Wednesday March 26, 2008

Seminar #1 12:00 PM–2:45 PM 1001

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

Richard P. Moser, PhD, Lila Finney Rutten, PhD, MPH, Amy L. Yaroch, PhD, Erik Augustson, PhD, MPH and Helen Sullivan, PhD, MPH

National Cancer Institute, Bethesda, MD.

Numerous federal and state health survey databases are publicly available that are currently underutilized by research scientists, such as the National Health Interview Survey (NHIS), the Health Information National Trends Survey (HINTS), the California Health Interview Survey (CHIS), the Behavioral Risk Factor Surveillance System (BRFSS), and other 'limited use' databases such as the Surveillance Epidemiology and End Results (SEER). 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 can be used 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 analyses 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, and demonstrate the types of analyses that can be completed. For example, most of the surveys use a complex-sampling design to collect the data that results in clustering (correlational dependence) between respondents residing in similar geographic areas. This dependence requires the use of specialized software (e.g., SUDAAN; certain SAS procedures) to obtain accurate variance estimates for inferential statistical testing. In addition, relevant NIH funding mechanisms and the process for obtaining potential funding will be described and discussed.

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Seminar #2 12:00 PM–2:45 PM 1002

APPLYING BEHAVIORAL MEDICINE IN CLINICAL SETTINGS

Suzanne C. Lechner, PhD,[1] Donna Evon, PhD[2] and Deidre B. Pereira, PhD[3]

[1]Departments of Psychiatry and Psychology, University of Miami, Miami, FL; [2]Division of Gastroenterology & Hepatology, University of North Carolina Chapel Hill, Chapel Hill, NC and [3]Department of Clinical and Health Psychology, University of Florida, Gainesville, FL.

The goal of this seminar is to provide specific guidance for clinicians wishing to implement Behavioral Medicine programs within clinical settings. Dr. Donna Evon will present programs in transplant and Hepatitis C, Dr. Deidre Pereira will cover programs in Women's Health and HIV, and Dr. Suzanne Lechner will provide information regarding psycho-oncology programs. All three presenters will address the following topics as they relate to work in these subspecialties:

Brief overview of disease to provide context for recommendations in assessment, treatment and program development; Finding the right behavioral medicine assessment tools, including clinical interview, self-report measures and clinician ratings; Treatment planning and factors to take into account when planning treatment; Conducting the first session and explaining behavioral medicine to patients; Promoting good health behaviors and behavior change interventions; Dealing with co-morbid psychiatric conditions; Medical socialization; Building your referral network; Getting clinical supervision; Behavioral medicine program development issues; Interacting with an interdisciplinary team; Navigating politics and turfwars; and Finding opportunities (or creating them yourself).

The seminar will include a variety of formats including brief lectures with powerpoint, panel discussion, self-study exercises conducted during the seminar, and breakout small groups.

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Seminar #3 12:00 PM–2:45 PM 1003

BEHAVIORAL SLEEP MEDICINE: BECOME A SPECIALIST IN ANh EMERGING BEHAVIORAL MEDICINE PRACTICE AREA

Daniel J. Taylor, PhD, ABSM,[1] Wilfred Pigeon, PhD[2] and Michael Perlis, PhD[2]

[1]Psychology, University of North Texas, Denton, TX and [2]Psychiatry, University of Rochester Medical Center, Rochester, NY.

Behavioral "Sleep" Medicine (BSM) is an emerging Behavioral Medicine practice area, which is open to a variety of specialists (e.g., M.D.s, Ph.D.s, and Masters level practitioners), with treatments that have tremendous amounts of empirical support. There are over 1000 sleep disorders centers accredited by the American Academy of Sleep Medicine, but less than 100 certified BSM specialists. This is a critical short-fall and presents an excellent opportunity for people in the field of behavioral medicine to expand their practices using many skills they already are expert in and learning new skills that they can be assured have sound empirical support.

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Seminar #4 12:00 PM–2:45 PM 1004

NIH PEER REVIEW: CONTINUITY AND CHANGE

Michael Micklin, PhD, Lee Mann, PhD, Cheryl Kitt, PhD and Mary Ann Guadagno, PhD

Center for Scientific Review, National Institutes of Health, Bethesda, MD.

Peer review of research grant applications continues to be a fundamental component of the NIH extramural research program. While the principal objectives and core values of NIH peer review have not changed, the process and mechanisms through which it is accomplished are now undergoing experimentation and evaluation and some significant changes are anticipated. This seminar, presented by staff from the Center for Scientific Review, will provide an overview of continuities and changes in the NIH peer review process.

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Seminar #5 12:00 PM–2:45 PM 1005

STRATEGIES FOR BAYESIAN MODELING AND SENSITIVITY ANALYSIS FOR MISSING DATA AND CAUSAL INFERENCE IN BEHAVIORAL INTERVENTION TRIALS

Joseph Hogan, ScD

Biostatistics, Brown University, Providence, RI.

Analysis of data from behavioral intervention trials is frequently complicated by missing data and lack of adherence with assigned intervention. Many analytic methods rely on assumptions that cannot be verified from observed data. For example, the missing at random (MAR) assumption is typically invoked to handle incomplete data and dropout, and assumptions like 'no unmeasured confounding' or 'ignorable treatment assignment' are used to justify causal inference methods (e.g. propensity score adjustment) in the presence of noncompliance. Assumptions like MAR and ignorability constrain the distribution of missing responses. Observed data cannot be used to test their validity, motivating the need for systematic and transparent approaches that can be used to assess sensitivity of inferences to departures from the assumptions, or to incorporate external prior information about the distribution of missing responses. We use three worked examples to illustrate a systematic Bayesian approach. In the first example, we illustrate how to set up and calibrate a sensitivity analysis to assess the effect of nonrandom missingness on treatment effect estimates. The second example illustrates the use of informative prior information about missing responses, elicited from experts and converted into a prior distribution. In the third example, we illustrate the use of principal stratification and associated sensitivity analysis for estimating the causal effect of adherence with an intervention in a trial where nonadherence is prevalent. A brief review of Bayesian inference will be given; both content and examples will emphasize concepts over technical implementation. Computing code in the WinBUGS software package will be made available. Seminar participants should be familiar with use and interpretation of linear and logistic regression models.

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Seminar #6 3:15 PM–6:00 PM 1006

UNDERSTANDING WHY AND WHEN INTERVENTION STRATEGIES WORK: HOW MEDIATION AND MODERATION ANALYSES CAN LINK PSYCHOSOCIAL MODELS AND BEHAVIORAL INTERVENTIONS

Sarah Kobrin, PhD, MPH,[1] Alex Rothman, PhD[2] and Leona Aiken, PhD[3]

[1]Behavioral Research Program, National Cancer Institute, Bethesda, MD; [2]Psychology, U of Minnesota, Minneapolis, MN and [3]Psychology, Arizona St, Tempe, AZ.

Intervention research aimed at modifying health behavior can go beyond assessing behavioral outcomes to helping explain how interventions work. The design and implementation of effective behavioral interventions rests on a clear understanding of the processes that regulate behavior (mediators) and the conditions under which these processes operate (moderators). In this seminar, we will explore how careful attention to both mediators and moderators can enhance how theoretical principles inform practice and how findings from practice inform theory. We will discuss roles mediators and moderators play in theories of health behavior and, in particular, how they can work together to specify when processes that guide behavior will differ across context and populations. We will also illustrate the steps involved in implementing a program of research that can provide insights into the processes that underlie the impact of our interventions, with a particular emphasis on recent advances in mediational analysis. These advances include tests of moderated mediation, through which we can specify contextual and/or individual level factors that modify mediational linkages between psychosocial constructs and behavior. Finally, consideration will be given to how investigators can not only plan and implement new research programs designed to capitalize on mediation and moderation, but also use already available data. Participants are invited to come prepared to discuss particular examples from their own work. The seminar will include group discussions. Drs. Aiken and Rothman have extensive experience designing and evaluating theory-based behavioral interventions in content areas including cancer screening and maintenance of dietary change and smoking cessation; examples will be provided from these and other health behaviors. They have particular expertise in delineating the processes that underlie intervention effectiveness.

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Seminar #7 3:15 PM–6:00 PM 1007

ENHANCING CORE COMPETENCIES FOR SUPPORTING SELF MANAGEMENT AND PROMOTING HEALTH RISK BEHAVIOR CHANGE

Glen D. Morgan, PhD,[1] Susan J. Bartlett, PhD[2] and Michael G. Goldstein, MD[3]

[1]Division of Cancer Control & Population Sciences, National Cancer Institute, Bethesda, MD; [2]Johns Hopkins School of Medicine, Baltimore, MD and [3]Institute for Healthcare Communication, New Haven, CT.

The leading causes of death in the U.S. are related to lifestyle behaviors (i.e., smoking, obesity, sedentary behavior & alcohol abuse). Behavioral counseling interventions providing tailored messages in routine care visits have been shown to significantly influence patient behavior. Helping patients learn and apply self management skills is an essential component in enhancing outcomes in chronic illness care. Often, however, health care providers feel inadequately equipped to offer behavioral interventions and fail to address lifestyle factors and self-management with their patients. Barriers include lack of skill in discussing behavioral issues, discomfort in talking with patients about lifestyle, perceived ineffectiveness of counseling, and perceived disinterest of patients. The current challenge for behavioral medicine specialists is to help other health care providers effectively address multiple health behaviors associated with lifestyle-related illnesses as well as management of chronic conditions. Interventions must be streamlined so they are brief yet effective, easily integrated into routine care, linked to system redesign, comfortable to clinicians, and appealing to patients. The goal of this seminar is to teach participants how to integrate brief counseling strategies and self-management support into routine medical care visits. A secondary goal is to provide teaching skills that will allow participants to train other health care providers. Empirically proven brief interventions (i.e., 1–5 minutes) to promote smoking cessation, medication use, self-management and weight management will be presented. This seminar will be interactive and will provide opportunities for participants to assess and practice their own behavioral counseling and teaching skills.

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Seminar #8 3:15 PM–6:00 PM 1008

THE THREE WAVES OF BEHAVIOR THERAPY IN BEHAVIORAL MEDICINE

William H. O'Brien, PhD, Kathleen M. Young, MA, Michelle A. LeRoy, BA, Carmen K. Oemig, BA, Jebediah J. Northern, MA and Paul W. Goetz, MS

Psychology, Bowling Green State University, Bowling Green, OH.

It is currently a very exciting time in the evolution of behavior therapy and its applications in behavioral medicine contexts. As the field has expanded and embraced new models of understanding and associated intervention techniques, there has been a growing debate about the nature of change and mechanisms underlying change in some of the oldest and most well-established interventions. In order to characterize these changes, the field of behavior therapy has been roughly organized into three "waves" of evolution. The first wave is represented by development and application of interventions that were based on classical conditioning and operant conditioning principles. This wave also corresponds to the beginning years of behavior therapy. The second wave can be thought of as a phase where cognitive variables and interventions targeting cognitive variables were incorporated into behavior therapy. The third wave of behavior therapy can be thought of as a combination of: (a) the recent expansion of interventions into areas of human experience that have not been traditionally associated with behavior therapy (e.g., conceptualization of self, life meaning and purpose, spirituality); (b) the use of interventions that take a significantly different, albeit empirically-based, approach to behavior change (e.g., Acceptance and Commitment Therapy, mindfulness interventions, functional analytic psychotherapy), and (c) a recommitment to theoretical and philosophical positions closely associated with radical behaviorism.

In this seminar, we present the theoretical and epistemological principles contained in each wave of behavior therapy. Following this, we describe how these principles can be used to account for the development and maintenance of problematic health behaviors and outcomes. Finally, we will review the effectiveness of behavioral medicine interventions that have been developed during each wave of behavior therapy

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Seminar #9 3:15 PM–6:00 PM 1009

OVERCOMING THE 17-YEAR LAG FROM SCIENCE TO PRACTICE: WORKING WITH MENTAL HEALTH LEADERS TO BRING SMOKING CESSATION TREATMENT TO MENTAL HEALTH CONSUMERS AND PROVIDERS

Connie Revell, MA[1] and Gail Hutchings, MPA[2]

[1]Medicine, University of California San Francisco, San Francisco, CA and [2]Behavioral Health Policy Collaborative, Alexandria, VA.

Plenty of evidence supports effective tobacco interventions. And, we have seen the positive results of these interventions in the years-long decline in smoking rates among Americans (now at 21%). We know that clinician advice to quit, social support, medications, counseling and referral to quitlines have all helped smokers quit, and that most smokers want to quit, including those suffering from mental illness. However, when it comes to people with mental illnesses, alarming numbers of them smoke (up to 80% for people diagnosed with schizophrenia) , and behavioral health providers smoke at significantly higher rates than do any other segment of the healthcare workforce. Yet too few clinicians of all kinds—and even fewer within behavioral medicine—take action to help free smokers, including those with mental illnesses, from this most deadly of addictions, one that contributes to a 25-year gap in life expectancy for persons with serious mental illness. We know there is typically a 17-year lag between research and practice, and in 17 years nearly 7.5 million Americans die from tobacco-related causes, nearly half of them people with serious mental illness.

In order to speed the implementation of best practices on tobacco cessation for clinicians in both mental health and other clinical settings, the Smoking Cessation Leadership Center has forged a variety of partnerships with national clinician associations. The most recent of these, the National Mental Health Partnership for Wellness and Smoking Cessation, encompasses 26 national mental health policy, advocacy, and provider organizations and aims to bring access to tobacco dependence treatment to this underserved population. How the partnership was formed, who belongs, what the goals and action plans are will all be covered in this session.

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Seminar #10 3:15 PM–6:00 PM 1010

EXTENSIONS OF THE LINEAR MODEL

Walter T. Ambrosius, PhD

Biostatistical Sciences, Wake Forest University, Winston-Salem, NC.

This workshop will provide an overview of several extensions to the simple linear regression model. These will include mixed models, generalized linear models (GLM), and generalized estimating equations (GEE). Mixed models contain both fixed and random effects and can be used to account for correlated (longitudinal and/or clustered) outcomes. Models containing both fixed and random effects are referred to by several different names such as hierarchical linear models, random coefficient regression models, growth curve models, and mixed effects models. To obtain inference from linear regression and mixed models one typically relies on normality assumptions for the residual variance. Generalized linear models relax the normality assumption on the residual variance to allow other (non-Gaussian) residual error structures. Examples of generalized linear models include logistic regression, ordinal logistic regression, Poisson regression, and Cox proportional hazards (survival) regression. Generalized estimating equations extend generalized linear models to handle longitudinal and clustered data. We will discuss the differences between subject-specific and population-averaged effects. Emphasis will be placed on the use of these techniques in randomized clinical trials; however, they are also appropriate for use in observational studies. The presentation and handouts will include many examples, including the use of SAS code for demonstration of the methods. The primary focus will be on understanding how these models differ and on when they are appropriate to use. Prerequisites include a basic understanding of statistics including topics such as hypothesis tests, simple linear regression, correlation, and covariance matrices. Familiarity with some extensions of the linear model, such as repeated measures and logistic regression, and maximum likelihood estimation are beneficial but not assumed.

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Thursday March 27, 2008

Symposium #1 9:00 AM–10:30 AM 2001

BEHAVIORAL CONSEQUENCES OF CANCER AND ITS TREATMENT: MECHANISMS OF THE SIXTH VITAL SIGN

Paige McDonald, PhD, MPH,[1] Michael Irwin, MD,[2] Sonia Ancoli-Israel, PhD,[3] Julienne Bower, PhD,[2] Tim Ahles, PhD[4] and Gregory Miller, PhD[5]

[1]National Cancer Institute, Bethesda, MD; [2]University of California, Los Angeles, Los Angeles, CA; [3]University of California, San Diego, San Diego, CA; [4]Memorial Sloan Kettering Cancer Center, New York, NY and [5]University of British Columbia, Vancouver, BC, Canada.

Summary: Depression, fatigue, sleep impairment, and cognitive dysfunction are often associated with cancer and its active treatment, and these symptoms may persist for months or years in some patients. Accumulating evidence suggests that such cancer related co-morbidities might share neuroendocrine-immune mechanisms. We consider the antecedents of tumor burden, treatment effects, and the physiological interpretation of perceived stress as primers for the activation of innate inflammation and the bidirectional disruption of sleep wake cycles, circadian rhythms, and the hypothalamic-pituitary-adrenal axis. This conceptual model integrates the spectrum of behavioral alterations in a cancer context and provides a translational framework for determining susceptibility, relevant biomarkers, and treatment options. It is through this lens that we consider behavior the "sixth vital sign" and advocate for standardized behavioral assessments along the cancer continuum. Dr. Irwin will present an overview of cytokine mechanisms in behavioral processes. Dr. Ancoli-Israel will present data on the relationships between sleep, circadian rhythms, and inflammation. Dr. Bower will present research linking inflammatory processes and fatigue in breast cancer survivors and findings on changes in immune cell subsets and neuroendocrine function as well as genetic factors that may underlie chronic inflammation. Dr. Ahles will discuss increasing evidence of an association between chemotherapy and cognitive changes and review candidate mechanisms (DNA repair mechanisms/DNA damage, immune dysregulation) and potential genetic factors that increase vulnerability to such changes. Dr. Miller will serve as the discussant and critically evaluate inflammation as the key component in the etiology of cancer related co-morbidities and the consideration of such symptom clusters as the "sixth vital sign".

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Symposium #1A 2002

CANCER-RELATED FATIGUE

Julienne E. Bower, PhD

University of California Los Angeles, Los Angeles, CA.

Fatigue is one of the most common and distressing side effects of cancer diagnosis and treatment and may persist for months or years after treatment completion. The mechanisms for cancer-related fatigue have not yet been determined, but there is growing evidence that inflammation may play a key role. This presentation will provide an overview of research on inflammation and cancer-related fatigue, focusing on research conducted among fatigued breast cancer survivors. Molecular and cellular mechanisms for persistent inflammation and fatigue will be considered, including alterations in the cellular immune system and in neuroendocrine function. Recent findings linking cytokine gene polymorphisms to fatigue in breast cancer survivors will also be discussed.

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Symposium #1B 2003

CANDIDATE MECHANISMS FOR COGNITIVE CHANGES ASSOCIATED WITH BREAST CANCER AND BREAST CANCER TREATMENTS

Tim A. Ahles, PhD

Memorial Sloan Kettering Cancer Center, New York, NY.

Cognitive changes associated with cancer and cancer treatments have become an increasing concern for cancer survivors; however, little is known about the mechanisms causing these cognitive changes. Although most of the research has focused on post-treatment cognitive changes associated with chemotherapy, recent studies have suggested that other components of adjuvant treatment (e.g., endocrine treatments) may contribute to cognitive changes. Additionally, studies have demonstrated that a higher percentage of patients with invasive (Stage I–III) breast cancer demonstrate lower than expected cognitive performance on neuropsychological testing (based on age and education) prior to initiating adjuvant treatment as compared to patients with ductal carcinoma in situ (DCIS) and healthy controls. Further, research has suggested that pretreatment cognitive performance is predictive of post-treatment cognitive functioning. Therefore, proposed mechanisms for cognitive changes must account for this pattern of pre- and post-treatment cognitive performance. One explanatory model hypothesizes that there are common risk factors for the development of cancer and mild cognitive changes and that these same factors are affected by cancer treatments. Two candidate mechanisms that fit this model are DNA damage/oxidative stress and immune dysregulation. Both have been associated with increased risk for the development of cancer and neurocognitive disorders and adjuvant treatments (e.g., chemotherapy and endocrine therapy) can cause DNA damage and immune dysregulation. These mechanisms are not mutually exclusive and may well be synergistic, e.g., neurotoxic cytokines may be triggered in response to DNA damage, which could set up a cycle of increasing DNA damage and cytokine activity. Genes that regulate DNA repair mechanisms and immune function will also be discussed in relation to the cognitive functioning of breast cancer patients.

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Symposium #1C 2004

THE RELATIONSHIPS BETWEEN SLEEP, CIRCADIAN RHYTHMS, AND INFLAMMATION

Sonia Ancoli-Israel, PhD

University of California San Diego, La Jolla, CA.

Over 50% of cancer patients report sleep problems. Sleep disturbances are related to changes in circadian rhythms and disrupted circadian rhythms have been found to predict increases in mortality in patients with metastatic disease. Despite data indicating a relationship between innate immune cytokines and sleep, this relationship has not been examined in cancer patients. Given the strong relationship between fatigue and inflammatory markers, it is likely that a similar relationship exists with sleep. An important potential mechanism whereby sleep disturbances may contribute to increased inflammation is through desynchronization of circadian rhythms, including the release of cortisol. Twenty-four hour circadian cortisol secretion is regulated in the hypothalamus in conjunction with the circadian pacemaker located within the suprachiasmatic nucleus. Forced changes in circadian sleep-wake patterns as well as the induction of sleep debt have been associated with flattening of cortisol rhythms. Disruption of circadian rhythm may be initiated during cancer treatment, although it remains to determined whether changes in rest/activity cycles in cancer survivors are a result of a vicious cycle of fatigue and daytime inactivity with resultant decreases in night-time sleep quality, or whether immune activation and proinflammatory cytokines secondary to tissue damage and destruction contribute to disturbances in sleep-wake cycles, or both.

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Symposium #1D 2005

CYTOKINE MECHANISMS AND BEHAVIORAL PROCESSES IN CANCER SURVIVORS: AN OVERVIEW

Michael Irwin, MD

UCLA, Los Angeles, CA.

Patients with cancer experience a host of behavioral alterations that include depression, fatigue, sleep disturbances and cognitive dysfunction. These behavioral co-morbidities are apparent throughout the process of being diagnosed and treated for cancer and can persist well into the survivorship period. There is a rich literature describing potential consequences of behavioral co-morbidities in patients with cancer including impaired quality of life, reduced treatment adherence and increased disease-related morbidity and mortality. Medical complications of cancer and its treatment such as anemia, thyroid dysfunction, and the neurotoxicity of cancer chemotherapeutic agents account in part for these behavioral changes. Nevertheless, recent advances in the neurosciences and immunology/oncology have revealed novel insights into additional pathophysiologic mechanisms that may significantly contribute to the development of cancer-related behavioral changes. Special attention has been focused on immunologic processes, specifically activation of innate immune inflammatory responses and their regulation by neuroendocrine pathways, which, in turn, impact central nervous system functions including neurotransmitter metabolism, neuropeptide function, sleep-wake cycles, regional brain activity and ultimately behavior. Further understanding of these immunological influences on the brain provides a novel conceptual framework for integrating the wide spectrum of behavioral alterations that occur in cancer patients and may reveal a more focused array of translational targets for therapeutic interventions and future research. Such developments warrant complementary advances in identification of cancer patients at risk as well as those currently suffering, including an increased emphasis on the status of behavior as a "sixth vital sign" to be assessed in all cancer patients throughout their disease encounter.

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Symposium #2 9:00 AM–10:30 AM 2006

CONCEPTUALIZING MULTIPLE HEALTH BEHAVIOR CHANGE

Claudio R. Nigg, PhD,[1] Jodi Prochaska, PhD,[2] Seth M. Noar, PhD,[4] Kara L. Hall, PhD,[5] John P. Allegrante, PhD[6] and James O. Prochaska, PhD[3]

[1]Public Health Sciences, University of Hawaii, Honolulu, HI; [2]Psychiatry, University of California, San Francisco, San Francisco, CA; [3]Cancer Prevention Research Center, University of Rhode Island, Kingston, RI; [4]Communication, University of Kentucky, Lexington, KY; [5]Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD and [6]Health and Behavior Studies, Teachers College, Columbia University, New York, NY.

Summary: Growing evidence suggests the potential for multiple-behavior interventions to have much greater impact on public health than single-behavior interventions. However, there exists surprisingly little understanding of some very basic principles concerning multiple risk research and practice. Over the past year, SBM's Multiple Risk Behavior Change SIG has developed a Preventive Medicine special issue which is intended to stand as a landmark collection of state-of-the-science conceptual papers on core topics in multiple risk behavior research. This symposium will provide an overview of multiple risk behavior change (MRBC) research and then delve into theoretical developments and practical applications. Dr. Noar and colleagues will present how theories of health behavior can be applied to understand multiple health behavior change. Relatedly, an example of how to identify common principles across behaviors will be described by Dr. Hall et al. This is followed by an investigation by Dr. Allegrante and colleagues of how patients with multiple risk behaviors make choices using a potential net-present value (reduction in biological age) of modifying a behavior approach. Discussion by Dr. James Prochaska will identify themes across the three presentations and identify directions for future research.

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Symposium #2A 2007

APPLYING HEALTH BEHAVIOR THEORY TO MULTIPLE BEHAVIOR CHANGE: CONSIDERATIONS AND APPROACHES

Seth M. Noar, PhD, Melissa Chabot, MA and Rick S. Zimmerman, PhD

Communication, University of Kentucky, Lexington, KY.

Increasingly it is being recognized that for many individuals, not one but a combination of behavioral risks contribute to premature mortality. Despite this fact, there is a dearth of theorizing in the area of multiple health behavior change and most studies applying health behavior theory take a single behavior approach. The purpose of the current study was to examine and discuss how theories of health behavior and health behavior change can be applied to the growing research terrain of multiple behavior change. Three specific approaches are discussed, including: 1) a behavior change principles approach. This approach is focused on examining common principles of health behavior change across extant behaviors; 2) a global health/behavioral category approach. This approach examines linkages between general health dispositions, behavioral categories, specific beliefs/attitudes, and specific behaviors. And finally, 3) a multiple behavioral approach. This approach examines how particular behaviors cluster together and where synergy may exist among particular behaviors. Each of these approaches is discussed and explicated and examples from the emerging literature are provided. Further study in this area has the potential to broaden our understanding of multiple behaviors and multiple health behavior change. Implications for theory-testing and application of theory to interventions are discussed.

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Symposium #2B 2008

META-ANALYTIC EXAMINATION OF THE STRONG AND WEAK PRINCIPLES ACROSS 48 HEALTH BEHAVIORS

Kara L. Hall, PhD[1] and Joseph S. Rossi, PhD[2]

[1]Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD and [2]Cancer Prevention Research Center, University of Rhode Island, Kingston, RI.

The strong and weak principles of change state that progress from the precontemplation to the action stage of change is associated with a one standard deviation (SD) increase in the pros and a one-half SD decrease in the cons of change. These relationships were originally developed by Prochaska (1994) based on an examination of 12 studies of 12 different behaviors. The current study analyzes 120 datasets across and within 48 health behaviors, including nearly 50,000 participants from 10 countries, utilizing more rigorous and quantitative statistical methods. Despite the range of behaviors and populations, the results were nearly identical to the original results (pros=1.00 SD, cons=0.56 SD). Few potential moderators showed any impact on ES distributions.

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Symposium #2C 2009

WHAT BEHAVIORS DO PEOPLE CHOOSE TO CHANGE?

John P. Allegrante, PhD,[1,2] Janey C. Peterson, RN, MA, EdD, MS,[3] Carla Boutin-Foster, MD, MS,[3] Gbenga Ogedegbe, MD, MPH, MS[4] and Mary E. Charlson, MD[3]

[1]Department of Health and Behavior Studies, Teachers College, Columbia University, New York, NY; [2]Sociomedical Sciences, Mailman School of Public Health, Columbia University, New York, NY; [3]Division of General Internal Medicine and Center for Complementary and Integrative Medicine, Weill Medical College of Cornell University, New York, NY and [4]Center for Behavioral and Cardiovascular Health, Columbia University College of Physicians and Surgeons, New York, NY.

Objective. To determine what health behaviors patients choose to change in response to medical advice when they are given the potential net-present value (reduction in biological age) of modifying a behavior. Methods. Baseline data for multiple health-risk behaviors that were recommended for change among 660 coronary angioplasty patients at the New York-Presbyterian Hospital—Weill-Cornell Medical Center who were enrolled during 2000–02 in one of two arms of a behavioral intervention trial designed to compare different approaches to communicating health risk (net-present vs. future value) were analyzed using multivariate statistical methods.

Results. Although there was no difference between study arms, knowing the biological-age value of behaviors, stage of change, and the total number of behaviors recommended for change were associated with choosing several behaviors. Notably, stage of change was associated in both groups with strength training (intervention OR 2.82, 95% CI 1.85, 4.30; comparison OR 2.84, 95% CI 1.83, 4.43, p<.0001) and reducing weight (intervention OR 2.49, 95% CI 1.32, 4.67, p=.005; comparison OR 1.98, 95% CI 1.80, 3.31, p=.01).

Conclusion. Patients with coronary disease are more likely to choose strength training and reducing weight regardless of knowing the biological-age reduction of any given behavior.

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Symposium #3 9:00 AM–10:30 AM 2010

E-HEALTH INTERVENTIONS IN BEHAVIORAL MEDICINE: BARRIERS, ADHERENCE & OUTCOME

Deborah Tate,[1] David Mohr, PhD,[2] Lee Ritterband, PhD[3] and Kevin Patrick, MD[4]

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Summary: The Internet holds great potential for delivery of behavioral medicine interventions and accumulating evidence from randomized controlled trials suggests their initial efficacy. In order for e-Health programs to live up to their potential, participants must be interested and agree to such treatment, and once enrolled must use these systems over time to receive maximum benefit. This symposium highlights research on factors that influence adoption of and adherence to e-Health interventions with a focus on patient level factors including technical barriers to better understand the relationship between patient reported barriers, adoption, adherence and outcomes in this emerging field. Dr. Mohr will present on results from a large survey of primary care patients that suggests patient factors that are related to acceptability of face-to-face, telephone or Internet interventions. Dr. Tate will present results from a randomized controlled trial of a PDA-enhanced Internet adult weight management intervention with emphasis on rates of participant reported technical problems and their association with program satisfaction, adherence and outcome. Dr. Ritterband will present on results from a randomized controlled trial of an Internet intervention for pediatric encopresis, highlighting patient reported barriers to using such interventions, and the association between technical barriers, adherence to treatment recommendations, and outcome. The discussant, Dr. Patrick will offer his perspectives on barriers to adoption and adherence in e-Health interventions across a variety of patient populations.

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Symposium #3A 2011

ACCEPTABILITY OF INTERNET AND TELEPHONE ADMINISTERED BEHAVIORAL INTERVENTION AMONG PRIMARY CARE PATIENTS

David C. Mohr, PhD

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There is growing evidence that tele-behavioral medicine (T-BM; internet and telephone delivery) interventions are effective. T-BM is believed to overcome barriers to face-to-face (FtF) delivery such as transportation and access difficulties, time constraints, etc. However, there is little data on the acceptability of T-BM among potential users or on the role of barriers to FtF care in the acceptability of T-BM. We will present data from a survey of 600 primary care patients. At the time this abstract was written, 248 of the 600 surveys were completed. Among the 110 (45%) patients who wanted counseling for stress, depression or anxiety, 95% wanted FtF services, 64% were potentially interested in telephone services, and 50% were potentially interested in internet services. Of the 111 (45%) interested in lifestyle (diet/exercise) programs, 94% wanted it FtF, 69% by telephone, and 57% by internet. Similar patterns were seen for smoking cessation and pain management. Logistic regression analyses examined predictors (demographics, barriers to care, anxiety, depression, smoking, BMI, pain, general health) of acceptability. Acceptability of internet services was predicted by barriers to care (e.g. transportation/access), anxiety, poorer overall health, and smoking, ps<.03. Predictors of acceptability of telephone-administered care include anxiety, and barriers to care, ps<.03. Only anxiety predicted interest in FtF care, p=.002. These findings suggest that among likely users of BM care, roughly half are interested in or willing to consider internet based care, while 2/3rd would consider telephone-based care. Anxiety was associated with increased interest in BM services generally. Perceived barriers to FtF services were associated with increased acceptability of T-BM services.

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Symposium #3B 2012

TECHNICAL PROBLEMS, ADHERENCE AND OUTCOMES IN A PDA PLUS INTERNET INTERVENTION

Deborah Tate

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One of the greatest challenges in Internet interventions, as with most forms of treatment, is long term engagement with the program. Adherence variables (e.g., website logins, attendance at Internet treatment sessions, submissions of weekly data) have been positively related to outcomes and adherence generally declines over time. This study investigated the number and nature of technical problems and their relationship to program adherence, objective outcomes, and participant's desires for future treatment contact. Results are from a 1 year study comparing forms of Internet weight loss programs including a comprehensive weight management website with PDAs for self-monitoring. Participants (n=158) were healthy adults (130 f, 28 m), age 46.1±8.8, with average BMI of 31.7±4.1, and 8.2±4.0 years of Internet experience. Over fifty percent (56.3%) of users had broadband. Calls to a technical support line were tracked and coded for web/computer vs. PDA problems. Eighteen percent of participants placed 42 total calls over 1 year with a web related problem. PDAs were more problematic; 50% of users reported a PDA problem and 162 calls were made by 79 users (mean 2.06±1.5 calls). All measures of adherence were related to weight loss with r ranging from .30–.50 ($p.<.001$). Frequency of web or PDA technical issues were unrelated to web usage ($r=-.02$; $p=.76$ and $r=.003$; $p=.97$; respectively) and web technical problems were unrelated to weight loss ($r=.11$; $p=.15$). Requesting technical support for a PDA problem was related to weight loss ($r=-.20$; $p=.01$) such that those who reported a PDA problem (n=79) lost −12.2+16.4 lbs vs. −6.8+12.9 (n=79; $p=.03$) for those who did not report PDA problems. It is likely that experience of PDA problems was a marker of greater adherence to self-monitoring. Report of web related problems was infrequent and unrelated to adherence or outcome. User reported barriers at post-test and preference for future treatment contact will be discussed.

