAMINING SELF-EFFICACY, SELF-ESTEEM, AND AFFECT AS MEDIATORS

Rodney Joseph, MA,[1] Elizabeth Edmundson, PhD[1] and Shanna Smith, PhD[2]

[1]Kinesiology & Health Education, University of Texas, Austin, TX and [2]Division of Statistical Services, University of Texas, Austin, TX.

The health and psychological benefits of physical activity (PA) have been well documented during the past 20 years. Recent research suggests regular PA also increases positive quality of life (QOL). In a study of older adults, Elavsky et al. (2005) proposed a model in which the relationship between PA and QOL is mediated by physical self esteem, exercise self-efficacy, and affect. The purpose of our study was to apply this conceptual model to a young adult population. The sample consisted of 590 undergraduate students (51.4% male, 48.4% female; mean age=20.4) enrolled in various physical education courses at a large southwestern university in spring 2008. Racial/ethnic distribution of the sample was 50% Caucasian,19% Hispanic,19% Asian, and 5% African American. Regular participation in physical activity ranged from minimal(60 minutes or less per week) to 3 or more hours per day. Data were collected through an anonymous questionnaire, constructed of widely accepted measures (with previously demonstrated evidence of validity and reliability). Structural equation modeling was used to test the relationship between PA and QOL, with mediators exercise self-efficacy, physical self-esteem, and positive and negative affect. Results revealed the model variables accounted for about 28% of QOL (adjusted R-Square=.28; p<.001). In addition, physical activity had positive direct effects on exercise self-efficacy (b =.21, p<.001), physical self-esteem (b =.17, p<.001), and positive affect (b=.09, p<.05). Among all the mediators, physical self-esteem displayed the most powerful effects on QOL (b =.32, p<.001). Positive and negative affect had significant effects on QOL. The mediating effects of negative affect were stronger than expected. However, there were no direct relationships between exercise self-efficacy and QOL, or between PA and QOL. Theoretical and practical implications of these findings will be discussed.

CORRESPONDING AUTHOR: Elizabeth Edmundson, PhD, Kinesiology & Health Education, University of Texas, Austin, TX, 78712; edmundson@ mail.utexas.edu

D-179

THE IMPACT OF PHYSICAL ACTIVITY ON QUALITY OF LIFE IN COPD PATIENTS: THE RECONDITIONING EXERCISE AND COPD TRIAL II (REACT II)

Jeffrey A. Katula, PhD,[1] Jack Rejeski, PhD,[1] Michael J. Berry, PhD[1] and Michael E. Miller, PhD[2]

[1]Health & Exercise Science, Wake Forest University, Winston-Salem, NC and [2]Department of Biostatistics, Wake Forest University School of Medicine, Winston-Salem, NC.

Although exercise has been found to improve health-related quality of life (QOL) in patients with chronic obstructive pulmonary disease (COPD), evidence suggests that such benefits dissipate following formal training. The purpose of the present study was to determine whether lifestyle activity program (LAP) utilizing a group mediated cognitive-behavioral intervention (GMCB) aimed at increasing independent lifestyle physical activity would result in increases in QOL as compared to a traditional 3-mo exercise therapy (TET) program among COPD patients. Patients with COPD (n=176; Mage=66 yrs, SD=10) were recruited as part of REACT II and randomized to either the LAP or TET. QOL was assessed at the global level with the Satisfaction with Life scale (SWL) as well as domain specific satisfaction with physical functioning (SPF). Both interventions involved center-based aerobic exercise and equal contact time (36 hours). However, the distribution of that contact differed between the two treatment conditions. The TET consisted of center-based exercise 3 days/wk for 3 mo. The LAP consisted of a tapered contact schedule of center-based exercise that was distributed over 12 mo with at least 1 individual monthly contact. The LAP participants also received a GMCB module following center-based exercise. QOL was assessed at baseline and 3, 6, and 12 mo. Mixed model repeated measures ANCOVA's controlling for gender and age revealed a significant time main effect for SPF (F 2.8, 309.1=4.18, p<.05). Follow-up analyses indicated that SPF significantly increased from baseline to 3 mo and this increase was maintained at 6 and 12 mo. No significant effects were observed for SWL. Although the physical activity programs were equally effective at improving domain specific satisfaction with physical functioning, the effect was limited as they were not effective at improving global quality of life.

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CORRESPONDING AUTHOR: Jeffrey A. Katula, PhD, Health & Exercise Science, Wake Forest University, Winston-Salem, NC, 27109; katulaj@ wfu.edu

D-180

PROSPECTIVE EVALUATION OF A FAMILY-BASED, MULTIDISCIPLINARY, AND BEHAVIOR-MODIFICATION PROGRAM ON WEIGHT AND PHYSICAL ACTIVITY BEHAVIORS FOR OBESE YOUTH

Louise C. Masse, PhD,[1] Arlene Cristall, MSc, RD[2] and Constadina Panagiotopoulos, MD, FRCPC[1]

[1]UBC, Vancouver, BC, Canada and [2]BC Children's Hospital, Vancouver, BC, Canada.

This study evaluated the effectiveness of The Centre for Healthy Weights: Shapedown BC-a family-based, multidisciplinary, and behavior modification program that provides cognitive and behavioral strategies to support youth and their parents in making individual and environmental changes to support a healthier lifestyle. Although it has been about 3 decades since Shapedown was originally developed, it has received little formal evaluation. Therefore, this prospective evaluation focused on examining the effectiveness of the program in changing Body Mass Index (BMI) and waist circumference as well as changing self-report of moderate-to-vigorous physical activity (MVPA), transportation activities, and sedentary behaviors (TV-watching, video, and computer). Shapedown BC begins with a comprehensive intake assessment that includes a review of current health behaviors as well as motivational interviewing before participants enroll in the10-week 2-hr group counseling sessions. Obese youth with a BMI ≥ 85th (age and gender) adjusted percentile and their families are eligible to participate in the program. Evaluation data is collected at baseline, program completion, 3-, and 12-months post intervention. Changes from baseline to post intervention were analyzed with either parametric (paired t-tests) or non-parametric (Wilconxon signed ranks test) statistics using an intention-to-treat analysis. Preliminary results for 54 obese youth (65% Caucasian, 56% male, and mean age 11.8 ± 2.8 yrs) showed that BMI (-0.5 ± 1.1; p<.001) and waist circumference (-2.0 ± 4.0; p=.002) significantly decreased at the post-intervention evaluation. Significant increase in MVPA (21.5 ± 50.6 min/day) and a significant decrease in sedentary behaviors (-70.1 ± 74.8 min/day) were observed whereas transportation activities remained the same. Our preliminary analyses suggest that changes in adiposity, physical activity, and sedentary behaviors were observed in the short term; however, the stability of these changes needs to be further evaluated.

CORRESPONDING AUTHOR: Louise C. Masse, PhD, Department of Pediatrics, University of British Columbia, Vancouver, BC, V6H 3V4; lmasse@cw.bc.ca

D-182

PROJECT ICE STORM: EFFECTS OF PRENATAL MATERNAL STRESS, RESTING HEART RATE ON THE DEVELOPMENT OF EXTERNALIZING BEHAVIOURS IN 8½ YEAR-OLD CHILDREN

Sonya Deschenes, BA,[1] David P. Laplante, PhD[2] and Suzanne King, PhD[2,3]
[1]Concordia University, Montreal, QC, Canada; [2]Douglas Institute Research Center, Verdun, QC, Canada and [3]McGill University, Montreal, QC, Canada.

Resting heart rate has been shown to be predictive of later externalizing behaviours, especially in boys. Moreover, prenatal maternal stress (PNMS) has been linked to behavioural problems throughout childhood. However, no study to date has examined whether these two risk factors interact with each other in the development of externalizing behaviours. The aim of this study was to determine the extent to which objective and subjective prenatal maternal stress (PNMS) predict externalizing behaviour, as mediated by resting heart rate. We hypothesized that higher objective or subjective PNMS may result in lower resting heart rate, which may then increase the risk of externalizing behaviour later in life. Resting heart rate was measured at 5 ½ years of age in 70 children who were exposed in utero to a randomly assigned independent stressor: the 1998 Quebec Ice Storm. Externalizing behaviour was assessed by teachers, when the children were 8 ½ years of age. Prenatal cigarette smoke exposure and obstetric complications have been previously associated with externalizing behaviour; therefore these factors were controlled for in this study. The roles of sex of the child and trimester of exposure in externalizing behaviour and resting heart rate were also examined. The results suggest that objective and subjective PNMS have different roles in these associations: more severe objective PNMS was associated with more externalizing problems, whereas more severe subjective PNMS was associated with lower resting heart rate. Unlike our hypothesis resting heart did not mediate the effects of PNMS on externalizing behaviours.

CORRESPONDING AUTHOR: David P. Laplante, PhD, Psychosocial, Douglas Institute Research Center, Verdun, QC, H4H 1R3; david.laplante@douglas.mcgill.ca

D-183

THE EFFECTS OF PRENATAL MATERNAL STRESS AND MATERNAL ILLNESS ON TEMPERAMENT IN 6-MONTH OLD INFANTS

Krystle Pierre, BSc,[1,2] David P. Laplante, PhD[1] and Suzanne King, PhD[1,2]

[1]Douglas Institute Research Center, Verdun, QC, Canada and [2]McGill University, Montreal, QC, Canada.

Prenatal factors, such as maternal stress and illness, may affect the developing foetus and result in a negative developmental trajectory. Few studies have investigated the combined impacts of maternal illness and stress during pregnancy. The aim of the present study was to determine the extent to which prenatal maternal stress (PNMS) from a natural disaster, and prenatal maternal illness, combine to explain variance in infant temperament at 6 months. Five months after the January 1998 Quebec Ice Storm 133 women, exposed during pregnancy, were completed measures of mental health, objective and subjective stress from the storm. The General Health Questionnaire (GHQ) assessed maternal mental health. Objective stress from the ice storm was assessed using a scale reflecting amount of change, threat, loss, and the scope of the disaster. Subjective stress was assessed with the Impact of Event Scale - Revised which measures post-traumatic stress-type symptoms. Six months after each woman's due date, they completed the Infant Characteristics Questionnaire (ICQ) to assess infant temperament, and an obstetric complications questionnaire that included items about cough, flu and fever. A single variable reflected whether a woman had any of these 3 illness indicators in pregnancy. Multiple linear regression showed a significant positive relationship between maternal illness and fussy/difficult, unadaptive, and attention needed dimensions of ICQ during the 1st and 2nd trimesters. Additionally, objective and subjective stressors were significantly associated with more negative temperament predominantly during the 3rd trimester. The results revealed no significant relationship between PNMS in combination with maternal sickness and infant temperament. The study reveals evidence that maternal illness and stress may play a significant role on infant behavioural outcomes.

CORRESPONDING AUTHOR: David P. Laplante, PhD, Psychosocial, Douglas Institute Research Center, Verdun, QC, H4H 1R3; david.laplante@douglas.mcgill.ca

D-184

PRE- AND POSTNATAL DEPRESSION AND ITS EFFECTS ON LATER COGNITIVE DEVELOPMENT AMONG LOW-INCOME, MULTIETHNIC CHILDREN

Guido G. Urizar, PhD,[1] Julie Sanchez, BA[1] and Ricardo F. Muñoz, PhD[2]

[1]Psychology, California State University, Long Beach, Long Beach, CA and [2]University of California, San Francisco, San Francisco, CA.

Although it is widely recognized that maternal depression can adversely affect child development, few studies have prospectively examined whether depression occurring during pregnancy and the early postpartum period affects developmental outcomes later on in childhood. The current study prospectively examined whether maternal depressive symptoms (CES-D), assessed during pregnancy and 6 months postpartum, were associated with child cognitive development (Mullen Scales of Early Learning) at 2–4 years postpartum. Ninety low-income, multiethnic women (75% Spanish-speaking; mean age=23+4 years) were initially assessed during pregnancy and followed until 2–4 years postpartum. On average, their children were 32 months of age (*SD*=13 months), were mostly boys (58%), and most spoke Spanish as their primary language (63%). ANOVA analyses revealed a significant main effect for child gender on cognitive development, with girls scoring better than boys in all areas of cognitive development (F=9.0, p<.01). A significant main effect was also found for child language, with English-speaking children scoring better on receptive and expressive language than bilingual or Spanish-speaking children (F=3.5, p<.05). Hierarchical regression analyses demonstrated a significant child gender by prenatal depression interaction (controlling for birth complications and child language) with girls born to mothers with high depressive symptoms during pregnancy (CES-D > 16) having lower overall cognitive development scores at 2–4 years postpartum, relative to girls born to mothers with low depressive symptoms (R^2=.10, p <.05). Further, boys born to mothers with high depressive symptoms at 6 months postpartum had lower fine motor skills and visual reception abilities at 2–4 years postpartum, relative to boys born to mothers with low depressive symptoms (R^2=.10, p<.05). These findings highlight the need for early prevention interventions to help offset the adverse effects of maternal depression.

CORRESPONDING AUTHOR: Guido G. Urizar, PhD, Psychology, California State University, Long Beach, Long Beach, CA, 90840; gurizar@csulb.edu

D-185

IMPACT OF POOR MATERNAL MOOD AND POSITIVE SELF-EFFICACY ON CHILD SOCIO-EMOTIONAL DEVELOPMENT

Julie A. Sanchez, BA in Psychology,[1] Guido Urizar, PhD[1] and Ricardo Muñoz, PhD[2]

[1]Psychology, California State University, Long Beach, Long Beach, CA and [2]Psychology, University of California San Francisco, San Francisco, CA.

Socio-emotional development refers to a child's ability to interact with groups of children the same age, to separate from the primary caregiver with ease, and to adjust to new rules and regulations without difficulty. Early factors during childhood may create individual differences in socio-emotional development. The present study investigated the effects of maternal negative affect (PANAS), self-efficacy (Maternal SEQ), and smoking status during pregnancy (smoker/non-smoker) on socio-emotional development (Vineland SEEC Scales: Play & Leisure, Interpersonal Relationships, and total Socio-Emotional Development) of low-income children. Ninety women (mean age=22.7±4.4 years; 75%< $20,000 per year) were recruited from two previous studies on depression risk and followed from pregnancy to 2–4 years postpartum. The mean age of the children was 32±0.4 months and 58% were boys. Hierarchical regression analyses revealed that: (1) women who reported higher levels of negative affect during pregnancy (2nd trimester) and early postpartum (6 months) reported having children with lower play and leisure scores (R^2=.30, p<.01; R^2=.20, p <.01); (2) women who reported feeling more confident as a mother during early postpartum (6 months), reported having children with high overall socio-emotional development (R^2=.17, p<.05); (3) women who smoked during early postpartum and at the time of their child's socio-emotional assessment, reported their children as having lower play and leisure scores (R^2=.20, p<.01; R^2=.18, p=.01). These results suggest that women with lower levels of negative affect, greater maternal self-efficacy, and those who refrain from smoking during pregnancy and the early postpartum period tend to have children with more developed levels of socio-emotional development. These results help identify children at risk for developing socio-emotional problems and suggest that early preventative interventions focused on mood management and parenting may be beneficial for both mothers and their children.

CORRESPONDING AUTHOR: Julie A. Sanchez, BA in Psychology, California State University, Long Beach, Long Beach, CA, 90815; julie_sanchez09@hotmail.com

D-186

A PROSPECTIVE OUTLOOK OF MATERNAL AND MOOD SELF-EFFICACY AND AFFECT ON CHILD TEMPERAMENT

Julie A. Sanchez, BA in Psychology,[1] Guido G. Urizar, PhD[1] and Ricardo F. Muñoz, Psychology[2]

[1]Psychology, California State University, Long Beach, Long Beach, CA and [2]Psychology, University of California, San Francisco, San Fransico, CA.

Infant behavioral characteristics, or temperament, is a predictor of future behavioral problems such as ADHD and conduct disorders. Given that few studies have looked at possible sources of negative temperament states, the purpose of the current study was to investigate whether maternal and mood self-efficacy (Maternal SEQ & Mood SEQ) and negative affect (PANAS) are associated with child temperament (ICQ; Difficult/Persistent, Fussy, Sociable, Adaptable subscales). Ninety low-income women (mean age=23±4.4 years; 75% with an annual income of <$20,000; 62% Spanish speaking) were interviewed during their 2nd trimester of pregnancy, 6 months postpartum, and 2–4 years postpartum. The mean age of the children at time of assessment was 32±0.4 months and 58% were boys. Hierarchical regression analyses revealed that: (1) women who reported being more confident as a mother during pregnancy, reported their children as being less difficult (R^2=.14, p=.05) and more adaptive (R^2=.16, p<.05); (2) women who reported being more confident in managing their mood and with lower levels of negative affect during pregnancy, reported their children as being more adaptive (R^2=.19, p<.05); (3) mothers who reported being more confident as a mother and managing their mood at 6 months postpartum, reported their children as being less difficult (R^2 =.17, p<.05); and (4) mothers who reported to be more confident in managing their mood and with lower negative affect at 2–4 years postpartum, reported their children as being less difficult (R^2=.14, p<.05), more adaptable (R^2=.20, p<.01), and more sociable (R^2=.13, p=.05). These findings suggest that women with higher levels of confidence in being a mother and managing their mood during pregnancy and postpartum tend to report their children as having a more positive temperament state. Possible implications would be to develop parenting and mood management interventions to educate pregnant women on what to expect during pregnancy and how to feel more confident as a mother.

CORRESPONDING AUTHOR: Julie A. Sanchez, BA in Psychology, California State University, Long Beach, Long Beach, CA, 90815; julie_sanchez09@hotmail.com

D-187

THE HEALTH BELIEF MODEL AND PRENATAL CARE UTILIZATION IN THE CENTRAL PERUVIAN ANDES

Hannah E. Fields, BS, Bethany M. Kwan, MS, MSPH and Blair V. Irene, PhD

University of Colorado, Boulder, CO.

The Health Belief Model and Prenatal Care Utilization in the Central Peruvian Andes

Birth outcomes in the Peruvian Andes are particularly poor, resulting in high perinatal and maternal mortality. Understanding prenatal care (PC) utilization in this population might help the health care system improve this situation. We predicted that the Health Belief Model (HBM) would explain intentions to seek PC and deliver in a clinic among women of the Peruvian Andes. Pregnant women attending a clinic in Chupaca, Peru (N=75) participated in a semi-structured interview to assess HBM constructs, including perceived susceptibility to and severity of negative outcomes, perceived need for care, perceived benefits and barriers to care, cues to action, perceived efficacy, and intentions. PC utilization in this population was partially explained by HBM constructs. The belief that women who deliver in a clinical setting have healthier babies predicted both intentions to do so (r=.39, p<.01) and perceived need for prenatal care (r=.43, p<.001). The belief that attending PC reduces risks was associated with perceived susceptibility (r=.26, p<.05). Perceived need for PC was associated with the belief that PC reduces risks (r =.23, p<.05) and the belief that women who deliver at the clinic have healthier babies (r=.43, p<.001). Though most women reported no barriers to PC attendance, frequently cited barriers included work, time, and fear, embarrassment, or distrust of medical staff. The most commonly mentioned potential pregnancy and birth related problems were pain, miscarriage, and birth complications; however, many reported that they were not susceptible to any problems because they were already in good health or had been attending PC. It is interesting that self efficacy and perceived severity of complications did not predict intentions. It appears that perceived value of and benefits to obtaining PC predicted intentions better than did barriers and access to care in this population. The application of the HBM therefore appears to provide insight into PC utilization among women of the Peruvian Andes.

CORRESPONDING AUTHOR: Hannah E. Fields, BS, University of Colorado, Boulder, CO, 80301; hannah.schwartz@colorado.edu

D-189

SEXUAL BODY ESTEEM AND RISKY SEXUAL BEHAVIOR

Alison Sweeney, MA, Victoria Barry, MA, Shannon Myers, MA, Kelly Foran, MA, Sarah Fink, MA and Erin O'Hea, PhD

La Salle University, Philadelphia, PA.

Research has found a high prevalence of college students who drink heavily and engage in risky sexual behavior. College women who drink heavily are more likely to have unplanned and unprotected sex as a consequence of drinking. Research suggests that women who engage in risky sexual behavior after drinking hold stronger beliefs that alcohol makes them more sexually attractive. This is consistent with literature showing that college women who evaluate their appearance positively are less likely to report risky sexual behaviors. Furthermore research has found that women with higher levels of body image disturbances more frequently report having sexual intercourse after using substances. The purpose of the current study was to further explore the role of sexual attractiveness and body image in having sexual intercourse after using substances by specifically examining sexual body esteem, a component of body image consisting of attitudes women have towards the body parts related to sexuality. It was predicted that poor sexual body esteem in college women would be related to a higher frequency of having sexual intercourse after using substances. Our sample consisted of 77 women recruited from undergraduate courses at a Catholic University. Using an online database, participants completed The Body-Esteem Scale (BES) and were asked how often they are under the influence of substances while engaging in intercourse (always, sometimes, never). Results from the sexual attractiveness subscale of the BES were analyzed for the purposes of this study. Analysis included one-tailed Pearson-product correlation and results indicated that poor sexual body esteem was significantly related to frequency of sexual intercourse after using substances (r=.221, p<.05). The results offer support to the growing body of literature suggesting that females with poor sexual body esteem are more likely to engage in risky sexual behavior. The present study also suggests that preventative strategies addressing sexual body image, as well as sexual behavior, may be effective at reducing risky sexual behavior.

CORRESPONDING AUTHOR: Alison Sweeney, MA, La Salle University, Philadelphia, PA, 19107; alisonsweeney84@gmail.com

D-190

INFLUENCE OF SEXUAL RISK, MASCULINITY, AND ORAL SEX INFORMATION ON MEN'S LIKELIHOOD TO RECEIVE THE HPV VACCINE

Laurel Peterson, BA,[1] Michelle Stock, PhD[1] and Meg Gerrard, PhD[2]

[1]The George Washington University, Washington, DC and [2]Dartmouth College, Hanover, NH.

With oral sex on the rise, research suggests a positive relationship between oral sex and HPV (D'Souza et al., 2007). Research has also demonstrated a negative relationship between level of masculinity and men's engagement in health-promoting behaviors (Courtenay, 2000). With the male HPV vaccine in development, this study examined the impact of oral sex health risk information and masculinity on men's likelihood to receive the HPV vaccine. Male college students (N=158) were randomly assigned to either a control group, or to read about HPV and oral sex, or oral and vaginal sex. Analyses demonstrated no difference in outcome measures between the oral and oral/vaginal conditions (p > .05), which were combined into an information condition. Masculinity and sexual risk (number of oral and vaginal sex partners) was assessed pre-manipulation. Perceived vulnerability (PV) to STDs, danger of unprotected sex, and likelihood of receiving the HPV vaccine, if it became available for men, were administered post-manipulation. Multiple regression analysis revealed that high masculine males reported the least likelihood to get the HPV vaccine (B=-.18, p=.03). High risk males and those in the information condition reported a marginally higher likelihood (Bs =.15, ps<.08). The main effects were qualified by the significant 3-way interaction (Condition x Sexual risk x Masculinity), such that the high risk, low masculine males in the information condition reported the highest likelihood to get the vaccine, while the low risk, high masculine males in this condition reported the lowest likelihood (B=.58, p=.04). A similar 3-way interaction was found for PV, such that high risk, low masculine males in the information condition reported the highest PV, while the low risk, high masculine males reported the least PV in the control condition (B=-.86, p<.05). The findings demonstrate the need to consider past risk and masculinity when targeting sexual risk information among males.

CORRESPONDING AUTHOR: Laurel Peterson, BA, Applied Social Psychology, The George Washington University, Washington, DC, 20052; laurel_p@gwmail.gwu.edu

D-191

COPING STRATEGIES OF MINORITY WOMEN EXPOSED TO INTIMATE PARTNER VIOLENCE

Stephen M. Weiss, PhD, MPH, Eliot Lopez, MS and Deborah Jones, PhD

Department of Psychiatry and Behavioral Sciences, University of Miami Miller School of Medicine, Miami, FL.

METHOD: Baseline data on sexual negotiation, coping, communication strategies and IPV from women (n=162) of the New Opportunities for Women II study were collected and analyzed. The NOW II study is an ongoing cognitive behavioral sexual risk reduction intervention program for HIV serodiscordant and seroconcordant couples

RESULTS: Participants were primarily African American women (75.3%), unemployed (78%), with children (83%), and living below the poverty line (56%), with a mean age of 43 years. Positive coping styles were not associated with negative communication (p=.133), partner violence (p=.499), or extreme violence (p=.06). Similar results were found for neutral forms of coping (p=.426; p=.986; p=.276). However, negative coping strategies were associated with IPV. Specifically, Substance Use Coping was associated with negative partner communication (r=.402, p<.001), partner physical violence (r=.306, p=.036), and partner extreme violence (r=.174, p=.027) and coping via denial was associated with partner violence (r=.212, p=.007). Women utilizing more negative coping strategies differed from those using fewer negative coping strategies in reported partner verbal abuse (t(112)=-3.185, p=.002) as well as partner physical abuse (p=.004).

CONCLUSION: Interestingly, positive coping strategies appeared to have no relationship with IPV. However, negative coping strategies were positively associated with IPV, which suggests that reducing the degree of negative coping among this population may decrease the rate of IPV. This is supported by the apparent dose -response relationship between negative coping and IPV. Future investigation will consider how the cognitive-behavioral intervention may affect these coping styles and their impact on rates of violence over time.

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CORRESPONDING AUTHOR: Stephen M. Weiss, PhD, MPH, Department of Psychiatry and Behavioral Sciences, University of Miami Miller School of Medicine, Miami, FL, 33136; sweiss2@med.miami.edu

D-193

A SEVEN DAY STUDY: UNDERSTANDING SLEEP, DEPRESSION, STRESS AND IMMUNITY IN DEMENTIA CAREGIVERS

Brandy L. Lehman, PhD and Maureen Groer, PhD

USF College of Nursing, Tampa, FL.

Alzheimer's disease (AD) is a growing public health crisis. It is well established that individuals with dementia commonly experience sleep disruptions, and these disruptions are viewed problematic by caregivers.

Caregivers are likely to be awakened by the sleep disruptions of their care recipients, with negative consequences of their own sleep. A non-experimental cross-sectional designed was used to explore sleep patterns in 30 dementia caregivers and to explore the proposed link between stress of the caregiving role and the physiologic/psychologic changes that occur.

The participants were recruited from a local memory disorders clinic. They completed sleep diaries and wore actigraphy watches for 7 consecutive days. They completed a series of questionnaires about stress (PSS), depression (CES-D), sleep (ESS and PSQI) and mood (PANAS) along with a panel of immune and endocrine markers. In addition, saliva was collected 4 times/day for 2 days and a venipuncture was done at a home visit. Saliva samples were analyzed (ELISA) for cortisol. Serum samples were multiplexed using a kit from Millipore for a cross section of 13 cytokines and analyzed by Luminex.

Mean age was 65.4 years (22 women, 8 men). Almost 40% of the subjects scored 16 or above on the CES-D (mean=13.6) which indicates signs of possible clinical depression. 80% scored higher than 29 on PSS (mean=24.9) indicating increased stress. 36.5% of the caregivers scored 16 or higher on the ESS which indicated a high level of daytime sleepiness and 35.5% reported a score from 11 to 18 on the PSQI indicating poor sleep quality. Actigraphy data (TWT & TST) indicated reduced and interrupted sleep. Path analysis was used to estimate direct and indirect effects on cortisol and IL-2. Sleep was found to have a direct effect on IL-2 and cortisol.

CORRESPONDING AUTHOR: Brandy L. Lehman, PhD, USF College of Nursing, Tampa, FL, 33612; blehman@health.usf.edu

D-195

ORALCANCERPREVENTION.ORG - IMPACT OF A PROVIDER INTERVENTION ON PATIENT CESSATION: A DENTAL PBRN STUDY

Thomas K. Houston, MD, MPH, Joshua S. Richman, MD, PhD, Gregg H. Gilbert, DDS, MBA, Midge N. Ray, RN, MSN, Jeroan J. Allison, MD, MS Epi, Connie L. Kohler, DrPH, Richard M. Shewchuk, PhD and Catarina I. Kiefe, PhD, MD

UAB, Birmingham, AL.

BACKGROUND: In the oralcancerprevention.org cluster-randomized trial, we improved rates of dentist-delivered smoking advice. We now assess the impact of this practice improvement intervention on patient cessation.

METHODS: Eight months after randomization, dental practices (N=143) distributed exit cards (brief patient surveys completed immediately after the visit) to 100 consecutive patients. Patients reported whether they were 1) smokers, 2)advised to quit smoking at the visit, and 3)could be contacted for a follow-up phone survey. Using an intent-to-treat analysis (assigning smokers lost to follow-up as current smokers), we assessed the rate of reported six-month cessation (intervention vs. control) using GLLAMM (STATA) to account for clustering within practices. Only 70% of the intervention practices logged onto oralcancerprevention.org, and we further constructed a per protocol model excluding intervention practices that didn't logon.

RESULTS: Of the 143 practices, 122 (85%) had smokers (N=623) agreeing to telephone follow-up. Of these smokers, 469 (75%) completed follow-up. Mean age was 48(SD 15), with 53% female,and 11% African-American, (characteristics balanced across the two groups). But 18% of intervention and only 9% of control patients reported fair/poor heatlh status (p=0.02). As previously published, intervention smokers were more likely to be advised to quit, compared with control (cluster-adjusted odds ratio 1.82 (1.1–3.1)). In intent-to-treat, intervention smokers were less likely to have quit at six months (OR 0.64 (0.37–1.05))and this effect was magnified and statistically significant in per protocol analysis (OR 0.53 (0.23–0.93)). However, the main effect was strongly attenuated and not significant (OR 0.8 (0.4–1.4)) when further adjusting for health status.

CONCLUSIONS: Increasing rates of dentist-delivered advice did not improve cessation. Cluster-randomized trials are at risk of unbalance in smoker characteristics. We found that health status confounded our results.

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CORRESPONDING AUTHOR: Heather Coley, MPH, UAB, Birmingham, AL, 35205; coleyhl@uab.edu

D-196

PREDICTING SMOKING TOBACCO BEHAVIOR IN ADOLESCENTS USING AN INTEGRATED BIOECOLOGICAL MODEL AND HEALTH BELIEF MODEL

Sasha Fleary, M S,[1] E. Lisako McKyer, PhD, MPH[2] and Robert W. Heffer, PhD[1]

[1]Psychology, Texas A & M University, College Station, TX and [2]Health and Kinesiology, Texas A & M University, College Station, TX.

Introduction: Many researchers have used the Health Belief Model to predict adolescents' tobacco smoking; however this model was created for predicting adult behavior and thus may unintentionally ignore variables important in adolescents' decision making. The pediatric psychology and child health behavior literature have emphasized the need for greater consideration of social-cultural context, particularly among children and adolescents who have little control over familial, school, neighborhood and other environmental determinants. The Bioecological Model of human development focuses on these variables; nevertheless it is limited in its predictive/explanatory abilities (Bronfenbrenner & Morris, 2006). Integrating the Bioecological Model and the Health Belief Model to predict adolescent tobacco smoking provides a unique opportunity for understanding how contextual variables influence adolescents' decision making processes, and also provides insight on how to improve prevention programs. Purpose: To determine the extent to which contextual variables influence adolescents' decisions to engage in smoking tobacco. Method: Adolescents (N=1764) between the ages of 10 and 19 years were administered the Adolescent Health Risk Behavior Survey as part of an ATOD prevention program. Questions focused on variables such as personality characteristics, risk perceptions, incidence and prevalence of health risk behaviors (e.g., tobacco use), and perceptions of parent and peer behaviors/beliefs. Structural equation modeling was used to analyze the data. Results: Analysis of the direct relationship between perceived susceptibility/risk perception and smoking tobacco showed three of the four systems in the Bioecological Model (Individual variables=2.1% of variance, Microsystem=2.9%, and Exosystem=2.1%) to be significantly important in explaining the relationship. A detailed integrated model will be presented, and the contributions of specific variables within the systems will also be highlighted.