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Symposium #3C 2013

EXAMINING TECHNICAL BARRIERS IN INTERNET INTERVENTIONS

Lee Ritterband, PhD

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Technical problems have been suspected to be a significant barrier to using Internet interventions, typically behavioral treatments that have been operationalized and transformed for delivery over the Web. However, in two studies examining the use of the Internet in treatment for pediatric encopresis, participants identified "forgetfulness" and "no time" as the two greatest barriers. To empirically test whether technical problems were a meaningful barrier to system use and how technical issues impacted both use and outcome, we examined email and phone contacts made by participants in a third study. The larger clinical trial of the pediatric encopresis Internet intervention was conducted nationally (US) between 2004 and 2007. In the 3 (pre, post, 1 year post)×2 (treatment as usual (TAU), TAU+intervention) design, 95 families (49 experimental; 46 controls) enrolled in the study. Forty of the 49 experimental subjects completed all baseline assessment and logged in to the program at least once; 31 experimental subjects completed post assessment and 26 completed one year post assessment. Of the 40 experimental subjects who logged on, 715 total contacts were recorded. Contacts were broken down into categories including technical support, study related issues, feedback, and other miscellaneous contacts. Twenty one of the experimental subjects requested technical support, averaging 5.33 contacts (total n=112). Technical support contacts were not significantly associated with system usage ($r=.18$, $p=.27$, n=40), computed as a composite index of usage of various program components. They were also not associated with outcome as defined by change in number of fecal accidents from pre to post assessment ($r=.04$, $p=.82$, n=31) and pre to one year post assessment ($r=.27$, $p=.20$, n=26). Therefore, technical problems do not seem to be a meaningful barrier to either use of the system or outcome, consistent with subjects' perceptions in our previous findings. Better understanding which barriers affect use of Internet interventions should lead to improved use of programs and ultimately improved outcomes.

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Symposium #4 9:00 AM–10:30 AM 2014

EVIDENCE-BASED PRACTICE IN OBESITY: FROM THE INDIVIDUAL TO THE POPULATION

Bonnie Spring, PhD,[1] Sherry L. Pagoto, PhD,[2] Amelie G. Ramirez, MPH,[3] James F. Salllis, PhD[4] and Jon F. Kerner, PhD[5]

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Summary: Closing the gap between research and practice requires researchers to work with those who want to put their findings to practical use. In this symposium, researcher-practitioners describe their experience in applying research evidence to address the problem of obesity. Speakers present case examples from three different levels of an ecological model, which states that addressing a problem at multiple levels (e.g., individual, community, public policy) holds great potential to improve public health. Dr. Sherry Pagoto discusses using research to make clinical decisions about how best to promote weight loss by an individual client. Dr. Amelie Ramirez describes using research evidence to implement a community based obesity intervention for Latinas. Dr. James Sallis discusses using research evidence as the basis for policy advice regarding how to promote physical activity. Each speaker presents an evidence-based decision making process to address the problem of obesity. Speakers describe how they acquired and critically appraised relevant research for its validity and applicability to the context at hand. Then they discuss how they executed the next step in the decisional process: integrating the research evidence with consideration of available expertise/resources, context, and client/community preferences to choose a course of action. Discussant Dr. Jon Kerner comments on strengths and weaknesses of the evidence base available to support dissemination and implementation of obesity intervention at the individual, community, and population levels. He notes that questions at different levels of the ecological model lead to different but synergistic approaches. Speakers urge SBM's diverse constituencies to work together to build the base of high-quality, practically useful behavioral research.

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Symposium #4A 2015

TRANSLATING RESEARCH TO POLICY: USING EVIDENCE TO INFORM A NATIONAL PLAN FOR PHYSICAL ACTIVITY

James Sallis, PhD

Psychology, San Diego State University, San Diego, CA.

The global obesity epidemic has focused interest of government and other public health leaders on the need to increase energy expenditure in populations. This heightened interest is coming as evidence is rapidly accumulating about the potential for multiple policy changes to promote physical activity through environmental changes, dissemination of evidence-based programs, and incentives. Policies with relevance to physical activity have been identified in multiple government departments at all levels, including transportation, parks and recreation, planning, housing, health, education, and law enforcement. The behavior of multiple large industries also needs to be considered, including automobiles, computers, entertainment, sports, sporting goods, and real estate. To date, there has been little organized effort to pursue policy changes on a national level to promote physical activity. The Centers for Disease Control and Prevention is currently sponsoring the development of a National Physical Activity Plan. Scientific evidence will be used to inform the plan, along with priorities of participating organizations, funding opportunities, and political support. The speaker will describe some challenges and opportunities encountered in critically appraising the research evidence, integrating it with consideration of stakeholder priorities and resources, and communicating to policy makers. The National Physical Activity Plan can be a laboratory for using research to inform policy changes that should contribute to obesity control.

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Symposium #4B 2016

TRANSLATING RESEARCH TO PRACTICE:
THE EVIDENCE BASE AND TREATMENT DECISIONS
FOR INDIVIDUAL PATIENTS IN OBESITY MANAGEMENT

Sherry L. Pagoto, PhD

University of Massachusetts Medical School and the University of Massachusetts Memorial Weight Center, Worcester, MA.

While community- and policy-level initiatives have great potential for broad impact on curbing the obesity epidemic, individual patients continue to seek treatment for obesity in clinical settings. Surgical approaches to weight loss treatment are by far the most efficacious but only a minority of obese patients are eligible and many are not interested in invasive approaches. Behavioral treatments remain the most frequently sought after alternative. The USPSTF has assigned a B recommendation to high-intensity diet and/or exercise counseling with behavioral modification for the treatment of obesity. Behavioral interventions produce modest, sustained weight loss in obese adults with no evidence for harm. Systematic reviews such as those of the USPSTF are largely based on results of randomized clinical trials (RCTs). How well results from RCTs generalize to patient populations not represented in those RCTs is unknown. Psychiatric comorbidities, for example, are often exclusion criteria in RCTs even though rates of psychiatric disorders among treatment-seeking obese patients are fairly substantial. When confronted with patients not represented in the evidence base that provides the foundation for the treatment guideline, a clinician must make a treatment decision. One approach is to implement the evidence-based treatment as intended, given that any novel adaptation by the clinician has not been directly tested and may detract from efficacy. The second approach is to adapt the evidence-based treatment to suit the specific case. However, it remains unclear what patient characteristics would indicate the need for treatment adaptation, or how to make adaptations while preserving the treatment's active ingredients. Debate exists about which approach is appropriate for the treatment of special and/or underserved populations for which no evidence base yet exists. The speaker will present two cases illustrating evidence-based treatment decision making and outcomes. Patients represented in these cases have psychiatric comorbidities that have not been directly addressed in the evidence base. No adaptations to the evidence-based treatment were made. In one case, the evidence-based treatment delivered as usual was successful and in the other case it was unsuccessful. The process, challenges, and considerations for evidence-based treatment decision making in each scenario will be discussed.

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Symposium #4C 2017

FEASIBILITY OF A FAITH-BASED APPROACH
TO PROMOTE ENERGY BALANCE AMONG LATINAS IN TEXAS

Amelie Ramirez, Master's/doctorate, public health, UT SPH

Institute for Health Promotion Research, The University of Texas Health Science Center at San Antonio, San Antonio, TX.

Little research has been conducted to identify core effective components of proven interventions that are generalizable across population sub-groups. This study assessed consumer and intermediary perceptions regarding the implementation of effective energy-balance intervention strategies for low-income Latino women.
The purpose was to assess 1) knowledge, attitudes, and behaviors about nutrition and exercise among Latinas, 40 years of age, residing in a low-income community in Houston, Texas and 2) the applicability of an evidence-based church program to promote energy balance among this population. Methods included qualitative assessments conducted through 10 focus groups with 75 women who were recruited through three Catholic churches, and 15 personal interviews with community leaders serving this Latino community. The inquiry covered barriers and enabling factors to healthy nutrition and physical activity and preferred, culturally appropriate strategies for improving energy balance within the context of church settings.
Two minority evidence based energy-balance programs, identified through the CDC Community Guide, were selected and combined for formative testing with the Latino audience. The study's end product was a conceptual program design. Although the effectiveness of the original or the redesigned programs cannot be evaluated without field testing, the formative research suggests that the original programs would not have been appropriate for this audience. The presenter will discuss issues involved in considering whether and how to maintain treatment fidelity or adapt evidence-based programs from one community to another.

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Symposium #5 9:00 AM–10:30 AM 2018

FAMILY-BASED APPROACHES TO UNDERSTANDING
AND INTERVENING IN CANCER SCREENING

Sharon Manne, PhD

Population Science, Fox Chase Cancer Center, Philadelphia, PA.

Summary: The diagnosis of cancer in one member of a family has risk implications for other close family members. Because of this increased familial risk, more intensive screening and surveillance practices are typically recommended for close family members. In this symposium, we will present the results of four studies that used family-based approaches to understand and promote cancer screening among family members. Dr. Jennifer Hay will discuss patterns of family communication about skin cancer risk reduction practices among family members of individuals diagnosed with melanoma. Dr. Laura Koehly will examine how the family culture, as defined by support, closeness, and influence relations, is related to the risk dissemination process and encouragement to screen within hereditary non-polyposis colon cancer (HNPCC) families, and whether these recommendations predict family members' screening behaviors. Dr. Elliot Coups will present the results of a randomized clinical trial evaluating three behavioral interventions to improve colorectal cancer screening practices among siblings of individuals diagnosed with colorectal cancer. Dr. Deborah Bowen will discuss the initial results of an randomized clinical trial testing a web-based intervention to improve communication about skin cancer and skin cancer risk-reduction practies among family members of individuals with melanoma. Finally, Dr. Sharon Manne will discuss the implications of these findings for broadening way investigators in the field of cancer prevention and control improve screening practices by using family-based approaches to inform both the conceptualization of cancer screening as well as the development of interventions to increase screening among families of individuals with cancer.

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Symposium #5A 2019

AWARENESS OF FAMILY MELANOMA RISK IN MELANOMA SURVIVORS

Jennifer Hay, PhD,[1] Justyna Zapolska, MA,[1] Urvi Mujumdar, MPH,[1] Orlow Irene, PhD,[1] Colin Begg, PhD[1] and Marianne Berwick, MPH,PhD[2]

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The family context is an important organizing system for health behavior adoption, given common family risk factors and shared beliefs and behaviors. After a cancer diagnosis, patients' physicians have the opportunity to promote risk awareness and screening recommendations to at-risk family members. Given that first-degree family members of melanoma patients are at increased risk of developing melanoma, we examined self-reported physician discussions about family melanoma risk in 168 survivors diagnosed with histologically confirmed first or second primary melanoma more than five years ago, ascertained through a population-based cancer registry as part of the Genes, Environment, and Melanoma (GEM) Study. Survivors were Caucasian (99%), 51% male, and on average age 60. Survivors reported high levels of physician skin cancer screening (92%) and regular sunscreen use (78%), but only about half (48%) had ever been told that their first degree relatives faced heightened melanoma risk. Of these, most (75%) had learned this from their dermatologist; less often from their oncologist (19%). Many survivors (62%) had communicated with family members about arranging physician skin screening and 57% had encouraged family members to inform their own doctor about the fact that melanoma was diagnosed in the family. Most (95%) believed that the melanoma screening process would not be difficult for their relatives. We examined demographic, behavioral, and psychosocial predictors of family risk awareness and family screening encouragement, and found that those melanoma survivors diagnosed at a younger age, those who practiced regular rather than inconsistent sun protection, and survivors with higher levels of perceived risk of melanoma were more likely to have been told about family risk, to have encouraged family members to be screened, and to have encouraged family to discuss the diagnosis with their own doctors (all ps $<.01$). These findings will be discussed in light of the potential opportunities to engage families of melanoma survivors in regular skin cancer screening.

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Symposium #5B 2020

COMMUNICATION CHANGES AFTER E-HEALTH FAMILY INTERVENTION

Deborah Bowen, PhD

Social and Behavioral Sciences, Boston University, Boston, MA.

Objective: The experience of cancer in a family has the potential to serve as a conduit for communicating about future risk. . Design: The study was a randomized trial of families with a diagnosis of melanoma recruited from population based cancer registries. Three reference members were recruited per family: the melanoma case, a first degree relative, and a parent with at least one child aged 0–17. Intervention and control participants completed a baseline survey, and intervention participants received access to the Web-based intervention to increase communication and performance of melanoma prevention behaviors, or served as a control family. The year long intervention was interactive and supported family communication, as well as individual behavior change opportunities. Outcome measures: The primary outcomes were assessed at baseline and 12-month follow-up: perceived cancer risk, family melanoma risk communication frequency and contents. Results: Mean frequency of communication was low at baseline for both intervention and control participants. Study arms did not differ significantly at baseline for measures of communication or perceived risk. Parents communicated most frequently among the family members, followed by cases, and then first degree relatives ($p<.01$). Perceived risk was low for both FDRs and parents, but perceived risk was moderate for cases ($p<.01$). Melanoma risk communication frequency increased for all three family type groups, compared to baseline, and compared to control values at 12 months post randomization, with intervention FDRs and parents communicating "somewhat" or "a lot" more frequently than at baseline ($p<.01$) and cases communicating "a lot" more frequently than at baseline. Perceived risk estimates increased significantly in all three family type groups compared to control family groups (all $p<.01$). Conclusion: Increasing engagement about melanoma risk among families at higher risk for melanoma could lead to improved self-protection behaviors, such as sunscreen use and self-screening.

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Symposium #5C 2021

UNDERSTANDING THE ASSOCIATION BETWEEN "ENCOURAGEMENT TO SCREEN" RELATIONS AND THE ADOPTION OF RECOMMENDED SCREENING BEHAVIORS AND THE MODERATING EFFECT OF FAMILY CONTEXT IN FAMILIES WITH LYNCH SYNDROME

Laura M. Koehly, PhD and Donald W. Hadley, MS

SBRB, NHGRI/NIH, Bethesda, MD.

The communal coping model suggests that when a group of individuals share a perception of disease risk, they may develop cooperative strategies to address their shared risks. Lynch Syndrome is a dominantly inherited cancer susceptibility syndrome predisposing mutation carriers to the early onset of multiple cancers including colorectal, endometrial, and ovarian. Genetic testing is available and carriers of a family mutation are encouraged to undergo cancer screening. As posited by the communal coping model, members of families with Lynch Syndrome may consider their risk of cancer to be a family-level problem and begin to develop cooperative strategies that encourage members to undergo recommended screening in hopes of preventing or detecting cancers at early stages. Members from 10 families with Lynch Syndrome provided the names and relations of family members who encouraged them to undergo cancer screening. Additionally, risk communication and family systems relations, such as closeness and conflict, along with cancer screening practices were obtained. Social network methods were used to examine how the structure of the "encouragement to screen" network is associated with the use of cancer screening and the moderating effects of risk communications within the family and family systems relations. Results inform the development of family-based interventions that target encouragement to screen relationships. For example, the finding that reciprocation of encouragement to screen relations is positively associated with compliance with recommended cancer screening, suggests a "buddy" approach to screening would be optimal. However, the use of "family encouragers" would be optimal if encouragement from a central or influential family member is most effective.

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Symposium #5D 2022

TESTING GENERIC AND TAILORED INTERVENTIONS TO PROMOTE SCREENING FOR COLORECTAL CANCER AMONG SIBLINGS OF COLORECTAL CANCER PATIENTS

Elliot J. Coups, PhD,[1] Sharon L. Manne, PhD,[1] Arnold Markowitz, MD,[2] Samuel Lesko, MD, MPH,[3] Neal J. Meropol, MD,[1] Paul B. Jacobsen, PhD,[4] Daniel Haller, MD,[5] Susan K. Peterson, PhD, MPH[6] and Lina Jandorf, MA[7]

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A large proportion of deaths due to colorectal cancer (CRC) could be prevented by screening. Screening for CRC is especially important for individuals at increased CRC risk because of a family history of the disease. However, participation in screening among intermediate-risk relatives of CRC patients is relatively low. This study compared the impact of three behavioral interventions on CRC screening behavior. Eligible individuals were siblings of CRC patients (diagnosed before 61 years of age), were at least 40 years of age or within 10 years of the age at which their sibling was diagnosed with CRC, had no personal cancer history, and were not on schedule for CRC . 405 sibling participants (61% female, 90% white, *M* age =48 years) were randomized to receive one of three interventions: (1) a generic print pamphlet; (2) a print pamphlet that was tailored for each individual based on his/her responses to a survey on CRC screening knowledge, perceived risk, benefits/barriers, physician and family support; (3) a combined tailored print pamphlet plus a tailored telephone counseling call. Six months later, participants reported whether they had undergone a colonoscopy since receiving the intervention. Colonoscopy rates at follow-up did not differ significantly between the tailored print (32.1%) and tailored print plus telephone (33.3%) interventions. However, the colonoscopy rate for the generic print intervention (18.5%) was significantly lower (*ps*<. 05) than for the two tailored interventions. Thus, tailored interventions are more effective in promoting CRC screening among at-risk siblings of CRC patients than a generic intervention.

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Symposium #6 9:00 AM–10:30 AM 2023

HEALTH BEHAVIOR CHANGE IN CANCER SURVIVORS: CURRENT RESEARCH AND FUTURE DIRECTIONS

Karen Basen-Engquist, PhD, MPH,[1] Gozde Ozakinci, PhD, CPsychol[2] and Nancy E. Avis, PhD[3]

[1]Behavioral Science, University of Texas M. D. Anderson Cancer Center, Houston, TX; [2]Bute Medical School, University of St. Andrews, St. Andrews, Fife, United Kingdom and [3]Social Sciences and Health Policy, Wake Forest University School of Medicine, Winston-Salem, NC.

Summary: Cancer survivors often face increased risk for not only recurrence and second primary cancers, but also chronic diseases such as cardiovascular disease, osteoporosis, and diabetes. These risks can be lowered by modifications in health behaviors, but are cancer survivors making such changes? What interventions are effective in this population? This symposium will present the results of intervention research in dietary, physical activity, and smoking cessation interventions for cancer survivors, and discuss future research directions for the field. An introduction by Karen Basen-Engquist, Ph.D., will present data on the prevalence of health behavior among cancer survivors. Bernadine Pinto, Ph.D. will discuss home-based physical activity interventions for breast and colorectal cancer survivors. The second presentation, by Wendy Demark-Wahnefried, Ph.D., will convey information on dietary trials with cancer survivors, focusing on distance-medicine based trials. Karen Emmons, Ph.D. will present the long-term outcome results of a randomized controlled smoking cessation trial for childhood cancer survivors, and discuss the implications for future research and practice. The symposium will conclude with a discussion by Nancy Avis, Ph.D., who will synthesize the information presented and discuss future directions for research, and implications for the dissemination of research findings.

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Symposium #6A 2024

LONG-TERM SMOKING CESSATION OUTCOMES AMONG CHILDHOOD CANCER SURVIVORS IN THE PARTNERSHIP FOR HEALTH STUDY

Karen M. Emmons, PhD

Center for Community-Based Research, Dana Farber Cancer Institute, Boston, MA.

Background: Partnership for Health (PFH) was found to increase smoking cessation among smokers in the Childhood Cancer Survivors Study (CCSS) at the 8- and 12-month post-baseline follow-up. This report provides outcomes at 2 to 6 years post-baseline.
Methods: PFH was a randomized control trial that involved smokers (n=796) enrolled in the CCSS cohort. Participants were randomly assigned to either self-help or a peer-counseling program (Partnership for Health - PFH) that included up to 6 telephone calls from a trained childhood cancer survivor, tailored and targeted materials, and free nicotine replacement therapy. The intervention was delivered by telephone and mail.
Results: Long-term smoking cessation rates were significantly higher among participants in the PFH condition vs Self-Help. Long-term smoking cessation outcomes were lower among those who were nicotine dependent, of lower educational levels, and among men, and were higher among those who used nicotine replacement therapy and who had higher levels of situational self-efficacy. There were no significant differences in relapse rates between conditions, or in quit attempts among continued smokers.
Conclusions: Partnership for Health was the first large-scale intervention targeting smoking cessation among childhood cancer survivors, and it led to increased cessation rates approximately 2 to 6 years later.

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Symposium #6B 2025

STEPPING TO THE PLATE FOR HEALTH: WHAT DIETARY CHANGES ARE IMPORTANT FOR CANCER SURVIVORS AND HOW CAN WE EFFECTIVELY PROMOTE THEM?

Wendy Demark-Wahnefried, PhD

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

Cancer survivors constitute a vulnerable population at risk not only for recurrence, but also a host of co-morbid conditions (e.g., cardiovascular disease, diabetes and osteoporosis). Recent research suggests that weight management and specific dietary factors may play a key role in cancer control and tertiary prevention. Findings of the Women's Intervention Study (WINS), the Women's Healthy Eating and Living Study (WHEL), as well as data from observational studies will be reviewed within the context of the American Cancer Society's Guide for Nutrition During and After Cancer Treatment. Strength of evidence for weight control and low fat, plant-based diets will be reviewed, as will dietary recommendations for achieving optimal bone health. Dietary change can be difficult to promote and sustain, and cancer survivors often present with unique challenges to intervention implementation. Theoretical models and intervention approaches used in previous dietary intervention trials will be reviewed. Data and experiences will be presented from two large distance-medicine based randomized controlled trials which employed either telephone counseling (Project LEAD—a 6-month intervention aimed at improving overall diet quality among 182 elderly individuals with breast or prostate cancer) or mailed material approaches (FRESH START—a 10-month intervention aimed at increasing fruit and vegetable consumption and reducing total and saturated fat intakes among 543 newly diagnosed breast and prostate cancer survivors) to improve diet and physical activity. Both of these trials were successful in achieving significant improvements in diet quality, with the FRESH START trial being one of the few minimal interventions to achieve durable dietary change.

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Symposium #6C 2026

PROMOTING PHYSICAL ACTIVITY AFTER CANCER

Bernardine Pinto, PhD

Centers for Behavioral and Preventive Medicine, Miriam Hospital and Warren Alpert Medical School of Brown University, Providence, RI.

There is growing interest in promoting physical activity among patients undergoing cancer treatments, as well as post-treatment. This presentation will focus on research among patients who have completed cancer treatments. Home-based interventions to promote physical activity have promising results in alleviating some sequelae of cancer treatments and improving QOL. This paper will review interventions delivered via telephone among breast cancer patients and colorectal cancer patients. Relevant issues such as patient safety, challenges in recruitment and retention of participants in these trials, and directions for future research will be discussed.

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Symposium #7 9:00 AM–10:30 AM 2027

LOOKING INTO THE FUTURE: EXAMINING THE HEALTH OF HISPANICS IN THE UNITED STATES

Linda C. Gallo, PhD,[1] Neil Schneiderman, PhD,[4] Gregory A. Talavera, MD,[2] Marc D. Gellman, PhD[3] and John P. Elder, PhD[2]

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Summary: The US Census bureau has estimated that by 2050 nearly 1 in 4 residents will be of Hispanic ethnicity. Understanding the health needs of the growing Hispanic population is a national health priority of great significance. In response to this priority, National Institutes of Health have funded the Hispanic Community Health Study (HCHS)/Study of Latinos (SOL). This study will include 16,000 Hispanics of Cuban, Puerto Rican, Mexican and Central/South American origin, sampled from the Bronx/New York City, Chicago, Miami, and San Diego. Participants will undergo clinical exams, laboratory tests and interviews and be followed over time. Major goals of the study include assessing the prevalence and etiology of health conditions including heart disease, stroke, asthma, chronic obstructive pulmonary disease, sleep disorders, dental disease, hearing impairment, diabetes, kidney and liver disease, and cognitive impairment, and risk factors, such as poor diet, physical inactivity, obesity, smoking, hypertension, and dislipidemia. The study will also examine how social determinants of health, characteristics of Hispanic culture and community, acculturation and assimilation, and healthcare access affect the health and well being of the Hispanic population.
The current symposium will discuss the scientific rationale and methodology of HCHS/SOL, with emphasis on research questions surrounding the "Hispanic Paradox." Neil Schneiderman will provide an overview of the rationale, design, and objectives of the HCHS/SOL; Gregory Talavera will discuss the context and scientific value of the instruments centered on examining social determinants of Hispanic health in HCHS/SOL; Marc Gellman will describe the logistics of a large epidemiological cohort study and establishing field center procedures; and discussant, John Elder, will provide an overview of the opportunities and challenges inherent in studying the diverse Hispanic US population both within HCHS/SOL.

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Symposium #7A 2028

RATIONALE, OBJECTIVES AND STUDY DESIGN OF THE HCHS/SOL

Neil Schneiderman, PhD,[1] Marc Gellman, PhD,[1] Leopoldo Raij, MD,[2] David Lee, PhD[3] and John Ryan, Dr PH[4]

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Despite similar disparities in socioeconomic status, healthcare access, and health risk factors, Hispanic/Latinos have lower age-adjusted mortality rates than African Americans and may have slightly lower rates than non-Hispanic whites. Morbidity rates for many diseases, including cardiovascular diseases, mirror these mortality trends. This epidemiological "paradox" has intrigued researchers who have suggested a number of potential explanations, both substantive and statistical, which will be tested in the HCHS/SOL. It is also notable that there are important differences in morbidity and mortality within the United States (US) Hispanic/Latino population. For example, Puerto Rican Americans have significantly higher and Cuban Americans consistently lower hypertension-related mortality rates than other Hispanic subpopulations and non-Hispanic whites. The objective of the NIH sponsored multi-center, longitudinal HCHS/SOL is therefore to conduct health assessments of Hispanic/Latinos living in New York (Bronx), Chicago, Miami and San Diego in order to determine the role of acculturation in the prevalence and development of disease, and to examine risk factors and possible protective factors that may influence health status in US Hispanic/Latinos. This presentation will review the epidemiological evidence related to the "Hispanic Paradox", the major objectives of HCHS/SOL, and an overview of the study design and data collection sites.

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Symposium #7B 2029

FIELD CENTER PROCEDURES AND LOGISTICS FOR THE HCHS/SOL

Marc Gellman, PhD,[1] Neil Schneiderman, PhD,[1] Leopoldo Raij, MD,[2] David Lee, PhD[3] and John Ryan, Dr PH[4]

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Prior to the start of a large epidemiological study much effort and coordination are needed between the study coordinating center, the reading centers, and each field center. A steering committee guides these efforts with various subcommittees assigned to development of the study procedures including the selection of study forms, questionnaires, examination measures, and equipment. Once all of the procedures have been accepted, appropriate staff need to be hired and trained in the implementation of those procedures. The sampling and recruitment goals need to be established and a public awareness campaign is needed to inform the community of the study. The sampling objectives in the HCHS include: 1) support for statistical inference about the health of the Hispanic population in the US by capturing Hispanic diversity in the sample and controlling sample composition by country of origin, age, and SES; and 2) inference for cross-sectional assessment of risk factors and longitudinal analysis of clinical outcomes. The HCHS has chosen target areas within cities that have high and diverse Hispanic concentrations, and a proximity to clinics with easy transportation access. The target area in each city includes 100–300 census block groups. The study expects to accomplish the design objectives by using probability sampling of Hispanics within sites.

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Symposium #8 9:00 AM–10:30 AM 2030

REAL TIME MEASUREMENT OF SECONDHAND SMOKE EXPOSURE USING PDAS

Marilyn Johnson-Kozlow, PhD, MA

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Summary: Large scale studies of exposure to secondhand smoke (SHS) rely on retrospective self-reports of exposure due to their convenience and cost effectiveness. An objective measure of SHS exposure that is commonly used is cotinine from saliva or urine. However, the correlation between self-reports and cotinine is moderate. Differences between cotinine and self-report values may be due in part to the inaccuracy of self-reports or a mismatch between what they measure. While self-reports measure exposure, cotinine may more accurately be said to measure SHS dose. Unlike SHS exposure (i.e., #cigs exposed), dose is affected by a number of factors, including SHS contamination in the home. Because nicotine is easily absorbed by household surfaces, it can be off-gassed into the home atmosphere, thus affecting the SHS dose. One promising way of improving the correspondence between reported and biological exposure measures is the use of personal digital assistants (PDAs). PDAs may improve the accuracy of self-reported SHS exposure by decreasing the time between exposure and recall and by assessing where exposure occurs on a real-time basis. A methodological study, funded by the Tobacco-Related Disease Research Program, is described that investigates the relationship between a 7-day retrospective self-report, a PDA-based measure, salivary cotinine, and personal air monitor data. Environmental factors in the home, such as ventilation, which may affect SHS dose, are cataloged. Based on these data, tobacco control researchers will have better knowledge about which self-report measures should be used in order to accurately measure SHS exposure and dose. Improving these measures allows researchers to do a better job of evaluating interventions to decrease exposure to SHS, determining the health risks associated with SHS exposure, and obtain more accurate estimates of the relationship between SHS exposure and various chronic diseases. In subsequent studies, the PDA might be modified to deliver real-time feedback to nonsmokers regarding duration and intensity of exposure to secondhand smoke.

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Symposium #8A 2031

NEW DIRECTIONS AND ISSUES IN MEASUREMENT OF SECONDHAND SMOKE

Marilyn Johnson-Kozlow, PhD, MA,[1] Georg Matt, PhD,[2] Vaughan Rees, PhD[3] and Melbourne Hovell, PhD[1]

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The proposed symposium covers recent research by investigators from San Diego State University and the Harvard School of Public Health on issues relating to measuring secondhand smoke. The first presentation describes the methodology of a study funded by the Tobacco-Related Disease Research Program that uses a personal digital assistant (PDA) to measure exposure to secondhand smoke. While the PDA is hypothesized to improve the accuracy of measurement of exposure to secondhand smoke by comparing it to retrospective self-report and objective measures (personal air monitor and saliva cotinine), subsequent research is described that focuses on the use of the PDA to deliver feedback to nonsmokers on a real-time basis about when they are exposed to SHS. The second presentation concerns the measurement of secondhand smoke exposure in cars and waterpipe lounges among young people. Data collected in these environments will be used to illustrate the need for policy changes in these currently unregulated environments. In the third presentation, an ecological model of the measurement of secondhand smoke is outlined. Ecological models, which take into account both individual and environmental influences on health behavior, provide a powerful tool to understand measurement of secondhand smoke and how it might affect the health of children, especially health-compromised children. The ecological factors that affect children's exposure to SHS include who smokes in the child's presence, where and when the exposure takes place, what media (air, surfaces) are contaminated, the ways in which children are exposed (i.e., hand to mouth contact), how much children are exposed, and determinants for why the child is exposed to SHS (parental attitudes, societal norms). This approach provides a framework from which to design better SHS reduction interventions.

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Symposium #8B 2032

NEW BATTLES FOR CLEAN AIR: EXPLORING STRATEGIES TO PROTECT YOUNG PEOPLE FROM SECONDHAND SMOKE

Vaughan Rees, PhD

Harvard School of Public Health, Boston, MA.

Problem/Objective: Exposure to secondhand smoke (SHS) causes disproportionately greater adverse health outcomes among young people. While important gains have been made in establishing clean indoor air laws in the U.S. and internationally, young people continue to be exposed to SHS in environments that are not protected by such laws. Air quality measurements in which young people are exposed to SHS can be used to promote strategies to reduce exposure and "de-normalize" smoking behavior in general. This research targeted young people's exposure to SHS in two unconventional environments: children's SHS exposure in cars, and young adults' exposure to waterpipe emissions in hookah lounges.
Methods: Air quality data were collected from cars and hookah lounges using a Sidepak laser photometer, and were compared with measures from a gravimetric sampler. Studies on driver behavior and attitudes to smoking in cars also were reviewed.
Results and Conclusions: The high SHS levels observed in these environments are discussed in terms of their implications for promoting new SHS protective strategies. These include legislation to ban smoking in cars where children are present, enhancement of existing clean indoor air laws to encompass hookah lounges and unconventional settings, health behavior interventions delivered from pediatric or other health care settings, and broad ranging health communications. Recent national and international developments in legislation to ban smoking in cars will be discussed.

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Symposium #8C 2033

MEASURING SECONDHAND SMOKE EXPOSURE: ECOLOGICAL MEASUREMENT APPROACH

Georg E. Matt, PhD

San Diego State University, San Diego, CA.