CORRESPONDING AUTHOR: Sasha Fleary, M S, Psychology, Texas A & M University, College Station, TX, 77840; sfleary@tamu.edu

D-197

THE ROLE OF DEVELOPMENTAL STAGE OF SMOKING INITIATION IN RACIAL DISPARITIES IN WOMEN'S SMOKING CESSATION

Azure Thompson, MPH

Columbia University, New York, NY.

The aim of this study is to determine the role of developmental stage of smoking initiation in racial disparities in women's smoking cessation. It is hypothesized that smoking in adolescence is experimental and that once these adolescents enter adulthood, cessation will occur. White women are more likely than black women to initiate smoking in adolescence; and white women are more likely than black women to quit. Data from the National Longitudinal Survey of Women, a national representative sample of women (49–59 years of age in 2003) interviewed 22 times from 1968 to 2003 was utilized. The sample included black and white women who reported being regular smokers in at least one survey period (n=1,451). Chi square tests and logistic regression models were analyzed to assess the effects of developmental stage of smoking initiation on cessation. White women were more likely than black women to quit smoking (OR 1.42 CI 1.11–1.83). Although black women were more likely to initiate smoking in pre-adolescence (before 13 years of age) (11.8% vs. 7.3%, respectively), white women were more likely to initiate smoking in adolescence (13 to 17 years of age) (30.9% and 27.9%, respectively) and emerging adulthood (18 to 22 years of age) (47.6% vs. 40.0%, respectively). Black women were more likely than white women to initiate smoking in young adulthood (23 to 40 years of age) (20.6% vs. 14.1%, respectively) and middle age (41 to 60 years of age) (6.1% vs. 2.5%, respectively). White women who initiated smoking in adolescence were less likely to quit smoking (OR 0.61 CI 0.48–0.79) than white women who initiated in later developmental stages. Black women had no similar relationships. After controlling for developmental stage of initiation, race remained a significant predictor of smoking cessation(p=.015). These finding show that racial differences exist in the effects of developmental stage of initiation on smoking behaviors, and adolescence remains a critical period for prevention, particularly for white women. Racial differences in initiation does not appear to play a role in racial disparities in women's smoking cessation.

CORRESPONDING AUTHOR: Azure Thompson, MPH, Columbia University, New York, NY, 10037; abt2002@columbia.edu

D-198

LOGISTIC REGRESSION VS. GENERALIZED ESTIMATING EQUATIONS FOR ANALYZING CARDIAC PATIENTS' TOBACCO CESSATION OVER TIME

Patricia M. Smith, PhD,[1] Bruce Weaver, MSc[2] and Ellen Burgess, MD[3]

[1]Northern Ontario School of Medicine, Thunder Bay, ON, Canada; [2]Lakehead University, Thunder Bay, ON, Canada and [3]Department of Medicine, University of Calgary, Calgary, AB, Canada.

Background: This paper examines the more conventional logistic regression method for analyzing treatment outcomes in tobacco cessation at 3, 6, and 12 months compared to the more recently accessible generalized estimating equations (GEE), a model-based approach that can take repeated measures variation into account. Methods: A sequential sample of 276 tobacco users hospitalized for coronary artery by-pass graft (CABG) or acute myocardial infarction (AMI), were randomized to receive usual care (UC: advice to quit and cessation pamphlet) or a nurse-managed special intervention (SI: minimal intervention plus 1 hr bedside counseling, patient materials, and 7 post-discharge counseling calls for 2 months). Results: Point-prevalence (7-day) cessation rates were 76%, 67%, and 62% at 3, 6, and 12 months post-discharge and 57% continuous abstinence for SI compared to 61%, 49%, 46%, and 39% for UC. Differences between SI and UC were significant at each time point; odds ratios in the logistic analyses ranged from 2.0 to 2.1 (95% CI=1.2 to 3.4). In the GEE analysis, the OR for the treatment effect was basically identical to the logistic (OR=2.0); there was no time x treatment interaction but there was a significant effect of time, such that the odds of being abstinent at 6 months was lower than at 3 months (OR=.63) and the odds of being abstinent at 12 months was lower than at 3 months (OR=.54). Discussion: The logistic regressions answered the question of the effect of the treatment at each time point as well as collapsed across time with continuous abstinence. Using the GEE, there was no treatment x time interaction and the OR for the treatment effect was the same as logistic analyses, so what the GEE buys in this example is a test that shows that the odds of being abstinent are lower at more distal follow-ups compared to proximal follow-ups. Is that the main question we are pursuing? The relative advantages of each statistical test in this context will be discussed.

CORRESPONDING AUTHOR: Patricia M. Smith, PhD, Northern Ontario School of Medicine, Thunder Bay, ON, P7B 5E1; patricia.smith@normed.ca

D-199

EXAMINING THE CAUSAL MECHANISMS UNDERLYING SELF-GENERATED ARGUMENTS FOR HEALTH BEHAVIOR CHANGE

Austin S. Baldwin, PhD,[1] Mark W. VanderWeg, PhD,[2,3] Alan J. Christensen, PhD[3,2] and Alexander J. Rothman, PhD[4]

[1]Psychology, Southern Methodist University, Dallas, TX; [2]Internal Medicine, University of Iowa, Iowa City, IA; [3]Psychology, University of Iowa, Iowa City, IA and [4]Psychology, University of Minnesota, Minneapolis, MN.

One approach to effective health communication is to ask people to generate their own arguments for changing unhealthy behaviors because self-generated arguments are particularly persuasive. Yet, their effectiveness in behavior change is limited by a lack of understanding the causal mechanisms underlying their persuasive effect. The purpose of this study was to test two plausible mechanisms: Is the effect due to a) people being the source of their own arguments, or b) the content of the arguments being naturally tailored? Participants (N=108) were daily smokers who, prior to the experimental session, identified aspects of smoking most and least concerning to them. To properly test the questions about mechanisms, we used a 2 (argument source: self vs. other) X 2 (tailored content: yes vs. no) factorial design. Participants either wrote (self-generated) or read (other-generated) arguments with content based on aspects of smoking most (tailored) or least (non-tailored) concerning to them. Participants then evaluated the arguments and reported their intention to quit. There were no effects of argument source. However, tailored argument participants (both self- and other-generated) evaluated the arguments to be of higher quality, more convincing, more helpful in quitting smoking, and more personally relevant than did non-tailored argument participants (ps<.001). They also listed more positive thoughts and fewer negative thoughts about the arguments than did non-tailored argument participants (ps<.05). Moreover, various ratings of argument quality were associated with greater intention to quit smoking (ps<.05). The results suggest that self-generated arguments are effective because they are naturally tailored and not because people themselves are the source of the arguments. The results also suggest self-generated arguments may be an efficient way to tailor messages to elicit health behavior change.

CORRESPONDING AUTHOR: Austin S. Baldwin, PhD, Psychology, Southern Methodist University, Dallas, TX, 75275; baldwin@smu.edu

D-200

WHEN THREATS TO ONE'S HEALTH CANNOT BE IGNORED: DOPAMINE REDUCTION DISRUPTS THE HABITUAL AVOIDANCE OF HEALTH THREATS

Rupert Klein, PhD

Psychology, Lakehead University, Thunder Bay, ON, Canada.

The negative health implications resulting from cigarette smoking are well known. A primary concern for health professionals is to promote health messages warning smokers of the threats cigarettes present to their health. However, these messages are often dismissed or cognitively avoided and not processed at all. Mendolia's Index of Self-Regulation of Emotion identifies individuals who dispositionally are habitual avoiders of threatening information to their health. Cognitive avoidance involves the automatic, attentional bias of initially being hyper-vigilant toward threats and then immediately redirecting attention toward a neutral stimulus. The threat stimuli is superficially processed and quickly forgotten. This initial attentional bias can be disrupted through reductions in dopamine levels such as those resulting from smoking abstinence. It was hypothesized that smoking abstinence, resulting in a reduction of dopamine, would disrupt the initial attentional bias and thereafter the subsequent avoidance of the stimuli. Consequently, previously avoided stimuli would be processed as regular, non-threatening stimuli. Seventy-four participants (31 regular smokers) were tested and eighteen smokers were randomly assigned to abstain from smoking. Vigilance and avoidance were measured using an emotional Stroop task. Results showed that dispositonal avoiders who were non-smokers or non-abstainers avoided the threatening words similarly since there was no dopaminergic disruption. Individuals dispositionally more avoidant and abstaining from smoking processed threatening words rather than avoid them. This suggests that individuals who previously avoided threatening smoking information no longer superficially processed this information when abstaining from cigarettes. The implication is that health messages may be attended to, and possibly have greater efficacy, during smoking abstinence.

CORRESPONDING AUTHOR: Rupert Klein, PhD, Psychology, Lakehead University, Thunder Bay, ON, P7B 5E1; rgklein@lakeheadu.ca

D-201

PREVALENCE AND CORRELATES OF CURRENT SMOKING AMONG CANCER SURVIVORS: RESULTS OF THE AMERICAN CANCER SOCIETY'S STUDIES OF CANCER SURVIVORS (SCS-I)

Kevin Stein, PhD, J Lee Westmaas, PhD and Chiew Kwei Kaw, MS

Behavioral Research Center, American Cancer Society, Atlanta, GA.

A large body of research has established a link between smoking cigarettes and cancer risk. Yet studies show that some cancer survivors continue to smoke after diagnosis. Prevalence estimates, however, vary widely across studies and the factors associated with continued smoking among survivors have received little attention. The current study sought to document the prevalence of smoking in a large, national sample of cancer survivors and to identify the relevant socio-demographic and psychosocial factors.

Analyses included 4,874 survivors of 10 cancers who participated in the American Cancer Society's Study of Cancer Survivors-I, a nationwide population-based quality of life study. Survivors were divided into 3 groups: never smokers, former smokers, or current smokers. Mean time-since-diagnosis was 3 years.

Overall, 11.5% of survivors reported being current smokers, 9.6% indicated being former smokers, and 78.9% claimed to have never smoked. Univariate analyses indicated that cancer survivors who currently smoke were younger, less educated, and had lower income (all $p<.01$). Smoking status also varied significantly by cancer type, with the highest levels of current smoking reported by bladder (21.7%), lung (17%), and kidney (14%) cancer survivors and the lowest levels reported by survivors of skin melanoma (7.4%), uterine (8.7%), and ovarian (9.3%) cancer. After controlling for socio-demographics, a multinomial logistic regression indicated current smoking was associated with poorer mental and physical health, more depressive symptoms, less social support, and lower self-esteem (all $p<.01$).

A notable number of cancer survivors continue to smoke, but rates differ across cancer type and survivor demographics. A number of psychosocial variables were found to be related to smoking among survivors. These results may help inform the development of smoking cessation and psycho-education programs for cancer survivors.

CORRESPONDING AUTHOR: Kevin Stein, PhD, Behavioral Research Center, American Cancer Society, Atlanta, GA, 30303; kevin.stein@cancer.org

Meritorious Student Poster

D-202

DEPRESSION AND TOBACCO SMOKING IN ADULTHOOD

Brent Kenney, MA,[1] Charles Holahan, PhD,[1] Sandra Pahl, MA,[1] Rebecca North, MA,[1] Carole Holahan, PhD,[1] Ruth Cronkite, PhD[2,3] and Rudolf Moos, PhD[2,3]

[1]University of Texas at Austin, Austin, TX; [2]V.A. Palo Alto Health Care System, Palo Alto, CA and [3]Stanford University, Stanford, CA.

While considerable attention has been directed toward reducing smoking in adolescents, interventions have tended to neglect adult smokers. Increasing evidence points to a relationship between major depressive disorder and tobacco smoking. Cessation and relapse episodes are common during adulthood, and cessation is particularly difficult for depressed individuals. Further, depressed individuals are more likely to experience failed quit attempts and relapse after quitting. The purpose of the proposed study was to examine the association between depression and tobacco smoking in adulthood. Data were collected through the Center for Health Care Evaluation at Stanford University Medical School. Analyses contrast a sample of 424 clinically depressed patients being treated for unipolar depression and a matched sample of 424 community controls. Participants were broadly representative of the adult life span (age range=18–88). In a logistic regression analysis, the depressed patients were significantly ($p<.01$) more likely to be current tobacco smokers compared to community controls, with an odds ratio of 2.12 (CI=1.61, 2.80). More than half of the depressed patients were current smokers compared to one-third of the community controls. In addition, among smokers, in an analysis of variance (ANOVA), the depressed patients smoked significantly ($p<.05$) more cigarettes per day compared to community controls. Depressed patients smoked close to a pack-and-a-half more cigarettes per week than did community controls. In covariate analyses, the depression effects for smoking status and amount of smoking were essentially unchanged after controlling for age, sex, and family income. In moderation analyses, the depression effects for smoking status and amount of smoking held across age, sex, and family income. A more complete understanding of the relationship between depression and tobacco smoking the adult lifespan will provide a foundation for developing more effective smoking reduction interventions for adult smokers.

CORRESPONDING AUTHOR: Brent A. Kenney, MA, Psychology, The University of Texas at Austin, Austin, TX, 78712-0187; kenney@mail.utexas.edu

D-203

CONNECTIONS BETWEEN BEHAVIORAL MODIFICATIONS: SMOKING CESSATION AND MEDICATION ADHERENCE AMONG HYPERTENSIVE ADULTS

Vanessa L. D'Orio, BA,[1] Michelle Ulmer, BA,[1] Jennifer Friedberg, PhD,[1,2] Manan Patel, Student,[1] Donald Robinaugh, MA[1,3] and Sundar Natarajan, MD[1,2]

[1]Research and Development, VA New York Harbor Healthcare System, New York, NY; [2]NYU School of Medicine, New York, NY and [3]Harvard University, Cambridge, MA.

Patient adherence to medication regimens is a large obstacle to controlling hypertension. Adherence is promoted by high levels of self-confidence in the ability to control behavior, known as self-efficacy (SE). Smoking cessation, by increasing self-efficacy, may facilitate success in other areas of behavior modification necessary for the proper management of hypertension. To evaluate this hypothesis, we analyzed data from hypertensive adults participating in a clinical trial to improve blood pressure. Smoking status was assessed by asking participants about their history of tobacco use. We separated respondents into categories: never smoked, current smokers, recent quitters (<1 year), and long-term quitters (≥1 year). Medication adherence was assessed from refill information gathered through computerized pharmacy records. SE was calculated from scaled responses to questions probing confidence in medication adherence. To determine differences between the four groups in terms of refill compliance, Wilcoxon rank-sum tests were performed. To elucidate the reasons for differences in refill compliance, robust regression was used because the medication adherence and SE data were not normally distributed. Analyses showed significant differences in rates of refill compliance between patients (n=350) with different smoking status ($p<.01$). The refill compliance rates were higher for long-term quitters ($p<.001$) and for recent quitters ($p<.05$) when compared to current smokers. Both recent quitters ($p<.05$) and long-term quitters ($p=.055$) also showed higher medication SE than current smokers. These results suggest that patients who quit smoking are more successful at adhering to hypertensive medication regimens, perhaps due to higher SE. Thus, the connections between these behavioral changes should be further explored in order to improve adherence interventions.

CORRESPONDING AUTHOR: Vanessa L. D'Orio, BA, Research and Development, VA Harbor Healthcare System, New York, NY, 10010; vld205@nyu.edu

D-205

THE DEVELOPMENT OF A STIMULANT MEDICATION OUTCOME EXPECTANCY SCALE FOR COLLEGE STUDENTS

Allison K. Labbe, MS and Stephen A. Maisto, PhD
Syracuse University, Syracuse, NY.

BACKGROUND: The abuse of prescription stimulant medication among college students has recently been recognized as a public health concern. It has been well-established that outcome expectancies play a prominent role in initiation and maintenance of drinking behaviors. However, it is unknown if and how outcome expectancies influence the misuse of prescription stimulant medication among college students. The aim of this study was to develop a scale that assesses outcome expectancies for misusing prescription stimulant medication.
METHODS: Qualitative information was collected from Introduction to Psychology students about what they expected to happen as a result of illicitly using stimulant medication. This information was used to generate a 26 item outcome expectancy scale.
RESULTS: An exploratory factor analysis (EFA) of the items was conducted; a three-factor solution emerged, named the Academic factor (23.7% variance explained), Recreational factor (9.8% variance explained), and Negative Physiological Effects factor (9.6% variance explained), respectively. Seventeen items were retained following the EFA, and the revised scale was administered to a new sample. A confirmatory factor analysis (CFA) was conducted on the revised scale to validate the factor structure identified in the EFA. Preliminary results of the CFA indicate a modest fit of the hypothesized factor structure to the data ($\chi2(N=100)=239.69$, $p<0.0001$; comparative fit index (CFI)=0.894; standardized root mean square residual (SRMSR)=0.107). Additional analyses provide strong support for the internal consistency and construct validity of the factor structure tested by the CFA.
CONCLUSIONS: The Stimulant Medication Outcome Expectancy Questionnaire is a valid and reliable scale that measures levels of outcome expectancies among college students regarding their misuse of prescription stimulant medication. This knowledge can be used to better understand the etiology and progression of prescription stimulant drug use and aid in the creation of drug education and drug cessation programs

CORRESPONDING AUTHOR: Allison K. Labbe, MS, Syracuse University, Syracuse, NY, 13203; akswezey@syr.edu

D-206

INTERACTIVE QUALITATIVE ANALYSIS: A SYSTEMATIC APPROACH TO QUALITATIVE RESEARCH IN HEALTH PROMOTION

Justin M. Laird, PhD
Alice! Health Promotion - Health Services, Columbia University, New York, NY.

Interactive Qualitative Analysis (IQA) is a systematic approach to qualitative research with broad implications for the field of health promotion. IQA guides researchers through the development of models known as mindmaps. These mindmaps are system representations of the way an individual or group understands a problem (Northcutt & McCoy, 2004). This session will demonstrate the use of IQA methodology to study a population of emerging adults (age 18–25). Specifically, the methodology and results of a study using IQA to explore the relationship between health and student development characteristics in a group of emerging adults (undergraduate college students) will be presented. The process will be described from conceptualization of the research questions to data collection and analysis of results. The resulting system representations or mindmaps of health and student development characteristics of the study participants will be presented. Recommendations for use across populations and health research settings will be discussed.

CORRESPONDING AUTHOR: Justin M. Laird, PhD, Alice! Health Promotion - Health Services, Columbia University, New York, NY, 10027; JL3059@columbia.edu

D-207

PEER LEADERS MATTER: EFFECTS OF PEER LEADERS' SUBSTANCE USE BEHAVIOR ON THE SUBSTANCE USE BEHAVIOR OF STUDENTS IN ALTERNATIVE HIGH SCHOOLS

Patchareeya P. Kwan, MPH, CHES, Thomas W. Valente, PhD and Kayo Fujimoto, PhD
Preventive Medicine, University of Southern California, Institute for Preventive Research, Alhambra, CA.

OBJECTIVE: To demonstrate the association between peer leader status, peer leaders' substance use behaviors and the behaviors of students in the peer-led prevention groups.
METHODS: This study is a randomized controlled trial conducted in 14 alternative high schools in southern California. Classrooms were randomly assigned to the control group, the standard TND (Towards No Drug Abuse) curriculum or the TND-Network. The TND-Network curriculum was a revised standard curriculum in which groups of 3–5 students were led by a student-nominated peer leader to work together interactively. Baseline data was collected one week prior to the start of the lessons, pre-test data was collected prior to the first TND session and post-test data was collected after the last TND session was implemented. A total of 980 students (72% male; mean age at baseline=16.7 years) participated in the study. Information on substance use behavior (i.e. past month use at baseline and post-test and lifetime use at baseline on 11 drug items) and students' friendship and leadership networks were assessed. Approximately 500 students provided data for this analysis.
RESULTS: Overall, peer leaders' substance use behaviors at baseline and posttest were significantly associated with change in the substance use behaviors of the students they led (controlling for basline use, age, and gender).
CONCLUSIONS: Peer leaders have an important influence on the dug use behaviors of students in alternative high schools. When curriculum leaders increased or decreased their use, the students assigned to them in increased or decreased their use as well. The influence of peer opinion leaders plays an important role in the implementation and success of school-based substance abuse prevention programs among adolescents.

KEYWORDS: peer leaders, substance use behavior, school-based prevention programs

CORRESPONDING AUTHOR: Patchareeya P. Kwan, MPH, CHES, Preventive Medicine, University of Southern California, Alhambra, CA, 91803; pumpuang@usc.edu

D-208

EXAMINING THE CONSTRUCTS OF THE TRANSTHEORETICAL MODEL AS APPLIED TO ALCOHOL USE

Rose Marie Ward, PhD, Hugo J. Schielke, MFT and John A. Ward, PhD
Miami University, Oxford, OH.

Alcohol use and abuse on college campuses is not a new idea. Alcohol abuse has been linked to lower grades, more mental health problems, and failure to meet obligations. University officials implement population based programming to curb these issues. Many of these services are based on the Transtheoretical Model (e.g. AlcoholEdu). The current project examined the constructs of the Transtheoretical Model and its ability to predict alcohol behaviors over time and changes in alcohol behaviors.
Participants were first year students at a mid-sized Midwestern university. The sample was primarily comprised of Caucasian, non-married, young (around 18) individuals from middle to upper middle class families. The participants completed surveys at two time points as part of a large study examining multiple behavior change.
A sequence of structural models and regression techniques examined the relationships between the Transtheoretical Model staging algorithm, the Decisional Balance scale, Situational Temptations, and alcohol behaviors. Models examined not only the relationships between the Transtheoretical constructs, but also the models ability to predict behavior. Multiple model configurations predicted future behavior and behavior change at satisfactory levels (CFI>.95, TLI>.95, RMSEA<.05). For example, a structural equation model determined that the Pros of Drinking and Cons of Drinking predicted the participants binge drinking stage of change very well, chi-square (42, n=496)=208.04, CFI=.95, TLI=.93, RMSEA=.089. In addition, models using decisional balance and situational temptations to predict stage and then to predict future alcohol use also fit the data well (CFI>.90).
Regression analyses examined the models constructs ability to predict stage change and behavior change above and beyond demographic variables. Aspects of decisional balance were able to contribute to the change from pre-action to action.
Implications for the theory and applications of the findings will be discussed.

CORRESPONDING AUTHOR: Rose Marie Ward, PhD, Miami University, Oxford, OH, 45056; wardrm1@muohio.edu

D-209

PHYSICIAN ADVICE FOR ALCOHOL USE AND OTHER HEALTH RISK BEHAVIORS IN A FAMILY MEDICINE CLINIC

Marketa Krenek, BS,[1] Todd M. Bishop, MA,[1] Jennifer S. Funderburk, PhD[2] and Stephen A. Maisto, PhD[1,2]

[1]Syracuse University, Syracuse, NY and [2]Syracuse VA Medical Center, Syracuse, NY.

BACKGROUND: The advice a physician provides to a patient has been shown to influence his/her behavior, though the types of patients who receive advice vary. For example, patients with chronic illnesses are more likely to receive physician advice. On the other hand, physicians are less likely to provide advice to patients regarding alcohol use. The purpose of this study was to examine patients' recall of physician advice regarding different health behaviors and the effect of demographics, functional impairment, and severity of risky behaviors on physician advice in a family medicine clinic.

METHODS: A total of 221 patients presenting in two family medicine clinics completed a set of questionnaires assessing health behaviors (e.g., exercise, weight control, alcohol use), physical and mental functioning, and the number of times a physician provided advice to improve health behaviors during the previous year.

RESULTS: Patients received less advice regarding alcohol use compared to weight and exercise ($p<.0001$). Higher BMI predicted a greater amount of physician weight-control advice above and beyond demographics ($p<.01$). Lower physical functioning was associated with more physician advice regarding exercise above and beyond demographics and amount of weekly exercise ($p<.001$). Higher scores on the AUDIT ($p<.01$) and lower physical ($p<.01$) and mental ($p<.01$) functioning predicted more physician advice directed toward alcohol use. The presence of multiple risky behaviors was associated with a greater overall frequency of physician advice ($p<.05$).

CONCLUSIONS: Individuals who present with riskier health behaviors (e.g. higher BMI) and lower overall physical functioning are more likely to receive physician advice, though alcohol use continues to be the least discussed behavior. Given that a physician's advice can have a strong impact on a patient, further understanding of these relationships is vital in helping physicians continue to learn how to affect behavior change in their patients.

CORRESPONDING AUTHOR: Marketa Krenek, BS, Syracuse University, Syracuse, NY, 13210; mkrenek@syr.edu

D-211

A QUALITATIVE EXPLORATION OF THE ROLE OF SEXUALITY IN PARTNER RELATIONSHIPS AMONG HSCT SURVIVORS

Chi W. Yeung, BA,[1] Catalina Lawsin, PhD,[1] Halina Sukhnandan, BA,[1] Yeraz Markarian, PhD,[2] L. Labay, PhD,[4] K. DuHamel, PhD[3] and William Redd, PhD[2]

[1]Baruch College, New York, NY; [2]Mount Sinai Hosptial, New York, NY; [3]Memorial Sloan Kettering Cancer Center, New York, NY and [4]Hackensack University Medical Center, New York, NY.

Although life-saving, hematopoietic stem cell transplant (HSCT) is considered to be one of the most aggressive form of cancer treatment. Sexual dysfunction has been described as a long-term side effect of HSCT affecting between 20–70% of transplant survivors. Minimal research has examined sexual functioning among HSCT survivors and its impact on intimate relationships post-transplant. Qualitative interviews were conducted with 38 patients (average age=53) one year or more post-transplant who identified themselves as being married or in a long-term intimate relationship. This study sought to examine the role of sexuality in the patient's quality of life and its impact on their intimate relationships post-transplant. Interviews were transcribed, coded and analyzed according to Content Analysis. Common problems indicated by patients include: loss of libido (30%), onset of menopause (10%), lack of lubrication (10%) and spousal concern (10%). Although patients' experienced an alteration in their sexual functioning, they reported that the impact of these changes on their relationships was minimal. The majority of patients described being satisfied with their marital relationships and described them as fundamentally strong even in the absence of intercourse. Many patients cope with their sexual dysfunction by either decreasing or refraining from sexual activity and minimizing the role of intercourse within their relationship. 30% of participants indicated they communicated to their spouses about their sexual problems but indicated no positive changes as a result. Although 20% of participants indicated that they communicated their problems with their doctors. They noted that the doctors were helpless to aide them in their problems. No patients sought or were referred for psychological assistance. Results suggest the need for additional education, assessment and referral for sexual health among transplant survivors.

CORRESPONDING AUTHOR: Chi W. Yeung, BA, Baruch College, New York, NY, 10010; chiyeung85@gmail.com

Saturday
April 25, 2009
10:00 AM-11:30 AM

Symposium #21 10:00 AM -11:30 AM 4009

HEALTH BEHAVIORS IN CANCER SURVIVORS: INCORPORATING CAREGIVERS, HEALTH CARE PROVIDERS, & THE COMMUNITY

Kathryn Weaver, PhD, MPH,[1] Bernardine Pinto, PhD,[2] Ann-Hilary Hanly, MPA,[3] Haley Justice, MPH, CHES[4] and Frank Perna, EdD, PhD[5]

[1]Office of Cancer Survivorship, Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD; [2]Centers for Behavioral and Preventive Medicine, The Miriam Hospital and the Warren Alpert Medical School of Brown University, Providence, RI; [3]YMCA of the USA, Columbus, OH; [4]Lance Armstrong Foundation, Austin, TX and [5]Behavioral Research Program, Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD.

Much descriptive and intervention research has focused on individual models to understand cancer survivors' health behaviors, such as smoking, energy balance, and physical activity, but less is known about how contextual factors influence healthy lifestyles. The purpose of this symposium is to describe current research and programs in health behaviors among cancer survivors using the socio-ecological model as a guiding framework. Levels of social context, proximal to distal, that influence health behaviors such will be emphasized through presentations on caregivers' health behaviors, physician support, and community programs and resources. The inclusion of caregivers, health care providers, and community programs has the potential to strengthen our explanatory models, extend the reach and improve intervention efficacy of programs designed to promote wellness in cancer survivors.

CORRESPONDING AUTHOR: Kathryn Weaver, PhD, MPH, Office of Cancer Survivorship, Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD, 20892; weaverk@mail.nih.gov

Symposium #21A 4010

HEALTH BEHAVIORS AMONG CAREGIVERS OF LUNG AND COLORECTAL CANCER PATIENTS

Kathryn Weaver, PhD, MPH, Julia Rowland, PhD, Audie Atienza, PhD and Erik Augustson, PhD

National Cancer Institute, Bethesda, MD.

Cancer caregivers' health behaviors may be influenced by caregiving demands and may be associated with the health behaviors of care recipients. Thus, understanding correlates of poor energy balance and smoking in this population is essential. This investigation utilized data from the Cancer Care Outcomes Research and Surveillance (CanCORS) caregiver study, with a sample of 1349 persons caring for a patient with lung (49.3%) or colorectal (50.7%) cancer (overall response rate=53.5%). Caregiver burden was assessed using the Zarit Burden Interview; self-reported health behaviors and demographics were also assessed. The majority of the caregivers were female (75.8%), spouses of the patient (60.9%), and between the ages of 50 and 65 (40.2%; with 33.5% ≥65). Approximately ½ of the caregivers were assessed at 3–6 months post-diagnosis, the remainder at one year post-diagnosis. The majority of caregivers were overweight (35.2%) or obese (31.4%), 22.8% were inactive and 20.4% smoked cigarettes. In multivariate models, caregiver smoking was significantly (all p-values <.05) associated with male gender (OR= 2.1, 95%CI 1.4-3.1), lower income (OR=1.2, 95%CI 1.1-1.3), assessment closer to diagnosis (OR= 1.5, 95%CI 1.03-2.1), younger age (ORs= 4.2, 95%CI 2.5-7.0, for ≤50 & 2.7, 95% CI 1.7-4.1 for 51-65 compared to >65), and current smoking by the patient (OR = 2.6, 95% CI 1.7-4.1). Smoking was not associated with cancer type, relationship to patient, or caregiver burden. Male sex (OR= 2.0, 95% CI 1.4-2.9), lower income (OR=1.2, 95%CI 1.1-1.2), and middle age (OR=1.7, 95% CI 1.2-2.3, for 51-65 compared to >65) were significantly associated with being overweight or obese. Lower income (OR= 1.1, 95% CI 1.01-1.2) and caregiver burden (OR= 1.3, 95%CI 1.1-1.5) were associated with inactivity. Colorectal and lung cancer caregivers report a high level of physical inactivity, overweight/obesity, and smoking behavior. Caregiver and patient smoking were associated. Interventions targeting health behaviors in cancer patients/caregiver dyads may promote well-being in these high-risk populations.

CORRESPONDING AUTHOR: Kathryn Weaver, PhD, MPH, Office of Cancer Survivorship, Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD, 20892; weaverk@mail.nih.gov

Symposium #21B 4011

PROMOTING PHYSICAL ACTIVITY IN FOLLOW-UP CARE FOR BREAST CANCER PATIENTS

Bernardine M. Pinto, PhD,[1,2] Michael G. Goldstein, MD[1,2] and George D. Papandonatos, PhD[3]

[1]Miriam Hospital, Providence, RI; [2]W. Alpert Medical School of Brown University, Providence, RI and [3]Brown University, Providence, RI.