An ecological approach is introduced for the measurement of secondhand smoke (SHS) exposure in health compromised children in the context of their physical and social environments. This talk provides a summary of state of the art measures of tobacco smoke pollution of indoor environments and of SHS exposure in children. The proposed measurement model emphasizes the need to measure (1) who uses tobacco in the child's environment (the most direct exposure pathway is the smoking mother), (2) where and when exposure takes place (children, especially those under the age of 5 years, spend most of their time in the home), (3) what media are contaminated (not only is the air polluted with cigarette smoke, but also household surfaces, dust, clothes), (4) how exposure takes place (children are exposed by inhaling contaminated air and dust, hand-to-mouth transfer, and dermal transfer), (5) how much a child was exposed (exposure is a function of intensity of the contamination, time course of the exposure, health condition of the child, and the pathway through which contaminants enter the body), and (6) factors that contribute to why tobacco is used in a child's environment (parental characteristics, family rules, community standards). The goal of this measurement approach is to gather evidence based on which interventions can be designed to reduce tobacco use, SHS contamination, and SHS exposure at the levels of individual children, their families, neighborhoods, and communities.

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Symposium #9 9:00 AM–10:30 AM 2034

THE PROMISE OF TRANSLATIONAL BEHAVIORAL SCIENCE: USING BASIC SCIENCE FINDINGS, INNOVATIVE METHODOLOGIES AND NEW THEORETICAL PERSPECTIVES TO BUILD BETTER HEALTH BEHAVIOR INTERVENTIONS

Susan M. Czajkowski, PhD,[1] Michael W. Otto, PhD,[2] Jasper A. Smits, PhD,[3] Heather W. Murray, PhD,[2] R. Kathryn McHugh, MA,[2] Michael J. Zvolensky, PhD,[4] Ken Resnicow, PhD,[5] Rhonda Belue, PhD[6] and Peter G. Kaufmann, PhD[1]

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Summary: The adoption and maintenance of healthy behaviors—regulating energy balance, stopping smoking, taking prescribed medications—are critical to disease prevention and management. While there are many effective strategies for encouraging healthy lifestyles, even the most successful interventions are limited in their ability to induce long-term behavioral changes in most people. Often change occurs only for those already motivated to alter their behavior, and even individuals committed to making behavioral changes find it hard to maintain a healthy lifestyle over time. Thus, new approaches to encouraging behavior change are needed. As with the development of more powerful biomedical treatments, the development of better behavioral interventions depends on improving our understanding of the phenomena in question—the fundamental biological, cognitive, emotional, and social underpinnings of human behavior—and translating that knowledge into effective behavioral change strategies. Recent discoveries in the basic behavioral and social sciences are yielding new insights into human cognition and motivation, the experience and regulation of emotion, and the nature and behavior of social systems, and, coupled with the development of innovative methodologies and the application of new theoretical frameworks (e.g., brain imaging; systems science; chaos theory and non-linear models), are revolutionizing our understanding of human behavior and the conditions that facilitate behavior change. This symposium will illustrate how researchers are translating new theoretical perspectives, innovative methodologies and discoveries in the basic behavioral and social sciences into novel behavioral interventions in the areas of smoking cessation, weight control, and adherence to hypertension treatment.

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Symposium #9A 2035

AFFECT INTOLERANCE, EXERCISE, AND SMOKING AND OTHER HEALTH BEHAVIORS

Michael W. Otto, PhD,[1] Jasper A. Smits, PhD,[2] Heather W. Murray, PhD,[1] R. Kathryn McHugh, MA[1] and Michael J. Zvolensky, PhD[3]

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Research on the core patterns underlying panic disorder have identified the tendency to fear and catastrophically interpret anxiety-related sensations (anxiety sensitivity) as important in both the prevention and treatment of panic disorder. A considerable body of research points to a relationship between negative affect and difficulties with smoking cessation. Compared to persons with no mental illness, those meeting criteria for psychiatric diagnoses associated with high negative affect report significantly lower quit rates. Similarly, nicotine abstinence is associated with increases in negative affect, which in turn heightens the risk of relapse. Recent work further suggests that the link between negative affect and difficulties quitting smoking is particularly strong when smokers have low affect tolerance. Specifically, a series of studies conducted by Zvolensky, Brown, and colleagues indicate that anxiety sensitivity is associated with: (a) greater intensity of withdrawal symptoms in the first week after the quit attempt; (b) coping-oriented smoking motives (i.e., smoking to reduce negative affect); and (c) greater relapse rates within the first week following a quit attempt. Together, these findings suggest that there is a need for smoking cessation interventions that not only reduce negative affect but also reduce anxiety sensitivity. An increasing body of evidence suggests that exercise is capable of achieving both of these goals. Exercise has long been associated with reductions in stress, anxiety, and negative affect, and in controlled clinical trials has been shown to offer significant benefit to individuals with major depression. Smits and colleagues have shown that anxiety sensitivity is significantly reduced following brief treatment with programmed exercise. In this presentation, the role of affect intolerance and exercise will be discussed in relation to smoking cessation and other health behaviors.

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Symposium #9B 2036

IMPLICATIONS OF CHAOS AND COMPLEXITY FOR BEHAVIORAL INTERVENTION DEVELOPMENT

Ken Resnicow, PhD

University of Michigan, Ann Arbor, MI.

The understanding and modification of behavior within behavioral medicine has been guided by a cognitive, rational paradigm. Within this paradigm, change is conceptualized as a linear, deterministic process. Consistent with this perspective, the associated statistical models have almost exclusively assumed a linear relationship between psychosocial predictors and behavior. However, the conceptual and statistical assumptions underlying this cognitive, linear paradigm may be seriously flawed, and might limit our ability to explain and change health behavior. In particular, such a perspective fails to account for non-linear, chaotic and quantum influences on human thought and action. We propose that health behavior change is better understood through the lens of Chaos Theory and Complex Dynamic Systems. Key principles from these perspectives relevant to understanding health behavior change are: (1) Behavior change is often a quantum rather than linear event; (2) Behavior change is a chaotic process that is highly variable and difficult to predict; (3) Behavior change is a complex dynamic system that involves multiple component parts that interact in a nonlinear fashion and the results of their interaction are often greater than the sum of their parts; and (4) Behavior change is sensitive to initial conditions. This presentation will address how these principles can be incorporated into the development, evaluation, and dissemination of health promotion interventions. The use of technologies such as fMRI to elucidate the neural bases of different types of motivational processes, and ecological momentary assessment (EMA) and qualitative methodologies (structured interviews) for exploring individuals' experiences of different motivational states, will be described, and the application of these new theoretical and methodological approaches to the development of behavior change interventions will be explored.

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Symposium #9C 2037

THE APPLICATION OF SYSTEMS SCIENCE TO HYPERTENSION MANAGEMENT: EVIDENCE FOR THE DEVELOPMENT OF 'BOTTOM UP' BEHAVIORAL INTERVENTIONS

Rhonda Belue, PhD

The Pennsylvania State University, University Park, PA.

The management of chronic diseases such as hypertension requires the interaction of multiple behavioral, social, clinical and community-level factors, including patients' health-related beliefs, such as their task-specific self-efficacy; individual health behaviors, such as medication adherence; patients' experiences and participation in clinical encounters; aspects of their physical status such as body mass index (BMI) and lab values; the level of family support for disease management; and the availability of community level resources related to self care. A promising new avenue for addressing the systems-based nature of hypertension management is a systems-science approach. Ecological systems theory suggests that an individual develops within a particular context or setting that can be conceptualized as nested within multiple levels. Complex systems-science is a language and framework for conceptualizing systems that encompasses a broad range of tools, including visualization tools, which may be used to graphically depict the behavior of a system as well as computer simulations (also called system dynamics) to evaluate its behavior over time. These tools can be used to investigate the interrelationships among multiple risk and protective factors to determine the best and most effective points of intervention to encourage optimal management of chronic diseases, such as hypertension. Furthermore, complexity science tools can help to inform a 'bottom up' framework for behavior change interventions which help an individual or population 'system' self-adapt in a positive manner as opposed to imposing a 'top down' framework in which a system may adapt in ways not intended. Using data collected from patients being seen in a general internal medicine setting for the treatment of hypertension, we will employ the use of both qualitative and quantitative system science tools to identify the best leverage points for behavioral interventions for hypertension management.

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Thursday March 27, 2008 1:30 PM–3:00 PM

Paper Session #1 1:30 PM–1:45 PM 2038

DEVELOPMENT AND EVALUATION OF AN AUTOMATED TELEPHONE SYSTEM FOR DIABETES SELF-MANAGEMENT

Dominique Bird, MD,[1] Brian Oldenburg, PhD,[1] Richard Wootton, PhD, DSc[2] and Robert H. Friedman, MD[3]

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It is estimated that two thirds of people with diabetes in Australia do not achieve optimal diabetes management. Whilst there is strong evidence that lifestyle factors are essential components of diabetes management and that sustaining behavior change requires regular and long term support, this is very difficult to achieve within health systems which are not designed for this challenge. This study is evaluating the six and 12-month health outcomes and cost-effectiveness of a program using an automated interactive telephone system designed to promote and support behavior change and disease management. This program, the Diabetes Telephone Linked Care (TLC) Australia, has been developed collaboratively with the Medical Information Systems Unit at Boston Medical Center.

Participants with Type 2 diabetes (340) are being recruited in Brisbane (Australia). They are randomised to a usual care condition or to the intervention group. For six months, participants in the intervention group download their past week's blood glucose levels to the system's database via a cell phone link prior to calling the system weekly to "converse" on one or more of the following topics: blood glucose monitoring, nutrition, physical activity and medication. A case manager monitors usage and "alerts" sent by the system. Primary outcomes are Haemoglobin A1C and quality of life at 6 and 12-month follow-up. Secondary outcomes include self-care behaviors, waist measurement and insulin sensitivity. An economic evaluation is also conducted.

The presentation will outline initial results of the piloting of the intervention components and how these have informed the program structure. It will also include an overview of the project's methodology and recruitment to date. This new telehealth program addresses many barriers faced in the delivery of long-term diabetes self-management support and provides a patient-centered approach consistent with current models of chronic disease management.

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Paper Session #1 1:45 PM–2:00 PM 2039

EFFECTS OF A PRINT-BASED PHYSICAL ACTIVITY INTERVENTION FOR PATIENTS WITH TYPE 2 DIABETES

Gareth R. Dutton, PhD,[1,3] Fei Tan, PhD,[2] Bridgette C. Provost, MPH[1] and Dawn Smith, MS, RD, CDE[3]

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Regular physical activity (PA) is a key component for the successful management of type 2 diabetes; however, adherence to this treatment recommendation is low. This study evaluated the effects of an individually-tailored, print-based PA intervention for patients recruited from a community-based diabetes center. Participants (N=85; mean age=57; 73% Caucasian; 69% female) were randomized to receive a tailored PA intervention or usual care. The print-based intervention was based on the Transtheoretical Model and Social Cognitive Theory and was tailored to participants' stage of change, self-efficacy, decisional balance, and current PA levels/preferences. The intervention included a stage-targeted booklet and tailored letter regarding PA, which was based on information participants provided at baseline. PA was assessed by the 7-day Physical Activity Recall at baseline and one-month follow-up. After controlling for baseline PA, the weekly activity level of participants in the intervention group was 42 minutes greater than those receiving usual care at month 1, p=0.06. Participants receiving the intervention were significantly more likely to progress in their stage of change between baseline and month 1 (OR=3.2, 95% CI 1.0–10.3). Similarly, participants in the intervention condition were over five times more likely than control participants to be in the Action or Maintenance stages at month 1 (OR= 5.6, 95% CI 1.7–18.3). This brief print-based intervention resulted in improvements in motivational readiness for PA and increases in weekly PA, although change in PA between the two groups was only marginally significant. Given the limited scope of this PA program, results suggest print-based interventions may provide a feasible method for targeting PA among patients in a community-based diabetes clinic. However, more frequent contacts or supplemental delivery methods (e.g., telephone follow-up) may be needed to achieve more pronounced improvements in PA.

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Paper Session #1 2:00 PM–2:15 PM 2040

USE OF AN ASSISTED SELF-MANAGEMENT MONITOR FOR INCREASING TYPE 2 DIABETES CONTROL: VARIABILITY IN DEPRESSION SELF-REPORTING PREDICTS IMPROVEMENT IN GLYCATED HEMOGLOBIN

Jason Levine, BA,[1] Kristin Oden, BA,[2] Teri Bomzer, BA,[2] Paul Knudson, MD,[2] Raymond Fleming, PhD,[1] Steve Flax, PhD[2] and Edith Burns, MD[2]

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Type II diabetes Mellitus (T2DM) requires that a patient assume volitional control of a biological process that is normally regulated automatically in the healthy individual. Regular self-monitoring of blood glucose (SMBG) provides an objective feedback measure of glycemic control and a way to assess the effectiveness of self-management behaviors (medication dosing, diet, etc.). Comorbid depression in diabetes is associated with poorer glycemic control and decreased adherence to therapy. This is particularly important for older adults, where elevated levels of depression are correlated with hyperglycemia, increased symptom severity, and number of complications (de Groot et al., 2001). We report results of a clinical trial of an automated self-management system (ASMM) intended to assist in patient-centered management of T2DM by reminding older diabetic individuals to focus on SMBG as the primary indicator of glycemic control.

The study was a randomized trial with half of participants randomized to immediate use of the ASMM and half to a "delayed control" group. The ASMM provided audio reminders to perform SMBG and take medication, and user friendly feedback about glycemic control on a "real-time" basis. Home visits were made every three months to measure glycated hemoglobin (A1c), depression, and collect other study measures.

44 older diabetic men and women from diverse backgrounds completed the intervention with the mean age of 70. Mean baseline A1c was 7.94%±1.65 and improved 0.712 percentage points across time (F=4.72, df=3, 41, p=0.006). Baseline depression and change in depression across time were not associated with improvement in A1c, however, variability in depression measures across time predicted change in A1c (β=−0.354, p=0.018).

Our results indicate that an individual's variability in depression scores could help explain improvement in A1c using an assisted self-management system.

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Paper Session #1 2:15 PM–2:30 PM 2041

COMMUNITY-BASED DIABETES EDUCATION TO RECRUIT LOW SES PERSONS FOR A DIABETES RISK REDUCATION PROGRAM

Jasmine Santoyo-Olsson, MS,[1] Julissa Saavedra, AA,[1] Rachel Freyre, BS,[1] Melanie Grossman, PhD,[1] Adriana Delgadillo, BS,[1] LeConté Dill, MPH,[2] Tanya Moore, PhD,[2] Kate Clayton, MPH,[2] Alka Kanaya, MD[1] and Anita Stewart, PhD[1]

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Efforts to mitigate racial/ethnic and socioeconomic status (SES) disparities in risk of type 2 diabetes (T2DM) include providing health education to low SES and minority adults. We provide preliminary results of three diabetes education interventions as steps toward recruitment into a study testing the effectiveness of a lifestyle program to reduce glucose in persons at high risk of T2DM. First, community health workers (CHWs) provide diabetes education at outreach events such as health fair tabling, presentations at churches and senior centers, talking to people in public places such as libraries, and print media. Second, CHWs offer an opportunity to complete a "Diabetes Risk Appraisal" (DRA) to increase awareness of risk factors. Third, diabetes screening events with fingerstick fasting glucose tests and diabetes education materials are provided. Those with elevated glucose results are encouraged to join the study and program. To date, we have conducted over 150 outreach events, spoken to about 2,800 individuals and administered 1,040 DRAs (37%). Of 457 persons completing a fingerstick test, 339 had elevated glucose and were screened for study eligibility. Of 218 eligible/ interested persons, 125 enrolled, 23 refused, 38 are in process, and 32 were lost to follow-up. The most effective outreach methods to get people to a diabetes screening event are personal contact with CHWs, site-specific media, and word of mouth by staff at community organizations. Reminder calls about screening events to those providing a phone number enhances effectiveness. Each recruitment step is an "endpoint," providing diabetes education in these vulnerable communities and building awareness of diabetes risk to enhance enrollment in the study. Our approach may help others attempting to provide diabetes education and programs to minority/underserved individuals.

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Paper Session #1 2:30 PM–2:45 PM 2042

SELF-DETERMINATION THEORY AND MEDICATION ADHERENCE: TOWARD REDUCING THE HEALTH RISKS OF DIABETES

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In the US, projections for Type 2 diabetes indicate that roughly one third of Americans born after 2000 will develop the disease. These patients have a heightened risk for coronary artery disease, which results in a substantially reduced life expectancy. Medications that improve glycemic control and cholesterol improve morbidity and mortality for those who adhere. However, adherence to these regimens remains poor.

Self-determination theory (SDT) provides a useful framework for understanding medication adherence and quality of life. SDT posits that humans' orientation toward physical and psychological health is facilitated by autonomy-support. Thus, when patients perceive their providers to be autonomy-supportive, they are more likely to internalize health values and to experience greater autonomous self-regulation and perceived competence, which are expected to improve physical and mental health. The present study applies the SDT model of health behavior to medication adherence, quality of life, and physiological outcomes. Autonomy-support from health care providers, autonomous self-regulation, and perceived competence were expected to relate positively to quality of life, medication adherence, and improved glycemic control and non-HDL cholesterol.

Using structural equation modeling to analyze data from 3641 patients in a health care system, the SDT model yielded good fit (CFI=.96, TLI=.88, RMSEA=.04) and related positively to quality of life (β=.34, p<.001) and adherence information (β=.09, p<.01), which in turn related negatively to glycemic control (β=−.13, p<.10) and non-HDL cholesterol (β=−.24, p <.001). These findings provide support for the importance of practitioners providing a context that supports patients' needs for autonomy and competence, which are related to higher medication adherence, quality of life, and physiological outcomes associated with reduced risk for cardiovascular disease.

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Paper Session #1 2:45 PM–3:00 PM 2043

DECISIONS TO TRANSFER RESPONSIBILITY FOR DIABETES CARE FROM PARENTS TO ADOLESCENTS

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Adolescents with diabetes typically exhibit worse self-care behavior than children or adults. This deterioration in self-care behavior may be due to teens' increased responsibility for diabetes care—adolescents may not perform diabetes care tasks as well or as consistently when they are responsible for their own care. Some work shows that teens' physical and psychological outcomes are best when families share responsibility for care (Helgeson et al., in press), however, little is known about the process by which parents and adolescents decide to distribute responsibility, or about the methods families use when sharing responsibility. The current study investigated these questions with structured qualitative interviews, conducted individually with 29 adolescents (ages 13–15) and their mothers. Participants were asked to indicate who was responsible for various diabetes tasks. Follow-up questions assessed how decisions about distributing responsibility were made. If participants indicated that responsibility was shared for a given activity, the method of sharing responsibility also was assessed. Content analysis of the interviews indicated that the criteria parents and adolescents used to make decisions about distributing responsibility comprised two broad categories: (1) decisions based on developmental criteria and (2) decisions based on external criteria. Developmental criteria included sub-categories such as child readiness, demonstrated skill, and a desire to teach the child about diabetes care. External criteria included sub-categories such as convenience, burden, and parent reluctance to be involved. Methods of sharing responsibility included collaboration, turn-taking, and other strategies. We report frequencies with which adolescents and parents mentioned criteria and strategies, as well as differences between adolescent and parent reports. This work provides insight into the decision making processes used by teens and parents, and will directly inform the development of quantitative instruments to assess these important constructs.

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Paper Session #2 1:30 PM–1:45 PM 2044

PHYSICAL ACTIVITY AND SUN PROTECTION BEHAVIORS IN A RANDOMIZED CONTROLLED PHYSICAL ACTIVITY TRIAL

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Physical activity has been shown to have a protective effect against numerous chronic diseases, including some cancers and cardiovascular disease. Increased adherence to skin cancer prevention guidelines (avoiding the sun) may limit physical activity occurring outdoors and may make physical activity more uncomfortable or difficult (i.e. wearing hot or uncomfortable sun protective clothing). Similarly, efforts to increase physical activity may have the undesirable effect of increasing cancers due to ultraviolet exposure from the sun, especially while exercising during midday and throughout the summer. In a randomized controlled physical activity promotion trial conducted in New England with sedentary individuals (n=132), we obtained baseline data regarding sun exposure during moderate and vigorous intensity physical activity. Descriptive statistics showed that during the baseline Physical Activity Recall interview, participants reported 50% of their physical activities were conducted outdoors (m=22.5 minutes/week), During which, 54.5% of participants wore long sleeve shirts, 40.9% of participants wore short sleeve shirts, 2.3% wore sleeveless shirts and 79% wore hats. Sunscreen was worn during only 25% of baseline outdoor activities. Increasing physical activity could lead to more time spent outdoors, placing participants at increased risk for sun exposure. This is a possible area to target in a skin cancer prevention intervention as numerous public health interventions seek to encourage people to become more physically active. Additional baseline descriptive data as well as 6-month data will be presented.

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Paper Session #2 1:45 PM–2:00 PM 2045

ASSESSING LEVELS OF SUN PROTECTION IN PUBLIC SCHOOL DISTRICT POLICY

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Exposure to ultraviolet radiation (UVR) is the leading preventable risk factor for skin cancer and a quarter of lifetime UVR exposure is sustained before the age of 18. Schools provide a potentially effective setting for skin cancer prevention and may require changes in policies. A school district policy assessment measure was developed and baseline levels of policy on sun safety assessed in districts in Southern California. Ten content areas were coded (sunscreen, protective clothing, hats, student and staff sun safety education, shade, scheduling to avoid high UVR, parent outreach, resource allocation, and accountability) on whether they addressed each content area (Addressed-1 point), with what strength (Allowed-1 point, Required-2 points) and with the direct intent of improving sun safety (Direct-1 point on 4 areas) (34 possible points combined). Inter-rater reliability on test samples (98% agreement) and on 20% of the assessed policies (100% agreement) was high. Board policies in 48 of 56 school districts approached in Southern California were collected and assessed by trained coders. Sub-policies most likely to contain sun safety content were identified in a developmental step. Overall, 32 of 48 districts had a policy sun safety (mean total score=3.98, sd=4.21, range=0–11), most commonly hats (62%), protective clothing (42%), sunscreen (25%), and education (21%; none addressed other aspects). All such policies allowed but did not require these actions and nearly all with the intent to improve sun safety. While several districts addressed sun protection in policy, the policies were very limited and merely recommended students and staff take precautions. No district had a comprehensive policy. A state law on sun protective hats no doubt caused the greater focus on that prevention strategy, but there is room for improvement in all sun safety strategies advised by health authorities.

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Paper Session #2 2:00 PM–2:15 PM 2046

ENFORCEMENT OF STATE-LEVEL INDOOR TANNING LAWS IN THE U.S.

Katherine D. Hoerster, MS,[1] Latrice C. Pichon, MPH,[2] Debra A. Rubio, BA,[3] Susan I. Woodruff, PhD,[3] Jean L. Forster, PhD[4] and Joni A. Mayer, PhD[3]

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Rates of indoor tanning are high among female teenagers. Indoor tanning with ultraviolet radiation (UVR) lamps has been linked with melanoma, squamous cell carcimona, molecular damage associated with skin cancer, and other acute damage to eyes and skin. Twenty-eight U.S. states have passed legislation for indoor tanning facilities, with the intent of reducing risks to consumers. In order to assess the level at which the written laws are implemented, we conducted telephone interviews of key informants in states with indoor tanning legislation to assess enforcement practices; to our knowledge, this represents the first documentation of the practices of all 28 states. Results were based on a 100% response rate and include data provided by 28 individual key informants who were knowledgeable about enforcement practices, each representing the largest city in his/her state. Licensure for indoor tanning businesses was required in 22 of the cities. Just less than one-half of the cities gave citations to tanning facilities that violate the state law. Approximately 32% of the cities did not inspect indoor tanning facilities for compliance with the state law, and another 32% conducted inspections less than annually. Of those cities that inspected at all, the majority conducted unannounced inspections. The relatively low rates of annual inspections and citations were of concern. We recommend that future studies assess whether legislation, enforcement practices, or a combination of the two have any effects on the practices of indoor tanning facilities or of consumers. Doing so is especially important if we hope to reduce the rates of indoor tanning among female teenagers.

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Paper Session #2 2:15 PM–2:30 PM 2047

AVAILABILITY OF INDOOR TANNING IN URBAN USA: CITY100+

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Indoor UV tanning, which has been linked with melanoma, is being used by over 25% of 17 year old girls in the U.S. CITY100 (Correlates of Indoor Tanning in Youth) is exploring correlates of teen tanning at multiple levels. One potentially important correlate is availability of commercial indoor tanning services in one's city or neighborhood. In this paper, we report results on tanning facility number and density. We systematically identified and geocoded tanning facilities in the 100 largest US cities (representing 34 states and DC) plus the largest city in each of the other 16 states. Facilities in the city proper, as well as in the city plus 1, 2, and 3 mile buffer zones were identified, along with Starbucks and McDonalds, using Superpages.com and ReferenceUSA.com; to be included, a facility had to offer UV tanning and be open to the public. Data on the number of tanning beds per facility were obtained via phone calls. Inter-rater reliability on the number of facilities was almost perfect (.99). Results below refer to the city plus 3 mile buffer zone area. City facility counts ranged from 3 (Hialeah, FL) to 183 (Manhattan);mean=42; SD=31. Number of tanning facilities per city exceeded the number of McDonalds(mean=30; SD=23) and Starbucks(mean=19;SD=25). Facility densities ranged from 1 to 34 (per 100,000 pop.); mean=12; SD=6. Types of tanning facilities included sole purpose tanning salons (79.7%), beauty salons/day spas (17.3%), and other(3%). Mean number of beds per facility was 9.9(SD=6.8). Neither facility number or density differed significantly across geographic region and neither was related to the stringency of existing consumer protection legislation. When these tanning facility data were linked to our geocoded addresses from telephone interview data of over 6,000 teens, we found that 42% lived within 1 mile, 76% lived within 2 miles, and 89% lived within 3 miles of a facility. We will use these disturbing data to predict indoor tanning rates, monitor secular trends in availability, and promote environmental policy and legislative changes.

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Paper Session #2 2:30 PM–2:45 PM 2048

ACCESS TO INDOOR TANNING BY TEENS: PRACTICES OF 3,646 U. S. TANNING FACILITIES

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Indoor UV tanning increases the risk of melanoma and squamous cell skin cancer, particularly when initiated at younger ages. Over 25% of U.S. 17 year old girls report having tanned at least once in the past year. Twenty one states have laws restricting youth access to commercial UV tanning. Posing as 15-year old fair skinned consumers who were planning a tanning session that day, our five young-sounding female data collectors phoned tanning facilities to assess practices related to youth access and other safety issues. As one component of the CITY100 (Correlates of Indoor Tanning in Youth) project, all facilities in the 100 largest U.S. cities (representing 34 states plus DC) and the largest city in each of the remaining 16 states were phoned (N=3646). Results indicated that 71% of facilities would allow the teen to tan everyday the 1st week, even though FDA recommends no more than 3 times. Mean number of weekly sessions allowed in states with vs. without youth access laws were 6.116 and 5.868, respectively, $p<.001$, which is opposite to what one might predict. Eighty-seven percent required the teen obtain parental permission. Of the 80 facilities phoned in Wisconsin, the only state whose law bans indoor tanning for those 16 years and younger, 70% said the teen could not tan there (vs. 4% of all other facilities), $\chi 2=728.6$, $p<0.001$. Results from multivariate models predicting practices of all facilities, and data showing compliance with specific state laws also will be presented. Although the findings for parental consent and ban enforcement were encouraging, the liberal tanning schedules allowed were of great concern.

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Paper Session #2 2:45 PM–3:00 PM 2049

PREVALENCE AND CORRELATES OF INDOOR TANNING AMONG U.S. ADULTS

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Introduction. Little is known about the prevalence of indoor tanning among the general population as this literature has focused primarily on young Caucasian females. The current study sought to use a large nationally representative sample to describe the prevalence of indoor tanning throughout adulthood. Additional aims were to identify demographic and psychosocial correlates of indoor tanning behavior and to determine whether these correlates varied by age group. Methods. The current study used data (N=29,394) from the 2005 National Health Interview Survey (NHIS), an annual national probability health survey of the U.S. adult population, which uses a multistage, clustered, cross-sectional design. The primary outcome was whether individuals reported engaging in indoor tanning at least once in the past year. Results. As in previous literature, indoor tanning rates were higher among the young, white, and female. Rates of indoor tanning in the last year varied from 20.4% for 18–29 year olds to 7.8% for those 65 years and older. Indoor tanners were more likely to engage in high levels of sun exposure and low levels of skin protection than non-indoor tanners. More frequent indoor tanning was associated with greater likelihood of burning mildly with sun exposure. Indoor tanners also had higher levels of tobacco and alcohol use, but the relationship between indoor tanning and poor dietary and exercise practices was less consistent, and there was no relationship with body mass index. We identified a greater number of significant correlates for younger than older adults. Discussion. Health care providers should address indoor tanning as a health risk factor across the lifespan. Future studies should attempt to identify predictors of indoor tanning among older individuals, who, despite a lower prevalence of indoor tanning, are at higher risk of skin cancer than younger people. Longitudinal studies should be conducted to determine which effects are longitudinal versus cohort effects.

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Paper Session #3 1:30 PM–1:45 PM 2050

EVALUATING THE PROSTATE INTERACTIVE EDUCATION SYSTEM (PIES): RESULTS FROM A RCT

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Background: Treatment decision making for patients diagnosed with prostate cancer (PrCA) is difficult. Men have to cope with the stress of a cancer diagnosis and reconcile contradicting treatment options, often presented in unknown medical and probabilistic terms. Future quality of life is uncertain. PIES was designed to address this problem. It is an educational software and decision tool that provides patients with information about PrCa and its treatment through an intuitive interface, using video, animation, and text. Using the metaphor of a virtual health center, information is presented in rooms (e.g., library, physician's office, support group room). We evaluated the ability of PIES to reduce decisional conflict and distress in a RCT.

Methods: Participants (N=86) were patients diagnosed with localized PrCa who have not yet made a treatment decision. Patients (mean=66 years; married) were randomized into 2 conditions: a) Standard care (SC=NCI print materials); and b) PIES software. Assessments were taken at baseline, post intervention and at 6 weeks and included O'Connor's Decisional Conflict Scale and items measuring the emotional impact of the information in PIES.

Results: PIES was well accepted in the clinic by patients and clinicians. Patients using PIES reported significantly higher levels of confidence in their treatment decision after the intervention, and found the information as more reassuring and less distressing than patients in the SC. Decisional conflict decreased significantly over time for both groups however the reduction was steeper for the PIES group. Informed decision making increased significantly among the PIES group from baseline to 6 weeks compared to SC. Pies significantly helped patients to clarify their treatment-related values and goals compared to patients in SC (all ps<.05).

Conclusion: PIES is a novel interactive tool that integrates well into the clinic and successfully helps patients reduce decisional conflict and emotional strain, and increases confidence in their decision.

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Paper Session #3 1:45 PM–2:00 PM 2051

CANCER AWARENESS AND PREVENTION (CAP) TRIAL: PROMOTING INFORMED DECISION MAKING ABOUT PROSTATE CANCER TESTING IN BLACK AND PREDOMINANTLY IMMIGRANT MEN

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Relative to other racial-ethnic groups, black men have a higher prostate cancer (PC) prevalence and mortality rate, and tend to be less knowledgeable about the benefits and risks of PC testing. Practice guidelines recommend educating men, especially high-risk men, about the benefits and risks of PC testing to support informed testing decisions. In a unique collaboration between two universities and a labor union/health insurer, we developed the Cancer Awareness and Prevention (CAP) project to educate black men about prostate cancer risk and tests. The project evaluates the efficacy of a tailored telephone decision-support intervention that is designed to promote informed decision making about prostate cancer testing. The sample consisted of 490 urban and predominantly immigrant black men, aged 45–71 years old. Guided by the Ottawa Decision Support Framework, the trial used a randomized, two-group (decision intervention vs. attention control) repeated-measures design. Intervention participants received a brochure and tailored telephone counseling about PC and testing in black men, which presented the risks and benefits of testing in a balanced manner. Controls received a brochure and tailored telephone counseling about the current guidelines on fruit and vegetable consumption for black men. Relative to controls, men in the intervention group had greater increases in knowledge about PC and testing options ($p<.001$); lower decision conflict ($p<.01$); and were more likely to talk with a physician about PC for the first time in their life ($p<.05$). The decision intervention had no effects on reported testing intentions and behaviors; nor did it affect general or prostate-cancer specific anxiety levels. These findings are consistent with the broader literature, which has focused on white men in clinic settings, and suggest the CAP intervention is efficacious and acceptable to a high-risk, minority population.

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Meritorious Student Paper
Paper Session #3 2:00 PM–2:15 PM 2052

HEALTH-RELATED QUALITY OF LIFE CORRELATES OF THE TREATMENT DECISION MAKING PROCESS OF NEWLY DIAGNOSED PROSTATE CANCER PATIENTS

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Research indicates that patient participation in treatment decision making (TDM) may enhance post-treatment health-related quality of life (HRQL). Men with newly diagnosed prostate cancer may be likely to participate in TDM because multiple treatment strategies are often available. A review of the literature reveals that existing TDM measures often are atheoretical or poorly operationalized. Based on informed decision making theory, the current study developed seven scales to assess three aspects of the patient TDM process: 1) Receipt and Understanding of Treatment Information; 2) Choice Deliberation; and 3) Decision Appraisal. Reliability statistics indicated that the scales possessed very good internal consistency. These measures and HRQL (FACT-G) were examined in 53 prostate cancer patients at pretreatment, and at four time points post-treatment: one month, six months, one year, and two years. On average, patients reported receiving and understanding ample treatment information, were very involved in choice deliberation, and reported favorable decision appraisal. Participants also reported having good HRQL at all time points. After controlling for pre-treatment HRQL, residualized hierarchical regression analyses revealed that Decision Appraisal significantly accounted for 5.1% of the variance in FACT-G at one month and 7.4% at six-months post-treatment. Scales measuring Receipt and Understanding of Treatment Information significantly accounted for 7.3% of the variance in FACT-G at two-years post-treatment. Choice Deliberation was not associated with post-treatment HRQL. The data suggest that decision appraisal contributes to HRQL up to six months following treatment, yet receipt and understanding of treatment information emerges as the significant predictor of HRQL at two-years post-treatment. These findings suggest that patient involvement in TDM is a multifaceted experience and unique aspects of TDM may be associated with HRQL differently over time.

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Citation Paper
Paper Session #3 2:15 PM–2:30 PM 2053

LONGITUDINAL ASSOCIATIONS AMONG DECISIONAL REGRET, DEPRESSION, AND QUALITY OF LIFE IN PATIENTS TREATED WITH EXTERNAL BEAM RADIATION THERAPY

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Background: Prostate cancer patients' treatment decision making is often made under conditions of high uncertainty with respect to side-effects and their impact on future quality of life (QOL). When treatment outcomes are worse than expected, treatment-related regret might emerge, which in turn might lead to elevated levels of depression and deterioration of QOL. We examined these relationships in a longitudinal study among prostate cancer patients treated with radiation therapy. Specifically, we examined whether depression mediates the relationship of decisional regret with QOL.

Method: Prostate cancer patients (n=301) treated with external beam radiation therapy participated in the study. Data were collected at baseline (i.e., after diagnosis), and six, and 12 months later. Decisional regret (Decisional Regret Scale) and depression (CES-D) were measured at six months, and physical, social, emotional, and functional QOL (FACT-P) were assessed at 12 months.

Results: In general, patients reported low levels of decisional regret and depression at six months and moderate levels of the four QOL domains at 12 months. Path analyses showed significant direct effect of regret on emotional, functional, and physical QOL, but not social QOL ($\chi2=16.11$, df $=13$, $p=.24$). Examining the mediation model showed full mediational effects of depression in the relationships of decisional regret with emotional and functional quality of life, and a partial mediation effect on the relationship of regret with physical QOL ($\chi2=15.35$, df=15, $p=.43$).

Conclusions: These findings highlight the significance of treatment-related regret as a precursor for depression and lower QOL. Efforts should be made to educate patients about all treatment options including their potential pros and cons and to strive for a treatment decision that is in line with patients' values with respect to quantity and quality of life.

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Meritorious Student Paper
Paper Session #3 2:30 PM–2:45 PM 2054

COGNITIVE ADAPTATION BUFFERS OLDER PROSTATE CANCER SURVIVORS AGAINST AGE-RELATED DECLINES IN SUBJECTIVE WELL BEING: A STRUCTURAL EQUATION MODELING ANALYSIS

Lara Traeger, MS, Frank Penedo, PhD, Mikal Rasheed, BA, Eric Zhou, BA, Catherine Benedict, BA, Michael Antoni, PhD and Neil Schneiderman, PhD

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Older adults generally do not report declines in well being despite increased rates of comorbid health concerns and other challenges. Cognitive adaptation has been suggested to underlie this paradox. Older cancer survivors nevertheless show variance in quality of life (QOL), although mechanisms of individual differences remain largely unknown. This study investigated whether perceptions of cancer consequences may counterbalance the effects of post-treatment dysfunction, comorbidity, and socioeconomic status (SES) on QOL in older men treated for prostate cancer (PC). Participants were an ethnically diverse sample of 257 men (M age=65, Range=47–84) treated for localized PC within the past 18 months. Comorbidity was assessed with the Charlson Comorbidity Index, post-treatment dysfunction and bother with the Expanded Prostate Cancer Index Composite, cancer perceptions with the Illness Perception Questionnaire-Revised, and QOL with the Functional Assessment of Cancer Therapy. In a model predicting QOL that adjusted for relevant control variables, the total effect of age on QOL was non-significant. However, after controlling for perceived consequences of PC ($B=-.28$) and perceived bother of sexual dysfunction ($B=-.28$), the direct relationship between age and QOL became significant and negative ($B=-.15$; $p's<.05$), suggesting that less severe perceptions of PC suppressed the relationship between older age and poorer QOL. When comorbidity ($B=-.17$) and income ($B=.20$; $p's<.05$) were subsequently added to the model, the indirect relationship between older age and greater QOL via less severe perceptions of PC remained significant. Results indicated that less severe perceptions of PC buffered older men against QOL decrements associated with age-related declines in health and SES. Cognitive adaptation strategies may underlie QOL stability among PC survivors, and therefore represent critical targets for post-treatment intervention with older adults at risk for poor QOL during the post-treatment phase.

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Paper Session #3 2:45 PM–3:00 PM 2055

COGNITIVE IMPAIRMENT IN MEN RECEIVING ANDROGEN DEPRIVATION THERAPY FOR PROSTATE CANCER AS COMPARED TO HEALTHY CONTROLS

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Studies suggest that testosterone levels are associated with enhanced cognitive functioning in some domains among healthy older men. When production of testosterone is blocked through androgen deprivation therapy (ADT) for prostate cancer, patients' cognitive functioning may be negatively affected. The present study examined cross-sectional rates of cognitive impairment in patients on ADT as compared to healthy controls. Participants were 56 men with non-metastatic prostate cancer who had been receiving ADT for at least six months (mean age=70, range 52–88) and 47 men with no history of prostate cancer (mean age=70, range 50–86). Cognitive domains assessed were verbal fluency (Controlled Oral Word Association Test), visuospatial ability (Card Rotations Test), verbal memory (Hopkins Verbal Learning Test), visual memory (Brief Visuospatial Memory Test – Revised), and attention/concentration (Symbol Digit Modalities Test). Impairment was defined as 1.5 SD below published age-matched norms. Single-tailed tests were used, as patients were expected to display poorer cognitive functioning relative to controls. Patients did not differ from controls in age, ethnicity, race, education, or annual household income (ps<.05). Patients displayed a significantly greater number of impaired tests than controls (1.48 vs. .89, p<.05). This finding was due primarily to differences in rates of impairment in immediate verbal memory (29% patients, 15% controls, p<.05) and verbal fluency (30% patients, 15% controls, p<.05). Number of tests impaired was not associated with length of time on ADT in patients (p>.05). These findings suggest that ADT for prostate cancer is associated with impairment in cognitive functioning, particularly in verbal memory and verbal fluency. Longitudinal studies should be conducted to examine cognitive change over time in patients on ADT as compared to controls.

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Paper Session #4 1:30 PM–1:45 PM 2056

PROJECT HEART (HEALTH EDUCATION ASSESSMENT RESEARCH TEAM): CAN COMMUNITY HEALTH WORKERS/ PROMOTORAS DE SALUD (CHW/PS) CHANGE CLINICAL OUTCOMES IN A HISPANIC POPULATION AT RISK FOR CARDIOVASCULAR DISEASE (CVD) IN EL PASO, TEXAS?

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Project HEART is a community based participatory research project conducted by four partners with a common goal. The purpose is to employ a CHW/PS approach utilizing the Salud Para Su Corazon (SPSC) curriculum to promote cardiovascular health to break the cycle of behaviors that places Hispanic families on the US-Mexico border at greater risk for CVD. A Community Health Advisory Committee (CHAC) was developed; a community needs assessment done and a randomized pilot intervention launched to determine the optimal CHW/PS approach. In the pilot intervention, 3,959 households in the El Paso lower valley area were visited, 993 individuals were screened, 568 were eligible of whom 328 participated. Participants had at least one risk factor for CVD (high BP, cholesterol, diabetes, smoking, overweight) and were randomly selected in the control (n=136) or experimental group (n=192). The experimental group was offered eight weekly 90 minute classes by a CHW/PS covering the SPSC curriculum. The CHW/PS continued participant contact eight more weeks by phone. The control group received the SPSC curriculum in a packet. Clinical measures (height, weight, waist circumference, BP, blood glucose, HbA1c and a lipid profile) were obtained at baseline and 4 months later. Participants were 54±13 years old and moderately acculturated, 233 were female, 95% spoke Spanish (48% bilingual), 76% had high school education or less and 72% annual income less than $20,000; the average pre-BMI was 31±7. Preliminary results indicate a significantly stronger (p<.05) increase in HDL cholesterol for the experimental group (n=50) from 40±12 to 42±9 compared to the control group (n=46). Systolic BP decreased more for the control group from 142±18 to 131±16 compared to the experimental group (p=.01). Phase 2 of the project will collaborate with the YWCA and Parks & Recs. for an after hours component.

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Meritorious Student Paper
Paper Session #4 1:45 PM–2:00 PM 2057

COMPREHENSIVE LIFESTYLE CHANGES ARE RELATED TO REDUCTIONS IN DEPRESSIVE SYMPTOMS AND IMPROVEMENTS IN CORONARY RISK FACTORS IN WOMEN AND MEN WITH ELEVATED CORONARY RISK FACTORS

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Depression, a risk factor for the development of coronary heart disease (CHD), is associated with a sedentary lifestyle, smoking, obesity, and lack of exercise. It is not known whether interventions targeting these lifestyle behaviors improve depression and whether this improvement is related to changes in health behaviors, coronary risk factors, and quality of life in patients with elevated coronary risk factors (i.e., ≥3 and/or diabetes). All patients [non-smokers; mean age: 55; 314 men, 33% diabetic, 27%>16 on the Center for Epidemiological Scale-Depression scale (CES-D); 694 women, 38% diabetic, 38% CES-D>16] enrolled in the Multisite Cardiac Lifestyle Intervention Program, an ongoing insurance-covered intervention conducted at 22 sites in the U.S., and were asked to make changes in diet (10% calories from fat, whole-foods, plant-based), to engage in moderate exercise (3 hrs/week), and to practice stress management (1 hr/day). At baseline, depressed patients had a more adverse medical (e.g., body-mass, diastolic blood pressure) and behavioral (e.g., dietary fat intake, hostility, perceived stress, Medical Outcomes Study SF-36 scores) status than non-depressed patients (all p <.05). Depression significantly improved in both sexes after 3 months. Patients were categorized into 3 groups: (1) depressed patients who became non-depressed (CES-D≤16, n=248; 72%); (2) patients who remained or became depressed (CES-D>16, n=129); (3) non-depressed patients who remained non-depressed (n=602). Group comparisons revealed that depressed patients who reduced depressive symptoms to ≤16 also reduced dietary fat intake, weight, perceived stress and hostility and increased exercise more than patients in the other 2 groups. Comprehensive lifestyle changes are related to significant reductions in depressive symptoms and improvements in coronary risk factors in patients at high risk for CHD.

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Paper Session #4 2:00 PM–2:15 PM 2058

DEVELOPMENT OF A POST STROKE SELF-MANAGEMENT PROGRAM

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Background: Post stroke depression is prevalent and associated with increased morbidity and mortality.

Objective: To develop a stroke self-management program designed to increase patient self-efficacy, facilitate recovery, address secondary stroke prevention, and decrease depression symptoms while incorporating stakeholder preferences.

Methods: We modeled the program structure after the successful Lorig's Arthritis Self-Management program and have incorporated theoretical concepts of self-efficacy including social modeling and vicarious experiences. Moreover, we held focus groups of stroke survivors and their caregivers to receive input on the program contents and preferences for the program delivery. In total, patients receiving the Stroke Self-Management Program receive six self-management sessions delivered by a case manager half in person (3 sessions) and half by telephone (three sessions) over a period of 12 weeks beginning at hospital discharge based on stakeholder input. During the sessions, stroke survivors are taught self-management skills and goal setting to foster behavior change. The case manager facilitates the negotiation of behavior planning and problem-solving.

Results: We are currently testing the efficacy of the stroke self-management program at two VA medical centers and plan to enroll 140 stroke survivors prior to hospital discharge. Patients are randomized to either the program or an attention control group and patient outcomes are collected at baseline, 3 and 6 months after enrollment. Depression is the primary outcome and patient self-efficacy and stroke specific quality of life are secondary outcomes. We are tracking program fidelity and the implementation process across both sites.

Conclusions: The stroke self-management program was developed with both professional and stakeholder feedback and holds potential for decreasing the prevalence of post stroke depression and improving health-related quality of life for stroke survivors.

Project funded by the Veterans Health Administration IMV 04-096 to Dr. Williams.

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Paper Session #4 2:15 PM–2:30 PM 2059

AN IMPLEMENTATION TRIAL OF A TELEPHONE-DELIVERED SECONDARY PREVENTION PROGRAM FOR HEART ATTACK PATIENTS—THE PROACTIVE HEART PROGRAM

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Introduction: There is overwhelming evidence supporting ongoing prevention for those with heart disease, and the WHO recommends that all patients participate in secondary prevention programs. However, internationally, less than 30% of people participate in such programs due to many barriers limiting accessibility. Tele-based programs may overcome some of these barriers. This study is implementing and evaluating the 6 and 12-month health outcomes, and cost-effectiveness, of an innovative telephone-delivered secondary prevention program for myocardial infarction (MI) patients.

Methods: Participants are MI patients from 3 tertiary referral hospitals in Brisbane, Australia (n=500). Participants are randomised to a usual care condition (control) or intervention group (ProActive Heart). ProActive Heart includes 10 telephone-delivered health coaching sessions over 6 months supported by an interactive participant handbook and National Heart Foundation of Australia (HF) information. Sessions are based on HF recommendations, focusing on lifestyle change, medication compliance, and management of psychosocial issues. Primary outcome measures include physical activity, nutrition, and quality of life at 6 and 12 months follow-up. An economic evaluation is also being conducted.

Results: The presentation will include an update on recruitment, an overview of the methodology and a comprehensive outline of the program.

Conclusion/Significance: This innovative tele-based program will address some of the barriers associated with the current delivery of, and access to, programs for people following MI. The program is also consistent with many other Australian and international initiatives to facilitate a shift towards improved self-care and enhanced patient empowerment for the prevention and management of chronic disease.

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Meritorious Student Paper
Paper Session #4 2:30 PM–2:45 PM 2060

TREATMENT OF DEPRESSION AFTER CORONARY BYPASS SURGERY: THE ROLE OF HEART DISEASE EXPECTATIONS

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Persistent depression is common after coronary artery bypass graft (CABG) surgery, and is associated with nonadherence, re-hospitalization, and mortality. However, little is known about how to treat it. This study investigated post-CABG patients' beliefs regarding their future health as moderators of treatment outcomes in a randomized clinical trial of cognitive behavior therapy (CBT), supportive stress management (SSM), and usual care (UC). One hundred twenty-three depressed patients who were enrolled within one year after CABG surgery were given a questionnaire concerning their expectation of restenosis. Approximately 72% expected restenosis, and those who did were significantly younger and more depressed, anxious, and hopeless than those who did not ($p < .05$). Neither the number of prior cardiac events nor disease severity predicted patients' expectations. Significant interactions ($p < .001$) were found between treatment group and expectation of restenosis, such that those who expected future restensosis and received active treatment (CBT or SSM) had lower depression scores at follow-up. A significant interaction was also found between treatment group and expectation of restenosis on likelihood of exercise at follow-up ($p = .03$). CBT participants who expected restenosis were more likely to report regular exercise at follow-up (odds ratio=6.00; 95% C.I., 1.38–26.31; $p = .02$). Thus, treatment of depression appears to ameliorate the depressive effects of pessimistic health expectations. We conclude that concerns about restenosis should be addressed in the context of psychotherapy for post-CABG depression.

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Paper Session #4 2:45 PM–3:00 PM 2061

THE IMPACT OF AN ADHERENCE INTERVENTION ON HEART FAILURE PATIENTS' EXERCISE PARTICIPATION

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Exercise is a recommended treatment for heart failure (HF) but little is known about exercise adherence in this population. A variety of adherence strategies have been suggested in the literature but few have been tested for efficacy or studied in patients with HF. The purpose of this study was to assess the effects of an exercise adherence intervention on adherence outcomes, (numbers of sessions, self-efficacy), physiological indicators of exercise adherence (6 minute walk test, symptoms of dyspnea/fatigue) and patient perception of the adherence strategies. The intervention consisted of five adherence strategies (i.e., exercise logs, graphs of exercise goals and participation, access to an exercise web-site, a heart rate monitor watch, and group support sessions) designed to support the development of exercise self efficacy. A sample of 42 patients with HF (mean EF=32.5%) were randomly assigned to either an attention control (AC) group (n=20) or an exercise intervention (INV) group (n=22). Exercise was completed in two, 12 week phases. During Phase 1 (weeks 1–12), both groups attended a weekly education class and the INV group was instructed in both aerobic and resistance exercise and received the adherence intervention strategies. During Phase 2 (weeks 13–24), the adherence strategies were self-managed. Results indicate the number of sessions significantly declined from Phase 1 to Phase 2 for both aerobic (mean=30.5+7.3 to 20.7+13.2) and for resistance sessions (mean=20.7+4.6 to 14.9+9.2) $p<0.01$. Group support sessions were rated the strategy most helpful to adherence and self-efficacy while the web-site was rated lowest. Analysis of change scores indicate the INV group had greater improvement in the 6MWT, decreased dyspnea/fatigue, and higher self-efficacy compared to the AC group and the greatest improvement occurred in Phase 1. Findings suggest the adherence intervention supported exercise self-efficacy and improved exercise participation for patients with HF.

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Paper Session #5 1:30 PM–1:45 PM 2062

WHEN GENETIC SUSCEPTIBILITY TESTING IS OFFERED FOR MULTIPLE COMMON HEALTH CONDITIONS, WHO IS INTERESTED?

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Emerging associations between gene variants and common health conditions may impact public health practice through personal genetic susceptibility testing. These genetic test results could be returned to encourage health-promoting habits. While genetic susceptibility testing is not yet widely available, there is a need to begin evaluating the public's receptivity to such testing and ask whether some subgroups of adults will be more or less interested.

The Multiplex Initiative is a transdisciplinary research project that is offering genetic susceptibility testing for eight common health conditions, with the ultimate goal of examining the resultant clinical, social, and behavioral implications of such testing. A random sample of enrollees aged 25–40 in the Henry Ford Health System (Detroit, MI) were contacted. Men (54%), African Americans (58%), and those in low educational level areas (55%) were oversampled. Participants who complete a baseline survey are asked to visit the study's informational Web site, where they decide whether they want genetic testing. Of the 725 people who completed the baseline survey so far, 149 (21%) accessed the Web site, and 89 (12%) decided to take the Multiplex genetic test. African Americans were three times less likely than Caucasian Americans to request the test. Additionally, of the participants who initially stated interest in genetic susceptibility testing, 16% decided to take the test once they learned the specifics of testing.

These initial recruitment results show that the overall uptake of the Multiplex test may be modest. As the first population-based study to examine uptake of genetic susceptibility testing for common health conditions, these results could inform efforts to avert disparities in dissemination of genetic technologies and may be useful for planning future research.

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Paper Session #5 1:45 PM–2:00 PM 2063

ASSOCIATION AND PREDICTORS OF CONGRUENCE BETWEEN INTEREST IN HYPOTHETICAL AND UPTAKE OF ACTUAL GENETIC TESTING

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Background: Research into the potential clinical utility of genetic susceptibility testing (GST) for common, complex diseases to motivate risk-reducing lifestyle changes faces the principal challenge that few of these tests are available yet. Accordingly, most psychosocial research in this area to date has relied on hypothetical testing vignettes. This report examined whether hypothetical interest in GST for lung cancer is a good predictor of logging on to view information about such testing and uptake of actual GST.
Methods: Smokers (n=116) reported interest in hypothetical GST for lung cancer, were invited to learn more about the test on-line, and then offered actual GST. Two concordance measures were computed for agreement between hypothetical testing with (1) logging on and (2) being tested, each ranging from −2 (fully discordant) to +2 (fully concordant). Psychosocial factors were tested in multivariate analyses to predict concordance.
Results: 61% smokers expressed interest in hypothetical GST. Concordance was low between hypothetical testing and both logging on and being tested. Generally, factors that predicted interest in hypothetical testing did not predict concordance with actual GST. Individuals were better able to predict whether they would log on and be tested when they had prior awareness of GST, and less able to predict their actual behavior when they believed that lung cancer runs in families.
Conclusions: Interest in hypothetical testing is a relatively poor predictor of uptake of GST. As the availability of GST for common diseases increases, more research is needed that involves actual GST if we are to shape the motivational potential of this emerging class of lifestyle-related genetic tests.

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Paper Session #5 2:00 PM–2:15 PM 2064

ADOLESCENT MEDICAL PROVIDERS' RECOMMENDATIONS FOR PREDICTIVE GENETIC TESTING FOR SMOKING BEHAVIOR AND LUNG CANCER RISK

Suzanne O'Neill, PhD,[1] Beth N. Peshkin, MS,[2,4] Anisha Abraham, MD, MPH,[2] Leslie Walker, MD,[3] George Luta, PhD [2,4] and Kenneth P. Tercyak, PhD [2,4]

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Genetic susceptibility tests and other biomarkers soon may be available to predict individual risks of becoming heavily addicted to nicotine and developing lung cancer. These could hold promise for tobacco and cancer prevention, but only if utilized properly. In anticipation, we surveyed a national sample of adolescent medical providers' (N=232) attitudes toward recommending predictive genetic testing for their adolescent patients, examining if recommendations varied by genetic condition (gene variants for nicotine addiction, lung cancer risks) and patient smoking status (nonsmoker, beginning smoker). Repeated measures ANCOVA was used to examine differences in response to hypothetical testing scenarios, controlling for provider demographics and practice-related variables. In covariate-adjusted models, providers' willingness to recommend testing differed by condition and smoking status, $F(3,215)=13.62, p<.001$. Providers were significantly more likely to recommend addiction susceptibility testing for smokers (M=2.92) than nonsmokers (M=2.38), $t(215)=19.05, p<.001$; recommendations for lung cancer susceptibility testing were not impacted by patient smoking status (smoker M=3.30, nonsmoker M=2.93), $t(215)=1.85, p=.18$. Overall, providers were more in favor of recommending lung cancer susceptibility testing (M=3.30) over addiction susceptibility testing (M=2.92) for adolescent patients who smoked, $t(215)=8.42, p<.01$. Genetic condition, patient smoking status, and provider characteristics did not otherwise differentiate testing recommendations. Adolescent medical providers' recommendations for predictive genetic testing appear to be sensitive to the genetic condition in question and the patients' smoking status. Properly utilizing genetic testing in a preventive context may depend largely upon providers' abilities to successfully differentiate gene-environment factors and their interactions in the onset of nicotine addiction and tobacco-related cancers.

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Paper Session #5 2:15 PM–2:30 PM 2065

DISTRESS AMONG WOMEN RECEIVING UNINFORMATIVE BRCA1/2 RESULTS: 12-MONTH OUTCOMES

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Few data are available regarding the long-term psychological impact of uninformative BRCA1/2 test results, despite the fact that most probands receive one of these results. This study examined change in distress among 209 women who received one of three types of uninformative results: BRCA1/2 negative (n=89), Jewish panel negative (n=101), and variants of uncertain clinical significance (VUCS; n=19). Women completed questionnaires at pretesting and 1, 6, and 12 months post-disclosure, including measures of cancer-specific and genetic testing distress, anxiety and depression, with medical, family history, and psychological variables as predictors. We used a mixed models approach to predict change in distress. Distress declined from pretesting to 1 month post-disclosure, remaining stable thereafter. Women had stronger primary and weaker secondary appraisals when considering their personal cancer risk and risk-management decisions than when considering the impact of the result on their family. Stronger primary appraisals predicted greater distress across domains (ps <.01). Stronger primary and weaker secondary appraisals predicted heightened genetic testing distress at 1 month (ps<.001), as well as change over time (respective ps<.05 and .01). Although women with stronger primary and weaker secondary appraisals at 1 month post-disclosure reported greater genetic testing distress, their scores declined more steeply over time. Yet, their 12 month post-disclosure scores remained higher than their peers. Women who received a VUCS result also experienced greater genetic testing distress, which persisted over time, as compared to their peers (ps<.05). As a whole, women receiving uninformative BRCA1/2 test results are a resilient group, though for some, distress experienced in the month after testing does not dissipate. Certain variables, some of which are amenable to intervention, predict greater likelihood for sustained distress among women with uninformative results.

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Paper Session #5 2:30 PM–2:45 PM 2066

HEALTH BEHAVIORS AMONG ASHKENAZI JEWISH INDIVIDUALS RECEIVING COUNSELING FOR BRCA1 AND BRCA2 MUTATIONS

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Little of the research involving individuals undergoing testing for BRCA1/2 genetic mutations has looked at the effect of genetic counseling and testing on health behaviors, specifically diet, exercise, and vitamin use. This study examined diet, exercise, and vitamin use among 120 Ashkenazi Jewish individuals with a personal and/or family history of breast and/or ovarian cancer who presented for BRCA1/2 genetic counseling and testing. Forty-eight percent of participants had a personal history of cancer. Twenty percent received positive results, 8.3% received informative negative results, and 60.8% received uninformative results. Diet, exercise, and vitamin use were measured at pre-counseling and 6 months post-results. Paired t-tests were used to evaluate changes in health behaviors. Linear regression was used to test for association of health behaviors with potential predictors: personal cancer history, anxiety, perceived cancer risk, gene status, and perceived efficacy of health behaviors. There were no significant changes in diet, vitamin use, and exercise from pre-counseling to post-results. Higher healthy food consumption ($p=0.02$), exercise ($p=0.02$), and vitamin use ($p=0.002$) at pre-counseling were significantly associated with higher perceived efficacies of the corresponding health behaviors at pre-counseling. Unhealthy food consumption at pre-counseling was lower in those with a personal history of cancer ($p=0.02$). We conclude that perceived efficacies of certain health behaviors to prevent or delay cancer may be more reliable predictors of those behaviors than cancer history, affect, risk perception, or gene status alone; clinicians should assess perceived efficacies of health behaviors in the context of self-efficacy in their interventions to improve healthy practices in the BRCA1/2 genetic testing population.

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Paper Session #5 2:45 PM–3:00 PM 2067

WEB-BASED RESEARCH: LESSONS LEARNED FROM THE HEALTH PROMOTION AND GENETICS/GENOMICS SURVEY

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Although surveying health professionals, consumers, and college students with web-based surveys is an unavoidably new trend for social and behavioral scientists, it still represents an innovation in research methodology. Unlike traditional mail surveys, no "standard guidelines" for the design and implementation of web-based surveys exist. Thus, the aims of this study were to 1) discuss the challenges of conducting web-based surveys with health professionals, 2) describe lessons learned from surveying U.S. health educators, nationwide, regarding their intention to conduct genetics/genomics-related health promotion, and 3) offer recommendations regarding this type of research method. Between September and December 2006, we distributed the Health Promotion and Genetics/Genomics Survey (HPGS) to members of five major health promotion professional organizations. A total of 1,924 health educators responded (response rate=23.1%). This study highlighted three significant challenges which may be inherent in measurements delivered on-line, regardless of the target population group(s): establishing the sample frame (or availability of complete population listings), sampling (noncoverage error and nonresponse error), and formatting of the survey (limitations of using commercially available software for design, distribution, anonymity and confidentiality). Potential strategies for dealing with these challenges and future recommendations will be discussed.

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Paper Session #6 1:30 PM–1:45 PM 2068

PREDICTING DEPRESSION & AFFECT AMONG LATINA CERVICAL CANCER PATIENTS

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The majority of studies on the psychosocial experiences of cervical cancer patients fails to include representative samples of Latina patients, despite the fact that Latinas continue to have the highest incidence rates of cervical cancer. In this study, interviews were conducted with 54 immigrant Latina cervical cancer patients in an urban county hospital in order both to describe the psychosocial experiences of this patient group and to identify predictors of distress. Participants were low-income, monolingual Spanish speakers diagnosed with cervical cancer, primarily at an earlier stage (70%), within the past five years. 92% of the patients approached agreed to participate in the study. Cancer-related variables (coping strategies) and contextual variables (life stressors and general social support) were measured with the Brief COPE, Hispanic Stress Inventory, and MOS-Social Support Scale. Both types of variables were tested in regression analyses as predictors of depression (CES-D) and affect (SPANAS). Overall, patients reported high levels of depression, with 67% of the sample scoring at or above a cutoff score of 16 on the CES-D. The mean CES-D score found here is higher than means reported by non-Latina and Latina cancer patient samples, as well as community samples of Latinos. Coping strategy, stress, and social support significantly predicted depression and positive and negative affect. These cancer-related and contextual variables accounted for 46.4% of the variance in depression. Lower levels of active coping and higher levels of avoidant coping and stress were independent predictors of depression. These variables accounted for 22.1% and 31% of the variance in positive and negative affect, respectively. Less avoidant coping independently predicted positive affect, while lower levels of active coping independently predicted negative affect. These results underscore the importance of assessing depression among Latina cancer patients while not ignoring contextual factors, like stress, which may contribute to psychosocial well-being during and after cancer treatment.

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Paper Session #6 1:45 PM–2:00 PM 2069

SOCIAL SUPPORT BUFFERING IN GYNECOLOGIC CANCER SURVIVORSHIP

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Gynecologic cancers account for 11% of all new cases in women in the U.S. and 18% worldwide. While studies have described significant sexual and psychological morbidity post-treatment, there are few data on quality of life (QoL) outcomes for the increasing numbers of gynecologic cancer survivors. From the limited literature, three trends are evident: side effects of treatment are extensive and persistent; a significant portion of patients have poor psychological QoL; and physical symptoms and psychological QoL covary. Still, few studies shed light on factors that might exacerbate or mitigate QoL difficulties. The present study aimed to: 1) examine associations between physical sequelae of treatment and psychological QoL (psychological distress, traumatic stress) and 2) test social support as a moderator (buffer) of the stress of poor health status. A cross-sectional design was used. Participants were 260 survivors of gynecologic cancer diagnosed 2–10 years prior. Patients demonstrated compromised health status and evidenced a variety of longstanding physical sequelae. Levels of psychological distress and traumatic stress were not exceptionally high, though a significant proportion (8–15%) reported clinical symptoms. Hierarchical multiple linear regression tested the buffering hypothesis. Poor cancer-related health status was invariably associated with poorer psychological outcomes. Models predicting distress did not provide evidence for buffering, but indicated that those with better social support reported less distress. Regarding traumatic stress, there was no evidence for a direct relationship with social support; however, there was evidence for buffering. Specifically, perceived support from friends—though not family—and perceived availability of confidants and companionship resources appeared to protect patients from traumatic stress associated with poor physical health status. The present study adds to the gynecologic cancer survivorship literature not only by providing needed QoL data, but also by testing a theoretical model that can inform quality-of-life enhancing interventions.

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Citation Paper
Paper Session #6 2:00 PM–2:15 PM 2070

THE RELATIONSHIP BETWEEN GLOBAL, CANCER-SPECIFIC, AND BODY CHANGE TRAUMATIC STRESS AND QUALITY OF LIFE OUTCOMES IN GYNECOLOGIC CANCER SURVIVORS

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Cancer survivors with physical and/or psychological sequelae have been identified as groups at risk for poor quality of life (QoL). Research is only beginning to explore these issues with the growing population of women who survive gynecologic cancer (GYNCA). These women often experience difficult physical changes such as early menopause, sexual problems, hot flashes, and bladder, urinary tract or bowel dysfunction. Furthermore, a subset of survivors face anxiety disorders, such as post-traumatic stress disorder (PTSD), and many others experience traumatic stress at subclinical levels. We hypothesized that higher levels of 3 types of traumatic stress (global, cancer-specific & body change) in GYNCA survivors would be related to QoL deficits (SF-12 Mental & Physical Component Summaries) beyond the impact of lingering physical sequelae (nurse rated assessment of renal/bladder, gastrointenstinal, endocrine & mucosal systems symptoms/toxicity). In our sample of 244 GYNCA survivors (mean=4 years since diagnosis), 7% meet the clinical cutoff on the PTSD Checklist-Civilian and an additional 22% meet criteria for sub-clinical PTSD. Further, 20% of the sample are above the threshold for cancer-specific stress [Impact of Events Scale (IES)>19] and 19% report moderate levels of cancer-specific stress (9<IES<19). Also, 27% report body change stress levels at one-half a standard deviation or above the sample mean [Impact of Treatment Scale (ITS)≥28]. A series of hierarchical regressions controlling for relevant sociodemographic/disease characteristics and cancer-related physical sequelae suggests that all 3 types of traumatic stress are related to reduced mental health QoL ($p<.001$) and post-traumatic and body change stress symptoms are related to reduced physical health QoL ($p<.005$). These results highlight the need for attention, care, and interventions directed to survivors with persistent physical symptoms and global, cancer-specific, and body change traumatic stress.