Cancer patients who have completed treatment attend follow-up visits for several years. There are many opportunities for their healthcare providers (HCPs) to promote healthy behaviors, yet HCPs have often not participated in intervention trials promoting healthy behaviors. Physical activity (PA) adoption has been found to improve mood, reduce fatigue and increase fitness among breast cancer patients. In Moving Forward with Life, oncologists and surgeons (n=14, 29% female, mean years in practice=15.6 years, SD=8.9) were trained to provide brief PA advice for breast cancer patients attending follow-up visits. Patients received brief advice from their HCPs (in person n=100, by letter, n=92) and were then randomized to a 12-week telephone counseling intervention promoting PA (Extended Advice) or contact control (Brief Advice). Assessments of patients' PA, physical functioning, mood and fatigue were completed at baseline, 3, 6, and 12 months. HCPs completed questionnaires on PA counseling at baseline and provided feedback at study end. One hundred and ninety-two patients were randomized (mean age=60.0 years, SD=9.9; 13% Cancer Stage 0, 38% Stage 1, 41% Stage 2, 8% Stage 3–4; mean years since diagnosis=2.9 years, SD=2.2; 66% employed, 94% White) after receiving brief advice. HCP feedback suggested that study involvement did not present problems at the practice level. Eighty-five percent of patients reported receiving HCP advice about the benefits of PA and 84% reported satisfaction with the advice. At 3-months, patients receiving Extended Advice were significantly more likely to achieve 150 mins/week of PA (7 Day PAR) vs. Brief Advice (OR =2.82; 95%CI= 1.26, 6.28). We also found moderate intervention effects for physical functioning (SF-36; Cohen's delta=0.39, p=0.01) and small effects for fatigue (FACIT, Cohen's delta=0.24, p=0.06). These promising results suggest that effective health promotion can be integrated into follow-up care for cancer survivors.

Supported by the American Cancer Society.

CORRESPONDING AUTHOR: Bernardine M. Pinto, PhD, Miriam Hospital, Providence, RI, 02903; BPinto@lifespan.org

Symposium #21C 4012

FROM BENCH TO BACKYARD: CANCER SURVIVORS CAN FIND EVIDENCE-BASED PHYSICAL ACTIVITY PROGRAMS AT THEIR LOCAL YMCAS

Ann-Hilary Hanly, MPA[1] and Haley Justice, MPH, CHES[2]

[1]YMCA of the USA, Columbus, OH and [2]The Lance Armstrong Foundation, Austin, TX.

The YMCA and the Lance Armstrong Foundation (LAF) are in the midst of a multi-year partnership to translate empirical research that shows the value of physical activity for cancer survivors into community driven programs. In its pilot year, 16 YMCA branches have launched LIVESTRONG at the YMCA exercise programs for their communities' cancer survivor populations and are measuring the health outcomes of their participants. Advised by many of the leading researchers in the field of exercise and cancer and paired with community level experts such as cancer centers, Gilda's Clubs, the Wellness Community, and the American Cancer Society, the YMCA has laid the groundwork to become a place that cancer survivors across the country can find safe and effective rehabilitation programs and the continuous supportive relationships and environments that they need to thrive, flourish, and find a home at the YMCA. The YMCA is accomplishing this translational work through use of a transformative learning process adapted from the Institute for Healthcare Improvement's Breakthrough Series. Recommended to the YMCA by the Robert Wood Johnson Foundation, the Breakthrough Series guides YMCAs through a process of learning and experimentation to find promising approaches to support cancer survivors. Preliminary data on patient satisfaction and health behaviors from the pilot projects will be discussed.

CORRESPONDING AUTHOR: Ann-Hilary Hanly, MPA, YMCA of the USA, Columbus, OH, 43221; ann-hilary.hanly@ymca.net

Symposium #22 10:00 AM -11:30 AM 4013

EVIDENCE BASED BEHAVIOURAL MEDICINE: HOW TO TAKE THE CONTEXT INTO ACCOUNT?

Arja R Aro, PhD, DSc,[1] Bonnie Spring, PhD, ABPP,[2] Joost Dekker, PhD[3] and Neil Schneiderman, PhD[4]

[1]Unit for Health Promotion Research, University of Southern Denmark, Esbjerg, Denmark; [2]Preventive Medicine, Northwestern University, Chicago, IL; [3]Department of Rehabilitation Medicine, EMGO Institute, VU University Medical Centre, Amsterdam, Netherlands and [4]Department of Psychology, University of Miami, Miami, FL.

In designing and implementing behavioural medicine interventions, the importance of context is increasingly being emphasised: contextual issues determine behaviour and can also be used as channels for behaviour change. Interventions should therefore take the context into account. Less clear, however, is how to do this in developing evidence-based behavioural medicine: the rigid methodological requirements of evidence-based behavioural medicine seem to be discordant with contextual sensitivity and idiosyncrasy. The goal of this symposium is to give a state of the art overview of new approaches which take into account contextual variation, while maintaining scientific rigor. The symposium covers the entire range of behavioural medicine interventions, i.e. both clinical medicine and complex community interventions. The symposium will show how behavioural medicine can benefit from the context to develop interventions that are more powerful.

Dr. Aro talks about complex community interventions in health promotion and about challenges and options to enhance the evidence-base. Dr. Spring describes key aspects of incorporating context into evidence-based decision-making and she will describe two new tools to support contextualized decision making. Dr. Dekker will identify key elements of the process of allowing both patient preferences and research findings to influence clinical decisions. Dr. Schneiderman will serve as discussant, drawing upon his wide experience in contextualizing behavioural medicine interventions.

CORRESPONDING AUTHOR: Arja R Aro, PhD, DSc, Unit for Health Promotion Research, University of Southern Denmark, Esbjerg, 6700; araro@health.sdu.dk

Symposium #22A 4014

COMMUNITY INTERVENTIONS: BUILDING ON RESEARCH EVIDENCE AND IMPLEMENTING IN LOCAL SETTINGS

Arja R Aro, PhD, DSc

Unit for Health Promotion Research, University of Southern Denmark, Esbjerg, Denmark.

Complex community interventions in health promotion provide challenges for evidence-based research and practice. This is because health promotion work uses the existing strategies, initiatives, structures and channels, and is done in participatory, empowering and ownership-based manner. The purpose of the presentation is to describe how rigorous research evidence is used to plan and apply health promotion interventions for practice in communities.

In community-based health promotion, research evidence on health determinants informs what needs to be done. Evidence on effectiveness of interventions informs what can be done in certain settings. However, what is actually done in practice depends on political and social factors, and how it is done depends on the resources, structures and stakeholders involved. Non-research documents as well as local stakeholders such as different professionals but also lay people have a lot of implicit know-how on setting-based implementation, which can prove fruitful in intervention planning, implementation and evaluation. In health promotion, considering context ranges from changing policies and environment to mobilizing and engaging local and regional resources to enable people to improve their health. The presentation gives examples and describes new approaches to consider contextual variation while maintaining scientific rigor both in implementing community interventions in different settings and in evaluating the outcome of interventions.

CORRESPONDING AUTHOR: Arja R Aro, PhD, DSc, Unit for Health Promotion Research, University of Southern Denmark, Esbjerg, 6700; araro@health.sdu.dk

Symposium #22B 4015

PATIENT PREFERENCE AND RESEARCH EVIDENCE: CREATING SYNERGY IN CLINICAL DECISION MAKING

Joost Dekker, PhD

Rehabilitation Medicine, VU University Medical Centre, Amsterdam, Netherlands.

Background: Combining patient preference with research evidence is a basic tenet of clinical decision making in evidence based medicine. Although frequently proclaimed, it is less clear exactly how synergy between patient perspective and research findings can be achieved in making clinical decisions in behavioural medicine.

Purpose: The purpose of this presentation is to describe recent approaches towards combining patient preference and research evidence in clinical decision making in behavioural medicine.

Method: Using ‘patient centred care’ and ‘collaborative care’ as prime examples, speaker will describe key elements of the process of allowing both patient preference and research findings to influence clinical decisions. Key elements of clinical decision making in ‘patient centred care’ and ‘collaborative care’ include personalized identification and prioritisation of health problems; selecting appropriate treatment approaches based on research evidence; identification of personal strengths, resources and environmental conditions; collaborative goal setting and contracting; implementation of treatment, with a strong focus on self management; monitoring of outcome; and adaptation of treatment, if required. Treatment based on these approaches shows promising results (as documented in systematic reviews and individual RCTs), but further research is required.

Conclusion: Treatment approaches which combine patient preference with research evidence are highly feasible and promising. Patient preference provides a powerful context for the implementation of empirically tested behavioural medicine interventions.

CORRESPONDING AUTHOR: Joost Dekker, PhD, Rehabilitation Medicine, VU University Medical Centre, Amsterdam, 1007 MB; j.dekker@vumc.nl

Symposium #22C 4016

PRACTICAL, CONTEXTUALIZED EVIDENCE-BASED DECISION-MAKING

Bonnie Spring, PhD

Preventive Medicine, Northwestern University, Chicago, IL.

The evidence-based practice (EBP) process integrates three domains: research evidence, resources, and client characteristics, including preferences. Five steps of the evidence-based practice process have been well-characterized: 1) ask a question; 2) acquire evidence; 3) critically appraise the evidence; 4) apply decision making; and 5) analyze process and outcomes to adjust practice accordingly. Contextualization occurs during the critical appraisal and application steps of the EBP process. At critical appraisal, opposite assumptions about evidence context-dependency versus generalizability foster different judgements about evidence relevance. Subsequent decision-making at the apply step selects the practical action that is contextualized by virtue of being conjointly evidence-based, preferred (or least acceptable), and feasible (given available resources).

Although at the heart of the EBP process, applied decision-making remains something of a black box in need of systematization. The presenter will describe two new tools to support contextualized decision making. The first tool is the operationalized clinical guideline. Evidence-based practice guidelines support application by consolidating results of the ask, acquire, appraise steps for many common practice problems. The operationalized guideline uses decisional algorithms to determine an adaptive treatment strategy. Ordinarily attached to an electronic health record, the adaptive tool begins by integrating treatment based on nomothetic guidelines with the client’s characteristics, preferences, and prior treatment response. Subsequent treatment decisions are then sequenced iteratively based on the context of prior treatment responses. The second context-sensitive tool is the resource-sensitive guideline. This new kind of guideline, usually applied to population level interventions, generates different intervention recommendations depending upon whether resources are basic, limited, enhanced or maximal.

CORRESPONDING AUTHOR: Bonnie Spring, PhD, Preventive Medicine, Northwestern University, Chicago, IL, 60610; bspring@northwestern.edu

Symposium #23 10:00 AM -11:30 AM 4017

AUTONOMY SUPPORT AS A MOTIVATIONAL FACILITATOR IN HEALTH BEHAVIOR CHANGE

Heather Patrick, PhD,[1] Geoffrey C. Williams, MD, PhD[1] and Michael G. Goldstein, MD[2]

[1]Clinical & Social Psych.; Medicine, University of Rochester, Rochester, NY and [2]Mental Health & Behavioral Sciences Service, Department of Veterans Affairs Medical Center, Providence, RI.

Support of patient autonomy is one of the central tenets of biomedical ethics, a central concept in the process of informed decision making, and one of three goals of clinical medicine along with improving patient welfare and enhancing social justice. Self-determination theory is a general theory of human motivation that identifies autonomy as a fundamental human need and measures perceived autonomy, thus allowing empirical study of the construct. The concept of autonomy support (AS) represents an interpersonal climate in which someone (e.g., physician, personal trainer, spouse) takes the perspective of another into consideration, provides relevant information and opportunities for choice as a menu of effective options, and encourages the individual to accept personal responsibility for the relevant health behaviors (e.g., limiting calories, being physically active). AS also includes interactions that involve asking the individual what he or she wants to achieve, encouraging questions, and refraining from judgment or evaluation when obtaining information about past behavior. The purpose of this symposium is to present 3 randomized-controlled trials that have examined the role of AS in health behavior. Fortier et al., will present research demonstrating how AS from one’s primary care practitioner and a physical activity counselor affects fluctuations in motivation for physical activity throughout a 13-week intervention. Gorin et al., will present research examining the role of AS from an important other in participants’ weight loss outcomes. Finally, Patrick et al., will present research examining the effects of an autonomy-supportive, computerized personal trainer on physical activity among sedentary young adults. Together, the findings of these 3 studies provide evidence for the importance of AS in health behavior change and speak to the myriad sources from which AS may be experienced. Results will be discussed in terms of their implications for practitioners, policy-makers, and researchers.

CORRESPONDING AUTHOR: Heather Patrick, PhD, Clinical & Social Psych.; Medicine, University of Rochester, Rochester, NY, 14627-0266; Heather_Patrick@urmc.rochester.edu

Symposium #23A 4018

AUTONOMY SUPPORT AND PHYSICAL ACTIVITY: THE ROLE OF A COMPUTERIZED PERSONAL TRAINER

Heather Patrick, PhD,[1] Amy Canevello, PhD[2] and Geoffrey C. Williams, MD, PhD[1]

[1]Clinical & Social Psych.; Medicine, University of Rochester, Rochester, NY and [2]Institute for Social Research, University of Michigan, Ann Arbor, MI.

Based on self-determination theory (SDT), this research tests whether the way in which exercise information is presented by a computerized personal trainer affects participants' autonomous motivation for physical activity, which in turn predicts exercise behavior. SDT is unique because it includes both the need to feel volitional in one's behaviors (i.e., autonomous) and the need to feel competent. Participants were 174 sedentary young adults randomly assigned to work with either an autonomy-supportive or controlling personal trainer. The autonomy-supportive trainer encouraged choice and overcoming barriers while the controlling trainer was more directive and dismissed barriers as excuses. All participants were provided with an exercise program consistent with current recommendations. Participants met with their trainer weekly for 7 weeks. Those working with the autonomy-supportive trainer experienced greater autonomy need support (ANS; t(874)= -2.89, p<.01) and somewhat greater competence need support (CNS; t(874)= -1.61, p= .10). ANS was associated with greater increases in autonomous exercise motivation, t(169)= 3.78, p<.001; CNS was associated with greater increases in perceived exercise competence, t(151)= 4.58, p<.0001. Finally, autonomous motivation and perceived competence were associated with greater exercise frequency and duration for cardio, strength, and stretching activities (all ps<.01). These preliminary results suggest that autonomy-supportive computerized trainers may be an effective means for increasing exercise among sedentary individuals. Additional research is needed to compare computerized interactions versus in-person interactions and to more clearly differentiate autonomy-supportive from controlling personal training contexts.

CORRESPONDING AUTHOR: Heather Patrick, PhD, Clinical & Social Psych.; Medicine, University of Rochester, Rochester, NY, 14627-0266; Heather_Patrick@urmc.rochester.edu

Symposium #23B 4019

AUTONOMY SUPPORT, MOTIVATIONAL FLUCTUATIONS, AND PHYSICAL ACTIVITY BEHAVIOR: FINDINGS FROM A RANDOMIZED-CONTROLLED TRIAL

Michelle S. Fortier, PhD,[1] Shane Sweet, MA,[2] Chris M. Blanchard, PhD,[3] Tracey L. O'Sullivan, MD,[4] William Hogg, MD,[5] Robert D. Reid, MD[6] and Ronald J. Sigal, MD[7]

[1]School of Human Kinetics, University of Ottawa, Ottawa, ON, Canada; [2]School of Psychology, University of Ottawa, Ottawa, ON, Canada; [3]Faculty of Medicine, Dalhousie University, Halifax, NS, Canada; [4]Faculty of Health Sciences, University of Ottawa, Ottawa, ON, Canada; [5]Department of Family Medicine, University of Ottawa, Ottawa, ON, Canada; [6]The University of Ottawa Heart Institute, The Ottawa Hospital, Ottawa, ON, Canada and [7]Medicine and Cardiac Sciences, University of Calgaray, Calgary, AB, Canada.

The Physical Activity Counseling Trial (PAC) was a Self-Determination Theory based primary care physical activity promotion trial (Fortier, Hogg, O'Sullivan, Blanchard, Reid, Sigal, Boulay, Doucet, Sweet, Bisson & Beaulac, 2007). Patients who received both brief autonomy supportive PA counseling from their health care provider and intensive (3 month) autonomy supportive counseling from a PA counselor showed higher autonomy support and autonomous motivation at 6 weeks, which translated into higher PA levels at 13 weeks than those who received only brief counseling (Fortier, Sweet, O'Sullivan & Williams, 2007). The purpose of this presentation is: to examine fluctuations in the 5 motivational regulations over the course of the PAC intervention (baseline-6w-13w) and in the post-intervention phase (19w-25w); and to investigate relationships between motivational regulations and physical activity behavior over the 5 different time-points. Hierarchical linear modeling was used for both purposes. With regard to purpose 1, results revealed that in the intervention phase, amotivation increased at 6 weeks and then decreased at 13, whereas the opposite occurred for intrinsic motivation (decreased at 6 weeks and then increased at 13 weeks). External regulation significantly decreased over time from baseline to 13 weeks. With respect to purpose 2, a significant relationship was found between intrinsic motivation and PA (B=4.78, p<.001) and this linear relationship remained stable over time (B=-0.32, p>.05). Results are discussed in line with SDT and past research. Practical applications and directions for future research are drawn.

CORRESPONDING AUTHOR: Michelle S. Fortier, PhD, School of Human Kinetics, University of Ottawa, Ottawa, ON, K1N 6N5; mfortier@uottawa.ca

Symposium #23C 4020

AUTONOMOUS SELF-REGULATION, AUTONOMY SUPPORT, AND WEIGHT LOSS OUTCOMES

Amy Gorin, PhD,[1] Theodore Powers, PhD,[2] Hollie Raynor, PhD[3] and Rena Wing, PhD[4]

[1]University of Connecticut, Storrs, CT; [2]University of Massachusetts Dartmouth, N. Dartmouth, MA; [3]University of Tennessee, Knoxville, TN and [4]Brown Medical School, Providence, RI.

Background: Health behavior change, including weight loss, is more likely when an individual is motivated by autonomous self-regulations (e.g., believe it is best for one's health) rather than controlled reasons (e.g., feel pressured by others). Across several health behaviors, autonomous self-regulation is enhanced by having health-care providers deliver interventions in an autonomy supportive fashion. In weight management, given that eating and exercise choices are often made at home, having family members who provide autonomy support may likewise improve treatment outcomes; however, this has yet to be tested. Methods: Participants (N=201; 78.1% female, 82.4% Caucasian, BMI 37.2+7.2) were randomly assigned to a standard behavioral weight loss program (SBT) or to a comprehensive home environment program (HE) that involved a family member in treatment. Weight was assessed at baseline and 6 months. Participants completed the Treatment Self-Regulation Questionnaire and the Important Others Questionnaire to assess autonomous self-regulation (AR) and autonomy support (AS); both were completed at baseline and 6 months and scored on 7-point scales. Results: There were no group differences in AR or AS at baseline (6.4+.8 and 5.9+.9, respectively). AR remained high in both groups over time but there was a group x time interaction for AS, with AS remaining stable in HE and decreasing significantly in SBT (p=.007). Weight losses at 6 months tended to be greater in HE than SBT (p=.07) and a sequential regression, controlling for treatment group and baseline weight, found that better weight loss outcomes were associated with both increases in AR (p<.001) and increases in AS (p=.003). Baseline AR and AS values were not predictive of outcome. Conclusion: Increased autonomy support from a family member appears to be associated with better weight loss outcomes. Tests of weight loss interventions that actively train family members to provide this type of support are warranted.

CORRESPONDING AUTHOR: Amy A. Gorin, PhD, Psychology, University of Connecticut, Storrs, CT, 06269; amy.gorin@uconn.edu

Symposium #24 10:00 AM -11:30 AM 4021

BARBERSHOPS, BROTHELS, & BIBLEWAYS: USING COMMUNITY-BASED STRATEGIES TO BUILD AN EVIDENCE BASE FOR HEALTH BEHAVIORAL INTERVENTIONS AMONG MEN OF COLOR

Wizdom P. Hammond, PhD[1] and Gary G. Bennett, PhD[2]

[1]Health Behavior and Health Education, UNC Chapel Hill, Chapel Hill, NC and [2]Psychology, Duke University, Durham, NC.

Men tend to underreport health problems, underutilize medical services, engage in riskier health practices, and seek help for health problems less frequently than women. Recognizing these patterns, researchers have intensified their efforts to develop interventions designed to increase men's engagement in health promoting behaviors. These efforts have especially intensified among men of color who are often at greatest risk for gendered health disparities. Men's health researchers have noted participant recruitment and engagement as key challenges in generating an evidence base for successful interventions with this population. This symposium pulls together four innovative studies that demonstrate how meeting men of color where they are may minimize such challenges and lead to new empirical insights about their health behavior. First, findings from a formative survey study of African American men recruited from rural and urban barbershops will be presented. This study examines the psychosocial context of delays in preventive health services use among this group. Second, we will present findings from a mixed-methods study of male clients of female sex workers recruited from brothels in the Dominican Republic. This study considers the influence of social networks on men's sexual behavior and HIV prevention strategies. Third, we will describe results from a barbershop-based intervention designed to improve African American men's access to cancer-related information and services. Finally, we will present findings from a male lay health advisor (LHA) intervention designed to modify the effects of male gender socialization and institutional racism on African American men's preventive health behavior. This presentation will highlight results from a Photovoice process evaluation that has informed a church-based male LHA intervention.

CORRESPONDING AUTHOR: Wizdom P. Hammond, PhD, Health Behavior and Health Education, UNC Chapel Hill, Chapel Hill, NC, 27599; wizdom.powell@unc.edu

Symposium #24A 4022

MEN OF COLOR AS LAY HEALTH ADVISORS: FINDINGS FROM A PHOTOVOICE PROCESS EVALUATION

Eugenia Eng, DrPH,[1] India Ornelas, MPH,[1] Elvira Mebane, BA[2] and Earl Horton, MBA[3]

[1]Health Behavior and Health Education, University of North Carolina School of Public Health, Chapel Hill, NC; [2]United Voices of Efland-Cheeks, Mebane, NC and [3]Strengthening The Black Family, Raleigh, NC.

Observers and investigators of lay health advisor (LHA) interventions note that few involve men and most have difficulties documenting how LHAs fulfill their roles. Men as Navigators (MAN) for Health is a male LHA intervention study, funded by CDC, to modify the effects of male gender socialization and institutionalized racism on preventive health behaviors among African American men from 1 rural and 1 urban site in North Carolina. MAN's process evaluation engaged male LHAs from each site in completing up to: 8 sequences of photo-assignments on their LHA roles with men in their own communities; followed by photo-discussions, using a Freirean-based critical dialogue technique, to identify, reflect, and act; and culminated in a Photovoice Forum with "influential advocates" to discuss the findings. Findings revealed: Although LHAs give out information, they refrain from telling men what to do; To promote the talents of future generations of men and instill a sense of purpose in their lives, LHAs need serve as mentors and role models; The changing role of the church and competing priorities among pastors result in less involvement of men; and Although the system works against keeping African American men in their communities, LHAs are not trained on how the system works and have to be careful about being too radical against the system, which can make them feel powerless and/or censored. Results have informed the design of a church-based, male lay health advisor intervention.

CORRESPONDING AUTHOR: Eugenia Eng, DrPH, Health Behavior and Health Education, University of North Carolina School of Public Health, Chapel Hill, NC, 27514; eugenia_eng@unc.edu

Symposium #24B 4023

SOCIAL NETWORKS AND HIV PREVENTION AMONG THE MALE CLIENTS OF FEMALE SEX WORKERS IN LA ROMANA, DOMINICAN REPUBLIC

Clare Barrington, PhD, MPH,[1] Luis Moreno, Ma,[2] Carl Latkin, PhD,[3] Mike Sweat, PhD[4] and Deanna Kerrigan, PhD[3,5]

[1]University of North Carolina at Chapel Hill, Chapel Hill, NC; [2]USAID/ Fortaleciendo los Servicios de VIH/SIDA, Santo Domingo, Dominican Republic; [3]Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; [4]Medical University of Charleston, Charleston, SC and [5]Ford Foundation, Rio de Janeiro, Brazil.

The Dominican Republic has a long history of innovative HIV prevention work in the female sex industry. Such efforts have achieved significant increases in condom use and declines in sexually transmitted infections among female sex workers (FSW). Little is known, however, about how these efforts have impacted the behavior of male clients. This study explored the relationship between socials networks and sexual behavior among the male partners of FSW in La Romana, Dominican Republic. Quantitative and qualitative methods were used to 1) describe the sexual behavior and social networks of male clients and 2) examine how social networks influence sexual behavior. Results from the quantitative survey indicate that male clients have small, cohesive networks that are characterized by high levels of communication about sex and condoms. The majority of male clients (65%) reported using condoms consistently with their most recent regular FSW partner, while only 42% perceived that all of their friends did the same. Participants' narratives in the qualitative interviews reveal a strong perception that they should always use condoms with FSW, among both condom users and non-users. Men described that this pro-condom norm is communicated and reinforced through an ongoing exchange of advice between social network members, though some men who do not use condoms explained that they lie about their behavior to avoid judgment from their peers. Findings suggest that the tight social networks of male partners may help to explain the high level of condom use and could provide an entry point for HIV prevention efforts with men. Further research is needed to improve understanding of the specific mechanisms through which social networks influence behavior and how to reach men who are resistant to these normative pressures.

CORRESPONDING AUTHOR: Clare Barrington, PhD, MPH, Health Behavior and Health Education, University of North Carolina at Chapel Hill, Chapel Hill, NC, 27599-7440; cbarring@email.unc.edu

Symposium #24C

4024

THE PSYCHOSOCIAL CONTEXT OF DELAYS IN PREVENTIVE HEALTH SERVICES USE AMONG AFRICAN AMERICAN MEN

Wizdom P. Hammond, PhD,[1] Derrick Matthews, MPH,[1] Dinushika Mohottidge, MPH,[1] Irene H. Yen, PhD, MPH[2] and Giselle Corbie-Smith, MD, MSc[3]

[1]Health Behavior and Health Education, UNC Chapel Hill, Chapel Hill, NC; [2]General Internal Medicine, University of California San Francisco, San Francisco, CA and [3]Social Medicine, University of North Carolina, Chapel Hill, NC.

African American men's tendency to underutilize preventive health services is troubling in light of their disproportionate morbidity and mortality from preventable conditions. Building on social ecological models, the current study investigates the contribution of intrapersonal, interpersonal, socio-environmental, and organizational factors to African American men's delays in preventive health services use. Participants were 257 African American men aged 18–79(M=34)recruited from barbershops in the West and Southeast regions of the US. Participants completed measures assessing demographic factors, subjective social status, work-related decision latitude, racism-related stress exposure, medical mistrust, traditional male role norms, and male role specific help-seeking barriers. The main outcome measure was the length of delays in preventive health services use (routine health visits, blood cholesterol screening, blood pressure screening, and flu shots). Multivariate analyses were conducted to assess the relationships between the study variables. Study findings indicate shorter delays in preventive health services use among older men (β=-.22, p<.01), those with a regular physician (β=-.19, p<.01), higher subjective social status (β=-.19, p<.01), more internalization of traditional male role norms (β=-.34, p<.001), and who indicated having more help-seeking barriers related to minimizing the seriousness of health concerns (β=-.36, p<.001). Longer delays in preventive health services were found among men who indicated having more help-seeking barriers related to keeping their emotions under control and out of public view. This model explained 37% of the overall variance in preventive health services use delays. These findings suggest that male role norms play a complex but important role in African American men's decisions to delay their use of preventive health services.

CORRESPONDING AUTHOR: Wizdom P. Hammond, PhD, Health Behavior and Health Education, UNC Chapel Hill, Chapel Hill, NC, 27599; wizdom.powell@unc.edu

Symposium #24D 4025

RESULTS OF THE CANCER UNDERSTANDING TODAY STUDY (CUTS)

Laura A. Linnan, ScD, CHES,[1] J. Rose, MA,[1] V. Carlisle, MPH,[1] R. Vanderpool, PhD,[3] B. Minor, MPH,[2] C. Moore, BS[1] and M. Scott, BS[1]

[1]Health Behavior & Health Education, UNC Chapel Hill School of Public Health, Chapel Hill, NC; [2]Southeast Region, NCI-CIS, Durham, NC and [3]Mid-South Region, NCI-CIS, Lexington, KY.

Black men suffer the highest rates of many chronic diseases, including cancer. The Cancer Understanding Today Study (CUTS) is an NCI-funded community-based intervention study designed to reach Black men and increase their utilization of the toll-free Cancer Information Service (CIS). A quasi-experimental group-randomized design enrolled 6 Black barbershops matched by county where we tested three interventions arms: control (C) v print materials (P) v print plus barber trainings (PT). Print materials included posters, displays, brochures, and barber business cards. Barber trainings included information about the NCI/CIS, demonstrations, role-plays, and customer info. Primary outcome - CIS documented calls by Black men to the tollfree number and linked to intervention arm by county/barbershop. Secondary outcomes -self-reported CIS calls, intention to call CIS, and interactions with the health care system. 295 Black men from 6 shops completed baseline surveys in the barbershops; 182 completed follow-up surveys (62% response rate). In the 6 mo pre-study period CIS documented 5 calls by Black men in the 15 tracking counties and no calls in the two Ix counties; during the 6 mo study period the CIS documented 8 calls by Black men in the 15 tracking counties: 1 from the P arm, 3 from the PT arm, 4 from counties not participating in the study. Customers in the 2 Ix arms (P and PT) were 3 times more likely to report calling the CIS than were customers in the control arm (OR=3.2, 90% CL: 1.1–9.1, n=169). Among the customers reporting calls to the CIS, 27% talked to a "live person" and 69% got a recorded message, which suggests that most Black men called during non-CIS-staffed hours when no caller information was recorded. Process data revealed that Black barbers/customers were highly receptive to the CUTS intervention study. Implications for future research and practice in Black barbershops will be discussed.

CORRESPONDING AUTHOR: Laura A. Linnan, ScD, CHES, Health Behavior & Health Education, UNC Chapel Hill School of Public Health, Chapel Hill, NC, 27599; linnan@email.unc.edu

Symposium #25 10:00 AM -11:30 AM 4026

THE BYPASSING THE BLUES TRIAL: TELEPHONE-DELIVERED COLLABORATIVE CARE FOR POST-CABG DEPRESSION

Bruce L. Rollman, MD, MPH,[1] Bea Herbeck Belnap, Dr Biol Hum,[1] Sati Mazumdar, PhD,[3] Herbert C. Schulberg, PhD,[2] Charles F. Reynolds, MD[3] and Wayne J. Katon, MD[4]

[1]Medicine, University of Pittsburgh, Pittsburgh, PA; [2]Psychiatry, University of Pittsburgh, Pittsburgh, PA; [3]Biostatistics, University of Pittsburgh, Pittsburgh, PA and [4]Psychiatry, University of Washington, Seattle, WA.

Depressive symptoms are common following cardiac bypass graft surgery (CABG) surgery and associated with worse clinical outcomes. Yet it is unknown whether screening post-CABG patients for depression and subsequent treatment will improve outcomes.

Collaborative care (CC), based on Wagner's Chronic Care Model, includes active follow-up by a nurse or other non-physician who adheres to an evidence-based treatment protocol and works under the supervision of a primary care physician (PCP) with specialty back-up when necessary. Proven effective at treating major depression in primary care, an NHLBI expert consensus panel recently endorsed CC as a promising approach for treating depression in cardiac patients.