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Citation Paper
Paper Session #6 2:15 PM–2:30 PM 2071

MOMENTARY ASSESSMENT OF QUALITY OF LIFE IN POST-SURGERY LUNG CANCER PATIENTS

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Cancer recovery entails dynamic bio-behavioral processes that set the stage for long-term adjustment and quality of life (QOL). Using novel methods to capture individual differences in these processes in real-life settings may help explain variation in survivors' QOL outcomes. We recruited early stage lung cancer patients before surgery (n=59) to a longitudinal study of postoperative QOL that used ecological momentary assessment (EMA) administered by a handheld PDA. After hospital discharge, patients were assessed randomly twice daily over the next 14 days. We used the COPE-Brief to assess coping with the cancer experience, and 8 items of the Memorial Symptom Assessment Scale to derive the momentary physical symptoms severity (PHYS) score. One item measured momentary global QOL on a scale ranging from 0 (worst) to 100 (best). Patients' mean age was 66 years (range 50–84), 61% were female, and all had thoracic exploration for resection of non-small cell lung cancer, either by video-assisted thoracic surgery (38%) or thoracotomy (62%). Guided by EMA statistical methods (Schwartz & Stone, 1999), we ran mixed effects models on the impact of surgery type, PHYS, and coping strategies on QOL. Worse PHYS ($p<.001$), but not surgery type ($p>.05$), predicted QOL. Daily coping strategies, i.e., more frequent positive reframing ($p=.029$), active coping ($p=.055$), and self-distraction ($p<.001$) predicted better QOL. More self-blame ($p=.04$) predicted lower QOL. Next, coping strategies were tested as moderators of PHYS impact on QOL. Behavioral disengagement magnified the detrimental effect of more severe PHYS on QOL ($\beta=-5.6$, $p=.046$), while self-distraction attenuated the adverse effect of worse PHYS on QOL ($\beta=3.1$, $p=.035$). This study is among the first to use EMA to examine the dynamics of post-surgery adaptation and QOL in cancer. Our results show that EMA captures in high temporal resolution how cancer patients' coping synergistically impacts post-surgery symptoms and QOL.

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Paper Session #6 2:30 PM–2:45 PM 2072

SUPPORTIVE CARE NEEDS IN PATIENTS WITH LUNG CANCER

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PURPOSE: We sought to characterize unmet supportive care needs in individuals with lung cancer and to identify correlates of these unmet supportive care needs.
METHODS: Fifty-six participants from Loma Linda University and City of Hope Medical Center were recruited to complete a questionnaire assessing demographic characteristics, supportive care needs, interest in psychosocial services, and a range of other psychosocial constructs.
RESULTS: Across the 4 supportive care needs domains, participants reported the greatest level of need for help with coping with physical symptoms (=3.1), followed by psychological needs (=2.6), health system/informational needs (=2.4), and physical and emotional needs related to healthcare (=2.1). In multivariate regression models, demographic and medical characteristics were not associated with supportive care needs. Higher levels of supportive care needs were associated with greater intrusiveness of cancer-related thoughts/feelings, distress, total mood disturbance, and depressive symptoms, as well as more physical symptoms and both avoidance and problem-focused coping. Additionally, having more supportive care needs was significantly associated with lower levels of satisfaction with healthcare providers. Regarding interest in services, 94.4% of participants reported interest in at least 1 of 13 possible supportive care services, and the mean number of desired services was 4.2 (sd=3.0). 50% of participants endorsed interest in receiving at least one psychological service. Greater symptom burden, mood disturbance, and cancer-related trauma symptoms were also positively associated with interest in a number of psychosocial services.
CONCLUSIONS: Those with lung cancer experience a variety of unmet supportive care needs that appear to be strongly linked with psychological symptoms, suggesting that patients are interested in and could potentially benefit from a number of services that might improve quality of life.

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Paper Session #6 2:45 PM–3:00 PM 2073

EXAMINING CHANGES OF ILLNESS REPRESENTATIONS, PSYCHOLOGICAL DISTRESS, AND WORRIES ABOUT CANCER RECURRENCE: A 12-MONTH STUDY OF SPOUSES OF PATIENTS TREATED FOR PROSTATE CANCER

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Background. Treatments for prostate cancer (PrCa) often cause erectile and urinary dysfunction, which may heighten patients' and spouses' anxiety and distress and influence their cognitive and emotional perception of the disease. The present study examines changes in and associations among illness representations, distress, and worries about recurrence in spouses of patients treated for PrCa.
Method. Spouses of PrCa patients (N=96; Mean Age=59.4 (SD=8.6) participated in the study. Measurements used in the study include seven dimensions of the Revised Illness Perception Questionnaire (IPQ-R); time line acute/chronic, timeline cyclical, consequences, treatment control, personal control, and illness coherence). We also used the Impact of Event Scale (IES) (combined score of the Avoidance/Intrusion subscales), and 3 items measuring worries cancer recurrence. We collected data at baseline (after diagnosis), at 6 and at 12 months post treatment.
Results. Spouses reported elevated levels of worries about recurrence but lower levels of general distress at all measurements. Repeated measures ANOVA showed significant decline in general distress, worries about recurrence, and significant increase in the belief that PrCa is a changeable condition over the 12-month period. Cross-sectional and longitudinal analyses showed that elevated negative emotional reactions to the disease, a less coherent illness model, less personal control, and beliefs that PrCa is severe and chronic were significantly associated with increased general distress and worries about recurrence.
Conclusions. To our knowledge this is the first study to demonstrate that spouses' illness representations of their husbands disease influence spouses adjustment and emotional wellbeing following husbands' PrCa treatment. The present findings have implications for the development of spouse centered support services during the first year following treatment.

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Paper Session #7 1:30 PM–1:45 PM 2074

SLEEP QUALITY AND DURATION IN KUWAITI YOUTH EXPOSED TO THE GULF WAR

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From a sample of 151 Kuwaiti boys and girls initially assessed in 1993 to determine their level of exposure to war-related trauma during the Iraqi occupation and Gulf war, 120 reported on their general health, body mass index (BMI), and sleep quality when contacted in 2003. Sleep was measured with the Pittsburgh Sleep Quality Index which was translated into Arabic. We tested a measurement model of sleep and related the resulting factors to the participants' exposure to war-related trauma, general health, and BMI. The two latent variable model fit the data well [chi2 (8)= 6.46, $p=.60$; CFI=1.0; RMSEA=.0001; SRMR=.028]. The factors were labeled: sleep quality and duration. All standardized loadings were .50 or higher. The two factors were significantly correlated at -.36. The factor variances indicated significant individual differences in sleep quality, but a restricted range in sleep duration. Sleep quality correlated with general health and sleep duration correlated with BMI. Results also indicated a direct effect of exposure to war-related trauma on the two sleep factors. The paper illustrates that self-report measures of sleep may generalize to other cultures, that confirmatory factor analysis may be used to test such measurement models, and that resulting sleep factors relate to health outcomes in meaningful ways. More importantly, the results show that exposure to war-related events during childhood, even if time-limited, have implications for the quality of sleep of those exposed when they reach adulthood.

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Paper Session #7 1:45 PM–2:00 PM 2075

CHILDHOOD SEXUAL ABUSE AND UNDERAGE MALE HOMOSEXUAL CONTACT IN RELATION TO HIV RISK TAKING BEHAVIOR AND INFECTION

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Background: In the US, previous studies have found rates of childhood sexual abuse (CSA) among men who have sex with men (MSM) to be significantly higher than those in the general male population. **Methods:** The EXPLORE Study was a behavioral intervention trial conducted in six US cities with HIV infection as the primary outcome for measuring efficacy. The present analysis examined the predictive association between CSA and HIV outcome (HIV infection), unprotected anal sex (UA), and serodiscordant unprotected anal sex (SDUA). Adjustments were made for randomization arm, geographical location of study site, and race/ethnicity. **Findings:** Of the 4,295 participants enrolled, 27.5% had a history of childhood sexual contact; and 12.2% had a history of CSA. Participants with a history of sexual contact (HR=1.45, 95 percent CI (1.11–1.90)) were at an increased risk for HIV infection. A significant association was seen between history of CSA with UA (OR=1.30, 95 percent CI (1.10–1.46)) and SDUA (OR=1.26, 95 percent CI (1.10–1.46)). Similarly, childhood sexual contact was significantly associated with UA (OR =1.17 95 percent CI (1.05–1.47)) and SDUA (OR=1.32, 95 percent (1.18–1.47)). Among participants reporting CSA, the EXPLORE intervention had no effect in reducing HIV infection rates. **Interpretation:** This is the first multi-site, longitudinal study to have shown the predictive association between a history of CSA or contact and subsequent HIV infection among a large sample of HIV-uninfected MSM. Data indicate that HIV-uninfected MSM with CSA histories are at greater risk for HIV infection, report higher rates of HIV sexual risk behavior, and may derive less benefit from prevention programs. Future HIV prevention interventions must be designed to address the specific mental health concerns of MSM with a history of CSA.

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Meritorious Student Paper

Paper Session #7 2:00 PM–2:15 PM 2076

ELEVATED RATES OF HYPERTENSION IN POSTTRAUMATIC STRESS DISORDER: RESULTS FROM THE NATIONAL COMORBIDITY SURVEY

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A growing literature indicates elevated rates cardiovascular risk factors and cardiovascular disease (CVD) in posttraumatic stress disorder (PTSD). Depression, which is often comorbid with PTSD, also poses a risk for CVD. Research has not established whether PTSD is associated with additional CVD risk beyond risks associated with comorbid depression. The purpose of the present study was to examine relationships of lifetime PTSD and depression with one cardiovascular risk factor, hypertension/high blood pressure, in the U. S. National Comorbidity Survey. The total sample consisted of 4,008 individuals with a mean age of 34 years (SD=10.8). Participants were divided into four mutually exclusive groups based lifetime diagnostic history: PTSD no depression (n=219), PTSD and depression (n=210), depression no PTSD (n= 785), and no history of a mental disorder (n=2794). Chi-square analysis revealed an overall difference between the four diagnostic groups, $X2(3, 4008) = 34.65$, $p<.001$. Follow-up analyses indicated that the prevalence of hypertension was higher for the PTSD no depression ($X2(1, 4008)=20.21$, $p <.001$) and PTSD plus depression groups ($X2(1, 4008)=16.36$, $p<.001$) compared to the no mental illness group. Hypertension prevalence was highest in the PTSD no depression group (14.5%), but this rate was not significantly higher than in the PTSD plus depression group (13.9%). The rate in the PTSD no depression group was also significantly higher than in the depression no PTSD group (9.7%), $X2(1, 4008)=4.24$, $p<.05$. The hypertension rate in the depression no PTSD group was higher than in the no mental illness group (6.5%) ($X2(1, 4008)=9.44$, $p<.01$). These findings suggest that PTSD may be more strongly related to hypertension than depression, and this may partially explain elevated rates of CVD.

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Paper Session #7 2:15 PM–2:30 PM 2077

MANTRAM REPETITION FOR PTSD SYMPTOMS IN VETERANS: A FEASIBILITY STUDY

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Purpose is to examine feasibility and effect size of a spiritually-based mantram intervention, repeating a sacred word or phrase repeated throughout the day, to manage PTSD and improve quality of life in combat veterans.

Methods: This randomized study used a 2 group (mantram/usual care versus usual care control) by 2 time (pre- and post-intervention) mixed-methods design with interviews at 24 weeks to determine mantram use. Veterans completed pre- and post-intervention assessments: Clinician Admin PTSD Scale (CAPS), PTSD Checklist (PCL), Brief Symptom Inventory (BSI-18), State-Trait Anger Expression Inventory (STAXI-2), Quality of Life (Q-LES-Q), Spiritual Well-Being (FACIT-SpEx-4), and Client Satisfaction (CSQ). Repeated measures ANOVA was performed and effect sizes on change scores were calculated.

Findings: Twenty-nine male veterans, average age of 58 (8.48) years, average of 11 (6.99) months of combat, were enrolled and randomized to mantram (n= 14) and control (n=15). They were 66% Caucasian, 14% Black, 10% Hispanic, and 10% other. Compared to controls, the mantram group's PCL trended toward a large improvement ($p=.07$, $d=-.72$) and CAPS improved with small effect size ($p=.58$, $d=-.33$). BSI-18 improved with a large effect ($p=.06$, $d=-.73$). Quality of life ($p=.069$, $d=-.70$) and spiritual well-being ($p=.09$, $d=.67$) both showed medium sized improvements. Eighty-six percent were moderately to highly satisfied. Participants reported that mantram was used to manage flashbacks, road rage, insomnia, anxiety/ irritation, anger, claustrophobia and depression.

Conclusion: A mantram-based spiritual intervention was feasible and shows promise for managing PTSD. Findings are viewed with caution. A larger randomized trial is needed for more conclusive evidence of efficacy.

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Paper Session #7 2:30 PM–2:45 PM 2078

PHYSICAL AND PSYCHOLOGICAL ABUSE IN BREAST CANCER SURVIVORS AND CANCER-FREE WOMEN

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A large literature exists illustrating the negative effects of both physical and psychological abuse in women. To date, very few studies have considered the impact of abuse on women already experiencing physical difficulties. Because of this, we do not know how the various needs of abuse victims might be recognized and met during adjustment to a serious illness. The purpose of this study was to determine whether psychological abuse or physical aggression differs among survivors of breast cancer relative to women who have never been diagnosed with cancer. The current study retrospectively evaluated the presence of physical or severe psychological abuse before cancer diagnosis, during treatment, and after remission of cancer in a sample from a larger study incorporating 206 ethnically diverse breast cancer survivors (BCS) and 206 age- and ethnicity-matched control participants (CFC) who have never received a cancer diagnosis. Results indicate that breast cancer survivors were less likely than controls to report physical or psychological abuse at all time points, including before cancer diagnosis. Potential reasons for this discrepancy, including possible negative effects of abuse are discussed.

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Paper Session #7 2:45 PM–3:00 PM 2079

DOMESTIC VIOLENCE AND ITS IMPACT ON PHYSICAL HEALTH AMONG MINORITY HIV-POSITIVE WOMEN

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OBJECTIVE: New Opportunities for Women II is an ongoing cognitive behavioral intervention program, incorporating stress management, relaxation training, and sexual education for HIV serodiscordant and seroconcordant couples. The intervention focuses on increasing recognition and replacement of irrational thoughts, awareness of triggers for sexual risk taking, and communication skills with an individual's partner.
METHOD: The study is currently being conducted in Miami, Florida and Lusaka, Zambia. Baseline data collected from women currently enrolled in the study at the Miami site (N=105) are presented. It was hypothesized that domestic violence would negatively influence perceived physical health, sexual barrier usage, and antiretroviral medication adherence.
RESULTS: Participants were primarily African American women (71%), unemployed (71%), with children (80.4%), and living below the poverty line (53%), with a mean age of 43.1 years. Analyses suggest that domestic violence was negatively associated with self-efficacy related to HIV self care ($r=-.27$, $p=.009$) and medication adherence ($r=-.28$, $p=.045$). HIV-related self-efficacy was lower for women reporting high domestic violence then for women reporting low domestic violence ($F=6.52$, $p=.015$) when controlling for time since diagnosis. No differences in medication adherence when controlling for HIV-related self-efficacy were identified, suggesting self-efficacy may moderate the effect of domestic violence on adherence.
CONCLUSION: Results of these analyses suggest that physicians should explore barriers to medication adherence which may be present in patients' current relationships, such as domestic violence. Domestic violence appears to reduce self-efficacy, decreasing women's confidence in being able to care for themselves and negatively affecting their ability to maintain high levels of adherence.

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Paper Session #8 1:30 PM–1:45 PM 2080

RETIREMENT AND WEIGHT CHANGES AMONG MEN AND WOMEN IN THE HEALTH AND RETIREMENT STUDY

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Older adults may experience weight changes upon retirement for a number of reasons, such as being less physically active, having less structured meal times, and consuming more or less food in response to losing personal identity, losing the potential for social interactions, and losing the sense of accomplishment derived from working. The purpose of this study was to determine whether retirement is associated with either weight gain or weight loss. We used the 1994–2002 Health and Retirement Study (HRS) to determine whether retirement between biennial interviews was associated with weight change, separately for men and women. Weight change was defined as a 5% increase or decrease in body mass index between biennial interviews. We did not find a significant association between retirement and weight change among men. Women who retired, however, were more likely to gain weight than women who continued to work at least 20 hours per week (OR=1.19, 95%CI=1.00–1.41). These findings suggest that women gain a significant amount of weight in the period surrounding retirement from the work force. It will be important in future studies to determine what factors, if any, influence weight gain among retiring women in order to target preventive efforts.

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Paper Session #8 1:45 PM–2:00 PM 2081

A COST ANALYSIS OF A PHYSICAL ACTIVITY INTERVENTION FOR OLDER ADULTS

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It is important to examine intervention costs in addition to the health benefits an intervention produces. We examined the costs of conducting a physical activity (PA) and a non-PA, educational intervention. The health benefits of the intervention had been previously compared in 424 older adults at risk for mobility disability. The PA intervention consisted of a structured exercise program focused on walking. It included strengthening, stretching, and balance exercises, and cognitive-behavioral counseling. Participants were asked to attend the exercise program 3× weekly for 8 weeks and 2× weekly for weeks 9–24. Optional exercise sessions were offered once per week during the maintenance weeks (25–52). The non-PA intervention consisted of education meetings not expected to impact the primary study outcomes. It met weekly for 24 weeks and then monthly for 6 months. Intervention costs were estimated by tracking personnel activities and materials used for each intervention. Unit costs for personnel and materials were estimated based on US government statistics. Health care utilization was measured with a self-reported questionnaire completed at baseline, 6-months, and 1-year follow-up. The questionnaire specifically asking about 9 different contacts including hospital days, ER visits, outpatient procedures, etc. The number of contacts in each category was multiplied by an average cost/contact derived from national averages. The average cost/participant was $1130 and $398 for the physical activity and the non-PA intervention, respectively. The increase in health care costs was smaller for the physical activity participants, producing a $200 offset over non-PA participants. In conclusion, costs for this intensive physical activity program appear comparable to those of similar interventions and could be offset by differences in health care costs. However, these results are preliminary and a study of longer duration is required to fully assess costs and the health benefits associated with the interventions.

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Paper Session #8 2:00 PM–2:15 PM 2082

RACE, ETHNICITY AND ADHERENCE TO HEALTH-PROMOTING BEHAVIORS AMONG OLDER ADULTS

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Purpose: The purpose of this cross-sectional study was to examine the association between adherence to recommendations for several health-promoting behaviors and race/ethnicity in a representative sample of older US adults.
Design/Methods: We analyzed data from civilian, noninstitutionalized US adults aged 65 years or older who participated in the 2005 Behavioral Risk Factor Surveillance Survey (BRFSS) (n=55,399). The relationship between 5 racial and ethnic groups (non-Hispanic white(NHW), African–American, Asian–American, American Indian/Alaska Native, Hispanic American) and adherence to 5 health-promoting behaviors (physical activity, alcohol intake, fruit and vegetable consumption, healthy BMI, and nonsmoking) was examined using multivariable logistic regression, after adjustment for 10 demographic, economic and clinical covariates. Due to the complex BRFSS sampling design, the analyses entailed computing weighted estimates using the PROC SURVEYLOGISTIC procedure of SAS 9.1 software.
Results: African–Americans demonstrated lower odds of meeting physical activity or BMI recommendations compared to NHW (OR 0.63, $p<0.001$; OR 0.79, $p=0.006$, respectively). Asian–Americans exhibited higher odds of meeting alcohol intake and BMI recommendations compared to NHW (OR 11.32, $p<0.001$; OR 3.18, $p<0.001$, respectively). Hispanic–Americans demonstrated lower odds of meeting BMI recommendations compared to NHW (OR=0.72, $p=0.001$), but higher odds of meeting non-smoking recommendations (OR=1.90, $p<0.001$). American Indians/Alaska Natives had higher odds of meeting alcohol consumption recommendations compared to NHW (OR 4.87, $p<0.001$). There were no significant differences according to race/ethnicity in meeting daily fruit and vegetable consumption recommendations.
Conclusion: Race and ethnicity share a robust association with several health-promoting behaviors among older adults, supporting current efforts to better understand and reduce health disparities among minority populations.

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Paper Session #8 2:15 PM–2:30 PM 2083

THE ROLE OF SOCIAL SUPPORT AND SOCIAL FUNCTIONING IN MEDICATION ADHERENCE: MODERATING EFFECT OF SELF-EFFICACY AND PERCEIVED STRESS

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While the positive association between social support, social functioning (SF) and medication adherence is established in the literature, the mechanisms by which these constructs lead to greater adherence are poorly understood. The current study examined the relationship between medication adherence (low, medium or high adherence as determined by the Morisky adherence scale), medication-specific social support or MSS (0–32 scale) and SF (0–100 scale using SF-36) in 177 adults. As expected, using Wilcoxon rank-sum tests, higher SF was associated with better adherence (76 for low, 83 for medium and 87 for high adherence; $p<.05$). Contrary to expectations, MSS was inversely associated with adherence (8.7 for low, 6.1 for medium, 3.2 for high; $p<.001$), with low adherers showing the highest levels of MSS. Prior work suggests that perceived stress (PS) and self-efficacy (SE) regarding medication adherence play a moderating role in the relationship between social support and medication adherence. When we further evaluated the relationship between MSS, SF and medication adherence using linear regression, while adjusting for SE and PS: a) SF ceased to be significant, and b) MSS continued to have an inverse relationship, though less strong, with adherence (adjusted means 8.5 for low, 5.6 for medium, 3.8 for high; $p<.01$). These data support a moderating role for SE and PS in the relationship between SF and adherence. Additionally, these observational data suggest that the counterintuitive and complex inverse relationship of MSS with medication adherence may be due to selection and/or other unmeasured confounders. Future research should: a) use prospective designs and experimental strategies to further elucidate this relationship, and b) target and measure other variables such as cognitive function and affective states in order to obtain a fuller picture of the factors that explain adherence.

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Paper Session #8 2:30 PM–2:45 PM 2084

MODELING ADHERENCE TO ANTIRETROVIRAL THERAPY IN HIV-SEROPOSITIVE OLDER ADULTS

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Background: The CDC estimates that by the year 2015, 50% of all HIV-seropositive persons in the U.S. will be 50 years of age or older. While the demography of the HIV/AIDS epidemic in the U.S. has shifted, research on adherence to antiretroviral therapy (ART) has focused primarily on younger adult populations. Strict adherence to ART is critical for optimum clinical/therapeutic outcomes. With some notable exceptions, past studies have examined predictors of ART adherence with little focus on theoretical frameworks.

Participants and Procedures: Utilizing SEM, this study examined two ART adherence frameworks to determine if these models generalize to HIV-seropositive older adults. The sample consisted of 244 HIV-positive adults at least 50 years of age recruited through AIDS service organizations in Ohio and New York (71% male; 49% African–American, 30% White; 48% gay; 43% heterosexual). Participants completed an extensive neuropsychological test battery and audio-computer assisted self interviews (A-CASI) of psychosocial instruments. SEM was conducted using a two-step approach and the Full Information Maximum Likelihood method (FIML) with LISREL 8.8.

Results: Neuropsychological functioning was not associated with adherence (standardized coefficient=.00, p=ns) in the measurement model and was omitted from subsequent models. Fit indices supported a stress and coping model, with negative affect mediating the effects of social support and maladaptive coping on ART adherence (FIML $\chi^2(56, N=244)=97.41$, $p<.001$, RMSEA=.05 (90% CI =.04, .07), accounting for 70% of the variance in negative affect, 16% in adherence, and 21% in viral load. Results were most consistent with stress and coping models (Lazarus & Folkman, 1984) and Simoni et al.'s (2006) social support model of adherence.

Implications: Interventions intending to increase ART adherence in HIV-infected older adults are more likely to be successful if they target the constructs of adaptive coping and social support.

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Paper Session #8 2:45 PM–3:00 PM 2085

SEXUAL BEHAVIOR AND PARTNER SELECTION AMONG HIV+ MEN OVER 50

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The number of adults over 50 living with HIV/AIDS is growing rapidly; older adults comprise almost 30% of infected individuals in the U.S. While older HIV+ adults face many of the same challenges as their younger counterparts, few resources have been devoted to understanding clinical, behavioral, and psychological outcomes in this population. The present study examined the impact of "serosorting" (i.e. choosing seroconcordant sexual partners) on the risk behavior and psychological wellbeing of 604 HIV+ men over 50 living in NYC. Thirty-eight percent of participants reported anal or vaginal intercourse in the past 3 months, and 33% of sexually active men reported having sex only with HIV+ partners (i.e. serosorting). Serosorting behavior did not differ by race, age, or sexual orientation. Factorial ANOVA revealed a significant interaction between serosorting behavior and sexual orientation, such that straight men reported more unprotected sex when serosorting, but gay men reported more unprotected sex when not serosorting ($p<.01$). In regression analyses, disclosure-related stigma moderated the relationship between serosorting and depression ($p<.01$), emotional strain of living with HIV ($p=.01$) and social functioning ($p<.05$). These moderation effects suggest that for individuals low in HIV-related stigma, having exclusively HIV+ partners is associated with better psychosocial outcomes, but for those high in HIV-related stigma, having exclusively HIV+ partners is associated with poorer psychosocial outcomes. Moderation effects did not differ by sexual orientation. These findings suggest a complicated relationship between partner selection, sexual behavior, and psychological wellbeing among HIV+ older adults. This research has important implications for the design of counseling and other interventions that might support men over 50 living with HIV.

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Thursday March 27, 2008 3:30 PM–5:00 PM

Paper Session #9 3:30 PM–3:45 PM 2086

OBESITY PREVENTION TAILORED FOR HEALTH (OPT): PILOT TEST OF AN INNOVATIVE FAMILY-BASED PROGRAM

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Few family-based obesity prevention programs have been designed for wide dissemination. In an RCT the Obesity Prevention Tailored for Health (OPT) study tested the feasibility of tailored newsletters, family activities, and Motivational Interviewing (MI) to increase fruit and vegetable (F&V) consumption in families with 10–11 year old children. Families were recruited from a large HMO and randomly assigned to the OPT intervention or usual care. At baseline and three-month posttest, measurements of diet, psychosocial variables and BMI were completed for parents and children. Participants were 75% Hispanic/Latino. Parents were 81% female, mean 41 years, and mean BMI of 29.5. Children were 58% female, mean age of 11 years and mean BMI of 22.7. Children received one newsletter that included tailored communications and a collaborative family activity. Parents received three MI calls and one newsletter. Completion and satisfaction rates were high. Given the small N and the modest intervention dose, the direction of the findings are promising. For children, intervention reduced mean BMI z-scores (−0.04), energy (kcal −29.48) and fat consumption (−.37 grams per day) while controls increased (BMI=0.43; kcal=34.0; fat=5.04 g). F&V intake increased in the intervention (0.17 servings per day) and decreased in controls (−0.21). Changes in self-efficacy to ask parents for F&V favored intervention (I=.15; C=−.03; $p<.10$). BMI decreased among intervention parents (−0.07) and increased in controls (0.06). Changes in F&V consumption favored intervention (I=1.94 servings per day; C=−0.18). Change score differences were found for self-efficacy to keep F&V prepared for snacks (I=0.39, C=−0.06; $p<.05$) and to serve five F&V daily (I=.44, C=−.25; $p<.01$.). Prior interventions have had difficulty impacting BMI using longer and more intensive interventions. These results support enhanced development and testing of family-based obesity prevention strategies.

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Paper Session #9 3:45 PM–4:00 PM 2087

THE IMPACT OF A FAMILY INTERVENTION ON BODY MASS INDEX AND DIET IN OVERWEIGHT FEMALE ADOLESCENTS

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Family Systems Theory and Social Cognitive Theory provided a framework for PATHS for Health, a 16-week family-based behavioral weight loss intervention for overweight (BMI≥95%) adolescent girls. Forty-two females 12–15 years old and their parents were randomized to one of three treatment conditions: psychoeducational+family process (PE+FP), psychoeducational (PE), or Wait-List Control. The PE+FP and PE groups received the PATHS psychoeducational intervention in a group format. The PE+FP group also received a family process component targeting positive support, shared decision making, and problem-solving. The primary hypothesis tested was that the PE+FP group would demonstrate greater reductions in adolescent BMI (Body Mass Index) and energy intake compared to the PE and Control groups. The secondary hypothesis tested was that positive changes in family variables (competence, cohesion, and nurturance) would be associated with reductions in adolescent BMI and energy intake. BMI was calculated from measured height and weight data based on CDC growth curves and energy intake (calorie intake) was calculated from dietary recalls. Family variables were measured by the Self-Report Family Inventory. Outcome variables included change in BMI z-score and energy intake from baseline to post-intervention. Unexpectedly, adolescents in the PE group demonstrated a significant decrease in energy intake from baseline to post-intervention compared to the PE+FP and Control groups ($p<.05$). Positive changes in nurturance from baseline to post-intervention were associated with lower levels of energy intake in adolescents ($p<.05$). The primary hypothesis was not supported, however, results provide preliminary support for the PATHS psychoeducational intervention to reduce energy intake in adolescents. These findings also suggest that family variables play an important role in adolescent weight loss behaviors and should be further explored.

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Paper Session #9 4:00 PM–4:15 PM 2088

CHILDREN'S HEALTH AND WEIGHT STUDY (CHEWS)

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Background:Little evidence exists to guide primary care clinicians in best approaches for helping families manage and prevent childhood obesity.

Purpose:This 2 year pilot project tested a primary care weight management intervention that utilized a family-centered collaborative negotiation process to improve children's eating and activity behaviors. The intervention incorporated brief negotiation strategies adapted from motivational interviewing into the Touchpoints developmental/relational model of care to facilitate a parent-child-provider partnership and tailor behavior change strategies to fit the family's lifestyle and resources.

Methodology:Seventy-five overweight children, ages 8–12, were enrolled from two school-based clinics. One clinic was designated as treatment (n=35) and the other as comparison (n=40). All subjects along with their parent or guardian received the same weight management information and educational materials; the treatment group had 4 additional clinic visits to participate in the collaborative weight management sessions. Data collection occurred every 12 weeks over 9 months.

Results: Outcome data include children's (1) weight-related indicators (BMI; waist circumference; quality of life; blood pressure; physical fitness; and lipid, insulin, and glucose levels) and (2) lifestyle behaviors (diet, physical activity, sedentary activity, and general health). No significant differences were found between the groups' demographic data or in their weight-related indicators at baseline. Preliminary analyzes indicate improvements in lipid levels and weight status occurred in the treatment group. Data analysis will be completed by February 2008. Final results will be presented.

Implications:This research aims to provide primary care clinicians with an evidenced-based approach for working with families who have overweight children.

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Paper Session #9 4:15 PM–4:30 PM 2089

KIDS CHOICE PROGRAM: A SCHOOL-HOME PARTNERSHIP FOR CHILD OBESITY PREVENTION

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The Kids Choice Program was a school-home partnership for child obesity prevention that encouraged children to develop three weight management behaviors in their everyday environments: (1) FVFIRST – eating 1/8 cup of fruit or vegetables first during meals, both as a portion control strategy and to encourage palatability because they are eaten when hungry; (2) HDRINK – choosing healthy low-fat and low-sugar drinks, and (3) EXERCISE many steps daily. Components of the program included the offer of small and delayed rewards to serve as an incentive for children to try the three weight management behavior, small daily expectations for the behaviors and choices to avoid satiation effects, and conditions that encouraged incidental peer modeling. Goals of the program were to increase the three weight management behaviors, increase children's preference ratings for them, and improve children's weight status (defined as their body mass index percentile, BMI%). The program was presented to 382 children in 1st to 4th grades (211 boys, 171 girls; 35% at risk for overweight with BMI% greater than 85). Children were given nametags to wear to school lunch three days a week, and pedometers to wear five days a week. School lunch observations were used to record children's FVFIRST and HDRINK, pedometers recorded EXERCISE steps, child interviews gathered preference ratings, and the school nurse measured BMI% one year before, two weeks before, and two weeks after the Kids Choice Program, with all records completed by individuals kept blind to children's group assignments throughout the study. Parents could also complete Parent Records each week to report the three behaviors at home (although only 20% of parents participated). After one month of baseline conditions, three months of intervention conditions were presented with children randomly assigned to either an intervention group who received stars punched into their nametags for the three "Good Health Behaviors" (FVFIRST, HDRINK, EXERCISE), or to a control group who received stars for three "Good Citizenship Behaviors" (talking quietly, keeping their area clean, respecting others during meals). Reward Days were offered each week so children could trade their stars for small prizes. Repeated-measures ANOVA found that children in all grades increased FVFIRST, HDRINK, and EXERCISE from baseline throughout reinforcement conditions, that children's preference ratings for FVFIRST and HDRINK increased from baseline to follow-up conditions two weeks after the program, and that BMI% for overweight children within the sample (N=112) remained high from the previous year to two weeks before the program, but dropped significantly after the three-month Kids Choice Program. The program was highly rated by children, it required relatively simple changes to school procedures (e.g., children wear nametags and pedometers, stars are punched into nametags for healthy behaviors, Reward Days are offered to trade stars for small prizes), and it cost $15 per child per month (for nametags, pedometers, prizes). We believe the Kids Choice Program offers a cost-effective method to encourage children to develop healthy behaviors while in their everyday peer environment.