The NHLBI-funded Bypassing the Blues (BtB) trial is the first to examine the effectiveness of CC at treating post-CABG depression or depression in any cardiac population on a broad variety of clinically meaningful outcomes of importance to patients, providers, and payers. From 3/04-9/07, BtB enrolled 453 post-CABG patients from 7 Pittsburgh-area hospitals. They included 302 patients who screened positive for depression prior to hospital discharge and at two-weeks follow-up who were then randomized to either an 8-month course of telephone-delivered CC or to their doctors' "usual care" (UC) for depression; and 151 randomly selected non-depressed post-CABG subjects to facilitate study comparisons.

Compared to UC at 8-months follow-up, patients randomized to CC reported significant improvements in mood, health-related quality of life, and cardiac functioning (all $p<0.01$). Analyses are ongoing, and we will present at the conference additional data describing the impact of CC for post-CABG depression on cardiovascular morbidity and on health services utilization.

CORRESPONDING AUTHOR: Bruce L. Rollman, MD, MPH, Medicine, University of Pittsburgh, Pittsburgh, PA, 15213; rollmanbl@upmc.edu

Symposium #25A 4027

THE BYPASSING THE BLUES TRIAL: BACKGROUND AND RATIONALE

Bruce L. Rollman, MD, MPH

Medicine, University of Pittsburgh, Pittsburgh, PA.

Coronary artery bypass graft (CABG) surgery is one of the most common and costly medical procedures performed in the U.S. Its main indications are the relief of angina and improvement in quality of life. Although often successful and beneficial, 20–25% of post-CABG patients report elevated depressive symptoms, and they are more likely to experience poorer health-related quality of life (HRQoL), worse functional status, continued chest pains, and higher risk of cardiovascular morbidity independent of cardiac status, medical co-morbidity, and the extent of bypass surgery. Yet it is unknown whether treating post-CABG depression improves clinical outcomes.

Collaborative care (CC), based on Wagner's Chronic Care Model, includes active follow-up by a nurse or other non-physician who adheres to an evidence-based treatment protocol and works under the supervision of a primary care physician with specialty back-up when necessary. A recent meta-analysis confirmed its effectiveness at treating major depression in primary care (ES: 0.25; 95% CI: 0.18–0.32. Arch Intern Med. 2006;166:2314), and an NHLBI expert consensus panel endorsed CC as a promising approach for treating depression in cardiac patients (Psychosom Med. 2006;68:645). Yet, it has never before been tested among depressed cardiac patients.

Bypassing the Blues (BtB) is the first trial to utilize CC to treat depression in a cardiac population. BtB planned to enroll: (1) 300 depressed patients randomized at two-weeks after hospitalization to either: their physicians' "usual care" for depression or 8-months of telephone-delivered CC; and (2) 150 randomly selected non-depressed post-CABG patients (450 patients). Its primary hypothesis is whether CC for depression can produce at least a clinically meaningful effect size improvement in quality of life at 8-months following surgery, as defined by the SF-36 Mental Component Summary (MCS) score, vs. patients' "usual care" for depression. Secondary hypotheses include the impact of treating post-CABG depression on cardiovascular morbidity, health services utilization, and health care costs.

CORRESPONDING AUTHOR: Bruce L. Rollman, MD, MPH, Medicine, University of Pittsburgh, Pittsburgh, PA, 15213; rollmanbl@upmc.edu

Symposium #25B 4028

THE BYPASSING THE BLUES TRIAL: METHODS AND RESULTS

Bruce L. Rollman, MD, MPH

Medicine, University of Pittsburgh, Pittsburgh, PA.

Methods: We screened post-CABG patients for depression prior to hospital discharge at 7 Pittsburgh-area hospitals with the two-item Patient Health Questionnaire (PHQ-2). If a patient endorsed either or both PHQ-2 items (screen-positive), then we administered the 9-item Patient Health Questionnaire (PHQ-9) via telephone 2-weeks after hospitalization. We randomized those who scored ≥ 10 on the PHQ-9 to either their physician's "usual care"(UC) or to 8-months of telephone-delivered CC for depression provided by study nurses who met weekly with the study investigators and communicated treatment recommendations back to subjects and to their PCPs. To facilitate study comparisons, we randomly selected a cohort of non-depressed post-CABG subjects (PHQ-2 screen-negative/PHQ-9 ≤ 4). We collected sociodemographic and clinical data at baseline, and conducted blinded telephone assessments to monitor outcomes.

Results: From 3/04-9/07, 2,486 patients completed the PHQ-2; 1,387 (56%) screened positive; 1,100 (79%) were protocol-eligible and completed the PHQ-9; 337 (31%) scored ≥ 10; and 302 (90%) were randomized (CC=150; UC=152). Their mean age was 64 (range: 35–87), 41% were female, 10% non-White, and mean HRS-D score was 16. Compared to non-depressed controls (N=151), depressed subject were younger (64 vs. 66 years), and reported lower mental health-related quality-of-life (HRQoL) (SF-36 MCS: 43.1 vs. 61.6), physical HRQoL (SF-36 PCS: 30.3 vs. 37.2), and cardiac functioning (Duke Activity Status Index (DASI): 7.4 vs. 13.2) (all $p<0.04$), but were similar on most other sociodemographic and clinical measures. Compared to UC at 8-months follow-up, CC patients reported significant improvements (all $p<0.01$) in mood (HRS-D: ES 0.36; 0.13–0.58), mental HRQoL (SF-36 MCS: 0.38; 0.15-0.60), physical HRQoL (SF-36 PCS: 0.30; 0.08-0.53), and cardiac functioning (DASI: 0.31; 0.09-0.54).

Conclusions: Telephone-delivered CC for depression improves 8-month post-CABG outcomes. Analyses are ongoing and we will present data on the impact of CC on cardiovascular morbidity and health services utilization at the conference.

CORRESPONDING AUTHOR: Bruce L. Rollman, MD, MPH, Medicine, University of Pittsburgh, Pittsburgh, PA, 15213; rollmanbl@upmc.edu

Symposium #25C 4029

BYPASSING THE BLUES: A TELEPHONE-BASED STEPPED COLLABORATIVE CARE TRIAL FOR TREATING POST-CABG DEPRESSION: INTERVENTION PROCESS MEASURES OF CARE

Bea Herbeck Belnap, Dr Biol Hum

Medicine, University of Pittsburgh, Pittsburgh, PA.

After randomization, a nurse care manager (CM) telephoned intervention patients to: review their psychiatric and medical history; provide education about depression, its impact on cardiac disease, and various self-management strategies; and assess treatment preferences. Using a shared decision-making approach, the CM offered several options: (1) a workbook to enhance self-care skills for depression ("The Depression Helpbook" by Katon et al); (2) antidepressant pharmacotherapy provided by the patient's PCP and monitored by the CM; (3) referral to a mental health specialist (MHS); or (4) watchful-waiting. Per the Chronic Care Model, the CM utilized an electronic registry to: track key process measures of care; provide timely follow-up; generate structured reporting forms for discussion at weekly case review sessions with the study investigators; and create letters to keep PCPs informed of their patients' progress.

The CM telephoned patients approximately every other week to review lesson plans, and to practice the skills imparted through workbook assignments. Depending upon the patient's motivation to complete these and whether he/she accepted antidepressant pharmacotherapy, this period of frequent contact typically continued for two to six months. The patient subsequently transitioned to the "continuation phase" of treatment during which the CM contacted him/her less frequently until the end of our 8-month intervention.

Of the 150 patients we randomized to collaborative care, 24% were using an antidepressant at baseline, 145 (97%) participated in at least one intervention CM call, and 82% had 3+ CM contacts at 3-month follow-up. At the 8-month conclusion of the intervention, patients had a mean of 10 CM telephone contacts (range: 0–28); 75% self-reported reading the depression workbook and 17% self-reported completed it; 43% were using an antidepressant; and we advised 20% to seek assistance from a community MHS. Analyses are ongoing, and we will present additional process measures of care data at the conference.

CORRESPONDING AUTHOR: Bruce L. Rollman, MD, MPH, Medicine, University of Pittsburgh, Pittsburgh, PA, 15213; rollmanbl@upmc.edu

Symposium #26 10:00 AM -11:30 AM 4030

THE FUTURE OF SPIRITUALITY AND HEALTH RESEARCH: PRESENTATIONS FROM THE 2008 SPIRITUALITY AND HEALTH SIG EARLY INVESTIGATOR AWARD FINALISTS

Kevin S. Masters, PhD

Psychology, Syracuse University, Syracuse, NY.

This symposium brings together the three young scholars who placed highest in the stiff competition for the Early Investigator Award for research on Spirituality and Health as bestowed by the SIG of the same name. Their research is cutting edge in the field and the presentations in this symposium will examine several important issues. Specifically, based on a nationally representative sample of Presbyterian church members, the first study examined mechanisms that may account for findings demonstrating that religious individuals are more likely to access preventive health services and engage in healthy practices. Interestingly, it appears that social elements of religiousness, rather than doctrinally sanctioned beliefs, were the important mechanisms. The second study likewise examines mechanisms in the religion-health connection but this presentation will discuss religion and health among African Americans in the context of health disparities. It has long been known that religion plays a vital role in the African American community, in fact much of the current research on religion and health can be traced to early work among this population, but we are only now beginning to understand how these effects are produced. The final presentation examines prayer, the most highly endorsed complementary and alternative medical intervention practiced in the US. Specifically it will address use of prayer among individuals with pain and will demonstrate an increase in use of prayer between 2002 and 2007 among these patients. This will be discussed in light of understanding by health care providers of the importance of spiritual practices for many patients.

CORRESPONDING AUTHOR: Kevin S. Masters, PhD, Psychology, Syracuse University, Syracuse, NY, 13244-2340; kemaster@syr.edu

Symposium #26A 4031

DEVELOPMENT AND TESTING THEORETICAL MODELS OF THE RELIGION-HEALTH CONNECTION

Cheryl L. Holt, PhD

Public and Community Health, University of Maryland, College Park, MD.

Though many studies have examined whether there exists a relationship between religious involvement and health behaviors and outcomes, the field appears to have shifted from asking whether a relationship exists to attempting to explain reasons for the relationship. Theoretical models focus on these mediating factors, or mechanisms, of the religion-health connection. Several potential mechanisms have been proposed, though evidence for these factors is just beginning to develop, and admittedly most studies are correlational in nature. Our contribution to the work of this area has been rooted in our qualitative research with the priority population, and focuses on the religion-health experience of African Americans, in the context of health disparities research. This presentation will discuss the qualitative foundations of our theoretical work in this area, and then move into several ongoing studies that are testing theoretical models of the religion-health connection, in different ways and subpopulations. Implications for theory in the scientific study of religion and health are discussed.

CORRESPONDING AUTHOR: Cheryl L. Holt, PhD, Public and Community Health, University of Maryland, College Park, MD, 20742; cholt@umd.edu

Symposium #26B 4032

PRAYER AS A COPING MECHANISM FOR HEALTH CONCERNS: CHANGES FROM 2002 TO 2007

Amy Wachholtz, PhD, MDiv and Usha Sambamoorthi, PhD

Dept of Psychiatry, UMass Medical School, Worcester, MA.

Background: Prayer is a common coping resource for individuals with chronic illness (McCaffrey, et al., 2004). As the prevalence of chronic illness has increased over time, one would anticipate an increase in the number of individuals who use prayer for their own health. However, little is known about how prayer use has changed in recent years. This study's purpose is to identify changes in the prevalence of prayer to cope with health issues from 2002 to 2007. **Method:** We analyzed alternative medicine supplement data from the National Health Interview Survey (NHIS) 2002 (N=30,080) and 2007 (N=22,306). Chi-square tests and multinomial logistic regressions were performed to analyze prayer use over time. All analyses adjusted for the complex sample design of the NHIS and were conducted in SAS-callable SUDAAN. **Results:** From 2002 to 2007 reported recent use of prayer (past 12 months) for health concerns significantly increased from 43% to 49%. After adjusting for demographic, SES, health status, and lifestyle behaviors, in 2007 individuals were more likely to use prayer, compared to 2002 (Adj OR=1.21[1.14,1.28]). Predictors of prayer use were consistent across both time periods. Compared to 2002 (49%), a greater percentage of those with dental pain in 2007 (55%) used prayer for coping with the pain. In 2002, people reporting chronic pain (OR=1.57[1.44,1.71]) and dental pain (OR= 1.20[1.09,1.33]) were more likely to also have prayed in the past 12 months. **Discussion:** The use of prayer for health concerns has increased over the past five years. The positive association between pain and use of prayer suggests that there may an increased use prayer as a coping mechanism. This study will be placed in the context of other spirituality and health research, highlighting the need for mental and physical health providers to understand the prevalence of spiritual coping resources and future directions for developing treatment approaches that encompass the bio-psycho-social-spiritual model of coping with chronic illness or disability.

CORRESPONDING AUTHOR: Amy Wachholtz, PhD, MDiv, Dept of Psychiatry, UMass Medical School, Worcester, MA, 01655; amy.wachholtz@umassmemorial.org

Symposium #26C 4033

RELIGION AND PREVENTIVE SERVICE USE: THE ROLE OF CONGREGATIONAL SUPPORT AND RELIGIOUS BELIEFS

Maureen R. Benjamins, PhD,[1] Christopher Ellison, PhD,[2] Neal Krause, PhD[3] and Jack Marcum, BA[4]

[1]Sinai Urban Health Institute, Chicago, IL; [2]Sociology, The University of Texas at Austin, Austin, TX; [3]School of Public Health, University of Michigan, Ann Arbor, MI and [4]Research Services, Presbyterian Church USA, Louisville, KY.

Previous studies have shown that religious individuals are more likely to engage in healthy practices, including the regular use of preventive services. However, the underlying pathways have not been adequately explored. To begin addressing this, the current study examines the association between religious attendance, congregational support, health-related religious beliefs, and the use of preventive services (cholesterol screening, flu shot, sigmoidoscopy, mammogram, Pap smear, and prostate exam) among a nationally representative sample of Presbyterian adults. The findings show that aspects of congregational support, such as discussing health-related issues with fellow church members, are significantly related to the use of two preventive services. In addition, knowing fellow church members who are health professionals is moderately associated with the use of regular prostate screenings. Religious beliefs related to health, such as the God Locus of Health Control scale and questions related to the sanctity of the human body, are unrelated to the utilization of preventive services in this sample. These findings provide some insight into the mechanisms through which religious involvement and beliefs may influence the use of preventive health services, as well as other health behaviors.

CORRESPONDING AUTHOR: Maureen R. Benjamins, PhD, Sinai Urban Health Institute, Chicago, IL, 60608; benmau@sinai.org

Symposium #27 10:00 AM -11:30 AM 4034

MECHANISMS OF SUPPORT IN THE DEVELOPMENT AND USE OF INTERNET INTERVENTIONS

Lee M. Ritterband, PhD,[1] David Mohr, PhD,[2] Deborah Tate, PhD[3] and Bess Marcus, PhD[4]

[1]Psychiatry and Neurobehavioral Sciences, University of Virginia, Charlottesville, VA; [2]Preventive Medicine, Northwestern University, Chicago, IL; [3]Health Behavior/Health Education and Nutrition, University of North Carolina, Chapel Hill, NC and [4]of Community Health and Department of Psychiatry and Human Behavior, Brown University, Providence, RI.

The use of the Internet to deliver behavioral interventions is expanding at a substantive rate. Researchers have begun to examine the use of various types of support as a method of improving adherence and outcome. Mechanisms of support include automated computer generated support and human support, which includes therapist/counselor or peer support delivered by email or telephone. Based on a model of Internet interventions, support is believed to directly impact the development of the website and program utilization. This symposium highlights the consideration and implementation of support for Internet interventions in three different researchers' trials. The first presenter will review a model of Internet interventions, illustrating how support may impact program usage and treatment outcome. An upcoming trial will also be described in which a stepped care arm is being used to test hypotheses related to support. The second presentation will provide an overview of a new Internet intervention to treat depression that includes both a patient and case-manager interface, highlighting the support components of the program and trial. The third presentation will focus on results from several recently completed Internet intervention trials for obesity in which various types of support (e.g., email, automated, peer) were provided. How support impacted program usage and treatment outcome will be highlighted. The discussant will offer a perspective on issues of support and their implementation in Internet interventions.