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Paper Session #9 4:30 PM–4:45 PM 2090

HOUSEHOLD EATING RULES AND ADOLESCENT FRUIT/VEGETABLE INTAKE AND WEIGHT STATUS

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Parents may use eating rules to control adolescents' food intake, and rule use may be related to weight status. Our aim was to identify eating rule patterns among households, and assess their relationship to adolescent fruit and vegetable intake and weight. The sample included 160 parent/adolescent dyads from Boston, Cincinnati, and San Diego. Parents and youth answered questions on demographics, height/weight, 10 eating rules (e.g. no fried snacks at home), types of food available at home, and youth fruit/vegetable intake. We used hierarchical cluster analysis of parent responses to identify the primary profiles of eating rule use, and linear/logistic regression to assess the relationship of rule clusters to adolescent fruit/vegetable intake and likelihood of being overweight/at risk for overweight, while controlling for demographic factors, types of food in the home, and youth sedentary/physical activity levels. Cluster analysis identified 4 household types: "high control" (HC) with the highest mean number of rules (4.6+/−2.4, n=30); "low control" (LC) with almost no rules (mean=0.6 +/−0.8, n=36); "two main rules" (2-R): "limited fast food" and "must eat dinner with family" (n=36); and "moderate control" (MC) (mean=3.1+/−1.2, n=58) with the main rules being "must eat dinner with family," "limited fast food," and "no TV during meals" The MC and 2-R parents were more likely to be white ($p=0.018$) and married ($p=0.014$). The HC group reported the highest youth fruit/vegetable intake, with the MC group being lower (B=−1.13+/−0.49, $p=0.023$). The MC group had lower adjusted odds of being overweight or at risk than the HC group (AOR=0.22, 95%CI 0.62,0.80). Parents may set more eating rules and promote fruit/vegetable intake in response to their adolescent being overweight or at risk. Generally, parents tend to have just a few rules such as limiting fast food and eating dinner together.

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Paper Session #9 4:45 PM–5:00 PM 2091

HOME ENVIRONMENTAL INFLUENCES ON CHILDREN'S PHYSICAL ACTIVITY, HEALTHFUL EATING, AND WEIGHT STATUS

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Many children do not meet guidelines for physical activity (PA) or healthful eating (HE), and obesity rates are climbing. Parents and the home environment are likely influential on children's PA, HE, and weight status. PURPOSE: To investigate environmental targets of an intervention designed to prevent obesity in children in after-school programs. METHODS: Children (n=120) attending HOP'N after-school programs and parents completed questionnaires assessing home environmental characteristics and health behaviors related to obesity. Children were objectively assessed for height and weight to calculate percentile via CDC body mass index (BMI) norms. ANOVA was used to assess whether children of varying weight status differed in home environment. Regression analysis then identified predictors of BMI. RESULTS: Among environmental variables, mother's social support for PA ($p=.022$) mother's sedentary time ($p=.049$) and frequency of mother–child shared PA ($p=.021$) significantly differed by child weight status. A regression model predicting child BMI percentile with environmental variables was significant (adjusted $R2=.128$, $p=.002$). In this model, significant β weights were found for mother-child shared PA ($\beta=-.256$, $p=.016$), and PA social support ($\beta=.207$, $p=.049$), controlling for mother's BMI and education. Further, the likelihood of children meeting PA guidelines ($p=.011$), meeting fruit standards ($p=.037$) and meeting vegetable standards ($p=.037$) differed by tertile of mother–child shared PA. CONCLUSIONS: In these children, the environmental characteristics of mother's sedentary time, PA social support, and shared PA differed significantly by child weight status. Social support and shared PA may be potential targets for interventions aimed at promoting PA and preventing obesity.

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Paper Session #10 3:30 PM–3:45 PM 2092

WHAT IS INFLUENCING PARTICIPANTS' ADOPTION AND MAINTENANCE OF PHYSICAL ACTIVITIES FOLLOWING AN ARTHRITIS SELF-MANAGEMENT PROGRAM FOR HOUSEBOUND OLDER ADULTS?

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People with arthritis can manage their symptoms by adopting health behaviors such as physical activities. However, there appears to be limited data about why and how to change and maintain physical activities for housebound older adults. This study pursued three objectives:1) to evaluate the impact of a home-based arthritis self-management program I'm taking charge of my arthritis! on the adoption and maintenance of physical activities;2) to identify personal characteristics that influenced participants' adoption and maintenance of physical activities;3) to explore program components associated with participants' adoption of physical activities. A randomized controlled trial was conducted with five measurement times from baseline to one year after the end of the program. Standardized questionnaires were used and multilevel analyses were performed. Results showed that the experimental participants significantly increased their practice of exercise (i.e., number of weekly sessions and variety of activities) following the program. Improvements were maintained one year post-program. Socioeconomic status and depression played a moderating role in the short-term changes. None of the personal variables played a moderating role in the maintenance of such behavior. Program components influencing changes in exercise behavior were: 1) daily practice of the exercises; 2) participants' satisfaction/efficacy of the behavioral approach and the self-management strategies. Housebound older adults with arthritis can change their practice of exercises after a self-management program while it is influence by their situation and elements of the program.

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Paper Session #10 3:45 PM–4:00 PM 2093

MANAGING ARTHRITIS USING PHYSICAL ACTIVITY: PERCEIVED BARRIERS AND SELF-REGULATORY EFFICACY PREDICT ACTIVITY IN ARTHRITIC WOMEN

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Secondary prevention for the self-management of arthritis includes regular physical activity (PA). Yet, up to 75% of adults with arthritis are not regularly active. Effective self-management of arthritis using regular PA requires the use of skills/abilities to self-regulate when faced with barriers interfering with decisions to be active. Self-regulatory efficacy (SRE) is concerned with one's confidence to problem-solve in order to overcome barriers to PA. Although barriers and SRE predict PA in healthy adult populations, limited examination of barriers plus SRE in relation to the PA of women with arthritis exists. Our purpose was to examine if perceived barriers (i.e., barrier frequency; extent of limitation) and SRE predict the PA of women with arthritis. Participants were 82 adult women (M_{age}=49.37 years) with medically-diagnosed arthritis who completed measures of barriers and, for each barrier, reported frequency of occurrence and extent of limitation. SRE and PA over the prior 2-weeks were also assessed. Average PA participation was 3 days each week. Barriers of arthritis pain/joint stiffness and fatigue were most often listed. Hierarchical multiple regression analysis revealed the model including barrier frequency, limitation, and SRE significantly predicted PA, F (3,78)=18.59, R^2adj=.40, p<.01. Perceived barrier limitation (βstd=−0.58,p<.01) and SRE (βstd=0.18, p<.05) were significant independent predictors of PA. Results illustrate that perceived barriers and SRE to solve the problems barriers pose ar strongly related to PA among arthritic women. Arthritis-specific barriers and SRE could be social-cognitive process variables to influence when PA is used as a nonpharmacological adjunct for arthritic women. Future intervention research could target self-regulatory skills and related efficacy beliefs, such as goal setting, self-monitoring, and problem-solving for change to enhance PA adherence among arthritic women.

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Paper Session #10 4:00 PM–4:15 PM 2094

MOMENTARY PAIN AND COPING IN TMD: EXPLORING MECHANISMS OF CB TREATMENT FOR CHRONIC PAIN MARK D. LITT, DAVID SHAFER, ZEENA TAWFIK-YONKERS, CARLOS IBANEZ UNIVERSITY OF CONNECTICUT HEALTH CENTER

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The mechanisms by which cognitive-behavioral treatments (CBT) influence chronic pain have not been clearly demonstrated. The purpose of the present study was to determine whether CB treatment effected changes in cognitions, affects, and coping behaviors in the context of painful episodes. Patients were 54 men and women with temporomandibular dysfunction-related orofacial pain (TMD) enrolled in a study of brief (6 weeks) standard conservative treatment (STD, n=22) or standard treatment plus CBT (STD+CBT, n=32). Momentary affects, pain, and coping processes were recorded on a cellphone keypad four times per day for seven days prior to treatment, and again after treatment had finished, in an experience sampling paradigm. Patients responded to over 71% of calls. Hierarchical linear mixed models (HLM) analyses on momentary pain and coping recorded pre- and posttreatment indicated that STD+CBT patients reported greater decreases in pain than did STD patients (p<.001), significantly greater increase in use of active cognitive coping (p<.01), and significantly decreased catastrophization (p<.05). Mixed model HLM analyses were conducted in which momentary variables were used to predict to momentary pain in the posttreatment week. Results indicated that posttreatment momentary pain was negatively predicted by concurrent active cognitive coping, self-efficacy, perceived control over pain, and positive-high arousal mood. Concurrent acceptance/resignation and catastrophization were predictive of pain. Active behavioral coping and self-efficacy reported at the prior time point (about 3 hours previously) were also protective, while prior catastrophization and negative-high arousal mood were predictive of momentary pain. The results indicate that CB treatment for TMD pain can help patients alter their coping behaviors, and that these changes translate into improved outcomes.

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Paper Session #10 4:15 PM–4:30 PM 2095

MESSAGE FRAMING & PAIN SELF-MANAGEMENT: NEW PERSPECTIVE ON INTERVENTION?

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Objective: To pilot framed messages motivating pain self-management.
Background: Pain self-management is effective, yet patient engagement can be limited. Presenting information framed in terms of gains/losses motivates patient health behavior, and may increase motivation for pain self-management.
Method: Veterans reporting pain ≥4 on 0-10 scale for ≥3 months were randomly assigned to receive one of two framed messages promoting pain self-management (e.g., relaxation). Messages were presented as an educational flyer. Flyers contained identical thematic content; wording was manipulated to emphasize either the gains patients would make if they engaged in these behaviors (gain-frame) or the losses they would realize if they did not (loss-frame). Pre and post-message surveys evaluated patient beliefs about pain and attitudes toward the message.
Results: Negative frame, n=30; positive frame, n=29. Patients reported average pain intensity 5.8 (1.7), worst pain intensity 8.9 (1.3). We examined potential differences by frame on message impact. Post-message, individuals in the loss-frame condition reported greater interest in information presented (t(57)=2.47) and more knowledge gained (t(57)=2.10) than gain-framed participants (p<.05). We evaluated differences by frame on participants' ratings of self-efficacy for and perceived importance of the behaviors discussed. Loss-frame participants were significantly more likely to express confidence they could practice relaxation (t(57)=2.33, p<.05). The loss-frame group reported greater self-efficacy and perceived importance of pain self-management behaviors for five out of six behavioral categories measured, though not all mean differences met criteria for statistical significance.
Conclusion: Framing may be useful to promote pain self-management; larger trials are needed to fully evaluate its potential to motivate patient behavior. Participants reported more interest in and knowledge gained from negatively-framed information, and negatively-gained information had a positive impact on self-efficacy for self-management behaviors such as relaxation.

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Paper Session #10 4:30 PM–4:45 PM 2096

THE EFFECT OF INTERNET-BASED GUIDED WRITTEN EMOTIONAL DISCLOSURE ON MIGRAINE HEADACHES

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Written emotional disclosure (WED) about stress for several days has been demonstrated to reduce stress and improve health in unselected young adults or those with unresolved stress. Yet, its effect in people with chronic pain problems is inconsistent, and some studies report no benefits. Providing tailored guidance to writers may elicit more effective disclosure and larger effects. Migraine headaches are common and are linked to stress, but no published studies have examined WED in this population. College students with migraine headaches (n=123) were randomized to 1 of 3 groups, which conducted 4 writing sessions on a secure internet website over 2 weeks: guided WED (written guidance from trained therapist prior to each writing), standard WED (no guidance), or time management control writing. Outcomes (headache frequency, severity, and disability) were assessed at baseline, 5-week and 10-week follow-up. A manipulation check that analyzed the writings' linguistic content showed that both disclosure groups used significantly more affect (anger, anxiety, and sadness) and cognitive (causation and insight) words than did controls, whereas controls used more time-related and behavior (sleep, eat) words. Outcome analyses (both intent-to-treat and completer, using covariance and change score analyses) showed that neither guided nor standard WED had any benefits (or trends) on migraine outcomes compared to the control condition at either follow-up point, nor did guided differ from standard WED. One outcome (pain) was actually better among the control group in some analyses. This study, which had sufficient statistical power and included a condition that should have enhanced disclosure's effects, suggests that WED might have little benefit for people recruited because of a pain problem. This technique may be more useful for people with pain who also report unresolved stress and are motivated to deal directly with it, or WED may require changes, such as more extended and comprehensive writing exercises.

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Paper Session #10 4:45 PM–5:00 PM 2097

TAILORED VS STANDARD COGNITIVE-BEHAVIORAL TREATMENT FOR CHRONIC PAIN: DIFFERENTIAL EFFECTS OF "DOSE"

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Cognitive behavioral treatment (CBT) for chronic pain has become standard practice, yet many patients still fail to benefit fully. Differences in outcomes may be related to "dose response"; that is, outcomes may be affected partly by how much treatment a patient receives. We expected that tailoring treatment to match stated goals of patients would increase adherence to treatment and thereby improve outcomes by maximizing dose response. In early analyses of an ongoing study, we examined whether individually "tailored" CBT (TCBT) would produce better outcomes than standard CBT (SCBT). Chronic pain patients (N=58) were assigned to receive TCBT or SCBT in 10 sessions, completing questionnaires at pre- and posttreatment. Residualized change scores were computed. "Dose" was defined as attending all sessions (n=43) or not attending all sessions (n=15). Using profile analysis on 10 change scores reflecting readiness to adopt a self-management strategy, pain severity, pain behaviors, pain coping, and treatment goal attainment, the main effect for treatment assignment (TCBT vs SCBT) was nonsignificant. However, the main effect for "dose" was significant [$F=5.8$; $p<.02$], with high dose patients showing better outcomes than low dose patients. Further, a treatment by "dose" interaction [$F=2.1$; $p<.03$] showed that the shape of the 10-outcome profiles for the 2 treatments depended on dose. Simple effects suggested that TCBT high vs low dose patients differed on action orientation, general activity, pain behavior, and goal attainment, whereas SCBT high vs low dose patients differed on precontemplative orientation, pain interference and good coping. Results indicate that treatment dose is associated with outcome depending on the kind of treatment received, perhaps because higher doses allow treatment-specific processes to work more fully in patients engaging in the most sessions.

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Paper Session #11 3:30 PM–3:45 PM 2098

DO NEIGHBORHOOD ENVIRONMENTS MODERATE THE EFFECT OF WALKING INTERVENTIONS?

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Few studies have explored neighborhood environments as moderators of the effects of health promotion interventions. This study assessed the influence of neighborhood environment on walking for participants in a physical activity intervention.

Participants were 441 overweight men randomized to a 12 month physical activity and diet intervention or a control group. Intervention participants received a pedometer, access to an interactive website and email contact with a case manager. Total walking min/wk was reported using the validated IPAQ. A geographic information system (GIS) was used to determine neighborhood features (e.g. land use mix, residential density, street connectivity) within a 1 mile network buffer around participants' residences. Main and interaction effects on walking were tested with repeated measures ANCOVAs controlling for demographics.

309 men completed measures at baseline and 12 months. By 12-months the intervention group had a greater increase in walking compared to the control group ($p=.045$, min/wk increase 176 vs 53). Those in less walkable neighborhoods (measured by GIS) increased walking more than those in more walkable neighborhoods ($p=.01$, min/wk 165 vs 6). A marginal interaction indicated the increase in walking in the intervention group was only for men in less walkable neighborhoods compared to intervention men in more walkable neighborhoods ($p=.08$).

A behavioral intervention helped overweight men living in less walkable neighborhoods to overcome environmental barriers to walking. Those in more walkable neighborhoods, with higher baseline walking levels, did not increase their walking, suggesting a possible ceiling effect. Walking interventions may be most effective for individuals in less walkable neighborhoods.

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Paper Session #11 3:45 PM–4:00 PM 2099

WALKABLE NEIGHBORHOODS ARE NOT THE SAME FOR HIGH- AND LOW-INCOME RESIDENTS

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In some studies, neighborhood walkability has been positively related to physical activity (PA) in white or higher-income adults, but not among African American or lower-income adults. The purpose of this study was to explore whether neighborhood environmental attributes may differ by neighborhood income and offer a possible explanation of group-specific previous findings. Adults aged 20–65 years (n=2199; 48% female; mean age=45 years; 26% ethnic minority) were recruited in 2 regions from neighborhoods that varied in walkability and income. Neighborhoods were selected using Geographic Information Systems and census data. Perceived environment variables were assessed with the validated Neighborhood Environment Walkability Scale (NEWS) that yields 8 summary scores. Number of recreation facilities within a 20-min walk was also computed. Each NEWS summary score was used as an outcome in a generalized linear mixed models analysis with high/low walkability and high/low income as grouping variables, accounting for clustering within neighborhood and covarying for demographic variables including age, gender, education, ethnicity, and time at address. Of 4 primary walkability variables, there were no income main effects, but 2 interactions indicated that in high-walkable neighborhoods there was more mixed use (thus more destinations) in high-income areas. There were significant income main effects (and no interactions) with all 5 non-walkability variables. Aesthetics, pedestrian and biking facilities, safety from traffic, safety from crime, and access to recreation facilities were more favorable in high-income areas (all $p's< 0.001$). For 7 of the 9 neighborhood attributes, there was evidence that higher-income neighborhoods had more destinations, amenities, and higher safety than lower-income areas. Thus, walkable low-income neighborhoods may lack amenities and safety characteristics that are needed to facilitate high levels of physical activity.

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Paper Session #11 4:00 PM–4:15 PM 2100

NEIGHBORHOOD PREDICTORS OF WALKING FOR TRANSPORTATION AND EXERCISE: THE NEW ORLEANS PACE PROJECT

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Obesity is a problem throughout the United States and especially in New Orleans, Louisiana. Health knowledge about obesity and its consequences is high yet the epidemic continues. Changing the environment to promote physical activity is a promising approach to addressing the obesity epidemic. A baseline household survey was conducted to assess factors related to walking and physical activity in three, low-income New Orleans' neighborhoods. A follow-up survey will be conducted in the fall of 2008 after physical and social interventions have been implemented in one of the three communities.

Trained interviewers administered a household survey to randomly selected adult members of households from three, low-income neighborhoods in New Orleans. Baseline survey administration took place from October 2006 through February 2007. The interview took approximately 45 minutes to complete. Means and standard deviations were computed for continuous variables. Pearson's chi-square statistic was used to assess significant differences between categorical variables. P-values less than 0.05 were considered significant. SAS was used for all analyses. We examined walking for exercise/leisure and transportation separately. The response rate was 74.9% with 499 completed interviews. Nearly all respondents were African American (94.0%) and over half were female (61.2%). The mean age was 44.4 (±14.1) years. Average income was less than $20,000 per year. Both males (mean BMI: 27.2±5.9) and females were overweight (mean BMI: 29.5±7.6) yet there was no association between self-reported BMI and walking for transportation or exercise. Over half the respondents (60.8%) walked for exercise while only 26.8% walked for transportation, 31.2% walked for neither and 18.8% walked for both. There was no association between gender or age and walking but education and income were significantly associated with walking. Those who drove to work and/or owned a car were less likely to walk for transportation (drove to work: yes 11.8% v no 68.8% $p<0.001$); (own car: yes 10.7% v 60.7%, $p<0.001$) and less likely to walk for exercise (drive to work: yes 55.4% v no 75.0%, $p=0.006$); (own car: yes 57.6% v no 67.3%, $p=0.044$). Questions regarding the community social environment (ie, good place to live, feel at home, good for children, neighbors take care of homes, safety) were assessed in relation to walking for transportation and exercise/leisure. Those who walk for exercise have a significantly more positive attitude toward the neighborhood than those who do not. On the other hand, those who walk for transportation have a more negative attitude than those who do not. Physical characteristics of the neighborhoods were assessed and only a few significant associations were found with walking for transportation. Those who walk for transportation were more likely to agree that there is large debris and abandoned buildings in the neighborhood ($p<0.02$, $p<0.03$). Sidewalks and streets were the most commonly used sites for walking. Both those who walk for exercise/leisure and those who walk for transportation find safety of location and condition of the place very important. Walking was a common form of activity in the neighborhoods. Those who walked for transportation did so because of lack of access to a car. Those who walked for exercise had a more positive outlook about their neighborhood than those who walked for transportation. This may be due to fact that those who walked for transportation did so out of necessity due to lack of ability to afford a car rather then choosing to spend their free time walking. Likewise, they may be seeing the neighborhood on a daily basis and have a more realistic view of the area. Crime and condition of these neighborhoods are important influences on whether respondents walk. Addressing these issues as well as the condition of sidewalks and streets could encourage more people to walk in their neighborhood on a regular basis.

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Paper Session #11 4:15 PM–4:30 PM 2101

BEHAVIORAL AND PSYCHOSOCIAL CORRELATES OF NUTRITION ENVIRONMENTS IN RURAL COMMUNITIES

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Examining the context in which health behaviors take place allows for a more complete understanding of relationships between health behaviors and community health. The use of spatial analysis to study the environmental factors associated with dietary behaviors is increasing. This study built on the Healthy Rural Communities study to explore the relationship between characteristics of the nutrition environment, eating behaviors, and perceptions of environments among residents of two southwest Georgia Counties. Nutrition environment data for food stores were collected using the Nutrition Environment Measures Survey for Stores (NEMS-S) instrument and classification of restaurant type was confirmed by phone. Participants from two counties completed survey questionnaires (n=275).A total of 43 food stores in the study area were evaluated (7 grocery stores, 36 convenience stores) and 72 restaurants were identified (29 fast food and 43 sit-down). Grocery stores consistently received significantly higher NEMS-S scores than convenience stores ($z=-4.281$, $p<.001$). The respondents were equal proportions White/Black and male/female. Most participants (67%) were overweight based on BMI and waist circumference measures. Less than half of participants reported consuming 5 or more fruits and vegetables per day (44.4%), and most consumed high fat foods more than one time per day (64.4%). Further analyses are testing the hypothesis that proximity to grocery stores is positively related to fruit and vegetable consumption; proximity to convenience stores and fast food restaurants is negatively associated with fruit and vegetable consumption but positively associated with fat intake. Analyses also will test whether and how the perceived nutrition environment is related to proximity to grocery stores, convenience stores and restaurants. This is one of the first studies to be conducted in a rural area and is unique in that it links objective food environment data with residents' behaviors and perceptions.

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Paper Session #11 4:30 PM–4:45 PM 2102

STATEWIDE IMPACT OF THE TEXAS PUBLIC SCHOOL NUTRITION POLICY ON SCHOOL FOOD ENVIRONMENTS AND DIETARY BEHAVIORS

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School food environments influence children's dietary behaviors. This study assessed the statewide impact of the 2004 Texas Public School Nutrition Policy on foods and beverages served/sold in schools. Eleven school districts (five large/six small) representing 10 Texas regions participated. Forty-seven schools (40% primary/60% secondary) provided daily cafeteria food production data for the years before (2003–04) and after (2004–05) the state policy implementation. These were coded for the number of servings of fruit, vegetables, high fat vegetables, and milk served daily, which were then aggregated monthly for all schools. Twenty-three schools from five of these districts provided snack bar sales of candy, chips, desserts, drinks, ice cream, and water. The total items sold per day per student were analyzed with repeated measures analyses of variance to examine differences between study years per school. School demographics were similar to state data (51% eligible for free/reduced price meals, 17% Black, 31% Hispanic, 51% White, 1% Other). Regardless of district and school size, cafeterias served fewer high fat vegetable servings/student post policy ($p=0.000$), with a trend for more milk served in year 2 ($p<.10$). Post policy snack bar sales for large chips were significantly reduced (almost to zero) ($p=0.006$)and there was a significant increase in baked chips sales ($p=.048$), compared with year 1. Although not significant, candy purchases declined to almost zero, and there was a 26% decline in dessert food sales post policy. These results document that school food policy changes can improve student selection/purchase of foods during school lunch periods. Whether these improved lunch choices influence consumption for lunch or the total day is unknown.

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Citation Paper
Paper Session #11 4:45 PM–5:00 PM 2103

DOES CALORIE INFORMATION PROMOTE HEALTHIER FAST FOOD CHOICES?

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Background: Obesity has become a major public health issue in the United States. Many have attributed the sudden increase in obesity to greater food consumption outside the home, particularly fast food. Recently proposed legislation would require fast food restaurants to post calorie information on their menu boards. The purpose of this experiment was to examine whether displaying calorie information at the time-of-purchase affects fast food choices. Women (but not men) who received calorie information were expected to order lower calorie meals than those who did not.

Methods: College students (n=288) were randomly assigned to receive menus that either contained or did not contain information about the calorie content of each menu item and were then asked to place their fast food orders. Four outcome variables were assessed: number of calories per meal; number of items per meal; number of calories per item; and meal price. Univariate analysis of variance was used to examine effects of menu type (calorie information vs. no calorie information control), gender, and their interaction on each outcome variable.

Results: Menu type interacted with gender for every outcome variable, except items per meal. Compared to women in the no calorie condition, women in the calorie condition ordered fewer calories per meal, ordered lower calorie items, and spent less on their orders. Displaying calorie information had no effect on men's fast food selections. Number of items ordered per meal did not vary by menu type or gender.

Conclusions: Findings suggest that providing calorie information at time-of-purchase may lead women to make more healthful fast food selections. Further research is needed to identify alternative strategies for improving men's food selections when eating away from home. As Americans derive almost one third of their calories outside the home, environmental changes such as requiring calorie information on restaurant menus may have a substantial impact on public health.

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Meritorious Student Paper
Paper Session #12 3:30 PM–3:45 PM 2104

TREATING BINGE EATING DISORDER: RESULTS FROM A RANDOMIZED CONTROLLED TRIAL COMPARING DIALECTICAL BEHAVIOR THERAPY AND SUPPORTIVE GROUP THERAPY

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Dialectical Behavior Therapy (DBT) for Binge Eating Disorder (BED), based on an affect regulation model linking binge eating and emotional distress, aims to replace binge eating with adaptive emotion regulation skills. Preliminary findings have been promising but few in number (one uncontrolled trial, one randomized controlled trial against wait-list). The present randomized clinical trial compares DBT for BED to a Supportive Group Therapy (SGT) that was specifically designed to generate equivalent common therapeutic elements with DBT (e.g., therapeutic alliance) while lacking DBT's unique therapeutic elements (e.g. emotion focus, skills training). 101 men and women meeting DSM-IV criteria for BED were randomly assigned to 20 2-hour sessions of DBT (n=50) or SGT (n=51) in a group format. Assessment measures included the Eating Disorder Examination (EDE), Beck Depression Inventory (BDI), and Negative Mood Regulation (NMR). The sample was primarily obese (BMI=36.4±8.6) and female (85%). Intention to treat analyses showed significantly higher post-treatment binge abstinence among DBT participants (64%) than SGT participants (33%) [X2=9.5, p=.002]. Controlling for baseline severity, DBT participants reported significantly fewer post treatment binge days (1.3±2.8 vs 5.2±6.2; p<.001) and significantly lower (p<.05) EDE restraint, eating concerns, and weight concerns subscale scores and BDI scores. BMI differences were not significant. While both groups showed significant reductions in NMR via paired t-tests, the reductions were not significantly greater in the DBT than SGT group. Of note, fewer participants dropped out of DBT (4%, n=2) than SGT (33%, n=17). These data suggest that DBT showed specific post-treatment effects on binge eating, some measures of eating psychopathology, and depression but that the improvement in affect regulation as measured by the NMR was not specific to DBT.

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Paper Session #12 3:45 PM–4:00 PM 2105

THE BENEFITS OF A MASSAGE THERAPY CLASS FOR REDUCING SYMPTOMS IN WOMEN WITH EATING DISORDERS

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Clinicians have long observed that patients with eating disorders use pathological methods to self-soothe. Our group has shown that patients with ED are indeed far less able to experience healthy self-comforting than a matched group of non ED patients (p<.001). One self-comforting intervention, massage therapy, has been effective in reducing symptoms associated with both anorexia and bulimia. However, receiving ten massage therapy sessions is both passive and somewhat expensive. We explored whether a more economic and proactive participation in a massage therapy class, where patients learned to both receive and give massage to others with an ED is effective in reducing symptoms associated with ED. 60 adult women meeting criteria for ED over the past 5 years were randomized to receive either eight weekly massage therapy classes, or eight weeks of treatment as usual. 2 Group×3 Time ANOVA indicated that the massage class significantly reduced overall severity of an ED (total EDI-2 score, p<.01) and depression (total BDI-II score, p<.05) compared to a wait-list control group. Specific symptoms improved included body dissatisfaction, ineffectiveness, impulse regulation, bulimia, depression, perfectionism, self-comforting ability, interoceptive awareness, and maturity fears. Trait measures were unaffected by the intervention. Regression analysis revealed that those with more severe initial EDI-2 and BDI-2 scores improved the most over the course of treatment (p<.01). Assessment of heart rate variability also showed that patients were able to reduce arousal associated with eating imagery more effectively at follow-up. Improvements on BDI-2 and EDI-2 were maintained at 3 month follow-up. Results suggest that learning to give and receive massage therapy in a class setting can be a clinically and cost effective approach to treating many symptoms of an eating disorder.

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Paper Session #12 4:00 PM–4:15 PM 2106

BINGE EATING BY NORMAL-WEIGHT VERSUS OVERWEIGHT COLLEGE STUDENTS: THE ROLE OF SELF PERCEPTION OF BEING OVERWEIGHT

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Little is known about differences between normal versus overweight individuals who binge eat. We hypothesized that the belief that one has a weight problem would be associated with a greater likelihood of binge eating among those who are not actually overweight. Analyses were conducted on data from college students (N=557 out of 581) who provided complete data on a web-based survey that assessed demographics, body image (MBSRQ-AS), weight, and binge eating (QEWP-R). The sample was 66% female and 71% White, with a mean age of 21.1 and a mean BMI of 25.1. We created four groups: (1) BMI<25, believes self not overweight; (2) BMI<25, believes self overweight; (3) BMI≥25, believes self not overweight; (4) BMI≥25, believes self overweight. Binge eating was reported by 14.4% of the sample, with significantly higher rates for females than males (16.9% versus 9.5%, p<.05). Among both overweight and non-overweight groups, those who believed they were overweight were significantly more likely to binge eat. Among overweight participants (n=225), 24.3% of those who believed they were overweight admitted to binge eating, while only 3.6% who did not feel overweight did so (p<.01). Among non-overweight participants (n=332), 28.2% of those who believed they were overweight admitted to binge eating, while only 6.5% of those who did not feel overweight did so (p<.001). Gender, BMI, and weight perception group were entered into a stepwise logistic regression model to predict binge eating. All predictors were significant at the step first entered, but only BMI and weight perception were significant in the final model. Results suggest that when assessing risk for binge eating among college students, a one-question assessment of whether or not an individual believes s/he is overweight has significant predictive power. Findings are consistent with an emerging literature (Stein & Corte, 2007) on the importance of the "fat self-schema" in disordered eating.

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Paper Session #12 4:15 PM–4:30 PM 2107

WOMEN WITH BINGE EATING DISORDER DISCOUNT DELAYED AND PROBABILISTIC REWARDS MORE STEEPLY THAN OBESE AND NORMAL-WEIGHT WOMEN

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Changes in the value of delayed or uncertain outcomes may be viewed from the perspective of discounting. Delay discounting refers to the decrease in the subjective value of a reward as the time until its receipt increases, and probability discounting refers to the decrease in the subjective value of a reward as the likelihood of its receipt decreases. Discounting provides a framework relevant to issues of self-control/impulsivity. Applying this framework to clinical issues is still in its infancy; the majority of such studies has focused on substance abusers who have discounted rewards more steeply than controls. Impulsivity has been defined as the choice of a smaller, more immediate reward over a larger, more delayed reward. The discounting task may provide an objective assessment of impulsivity and thereby discriminate obese from non-obese, and binge eaters from non-binge eaters in terms of impulsivity. This study compared rates of discounting delayed and probabilistic rewards (food, money, sedentary behavior, and massage time) among female:(1) obese binge eaters (BED),(2) obese non-binge eaters (obese), and (3)normal-weight, non-binge eaters (controls). The sample (N=90; 30 per group) was 78% white with a mean age of 47.4 (SD=10.2).

The groups did not differ in age or years of education, and the obese and BED groups did not differ in body mass index.

Results indicated that women with BED discounted all probabilistic and delayed rewards more steeply than obese women and controls, suggesting more impulsive decision-making by women with BED. Obese women did not discount rewards more steeply than controls. Further, degree of delay discounting each of the rewards was significantly correlated with general psychopathology (Brief Symptom Inventory). Using discounting measures with this and other populations may foster a better understanding of the nuances of maladaptive impulsive behavior such as binge eating.

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Paper Session #12 4:30 PM–4:45 PM 2108

ATTENTION AND THE SELF-CONTROL OF EATING

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We report on two studies designed to examine how changes in attention result in alterations in the self-regulation of eating among dieters. We systematically varied the degree of attentional load imposed on participants across a series of tasks called the n-back tasks. In the zero-back task, which demands the least amount of attention, participants respond "yes" whenever a particular letter is mentioned (e.g., A). The 1-back, 2-back, and 3-back tasks each require an increasing amount of attention to complete, with the 3-back task nearly impossible. We also ran a control condition that did not include an attentionally demanding task. In all conditions, participants were invited to consume food during the task, and the primary outcome measure was the amount consumed as increasing levels of attention were dedicated to performing the task.

In both studies, we found that increases in attentional load associated with the task led to self-regulation failure, but only up to a certain point. Both the zero-back and 1-back tasks required more attention than the control task, and both led to disinhibited eating compared to the control task. However, when the attention task was so difficult (i.e., the 2-back task) that participants had to devote all of their processing ability to it in order to succeed at it, participants reduced their eating dramatically, presumably reflecting lack of attention to the food itself. These results conform to recent neuroscientific research, which predicts an inverted U-shaped relationship between the degree of attentional load demanded by a cognitive task and failure at self-regulation. When our subjects were confronted with a task that was still more challenging—indeed, so challenging that they failed at it (i.e., the 3-back task), they consumed significantly more food than participants in the other conditions, supporting previous research findings indicating that dieters overeat after experiencing failure.

These findings shed light on the level of attention necessary for individuals to regulate their eating.

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Paper Session #12 4:45 PM–5:00 PM 2109

FOOD CRAVINGS AND TRANSCRANIAL MAGNETIC STIMULATION

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Due to the public health problem of obesity, researchers are attempting to learn more about food cravings as these may play a role in eating behaviors and weight gain. Transcranial magnetic stimulation (TMS) allows researchers to selectively activate or inhibit different brain structures that might play a role in craving behaviors. Few studies have attempted to directly manipulate activation of brain structures that might be involved in food cravings. This pilot study examined whether a single session of repetitive TMS (rTMS) of the left prefrontal cortex would inhibit food cravings and ability to resist eating the foods in healthy adult women (N=10) who endorsed frequent food cravings. Mean age was 28.3 (SD=6.5) years and mean BMI was 27.8 (SD=8.0). Participants viewed 23 computerized images of foods and completed ratings for food cravings and ability to resist eating the foods before and after receiving either real or sham rTMS in random order over the left prefrontal cortex (10 Hz, 100% rMT, 10 seconds-on, 20 seconds-off for 15 minutes; 1500 pulses). Hierarchical linear modeling, controlling for hours since last meal, was implemented to evaluate the effects of real and sham rTMS on food cravings and ability to resist eating the foods. There was a significant increase in cravings following sham rTMS ($t(468)=2.61$, $p=.01$) and a relative decrease in cravings following real rTMS ($t(468)=-1.20$, $p=.23$). There was also a significant decrease in ability to resist food following sham TMS ($t(468)=-.2.41$, $p=.02$) and a relative increase in ability to resist food following real rTMS ($t(468)=.76$, $p=.45$). The prefrontal cortex may play a role in inhibiting food cravings and may be an important TMS cortical target for future investigations on eating behaviors, obesity, and cravings.

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Paper Session #13 3:30 PM–3:45 PM 2110

'HEALTHY HABITS': EFFICACY OF SIMPLE ADVICE ON WEIGHT CONTROL BASED ON A HABIT FORMATION MODEL

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Obesity prevalence is rising at epidemic rates in many parts of the world. Although cognitive behavior therapy (CBT) is acknowledged to be the most effective non-medical treatment, the need for specialist skills poses a significant barrier to widespread implementation. Interventions that do not depend on health professional support would be an attractive alternative. Brief, easy to understand, weight control advice in written form could make a useful contribution. The objective of this exploratory trial was to evaluate the efficacy of a simple weight-loss intervention, based on principles of habit formation. Overweight and obese adults (N=104; 35 men, 69 women) were randomized either to a habit-based intervention condition (with two sub-groups given weekly vs monthly weighing; n=33, n=36) or to a waiting list control condition (n=35) over 8 weeks. Intervention participants were followed up for another 6 months. The average baseline BMI was 30.9 kg/m^2. Intervention participants were given a leaflet containing advice on habit formation and simple recommendations for eating and activity behaviors promoting negative energy balance, together with a self-monitoring check-list. The primary outcomes were weight change over 8 weeks in the intervention condition compared with the control condition, and weight loss maintenance over 32 weeks in the intervention condition. At 8 weeks, people in the intervention condition had lost significantly more weight (mean=2.0 kg) than those in the control condition (0.4 kg), with no difference between weekly and monthly weighing sub-groups. At 32 weeks, those who remained in the study had lost an average of 3.8 kg, with 54% losing 5% or more of their body weight. An intention-to-treat analysis (based on last-observation-carried-forward) reduced this to 2.6 kg, with 26% achieving a 5% weight loss. In conclusion, this easily-disseminable, low-cost, simple intervention produced clinically significant weight loss. In limited resource settings it has potential as a tool for obesity management.

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Paper Session #13 3:45 PM–4:00 PM 2111

BINGE EATING AND WEIGHT LOSS OUTCOMES IN OVERWEIGHT INDIVIDUALS WITH TYPE 2 DIABETES: RESULTS FROM THE LOOK AHEAD CLINICAL TRIAL

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Background: Little is known about how binge eating (BE) affects weight loss outcomes in overweight individuals with type 2 diabetes. We examined whether weight losses were related to changes in BE status over the first year of treatment in Look AHEAD (Action for Health in Diabetes), a multicenter RCT examining the long-term effect of intentional weight loss interventions on CVD outcomes. Methods: Participants (n=5145) were randomly assigned to an intensive lifestyle intervention (ILI) or to enhanced usual care (DSE). At baseline and 1-year, participants had their weight measured and completed a fitness test and self-report measures of BE and dietary intake. We created 4 BE groups based on BE status at baseline and 1-year (Yes/Yes, No/No, Yes/No, No/Yes). Analyses controlled for baseline differences between binge eaters and non-binge eaters. Results: Most individuals (85.6%) did not report BE at either baseline or 1-year, 7.5% reported BE only at baseline, 3.7% reported BE at both times, and 3.4% reported BE only at 1-year, with no differences between ILI and DSE conditions (p=.11). Across ILI and DSE, greater weight losses were observed in participants who stopped BE at 1-year (5.3±.4 kg) and in those who reported no BE at either time point (4.8±.1 kg) than in those who continued to BE (3.1±.6 kg) and those who began BE at 1-year (3.0±.6 kg) (p=.0003). Post hoc analyses suggested that these differences were due to changes in caloric intake, rather than fitness. Conclusion: Overweight individuals with type 2 diabetes who stop binge eating appear just as successful at weight loss as non-binge eaters after one year of treatment.

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Paper Session #13 4:00 PM–4:15 PM 2112

WEIGHT REDUCTION IN VETERANS ATTENDING AN EVIDENCED-BASED COGNITIVE BEHAVIORAL PROGRAM

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Obesity is identified as a major health problem in veterans nationwide. It is estimated that at least 70% of veterans presenting to VA medical centers are overweight or obese, compared to approximately 64% of the general population. Thus, there is an overwhelming demand to implement evidence-based weight management treatment. This study examined a sample of 297 veterans who had enrolled in a weight reduction program during a 3 year period prior to initiation of the MOVE program. The program implemented was based on LEARN by Dr. Brownell and used an interdisciplinary team approach. Data collected included weight loss outcomes, BMI, patient demographics of age and ethnicity, number of sessions attended, medical and psychiatric diagnoses. Overall, 57% of participants lost weight. Post hoc univariate analysis demonstrated that participants lost significantly more weight if they attended 5 or more class sessions. A significant Pearson Correlation Coefficient indicated that those with a psychiatric diagnosis participated in fewer number of sessions. Older participants attended a greater number of classes and weighted less overall. No significant differences emerged in terms of ethnicity. Implications of this data in terms of improving weight reduction outcomes in veterans with the current initiative MOVE will be discussed.

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Paper Session #13 4:15 PM–4:30 PM 2113

A PILOT TEST OF ACCEPTANCE-BASED BEHAVIORAL TREATMENT FOR OBESITY

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Standard behavioral weight loss treatment might be improved by incorporating acceptance-based strategies that bolster commitment to behavior change, build distress tolerance skills, and promote mindful awareness of weight control behaviors and goals. This pilot study tested the feasibility and short-term effectiveness of an acceptance-based behavioral treatment (ABBT) for obesity. Forty-four participants (mean BMI=36.6±5.9 kg/m^2) were recruited from the community. ABBT was delivered in weekly, 1-hour groups for 12 weeks. Standard behavioral strategies (e.g., goal setting, self-monitoring, problem solving) were complemented with a focus on mindfulness, experiential awareness, acceptance of distressing internal experiences, and willingness to tolerate distress in the service of valued behavior change. Analyses were conducted with data provided by assessment completers only (n=22). At post-treatment, weight loss from baseline averaged 5.9±4.8% (5.3±4.3 kg). Repeated measures ANOVAs indicated significant change over time on self-report measures of several psychological variables. Increases were observed in ability to accept undesirable internal events while continuing to pursue desired goals (p=.026, η2p=.21), mindfulness (p=.003, η2p=.36), and ability to distance oneself from negative thoughts and feelings (p=.003, η2p=.36). Symptoms of depression decreased (p=.021, η2p=.51), disinhibited eating decreased (p=.002, η2p=.39), and cognitive restraint increased (p=.001, η2p=.54). These results indicate that it is feasible to integrate acceptance-based strategies into standard behavioral treatment for obesity. Participants who completed this brief treatment achieved a clinically meaningful weight loss. The changes observed in psychological constructs theoretically predictive of continued weight control raise the possibility that ABBT would offer advantages to standard treatments over the long-term. Given these promising results, additional research on this novel treatment should be conducted with larger samples over longer periods of time.

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Paper Session #13 4:30 PM–4:45 PM 2114

BEHAVIORAL WEIGHT LOSS VS. COMBINED WEIGHT LOSS/DEPRESSION TREATMENT AMONG WOMEN WITH COMORBID OBESITY AND DEPRESSION

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Obesity is associated with clinically significant depressive symptoms among women. Depression has been associated with poorer weight loss outcomes, though data are scarce because those with depressive disorders are likely to be excluded from clinical weight loss trials. The present study examined the effects of combined weight loss/depression treatment versus behavioral weight loss treatment among women with comorbid obesity and depression. Two hundred three (203) women were recruited proactively and randomized to a standard behavioral weight loss program (WLO; n=102) or a program that combined behavioral weight loss content with cognitive-behavioral depression management (COMB; n=101). Each intervention was delivered in 26 group sessions over one year. Average age of participants was 52 years, 80% were white, and 50% were married; mean baseline BMI was 39 kg/m^2. Mean scores on the Patient Health Questionnaire (PHQ-9) and the Hopkins Symptom Checklist (SCL-20) indicated moderate to severe baseline depression (PHQ-9: WLO=15.8, COMB=15.9; SCL-20: WLO=1.82, COMB=1.87). Study attrition was 24.5% in WLO vs. 19.8% in COMB over 12 months. There was no interaction between treatment group and sessions completed, nor did weight loss differ between groups in intent-to-treat analyses (−3.1 kg WLO vs. −2.3 kg COMB, p=.55). There was a trend for greater improvement in SCL-20 scores at 12 months in the COMB condition (−0.70 COMB vs. −0.53 WLO, p=.08), suggesting added value of the combined treatment. Overall, results indicate modest, clinically meaningful changes in weight and depressive symptoms for women in either treatment that are encouraging in light of comorbidity issues.

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Paper Session #13 4:45 PM–5:00 PM 2115

EVALUATION OF THE SHAPE UP RHODE ISLAND 2007 CAMPAIGN

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Background: Effective community-based weight loss initiatives that reach a wider target audience than individually-based programs are needed to combat the obesity epidemic. Shape Up Rhode Island (SURI) 2007 was a 16-week statewide exercise and weight loss campaign in which community members joined in teams and selected to compete on weight loss, minutes of physical activity (PA), and/or total pedometer steps categories. Objective: To examine the effectiveness of SURI using objective and self-reported weight data and to examine the relation between behavioral factors and objective weight loss in a subsample of SURI participants. Method: A total of 6815 Rhode Islanders joined SURI 2007. Of those, 4,834 were adults (mean age=42.5±11.0 yrs, mean BMI=29.4±6.3 kg/m^2) who selected weight loss as a campaign goal. Participants logged data on weight loss, minutes of PA, and pedometer steps via an online tracking system every 2 weeks. A subsample of 216 SURI members (mean age=45.7±10.6 yrs, mean BMI=31.5 ±5.7) were weighed at the beginning and end of the campaign and reported their eating and activity habits. Results: Of the 4,834 SURI members who elected weight loss, 70% logged their data at least through week 12 of the campaign. The mean weight loss was 6.9±7.5 lbs, with 23% losing more than 10 lbs and an additional 34% reporting a weight loss of 5–10 lbs. Of the 216 SURI members who were weighed at the start of the campaign, 140 (65%) completed follow-up. Objective mean weight loss was 4.7±10.1 lbs with 21% losing more than 10 lbs and an additional 17% losing 5–10 lbs. In this subsample, participants who lost more weight reported higher levels of PA (p=.004), more frequent logging (p=.005), and more frequent self-weighing (p=.003). Conclusion: The substantial weight losses achieved through the SURI 2007 campaign are encouraging and suggest that community-based weight loss programs can be effective in promoting weight loss and improved health.

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Citation Paper
Paper Session #14 3:30 PM–3:45 PM 2116

FATIGUE, DEPRESISON AND PRE-SLEEP AROUSAL: A MEDIATION MODEL

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Fatigue is a symptom that is highly prevalent in persons with clinical depression, and is a risk factor for the development and recurrence of major depression. However, few studies have investigated the variables that mediate the relationship between depression and fatigue. Therefore, we tested the hypotheses that sleep as well as pre-sleep arousal, defined by both cognitive and physiological systems of arousal would mediate the relationship between depression and fatigue. Participants were 51 undergraduates (52.9% female; mean age 19.7 years; 86.3% Caucasian). Twenty-one met diagnostic criteria for a current major depressive episode or dysthymia and 30 had never been depressed. Diagnoses were made using the Structured Clinical Interview for Diagnosis (SCID). All participants completed a 3-day assessment protocol: on Day 1 participants completed the Pre-Sleep Arousal Scale and the SCID; on Days 1–3 participants wore an actigraph "watch" that measured sleep duration and sleep quality; and on Day 3 participants retuned their sleep data and completed the Multidimensional Fatigue Symptom Inventory-Short Form. A zero-order correlation matrix indicated that pre-sleep arousal, but not sleep, met the preliminary criteria for testing mediation. Hierarchical linear regression analyses, and Sobel test, were then conducted to test the hypothesis that pre-sleep arousal mediated the relationship between depression and fatigue. After controlling for age, gender, self-reported sleep, and actigraph-measured sleep, depression status significantly predicted increased fatigue (p<.05). As hypothesized, participants pre-sleep arousal reported on Day 1 was a significant predictor of fatigue (p<.001), and fully mediated the relationship between depression and fatigue (t=4.31, p<.001). This final model accounted for 48% of the variance in fatigue. In summary, pre-sleep cognitive and physiological arousal mediated the relationship between clinical depression and fatigue. Thus, it appears that pre-sleep arousal may be an important factor in symptoms of fatigue, particularly for persons with clinical depression.

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Paper Session #14 3:45 PM–4:00 PM 2117

SLEEP DISTURBANCE IN ADULT PATIENTS WITH SICKLE CELL DISEASE (SCD)

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Sleep disturbance is common to several pain disorders including low back pain, arthritis, and chronic headaches. However, few studies have exclusively investigated sleep disturbances among adult African Americans with sickle cell disease (SCD). Primary symptoms of SCD include hypoxia, pain, and psychosocial disruption. We explored symptoms and patterns of sleep disturbance in 38 male and 49 female African American patients, average age 35.40 (sd=11.45; range 18–70), participating in a longitudinal exploration of psychosocial factors in SCD. The results indicated that 61.3% of patients (30) experienced sleep disturbance (χ2(3)15.25, p=.002) as assessed by the Beck Depression Inventory. There was a trend towards significance for the degree to which pain is distracting from sleep as assessed by the MPI (χ 2(6)10.76, p=.10). Ninety-seven percent of patients endorsed at least some interference in sleep from pain. Recent studies have begun to explore sleep disturbance in adolescents with SCD but little if any focus has been placed on adult patients with this disease. Prospective research is needed to differentiate primary from secondary sleep disorders in patients where disease-related hypoxia may exacerbate the affects of sleep disturbances.

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Paper Session #14 4:00 PM–4:15 PM 2118

HEALTH RELATED SOCIAL CONTROL, AFFECT, AND ADHERENCE TO CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP) IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA: A DAILY DIARY STUDY

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Increased health related social control in couples may contribute beneficial effects of close relationships on physical health. However, research in chronic illness populations suggests health related social control may be associated with negative emotions and poorer health behavior. The effects of health related control tactics on daily affect and adherence to continuous positive airway pressure (CPAP) were tested in a sample of 30 male married or cohabitating patients with obstructive sleep apnea over the first 10 days of treatment. At bedtime, patients completed a daily diary that assessed positive and negative affect, sleepiness, and CPAP-related control tactics from the spouse or partner (collaboration, direct tactics, and indirect tactics) as well as self-report adherence and sleep quality from the prior night. Data were analyzed using multilevel modeling. Patient ratings of spousal CPAP-related control tactics were tested as predictors of same day affect and change in adherence during the corresponding night. Adherence was also tested as a predictor of next day change in CPAP-related control. CPAP-related control tactics predicted lower same day positive affect, higher same day negative affect, and higher same day sleepiness. Collaboration predicted increased adherence during the corresponding night. Relationship conflict moderated the association between adherence and next day CPAP-related control. In patients with lower ratings of relationship conflict, higher adherence predicted decreased collaboration the next day. Results suggest that spouse involvement may increase CPAP adherence at a cost to mood. In addition, spouses in couples with low marital conflict may be more responsive to adherence, thus reinforcing relationship quality.

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Paper Session #14 4:15 PM–4:30 PM 2119

INSOMNIA IN 597 FEMALE CANCER PATIENTS UNDERGOING CHEMOTHERAPY: A URCC CCOP STUDY

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Insomnia following the first 2 cycles of chemotherapy was assessed in 597 female patients with a variety of cancer diagnoses as part of a University of Rochester Cancer Center Community Clinical Oncology Program study. Women (median age=56; range 25–88) reported the presence and severity of insomnia using questions from the Hamilton Depression Inventory. During cycle 1 of chemotherapy, 82% reported insomnia symptoms, and 45% met the criteria for an insomnia diagnosis (defined as difficulty falling asleep, frequent awakenings or early awakenings for 3–5 nights a week lasting 1/2 hour or more). 67% of the study patients reported trouble falling asleep, 60% reported waking up in the middle of the night, and 54% reported waking up earlier than desired in the morning. Younger patients (>56)were significantly more likely to experience insomnia (p=.001). Significant differences were found in prevalence of insomnia by diagnosis (p=.001), with colon cancer patients reporting the lowest number of insomnia complaints (64%). There was a positive association between insomnia complaints during cycle 1 and 2 of chemotherapy (r=.50, p <.000) with an average 58% of patients continuing to report insomnia complaints from cycle 1 to cycle 2. Patients meeting the criteria for clinical insomnia had significantly more mood disturbance (POMS), depression (CES-D) and fatigue (FSCL, MAF) than other patients (all, p<.001). The rates of insomnia in female patients receiving chemotherapy are nearly 3 times higher when compared with the rates of insomnia found in the general population. Insomnia complaints persist through the second chemotherapy cycle for the majority of patients. Female patients meeting the clinical criteria for insomnia have significantly more mood and fatigue problems than other patients. Younger patients appear to have more insomnia. Insomnia is prevalent and understudied in female cancer patients undergoing chemotherapy.

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Paper Session #14 4:30 PM–4:45 PM 2120

INSOMNIA INTERVENTIONS CONDUCTED IN PRIMARY CARE SETTINGS: A SYSTEMATIC EVALUATION AND FUTURE DIRECTIONS

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Chronic insomnia is an increasingly common health problem affecting about 1/3 of U.S. adult population. Insomnia is associated with reduced quality of life, increased psychiatric/medical illness, and results in increased health care costs estimated to exceed $1200 over six months in adults. At least one-fifth of those with insomnia present and are managed solely in primary care (PC) settings using, primarily, pharmacological treatment. Effectiveness of Cognitive-Behavioral Therapy for Insomnia (CBTI) is well established. However, few PC-based studies have been published to evaluate PC translation potential. Search terms Primary Care and Insomnia were entered into MEDLINE, PsycINFO, and CINAHL search engines yielding 246 "hits." The keyword Adult was added to further narrow the field, yielding a final total of 57 citations. Forty-three studies were excluded due to other primary foci (e.g., depression). Fourteen studies were reviewed and categorized as: A)Treatment outcome w/ Control (n=3), B) Treatment outcome w/o Control (n=1), C)Correlational/Descriptive (n=6), D) Other (n=4). Studies categorized as A or B were evaluated utilizing RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) criteria, however, REACH could not be calculated for these studies. Three of the 4 interventions were conducted entirely within PC settings and ranged from two 25-mintue to 6 approx 1-hour sessions. Studies varied in control group content, group leader expertise, reporting of participant and recruitment pool characteristics, and description of analytical procedures to address missing data. Overall, outcomes were positive, with small-to-moderate effect sizes for PC-based CBTI interventions to improve self-reported sleep onset latency, sleep maintenance, and sleep efficiency. This systematic critique of existing literature suggest that while more controlled translational studies are necessary, abbreviated primary-care based interventions can be implemented in a PC setting with promising outcomes.

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Paper Session #14 4:45 PM–5:00 PM 2121

EFFICACY OF A COGNITIVE BEHAVIORAL GROUP INTERVENTION FOR INSOMNIA

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Insomnia is a prevalent and multifaceted disorder that is associated with numerous psychosocial and health care consequences. Regardless of initial precipitating cause of insomnia, psychological and behavioral factors often exacerbate sleep difficulties. Cognitive-behavioral therapy (CBT) has been shown as a safe and effective treatment for insomnia (Edinger & Means, 2005; Morin, 2004). Previous research has found significant support for the efficacy of CBT delivered in a group format, which allows for more cost-effective and timely services (Backhouse, Hohagen, Voderholzer, & Riemann, 2001; Morin, Colecchi et al., 1999).

Participants were referred after their initial evaluation at Sleep Center if determined to have insomnia. A brief CBT group was developed to help modify maladaptive sleep habits and decrease cognitive and autonomic arousal. The five session intervention included sleep restriction, sleep hygiene, cognitive restructuring, relaxation training, and group support. Participants completed the Insomnia Severity Index (ISI; Bastien, Vallieres, & Morin; 2001) at each group session. The ISI is a brief self report measure of the patient's assessment of his/her insomnia, with scores ranging from 0–28. Nineteen patients completed at least 3 of 5 group sessions. Participants average ISI was 18.26 at the initial measure and 11.39 at last completion of the ISI (t=4.74, p<.001). The current study examines the effectiveness of CBT group interventions in a "real world" sleep clinic setting as compared to majority of previous research conducted with carefully screened participants. Additionally, previous research has not examined the impact of racial diversity on treatment efficacy. Over one-fourth of our sample was African American and no significant differences in outcomes were found between Caucasians and African Americans. Future research directions include investigating the effects of intervention in long-term follow up and examining dose-response guidelines for CBT.

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Paper Session #15 3:30 PM–3:45 PM 2122

SYMPTOM CLUSTERS, IMMUNE PARAMETERS AND SURVIVAL IN HEPATOBILIARY CARCINOMA

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Background: The nature of and underlying biobehavioral mechanisms explaining symptom clusters is gaining increased attention in oncology research. The aims of this study were to: (1) investigate the prevalence and distribution of cancer-related symptoms; (2) characterize how covariations as a symptom cluster are associated with changes in immunity; and (3) determine if the symptom clusters and immune system parameters are related to survival.

Methods: A prospective sample of 206 patients diagnosed with hepatobiliary carcinoma completed a battery of standardized questionnaires measuring symptoms at diagnosis and then 3- and 6-months follow-up. Peripheral blood leukocyte and subpopulations were measured at the same time points.

Results: At diagnosis pain, fatigue, and depressive symptoms were reported by 56%, 85%, and 70% of patients, respectively. Two-step hierarchical cluster analyses yielded a cluster that reflected high levels of pain, fatigue, and depressive symptoms. Using repeated measures ANOVA, this cluster was associated with elevated eosinophil percentages [F(1,78)=3.1, p=0.05] at 3- and 6-months follow-up. Using Multivariate Growth Modeling, pain was associated with elevated eosinophils percentages from diagnosis to 6-months [z=1.914, p =.056]. While stratifying by vascular invasion, Kaplan Meier survival analyses revealed that eosinophil percentages predicted increased survival in patients with (7.5 vs 4.3 months) and without vascular invasion [21.5 vs 15 months; Breslow Chi-Square=4.9, p=0.03].

Conclusions: Cancer-related symptoms were common and associated with a component of the immune system reflecting Th2 cytokine-mediated activation. Elevated percentages of eosinophils associated with pain may reflect responses to tumor cell death and/or response to treatment.

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Citation Paper
Paper Session #15 3:45 PM–4:00 PM 2123

DIURNAL CORTISOL RHYTHM AS A PREDICTOR OF LUNG CANCER SURVIVAL

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Abnormal circadian rhythms have been observed in chronically stressed samples and cancer patients, with marked disruption in advanced cancer. Diurnal cortisol and rest-activity rhythm alterations are prognostic for early mortality in metastatic breast and colorectal cancer, respectively. We examined the prognostic value of the cortisol rhythm in lung cancer. Lung cancer patients (n=62, 34 female) within 5 years of diagnosis collected saliva at first waking, 45 minutes later (45+), 1600, and 2100 hours on 2 days. The diurnal cortisol slope was calculated excluding 45+ samples, which were used to obtain the cortisol awakening response (CAR). Lymphocyte numbers and subsets were measured by flow cytometry. The sample included early (stage 1, n=29) and advanced (stage 2–4, n=33) disease. Two years after enrollment closed, the KY cancer registry provided survival data for 57 patients. Survival was calculated both from study entry and from initial diagnosis.

The diurnal cortisol slope predicted subsequent survival over a period of up to 3 years. Early mortality occurred among patients with relatively "flat" rhythms indicating lack of normal diurnal variation (Cox Proportional Hazards p=.009). Cortisol slope also predicted survival time from initial diagnosis (p=.012). Flattened profiles were linked with male gender (t= 2.04, df=59, p=.046) low total and cytotoxic T cell lymphocyte counts (r= −.39 and −.30, p=.004 and .035, respectively), but not NK cell counts or CAR. CAR was a secondary predictor of survival. After adjustment for each of these factors, diurnal slope remained a significant, independent predictor of survival. In a Cox regression entering simultaneously the diurnal slope and CAR, CAR lost significance while slope remained a significant predictor of survival.

These data demonstrate the prognostic value of the diurnal cortisol rhythm in lung cancer and contribute to growing evidence from systemic, cellular and molecular research suggesting the circadian clock functions as a tumor suppressor.

Funding: KY Lung Cancer Research Board

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Paper Session #15 4:00 PM–4:15 PM 2124

OPTIMISM PREDICTS TNF-α LEVELS IN WOMEN WITH BREAST CANCER

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PURPOSE: Optimism has consistently been associated with beneficial physiological and psychological outcomes in numerous populations. In women with breast cancer, higher levels of optimism have consistently been associated with lower levels of psychological distress. Studies including immune parameters are beginning to show promise as well. The purpose of the current study was to evaluate the relationship between optimism and TNF-α, a pro-inflammatory cytokine, in women with breast cancer.

METHODS: The current study consisted of a subsample of 40 women with early stage breast cancer. Of the 40 participants in the subsample, most (73%) were Caucasian, 22% were African American, and 5% identified themselves as "other" racial designation. The mean age of the sample was 49 years with a range of 33–69 years. All participants completed data collection one week prior to beginning adjuvant chemotherapy. Variables of interest to this study were optimism (LOT-R) and serum levels of TNF-α.

RESULTS: A hierarchical regression analysis revealed that optimism was a significant predictor of TNF-α levels, accounting for 93% of the variance above and beyond demographic variables. Specifically, higher levels of optimism were predictive of higher levels of TNF-α.

CONCLUSIONS: Overall, higher levels of optimism were predictive of higher levels of TNF-α. Pro-inflammatory cytokines such as TNF-α have well-known cytotoxic effects on human breast cancer cells. Unfortunately, the blood cells of breast cancer patients are thought to have impaired ability to produce TNF-α. Therefore, in patients with breast cancer, initial elevated levels of TNF-α may represent an augmented immunological response. These complex relationships warrant future research.

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Paper Session #15 4:15 PM–4:30 PM 2125

OPTIMISM AND TRAJECTORIES OF SYSTEMIC INFLAMMATION AMONG FEMALE CAREGIVERS TO CANCER PATIENTS

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Caring for a family member with a chronic illness like cancer is associated with morbidity and mortality across a range of medical conditions. However, we still know very little about the mechanisms through which caregiving gets inside the body. Furthermore, some individuals adapt successfully to the role of caregiver, whereas others do not, but the personal and situational factors that facilitate adaptation remain unclear. Thus, as part of an ongoing project, we examined systemic inflammation among 12 female caregivers to brain cancer patients (mean age=46) and 13 control subjects who were free of chronic stressors (mean age=46). Systemic inflammation is a central pathway to the major diseases of aging, including heart disease, cancer, and Alzheimer's. We also examined the moderating influence of dispositional optimism, a trait known to promote adaptive coping and psychological resilience in demanding situations. Baseline data collection took place an average of 14 weeks after the patients' 1st surgical intervention, with follow-up visits occurring 6, 12, and 36 weeks later. At each timepoint, trait optimism was assessed using the Life Orientation Test, and systemic concentrations of interleukin-6 (IL-6) were measured with high-sensitivity ELISA. Results indicated that caregivers had elevated IL-6 compared to control subjects across the four assessments (p<.05). Thus, women in a cancer caregiving role showed increased inflammation, but optimism moderated these effects. Specifically, caregivers higher on optimism showed a decline in IL-6 over the course of the follow-up period, whereas caregivers lower on optimism showed increasing trajectories of IL-6 over time (p<.05). These relationships were independent of health behaviors and adiposity. In sum, elevated inflammation may be an important mechanism through which caregiving affects the body, but those caregivers who can look on the bright side of this difficult situation may be at an advantage. Future work should test the behavioral and emotional paths by which optimism facilitates familial adjustment to cancer.

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Citation Paper
Paper Session #15 4:30 PM–4:45 PM 2126

RELAXATION INDUCTION INCREASES THE DHEAS TO CORTISOL RATIO IN POST-MENOPAUSAL WOMEN

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It is important to maintain a healthy hormonal balance with aging. The adrenocortical hormone dehydroepiandrosterone sulfate (DHEAS) decreases over the lifespan. This decline is of concern because DHEAS is associated with positive mood and also antagonizes the effects of the stress hormone cortisol. While cortisol is catabolic, DHEAS is anabolic. This DHEAS:cortisol ratio has been used as a measure of "anabolic balance." Stress reduction interventions have been found to increase the DHEAS:cortisol ratio (i.e. Cruess et al., 1999), yet it is unknown if a brief intervention can induce short-term changes in the DHEAS:cortisol ratio. This study aimed to test whether a brief relaxation induction could influence level of DHEAS, cortisol, and the DHEAS:cortisol ratio. Participants were 24 post-menopausal women (mean age=59.38 years [range: 52–79]; 20 Caucasian, 2 Asian, 1 Hispanic, 1 African American). Between 1000–1200 h, each participant reclined in a dimly lit room and listened to a 25 min relaxation CD, which included guided meditation, muscle relaxation, and visual imagery. Saliva samples were obtained at baseline (prior to relaxation), immediately following relaxation, and 15 min post-relaxation. Salivary DHEAS concentrations increased 24% in response to the induction and decreased back to baseline levels post-relaxation (p<.05). In contrast to DHEAS, cortisol concentrations decreased by 16% after the relaxation and by 35% at 15 min post-relaxation (p<.05). The DHEAS:cortisol ratio increased from 0.44 to 0.63 (55% increase), and was maintained (did not change) 15 min post-relaxation. These results suggest that short-term relaxation can improve the anabolic balance. If this effect does not habituate with repeated relaxation inductions, it may have health significance, especially for those under chronic stress.