CORRESPONDING AUTHOR: Lee M. Ritterband, PhD, Psychiatry and Neurobehavioral Sciences, University of Virginia, Charlottesville, VA, 22903; leer@virginia.edu

Symposium #27A 4035

THE ROLE OF SUPPORT IN A MODEL FOR INTERNET INTERVENTIONS

Lee M. Ritterband, PhD, Frances P. Thorndike, PhD, Daniel J. Cox, PhD and Linda Gonder-Frederick, PhD

Psychiatry and Neurobehavioral Sciences, University of Virginia, Charlottesville, VA.

Our group has developed a model for Internet interventions that can be used as both a guide for program development and as a tool to evaluate treatment outcome. One primary element of this model focuses on the integration of support, including email, phone, and face-to-face support. This presentation will provide an overview of this Internet intervention model, emphasizing the relationship of support with other model components. We will also illustrate how this model was used to develop an Internet intervention for children with encopresis, and show how a new trial using an optimized version of this program will include a stepped care component. In a previous trial using an earlier version of the Internet program, 25% of participants were lost from pre-intervention to the 4 week post-assessment period. Although this drop out rate is fairly typical of Internet intervention studies, it was higher than our previous Internet intervention trials. In part to reduce dropout, in a new trial of the Internet intervention for encopresis, a stepped care arm has been added. We hypothesize that progressively offering support to users who fail to use the system as directed will improve adherence. Although some Internet intervention researchers have found that adding human support can appreciably reduce attrition, the addition of human support can considerably reduce the ability to disseminate Internet-based treatments, which is one of the primary appeals of Internet-based treatment. We argue that additional support should only be included within a stepped care model, providing increased support when it is warranted by poor adherence to the system or poor outcome.

CORRESPONDING AUTHOR: Lee M. Ritterband, PhD, Psychiatry and Neurobehavioral Sciences, University of Virginia, Charlottesville, VA, 22903; leer@virginia.edu

Symposium #27B 4036

E-HEALTH INTERVENTION WITH CASE MANAGEMENT SUPPORT FOR DEPRESSION

David C. Mohr, PhD, Jenna Duffecy, PhD and Martin McCarthy, PhD

Northwestern Universtity, Chicago, IL.

A recent meta-analysis revealed that the mean effect size for internet-based treatments for depression ranges from d=.22 to .32 (Spek, 2007). Two of the studies, which provided internet treatment only, had effect sizes of d=0. This appeared to be primarily because more than 1/3rd of patients dropped out, and among those that "completed," the median number of logins was 2, with approximately 9 minutes per session. Simple outreach using postcards or phone calls from research assistants did not reduce attrition, but did increase utilization to between 5 and 15 logins. But effect sizes only increased modestly to d=.20-.45, substantially below the d=.82–1.14 seen in meta-analyses of psychotherapy RCTs for depression.

Our group has developed a web-based cognitive behavioral intervention program to treat depression called "moodManager". This program includes 5 learning modules and corresponding interactive tools that facilitate implementation of behavioral activation and cognitive restructuring skills. In addition to the patient interface, moodManager includes a case-manager (CM) interface designed to allow treatment adherence monitoring. To enhance adherence, we are developing a CM model based upon motivational interviewing, which will include telephone and e-mail communication. The first patient-CM contact will be a 30-min phone call aimed at securing the engagement of the patient. After that, 5–10 minute weekly phone calls will be scheduled to enhance motivation and resolve problems using moodManager. E-mail will be used to reward adherence, outreach for non-adherence, and advice using the tools.

Twenty depressed patients will be enrolled in an 8-week single-arm trial beginning in October. Outcomes include depression, usability, and satisfaction. This presentation will describe the treatment model, present the results from the preliminary trial, and discuss these results in light of existing trial data.

CORRESPONDING AUTHOR: David C. Mohr, PhD, Northwestern Universtity, Chicago, IL, 60611; d-mohr@northwestern.edu

Symposium #27C 4037

EXAMINING DIFFERENT METHODS FOR DELIVERY OF SUPPORT IN INTERNET INTERVENTIONS FOR OBESITY

Deborah F. Tate, MS, PhD

Schools of Public Health and Medicine, University of North Carolina, Chapel Hill, NC.

Several studies have shown that Internet intervention outcomes can be significantly improved with the addition of ongoing feedback and support during the behavior change process. This presentation focuses on several different ways in which feedback and support from a professional can be delivered in e-health interventions for obesity including via e-mail, automated tailored messages, and group chat rooms. In one study, healthy overweight adults (n=92) were randomized to receive a comprehensive Internet CBT program either with or without weekly e-mail counseling from a trained interventionist. The ongoing e-mail counseling doubled the weight losses at the end of 1 year with an effect size for the comparison of the group with and without an e-counselor of d=.40. Though this effect has been replicated several times, e-mail feedback from a human therapist significantly limits dissemination potential and adds significantly to the costs of Internet programs. In another study (n=192), overweight and obese adults were randomized to one of 3 Internet programs -no e-counseling, preprogrammed tailored e-counseling, or human e-mail counseling. Weight losses after 3 months for participants using the tailored feedback program were significantly greater compared with no-counseling (d=.62). By 6 months, weight losses did not differ significantly from no-counseling, primarily due to lower utilization of the automated system during months 3–6. A third study (n=158) explored delivering behavior change counseling in group format using Internet chat rooms compared with the individual e-mail counseling model. Both methods of support produced significant weight losses at 3, 6 and 12 months (ps<.05). Improved adherence is one hypothesized mechanism for the link between support and outcomes. Participant adherence and satisfaction with different types of support will be presented in each of these trials. Utilization of peer support mechanisms and their association with improved outcomes will also be discussed.

CORRESPONDING AUTHOR: Deborah F. Tate, MS, PhD, Schools of Public Health and Medicine, University of North Carolina, Chapel Hill, NC, 27599-7440; dtate@unc.edu

Symposium #28 10:00 AM -11:30 AM 4038

ADDRESSING CHILDHOOD OBESITY VIA POLICY INTERVENTIONS: ARKANSAS SCHOOLS, PARENTS & ADOLESCENTS RESPOND

James Raczynski, PhD,[1] Laura Leviton, PhD,[2] Martha Phillips, PhD[1] and Jada Walker, MEd[1]

[1]COPH, UAMS, Little Rock, AR and [2]Robert Wood Johnson Foundation, Princeton, NJ.

Obesity prevalence has increased dramatically among adults and children over the past two decades in the U.S. Research supports the prevention of obesity by pursuit of policy-level interventions. Arkansas has led the nation in implementation of state-wide legislation with a focus on curtailing child and adolescent obesity. In 2003, the Arkansas legislature passed Act 1220, designed to implement both immediate (annual BMI assessment for all public school children; reporting of BMI to parents; removal of vending machines in elementary schools) and additional policy-based changes in future years. This symposium will provide a brief overview of Act 1220 and describe the effects of this legislation over the past four years. It will review three sets of data, comparing 2004 to 2007 results, to determine: the extent of school environment changes related to nutrition and physical activity; parental responses to the implementation of these school policy changes; and the experiences of public school students. The implications of the Arkansas experience for other states will be discussed.

CORRESPONDING AUTHOR: Jada Walker, MEd, COPH, UAMS, Little Rock, AR, 72211; jfwalker@uams.edu

Symposium #28A 4039

PUBLIC SCHOOL RESPONSE TO ARKANSAS CHILDHOOD OBESITY

Jada Walker, MEd, Martha M. Phillips, PhD, Zoran Bursac, PhD, C. Heath Gauss, MS, Amanda G. Philyaw Perez, MPH, Rebekah Craig, BS and James M. Raczynski, PhD

COPH, UAMS, Little Rock, AR.

To gauge public school nutrition and physical activity policy changes related to legislative Act 1220 (2003), 245 superintendents and 1050 principals were surveyed annually in 2004–2007 (all response rates over of 70%). In 2007, there was an increase in district policies prohibiting the sale of “junk foods” in schools, particularly in vending machines (p<.0001;18% in 2004, 61% in 2007). Similarly, policies increased concerning a la carte lines (p<.01), parties (p<.0001), after-school programs (p<.01), school stores (p<.0001), and concession stands (p<.05). Schools also reported significantly reduced available “junk foods” of different types (all p<.01). Schools with vending machines have significantly restricted student access times/locations since 2004 (p<.0001). Policies prohibiting/discouraging use of food as a reward in classrooms increased markedly (p<.0001; 12%, 2004, 76% in 2007). 32% of principals had some difficulty with BMI measurements of all students, although there were no statistically significant changes in reported BMI problems. District policies prohibiting the use of physical activity as punishment for students increased (p<.01; 24% in 2004, 39% in 2007). Policies in elementary schools requiring newly hired physical education teachers to be certified increased (p<.001; 69% in 2004, 86% in 2007). Arkansas school districts are increasing efforts to inform families about physical education and physical activity programs (p<.001; 51% in 2004, 73% in 2007). More superintendents are working to engage parents and students in district-level programs (p<.001; 13% in 2004, 28% in 2007). These changes collectively suggest that Arkansas public schools have made significant policy changes to reduce childhood obesity over four years during which Act 1220 has been implemented.

CORRESPONDING AUTHOR: Jada Walker, MEd, COPH, UAMS, Little Rock, AR, 72211; jfwalker@uams.edu

Symposium #28B 4040

ARKANSAS PARENTAL RESPONSE TO CHILDHOOD OBESITY

James M. Raczynski, PhD, Martha M. Phillips, PhD, Zoran Bursac, PhD, C. Heath Gauss, MS, Jada Walker, MEd and LeaVonne Pulley, PhD

COPH, UAMS, Little Rock, AR.

To gauge responses to nutrition and physical activity policy changes, telephone interviews were conducted with families whose children attended Arkansas public schools at the time of the interviews. A total of 484 schools were selected, using a multi-stage, stratified random selection procedure. A random sample of households with a listed number was contacted. In 2007, 2,202 parents were interviewed and 1,551 in 2004. Parental knowledge and attitudes about student BMI have remained stable (2004–07). Parents are aware of BMI measurements, express minimal concern about confidentiality and are comfortable with receiving a BMI report. Parents were more likely to mention asthma (p<.01; 7% in 2004, 12% in 2007) and diabetes (p<.0001; 66% in 2004, 81% in 2007) as health problems for overweight children. More parents said that overweight children are more likely to become overweight adults (p<.01; 93% in 2004, 98% in 2007). More parents signed children up for sports or exercise classes (p<.01; 42% in 2004, 48% in 2007) and reported no increase in inappropriate child dieting. For the first time in the 4 years of evaluation, changes in diet and nutrition were reported, with increases in: limiting eating chips, soda or sweets (p<.01; 76% in 2004, 83% in 2007); and limiting soft drinks for children aged 13 and under (p<.001; 44% in 2004, 57% in 2007). Each year, about 2/3 of parents have indicated that they were trying to make their family’s diet healthier. More parents are limiting screen time to give their kids more time for physical activity (p<.01; 33% in 2004, 40% in 2007). These findings suggest that parents remain generally comfortable with aspects of Act 1220, including BMI measurement and reporting, are becoming more aware of health consequences of childhood obesity, and are beginning to make small changes in nutrition and limiting screen time to reduce childhood obesity.

CORRESPONDING AUTHOR: Jada Walker, MEd, COPH, UAMS, Little Rock, AR, 72211; jfwalker@uams.edu

Symposium #28C 4041

ARKANSAS ADOLESCENTS RESPONSE TO CHILDHOOD OBESITY

Martha M. Phillips, PhD, James M. Raczynski, PhD, LeaVonne Pulley, PhD, Zoran Bursac, PhD, C. Heath Gauss, MS and Jada Walker, MEd
COPH, UAMS, Little Rock, AR.

To gauge response to school nutrition and physical activity policy changes, telephone interviews were conducted with families with children in Arkansas public schools. A total of 484 schools were selected, using a multi-stage, stratified random selection procedure. A random sample of households with a listed number was contacted. In 2007, 347 adolescents (age 14–18) were interviewed and compared with 202 interviews in 2004. Student reports of dieting behaviors, weight-related teasing and embarrassment have remained stable over the four years. However, students reported increasing numbers of those who got some physical activity (p<.05; 59% in 2004, 72% in 2007). Students reported reductions in access to food vending (p<.0001; 64% in 2004, 31% in 2007) and beverage vending (p<.001; 97% in 2004, 74% in 2007) at school. Student daily P.E. dropped (p<.0001; 71% in 2004, 41% in 2007), while students who had no P.E. rose (p<.0001; 3% in 2004, 46% in 2007). Leisure time physical activity did not change over the four years. YRBS data showed a similar pattern in Arkansas and the nation. The proportion of overweight (OW) adolescents not making any purchases from school machines increased (p<.05; 14% in 2004, 46% in 2007) but remained constant across all four years for non-overweight (N-OW) children. OW students expressed more concern about their weight than the N-OW (p<.01; 80% for OW, 60% for N-OW). More OW students reported trying to change to a healthier diet (p<.01; 80% OW, 60% N-OW), starting a specific weight loss diet and increasing their level of exercise in the past six months (p<.01; 87% OW, 66% N-OW). Similar to parents, adolescents show no significant increases over four years in potentially negative consequences of legislative mandates but report changes in vending purchase and general nutritional patterns that may reduce obesity.

CORRESPONDING AUTHOR: Jada Walker, MEd, COPH, UAMS, Little Rock, AR, 72211; jfwalker@uams.edu

Symposium #29 10:00 AM -11:30 AM 4042

MULTILEVEL INTERVENTION STRATEGIES TO IMPROVE THE CANCER SCREENING PROCESS: CONCEPTS, DESIGNS AND MEASURES

Jane Zapka, ScD,[3] Anhang Price Rebecca, MS,[1] David Murray, PhD,[2] Electra Paskett, PhD,[2] Erica Breslau, PhD[1] and Stephen Taplin, MD, MPH[1]

[1]Division of Cancer Control and Population Sciences, Behavioral Research Program, National Cancer Institute, Bethesda, MD; [2]College of Public Health, Ohio State University, Columbus, OH and [3]Department of Biostatistics, Bioinformatics and Epidemiology, Medical University of South Carolina, Charleston, SC.

There are increasing calls for multilevel interventions to improve cancer screening rates. Reviews of screening interventions report that most interventions target patient- and provider-level barriers to screening; few intervene at the level of the organization or health system, and fewer still address more than one level. We conceptualize multilevel intervention strategies as those that address the individuals whose behavior is intended to be changed and also the context in which those individuals live and make health care decisions. We will consider contextual factors in health care settings that may immediately affect the screening and/or follow-up behavior of individual patients: the individual provider, the group or team introducing or coordinating the test (provider team), the practice site, the health care organization or system (e.g. - Federally Qualified Health Center, Managed Care Organization), and the larger health care environment (e.g. - public policy regarding covered benefits). We will explore the measurement of relevant constructs at each level, and study designs for evaluating the efficacy of interventions that address multiple levels. One such design is the group randomized trial, which considers multilevel interventions as a whole by exposing an intervention arm to several or all components of the multilevel intervention, and contrasting it with a control group receiving fewer or no components. Other options include factorial designs that randomize at each intervention level, allowing for evaluation of intervention components at each target level. Finally, we will discuss the challenges to operational definition and valid/reliable measurement, mediating and moderating measures, and statistical analysis. We will do a 15 minute overview, one hour on measurement and design and allow 15 minutes for discussion.

CORRESPONDING AUTHOR: Jane Zapka, ScD, College of Nursing, Medical University of South Carolina, Charleston, SC, 29425; zapka@musc.edu