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Citation Paper
Paper Session #15 4:45 PM–5:00 PM 2127

DEPRESSIVE SYMPTOMS ARE ASSOCIATED WITH CELLULAR IMMUNE DYSREGULATION IN HEART FAILURE (HF) AND HEALTHY INDIVIDUALS

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Non-specific inflammatory responses may lead to undesirable cardiac remodeling in HF patients, while reduced specific immune responses may interfere with tissue repair and responses to pathogens. This study examined associations of depressive symptoms with specific and non-specific immune cell responses in HF patients and controls. Methods. HF patients (N=42; NYHA Class II–IV) and healthy controls (N=43) completed a challenging speech and arithmetic task and a Beck Depression Inventory II (BDI-II). BDI scores ≥10 were designated as high depressive symptom status. Blood was drawn prior to and immediately following the psychological challenge. Lymphocytes were examined in vitro for chemotaxis to the chemokine FMLP (a bacterial peptide) and the catecholamine isoproteronol (ISO).
Results. There was a time×depressive symptom status (high vs low) interaction for chemotaxis to FMLP (F=3.9, p<.05). High depressive symptom HF and non-HF subjects (N=28) had reduced chemotaxis to FMLP to psychological stress, while chemotaxis increased to stress in those with low depressive symptoms (N=57). This suggests reduced immune specific responses in those with increased depressive symptoms during stress. There was also an ISO concentration×depressive symptom status interaction for chemotaxis to ISO (F=7.04, p=.01). HF and non-HF subjects with high depressive symptoms had a larger increase in chemotaxis to a higher concentration of ISO (100 nM) compared to subjects with low depressive symptoms. This suggests increased sensitivity to ISO in those with high depressive symptoms. Conclusions. During an acute challenge, independent of HF status, individuals with higher depressive symptoms may have reduced specific responses to a pathogen as shown by the reduced response to bacterial peptide FMLP. Furthermore, greater sensitivity to catecholamines in persons with high depressive symptoms, may suggest increased non-specific immune responses to stress.

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Paper Session #16 3:30 PM–3:45 PM 2128

A FITNESS EDUCATION PROGRAM TO ADDRESS CURRENT AND FUTURE PHYSICAL ACTIVITY AMONG CANCER PATIENTS AND SURVIVORS

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The benefits of physical activity are dependent on habitual participation, but for many cancer survivors this is difficult to maintain. Often, there is a reduction in activity when beginning treatment for cancer that results in decreased fitness levels that can persist for months or years. Thus, developing interventions that address reductions in fitness after treatment and promote long-term habitual behavioral changes on physical activity are necessary. Therefore the purpose of this study is to explain changes in fitness and psychological outcomes of 32 participants whom completed a 12-week fitness education program and long-term behavior changes. Participants demonstrated improvements in weight (p=.42), BMI (p=.38), circumference measurements (p=.10), waist to hip (p=.31), stretching (p=.08), core strength (p<.001) and hand strength (p=.83). There were also improvements on self-reported measures of fatigue (p=.07) and depression (p<.001) and 27 of the participants continue to engage in regular physical activity up to one year after the program. Yet, only half of the participants who completed an initial assessment actually return to begin the program, suggesting the need for additional strategies to increase retention. Results are further described by those currently receiving and those post treatment for cancer. Lastly, the role of a transition program is also discussed in facilitating long-term behavior changes for increasing physical activity.

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Paper Session #16 3:45 PM–4:00 PM 2129

MAINTENANCE OF PHYSICAL ACTIVITY IN BREAST CANCER SURVIVORS AFTER A RANDOMIZED TRIAL

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Purpose: The purpose of this study was to examine the longer term effects of pedometers and print materials on changes in physical activity (PA) and health-related quality of life (HRQoL) in breast cancer survivors that participated in a three month behavior change intervention. Methods: Breast cancer survivors (N=377) were randomly assigned to receive either: (a) a standard public health recommendation for PA (SR), (b) previously developed breast cancer-specific PA print materials (PM), (c) a step pedometer (PED), or (d) a combination of the two (COM). The primary endpoint was self-reported moderate/vigorous PA minutes per week (min/wk) at six months follow-up after the initial three month-intervention period. Results: 71% (266/377) of participants completed the six-month follow-up assessment. Based on intention-to-treat linear mixed model analyses, self-reported moderate-to-vigorous PA increased by 9 min/wk in the SR group compared to 39 min/wk in the PM group (Mean difference=30 min/wk; 95% CI=−44 to 104; p=.425), 69 min/wk in the PED group (M difference=60 min/wk; 95% CI=−13 to 132; p=.107), and 56 min/wk in the COM group (M difference=47 min/wk; 95% CI=−26 to 119; p=.210). The same pattern was observed for self-reported brisk walking. No differences were found for HRQoL or fatigue. Conclusion(s): Breast-cancer specific print materials and pedometers did not maintain significantly higher PA or HRQoL at six months follow-up in breast cancer survivors but the magnitude of the effect on PA (30–60 min/wk) was consistent with the immediate postintervention effect observed at the three-month postintervention timepoint. Issues of power resulting from additional loss-to-follow-up may account for the failure to achieve statistical significance. Additional research with larger sample sizes and more complete follow-up is warranted.

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Paper Session #16 4:00 PM–4:15 PM 2130

SIX-MONTH FOLLOW-UP OF PATIENT-RATED OUTCOMES IN A RANDOMIZED CONTROLLED TRIAL OF EXERCISE TRAINING DURING BREAST CANCER CHEMOTHERAPY

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BACKGROUND: Few exercise trials in cancer patients have reported longer term follow-up. Here, we report a six month follow-up of exercise behavior and patient-rated outcomes from an exercise trial in breast cancer patients. METHODS: Breast cancer patients initiating adjuvant chemotherapy (N=242) were randomly assigned to usual care (UC; n=82), resistance exercise training (RET; n=82), or aerobic exercise training (AET; n=78) for the duration of their chemotherapy. At six-month follow-up, participants were mailed a questionnaire that assessed quality of life, self-esteem, fatigue, anxiety, depression, and self-reported exercise. RESULTS: 201 (83.1%) participants provided six month follow-up data. Adjusted linear mixed-model analyses showed that, compared to the UC group, the RET group reported higher self-esteem [adjusted mean difference=1.6; 95% CI=0.1 to 3.2; p=.032] and the AET group reported lower anxiety [adjusted mean difference=−4.7; 95% CI=−0.0 to −9.3; p=.049] at six-month follow-up. Moreover, compared to participants reporting no regular exercise during the follow-up period, participants reporting regular aerobic and resistance exercise reported better patient-rated outcomes including quality of life [adjusted mean difference=9.5; 95% CI=1.2 to 17.8; p=.025]. CONCLUSIONS: Improvements in self-esteem observed with RET during breast cancer chemotherapy were maintained at six-month follow-up whereas reductions in anxiety not observed with AET during breast cancer chemotherapy emerged at six-month follow-up. Exercise training during breast cancer chemotherapy may result in some longer term and late effects for selected patient-rated outcomes.

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Paper Session #16 4:15 PM–4:30 PM 2131

BARRIERS TO SUPERVISED EXERCISE TRAINING IN A RANDOMIZED CONTROLLED TRIAL OF BREAST CANCER PATIENTS RECEIVING CHEMOTHERAPY

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BACKGROUND: Exercise adherence is a challenge for breast cancer patients receiving chemotherapy but few studies have identified the key barriers. Here, we report the exercise barriers from a randomized controlled trial. METHODS: Breast cancer patients initiating adjuvant chemotherapy (N=242) were randomly assigned to usual care (UC; n=82), resistance exercise training (RET; n=82), or aerobic exercise training (AET; n=78) for the duration of their chemotherapy. Participants randomized to the two exercise groups (n=160) were asked to provide a reason for each missed exercise session. RESULTS: The exercise groups attended 70.2% (5,495/7,829) of their scheduled exercise sessions and reported a reason for not attending 89.5% (2,090/2,334) of their missed sessions. The 2,090 reasons were reported by 145 different participants and represented 36 different barriers. The individual barriers that accounted for the most missed exercise sessions were feeling sick (12%), fatigue (11%), loss of interest (9%), vacation (7%), and nausea/vomiting (5%). Disease/treatment-related barriers (19 of the 36 barriers) accounted for 53% (1,102/2,090) of all missed sessions. Of the 136 (85%) participants who missed more than one exercise session, 67% reported three or more different barriers. Demographic and medical variables did not predict the types of exercise barriers reported. CONCLUSIONS: Barriers to supervised exercise training in breast cancer patients receiving chemotherapy are varied but over half can be directly attributed to the disease and its treatments. Behavioral support programs will need to focus on strategies for maintaining exercise in the face of difficult treatment side effects.

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Paper Session #16 4:30 PM–4:45 PM 2132

PHYSICAL ACTIVITY AND QUALITY OF LIFE IN LONG TERM LUNG CANCER SURVIVORS

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Little is known about the relationship between physical activity level and quality of life (QOL) in long term lung cancer survivors. This project examined the relationship between a self-report measure of physical activity and QOL in a sample of 272 long term (>5 yrs) lung cancer survivors. Participants (54% male, average age 70 years old) completed the mailed survey an average of six years after being diagnosed with lung cancer. Survey measures included the stage of change for physical activity, and a set of single item QOL and lung cancer symptom scales. Thirty-seven percent of respondents reported they currently engaged in regular physical activity (a total of 30 minutes or more per day, at least five days per week). Kruskal-Wallis tests revealed that those who reported engaging in regular physical activity reported a better overall QOL, better QOL on all five domains of QOL functioning (mental, physical, social, emotional, and spiritual), and fewer symptoms compared to those with a sedentary lifestyle. This presentation will discuss further how physical activity level may have important QOL and symptom management benefits for long term lung cancer survivors.

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Paper Session #16 4:45 PM–5:00 PM 2133

ARE WE MISSING THE BOAT? BREAST CANCER EXERCISE INTERVENTIONS: A META-ANALYTIC REVIEW

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Background: Breast cancer patients experience declines in both physical and psychological quality of life (QoL). Prior research indicates that exercise interventions alleviate problems in physical functioning (e.g., decreased cardiopulmonary function) and some psychological difficulties (e.g., anxiety), but may neglect some psychological and social difficulties (e.g., isolation, lack of social support). Conversely, group psychosocial interventions can alleviate psychological and social difficulties, but often neglect physical functioning difficulties. Group exercise interventions could address both. Methods: To test whether group compared to individual exercise interventions for breast cancer patients show greater improvement in QoL, we conducted two meta-analyses; one using randomized controlled trial data comparing treatment to control group outcomes, and one using pre-post intervention group data. Seventeen studies meeting inclusion criteria were obtained. Results: Both treatment-control analysis and pre-post analysis showed significant aggregate random-effects effect sizes (.75 and .39, p's <.001, respectively), with significant heterogeneity among individual effect sizes (Q=42.71 and Q=92.12, p's<.001, respectively). Moderator analyses indicated no significant effect of exercising in groups versus alone for either the treatment-control analysis, $Q(1, 9)=.01$, $p=.91$, or for the pre-post analysis, $Q(1, 13)=2.31$, $p=.13$. However, close inspection of group exercise interventions revealed that they typically do not capitalize upon potentially beneficial group processes. Conclusions: Recommendations to maximize group interventions' effects on QoL involve capitalizing on group dynamics by: promoting team building experiences, setting group goals, using novel activities, and preemptively accommodating participants' anxieties over exercising in groups.

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Paper Session #17 3:30 PM–3:45 PM 2134

EFFECT OF CLINIC VISIT INVOLVEMENT ON THE RELATIONSHIP BETWEEN INFORMATION COMPETENCE AND NEED FULFILLMENT FOR CAREGIVERS OF ADVANCED CANCER PATIENTS

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Informal caregivers play a key role in advanced stage cancer patient care: reacting to medical problems, providing instrumental and emotional support, and interacting with the medical system. The ability to understand complex cancer-related information impacts both one's level of involvement in care and the ability to have cancer-related needs met (i.e., knowing prognosis, treatments, what to do and resources available). This study examined the potential mediating role that the caregiver's clinic visit involvement has on the relationship between caregiver's cancer-related information competence and need fulfillment. 87 caregivers of advanced stage lung (51), breast (14), and prostate (22) cancer patients completed a pretest survey and a survey approximately one month later immediately following a regularly scheduled oncology clinic visit that the caregiver was attended. Caregiver information competence was assessed at pretest, whereas caregiver-perceived clinic visit involvement and need fulfillment (modified from the Family Inventory of Needs) were assessed at clinic visit. Caregivers were primarily female, spouses, Caucasian, with mean age of 59.32 years. Three criteria required to substantiate mediation were met. Caregiver clinic visit involvement correlated with information competence ($r=.26$, $p<.05$) and need fulfillment ($r=.60$), $p<.001$. The correlation between information competence and need fulfillment ($r=.29$, $p<.01$), decreased and was non-significant when controlling for caregiver clinic visit involvement ($r=.18$, $p=.109$). The regression model of caregiver information competence and clinic visit involvement accounted for 38.3% of the variance in need fulfillment. Caregiver's involvement in the clinic visit mediates the relationship between their cancer-related information competence and need fulfillment. Accordingly, efforts to improve the caregiving experience should focus on training caregivers to be good information consumers as well as supporting their involvement in clinical visits.

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Paper Session #17 3:45 PM–4:00 PM 2135

SUBJECTIVE, EXPRESSIVE AND PHYSIOLOGIC INDICATORS OF EMOTION AMONG CANCER CAREGIVERS

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This study sought to examine multiple indicators of emotion among 33 spousal caregivers of cancer patients. Spouses were randomly assigned to 1 of 3 arms: emotional expression (EE, talking about one's deepest thoughts and feelings about caregiving) in the presence of their patient, EE in the absence of their patient, or control (talking about time management and positive memories) in the absence of their patient. All spouses talked for 10 mins and were videotaped. Galvanic skin response (GSR) was recorded. Felt emotion was measured using the Positive and Negative Affect Schedule (PANAS). Expressed emotion was measured using Lexical Inquiry and Word Count. Spousal demographic characteristics were: M(SD) age=54 (11), 76% female, 9% Hispanic and 81% Caucasian. Felt emotion differed× group. M(SD) for PANAS negative affect=22(6) EE patient present, 16(4.5) EE patient absent, and 13.6(3.7) control. Spouses in the EE patient present group felt more negative emotion while talking than did those in the EE patient absent group, $p<.01$, who in turn felt more negative emotion than control, $p<.05$. GSR change from baseline values were lower among spouses in the EE patient present vs. EE patient absent group, 7.1(3.3) and 9.6(3.5), $p<.05$, and equivalent to control, 7.8(6.9), $p>.05$. Considering expressive behavior, both EE groups uttered more negative emotion words compared to control, $p<.01$, but did not differ from one another, $p>.05$. M (SD)=1.3(.6) for EE patient present, 1.5(.6) for EE patient absent, and .4(.3) for control. These findings suggest that when the patient is present, spouses feel greater negativity but do not suppress the expression of such, at least not with respect to utterances. Spousal presence may have established a communicative outlet, hence the lowered GSR. In contrast, spouses in the EE patient absent group may have vented and felt discomfort (even guilt) doing so, hence the elevated GSR. Future work is needed to fully understand the physical and interpersonal consequences of EE.

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Paper Session #17 4:00 PM–4:15 PM 2136

EFFECTS OF CAREGIVING STRESS ON MEDICAL MORBIDITY AMONG CANCER CAREGIVERS

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Although older individuals report better mental health or psychological adjustment in general and particularly in the caregiving context, caregiving stress has a disproportionate burden on their physical health. However, the extent to which family caregivers (CGs) of cancer survivors have medical morbid conditions at the mid- to long-term survivorship phase as functions of their age and caregiving stress remains unknown. We used the first cohort cross-sectional data (n=607) from a nationwide longitudinal survey targeting family CGs 5 years post-diagnosis of a relative's cancer. Caregiving stressors (subjective caregiving stress measured by the stress-overload subscale or objective caregiving stress measured using the cancer severity index which is a composite of cancer type and stage) served as predictors; the number of medical morbid conditions measured using a list of 40 conditions served as the outcome; and CG age (mean 55), gender (65% female), and household income (61%>$40,000) served as covariates. About half of CGs reported greater than 3 morbid conditions. Hierarchical regression analysis revealed that CG age (beta=.30, p=.004) but not gender or income predicted a greater number of morbid conditions. After controlling for these demographic characteristics, only caregiving stress appraisal (beta=.12, p=.003) but not cancer severity (beta =.03, ns) predicted greater number of morbid conditions. Individuals who perceived their caregiver role as overwhelming, regardless of the severity of cancer of their care recipient, were more likely to experience medical morbid conditions requiring physicians' care. As additional longitudinal data are collected, we will examine the temporal relationships between cancer CG stress (objective and subjective) and medical morbid conditions. Available evidence suggests that the burden of caregiving for older CG should not be overlooked; stress management programs may benefit cancer caregivers by protecting them from psychological morbidity and perhaps from developing medical morbid conditions at the mid- to long-term survivorship phase.

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Paper Session #17 4:15 PM–4:30 PM 2137

PROSPECTIVE EXAMINATION OF MOOD STATES OF HUSBANDS OF WOMEN WITH BREAST CANCER

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Breast cancer diagnosis can dramatically change the life of patients as well as the support system around them. Husbands of breast cancer patients may be especially vulnerable to the stresses associated with cancer by virtue of the unique relationship and caregiver demands shared between spouses. This study examined the psychological impact of breast cancer on spouses over time and compared their mood states to a control group of husbands of healthy wives. Forty-two husbands of women with breast cancer and 52 control husbands completed the Profile of Mood States while their wives were undergoing chemotherapy treatment and one year later, as part of a larger study. A 2 (BC husbands vs. control husbands) by 2 (time of treatment vs. 1 year follow-up) repeated measures multivariate analysis of variance (MANOVA) and follow-up univariate analyses of variance (ANOVA) were conducted. The repeated measures MANOVA indicated a significant effect of group, Wilks' Lamda =.80, F (7, 94)=3.04, $p<.01$, no significant effect of time, and a significant effect for Group×Time interaction, Wilks' Lamda=.814, F(7, 94)=2.81, p =.011. Follow-up univariate ANOVAs of the group effect showed BC husbands reported significantly greater depressive symptomology than control husbands, F(1, 92)=5.06, p=.027. Follow-up univariate ANOVAs of the Group×Time interaction demonstrated significant effects for confusion, F (1,92)=3.93, p=<.01,and tension, F(1, 92)=5.41, p=.022. Examination of the means showed that confusion and tension scores decreased over time for BC husbands while they increased for control husbands. These results suggest some aspects of mood are improving over time for husbands of women with breast cancer; however, depressive symptoms remain higher in these men when compared to controls. Future research should further explore predictors of distress in this population to identify risk factors and buffers for prolonged mood disturbance among husbands coping with a wife's breast cancer.

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Paper Session #17 4:30 PM–4:45 PM 2138

"FOR BETTER OR FOR WORST": A GENDER ANALYSIS OF CANCER-RELATED PROBLEMS AS PREDICTORS OF DIVORCE OR SEPARATION AFTER DIAGNOSIS

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Research has documented that a life-threatening illness such as cancer can lead to significant strain in a person's marriage. Some evidence exists that women tend to experience higher divorce and separation rates after being diagnosed with a serious illness than men. Despite this trend, few studies have investigated the factors related to gender differences in divorce rates after a cancer diagnosis. The purpose of this paper is to examine the impact of several types of cancer-related problems on divorce or separation for men and women who participated in a national study of cancer survivors (N= 9170). Four types of cancer-related problems were included as predictors of divorce/separation in two gender-based models: 1)physical problems 2) emotional problems 3)employment and financial problems and 4)spouse's negative reaction to diagnosis. The first three represent factors derived from The Cancer Problems in Living Scale which is an inventory of problems commonly faced by those diagnosed with cancer. The fourth problem was operationalized using the The Criticism and Withdrawal Subscale of the Partner Response to Cancer Inventory. Consistent with past literature, results reveal a significant correlation between female gender and divorce/ separation after diagnosis, although this association disappears once relevant variables are controlled. Further analysis using logistic regression reveals that emotional problems (OR=1.101; $p<.01$) as well as employment and financial problems (OR=1.120; $p<.01$) increase women's risk of divorce/ separation while having no significant impact on men's risk. Spouse's negative reaction to diagnosis significantly increases both women's and men's risk of divorce/separation ($p<.001$). Future research should investigate whether the relationship between women's cancer-related problems and marital distress may be mediated by husbands' perception of the cancer burden and their caretaking and supportive skills.

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Paper Session #17 4:45 PM–5:00 PM 2139

EFFECTS OF PSYCHOLOGICAL DISTRESS ON QUALITY OF LIFE OF ADULT DAUGHTERS AND THEIR MOTHER WITH CANCER

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As the population continues to age, adult daughters are more likely to be involved in caregiving. Given that fact that sharing emotional experiences is common in female relationships, (dis)similarity between mothers with cancer and their adult caregiving daughters is expected. However, the extent to which the (dis)similarity in psychological distress influences the quality of life of each person remains unknown. This study aimed to address this concern, using a total of 98 mother–daughter dyads participating in the American Cancer Society's Study of Cancer Survivors-I and Quality of Life Survey for Caregivers. The levels of psychological distress were measured using the POMS-SF; quality of life was measured using the MOS SF-36 (mental and physical health); and age and stage of cancer were included in the analyses as covariates. Using the Actor Partner Interdependence Model, the results showed that although each person's psychological distress is the strongest predictor of their own quality of life, a mother's distress also plays a significant role in the daughter's quality of life. Specifically, when mothers experienced greater levels of psychological distress, the daughters reported better mental health but poorer physical health, controlling for individual's age and the stage of cancer. Our findings on the disproportionate influence of psychological distress of mothers with cancer on their adult caregiving daughters' quality of life suggest that caregiving daughters may benefit from programs designed to assist them to cope better with their mothers' psychological distress when both are living with cancer.

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Thursday
March 27, 2008
6:30 PM–8:30 PM

Poster Session B B001

UTILITY OF TWO THEORETICAL MODELS TO PREDICT EXERCISE ADHERENCE AMONG BREAST CANCER SURVIVORS

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Many women decrease their physical activity (PA) level after a breast cancer (BC) diagnosis despite benefits of PA for recovery from BC treatment. Exercise interventions are therefore an important mode of health promotion in this population. Understanding the mechanisms that determine adherence to PA interventions is critical to the development of optimally effective programs. PURPOSE: This study examined the ability of the theory of planned behavior (TPB) and the transtheoretical model (TTM) to predict PA among BC survivors enrolled in either of two randomized controlled trials (RCTs). METHODS: The Increasing or Maintaining Physical Activity during Cancer Treatment (IMPACT) Study was a randomized controlled trial (RCT) of a 6-month home-based PA intervention vs. usual care among 50 newly-diagnosed BC survivors. The Yale Exercise and Survivorship (YES) Study was an RCT of a 6-month supervised PA intervention among 75 post-treatment BC survivors. TPB and TTM constructs were measured prior to randomization. RESULTS: Women in the exercise arm of the IMPACT Study completed 136 min/wk (SD=79; 91% of goal) of PA. YES Study exercisers completed 123 min/wk (SD=52; 81% of goal). As predicted by the TTM, readiness to adopt PA predicted adherence in both studies. The TPB did not predict adherence, apparently because a large majority of both sedentary and active participants reported extremely positive PA-related attitudes and norms, high perceived control, and strong intention to exercise at baseline. CONCLUSION: The TTM is useful for predicting adherence to PA interventions during and after BC treatment. The TPB, however, may not be useful in samples characterized by excessive optimism regarding personal ability to achieve program goals. Further work is needed to better understand overestimation of likelihood to exercise among BC survivors.

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B002

PREDICTORS OF TIME-TO-NON-ADHERENCE IN A SCHEDULED REDUCED SMOKING CESSATION TREATMENT FOR CANCER PATIENTS

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Scheduled Reduced Smoking (SRS) is a promising behavioral intervention involving gradual reduction in daily smoking rate by systematically increasing the intervals between successive cigarettes. Often administered by Personal Digital Assistants (PDAs), SRS requires adherence to a pre-determined tapering algorithm and real time data collection to better understand the context of treatment progress. To examine temporal patterns, we used time-to-event analysis to measure time to non-adherence (TNA).

Fifty-six newly diagnosed cancer patients enrolled in SRS study for up to 30 days prior to surgery and generated a total of 696 daily assessments. We analyzed the TNA, defined as the number of days prior to user's discontinued interaction with the PDA. TNA was right censored at surgery date or 30 days of continuous PDA use. We examined patterns of TNA as well as whether TNA was associated with patient characteristics and the patients' initial appraisal of SRS helpfulness and convenience. The overall median TNA was 17 days. Patients were more likely to be adherent for a longer duration if they were older than 65 yrs (cf. younger than 65, Kaplan-Meir (KM): p=.096) and if they deemed the SRS helpful (KM: p=.053) and convenient (KM: p=.025). When these predictors were considered simultaneously in a Cox regression model, ratings of program helpfulness and convenience remained significant at the alpha level of .1 (helpfulness OR: .67, 95% CI: .41–1.08; convenience OR: .67, 95% CI: .44–1.03). Despite our initial concerns about the acceptability of the PDA for older adults, older patients actually adhered better than younger patients by a median TNA of 9 days. Time-to-event analysis should be encouraged in studies of adherence because it provides flexibility in defining adherence in an individually tailored intervention.

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B003

CANCER SCREENING PRACTICES IN A COMMUNITY SAMPLE OF APPALACHIAN WOMEN: THE RELATIONSHIP BETWEEN HEALTH BELIEFS AND SCREENING ADHERENCE

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Background: Appalachian regional cancer mortality rates exceed the national average, and this is most pronounced in rural areas of central Appalachian states such as Kentucky, West Virginia, and Ohio. 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.

Methods: The Health Belief Model (HBM) guided this research. Random digits dialing procedures were used to survey a community sample of women at least 50 years old (N=106) who lived in the 28 Ohio Appalachian counties. Respondents provided information on current screening behaviors for breast, cervical, and colorectal cancers, as well as family histories of cancer and sociodemographic data. In addition, nine questions were asked about respondents' perceptions of cancer and cancer screening. Factor analyses indicated that questions loaded on three HBM constructs: perceived susceptibility, perceived benefits, and perceived barriers.

Results: Nearly two-thirds of respondents currently met screening recommendations for cervical and breast cancer (69% and 62% respectively), while one-half (49%) reported being screened for colorectal cancer as recommended. Greater perceived benefits of cancer screening were associated with an increased likelihood of having been screened for breast and cervical cancer (OR=1.60 and 1.46, respectively, p<.05). Perceiving fewer barriers was also associated with screening adherence for breast, but not cervical or colorectal, cancer (OR=2.25, p<.05). The magnitude of these associations was attenuated, but remained significant, after controlling for age, education, health insurance status, and family histories of cancer among 1st- and 2nd-degree relatives.

Implications: Interventions to increase rates of screening in this population are needed and should focus not only on mitigating financial and structural barriers, but should also educate women about the benefits of detecting cancer at early stages of the disease and assist women in identifying problem-focused solutions to overcome perceived barriers.

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B004

BARRIERS TO PREVENTIVE MAMMOGRAPHY SCREENING AMONG NON-ADHERENT CHINESE WOMEN

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Background. Chinese–American women, especially recent immigrants have much lower rates of mammography use than the general population; these women also may lack a regular source of care.

Objective: This study examined factors affecting Chinese women's use of mammography and how presence of a regular provider mediated the impact of cultural and attitudinal barriers to screening.

Method. Cross-sectional data from a community-based longitudinal study was used to examine the aims of this study. Two hundred and ten Chinese–American women from the Metropolitan DC and NY areas who were over age 40 and non-adherent to the ACS recommended mammography screening guidelines completed a telephone interview.

Results. Of 210 non-adherent women, only 36% had intentions to obtain a mammogram in the future. Logistic regression results showed that presence of a regular doctor (OR=4.23, p<.001) and culturally-based beliefs (such as beliefs in the role of self-care and herb medicine) (OR=2.25, p<.05) were associated with screening intention, controlling for covariates. Results from stratified analyses showed that compared to women with a regular doctor, women who lacked a regular doctor were more likely to be uninsured and poor (income≤$20,000) (p<.0001), have poor English ability (p<.0001), have lived in the US for less than 10 years (p<.0001), hold Eastern view of care (p<.05), and perceive lower risk at breast cancer (p<.01). These women are the least likely to have an intention to obtain a mammogram (p<.0001).

Conclusion. Although these data are cross-sectional, it appears that Chinese women without regular sources of care have more attitudinal and access barriers to screening. Providing a culturally competent healthcare setting for those uninsured and less-acculturated immigrant women may be an effective strategy to reduce ethnic disparities in receipt of breast cancer screening.

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B005

DOES DIFFERENTIAL RATE OF PHYSICIAN REFERRAL EXPLAIN LOWER COMPLIANCE WITH COLORECTAL CANCER SCREENING GUIDELINES AMONG OBESE WOMEN?

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Obese individuals are at higher risk for colorectal cancer (CRC) because of their weight, but may be less likely to comply with American Cancer Society CRC screening guidelines. Obese women, in particular, have lower screening rates than non-obese women, but the reasons for this disparity are poorly understood. This study uses data from the 2005 National Health Interview Survey to explore potential causes of weight-related screening disparities in women.

Overall, compliance with screening rates is low, with only 49.8% percent of adults over age 50 reporting having been screened within the recommended time frame. Among white women, significantly fewer obese (BMI≥30) respondents reported having an up-to-date colonoscopy (within the last 10 years) compared with normal/overweight women (39.3% vs. 43.4%, p=0.01). There was no significant relationship between obesity and screening compliance among African American women.

Individuals who reported that their doctor recommended a CRC screening in the past year were 42.0 (95%CI: 37.3–47.2) times more likely to be compliant with screening guidelines. However, there were no significant differences in the reported rate of doctor recommendation for screening between obese and non-obese individuals. Additionally, when controlling for age and doctor recommendation, obese white women were still significantly less likely to have had an up-to-date colonoscopy (OR: 0.7, 95%CI: 0.6–0.9). The most common reasons reported for not having a colonoscopy were: "no reason/didn't think about it" (45.2%) and "doctor didn't order it" (22.9%); however there were no significant relationships between obesity and the reported reason for not being screened.

In conclusion, being obese decreases a woman's likelihood of being screened for CRC, but these disparities are not explained by differences in perceived rate of doctor referral. Given the limitations of survey data, qualitative research is needed to better explain weight-related screening disparities among women.

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B006

THE EFFECT OF DEPRESSION AND ANXIETY ON ADHERENCE IN HEART FAILURE PATIENTS TREATED WITH AN ICD

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Heart failure patients treated with an implantable cardioverter defibrillator (ICD) is a rapidly growing, high risk population. Treatment guidelines for heart failure have been established, and these also apply to patients treated with ICD. The guidelines include taking medications, restricting sodium and fluid intake, exercising regularly, limiting alcohol, and eliminating smoking. Adherence rates for these behaviors are low.

One potential barrier to adherence in heart failure patients is psychological distress, particularly, depression and anxiety. Depression and anxiety are prevalent in both heart failure and ICD patient populations, and may have detrimental effects on patients' adherence to recommended treatment guidelines. The current study examined the effects of depression and anxiety symptoms on adherence to treatment recommendations in heart failure patients treated with an ICD.

98 heart failure patients treated with an ICD completed the BDI, STAI, and the Heart Failure Compliance Questionnaire, which asked patients to rate their adherence to treatment guidelines in the past week. Regression analyses revealed that higher levels of depression and anxiety symptoms were associated with poorer adherence to following dietary and exercise recommendations. Patients who are depressed may lack the energy and motivation to monitor their sodium and fluid intake or to participate in physical activities. Additionally, anxious patients may lack the cognitive focus to make necessary dietary changes. Previous research has shown anxiety to be associated with patients limiting their activities due to fear that increased heart rate would trigger their ICD device to administer a shock. Future research should use objective measures of adherence in addition to self-report measures, in order to obtain a better understanding of the effects of psychological distress on adherence in heart failure patients treated with an ICD.

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B007

A BEHAVIOR CHANGE PROGRAM USING VOICE ACTIVATED TECHNOLOGY (VAT) TO INCREASE ADHERENCE WITH STATINS: RESULTS OF AN RCT

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Background: Despite the evidence that statins can reduce CHD-related morbidity and mortality, studies suggest that within six months after initiation of therapy, as many as 50% of patients discontinue their medication. This study presents the impact of a behavior change program aimed at increasing statin adherence using IVR technology as the principle intervention strategy.

Methodology: Subjects were affiliated with a health benefit company (HBC) as HMO/PPO members who were: a) prescribed a 30 day supply for a statin ("Index Statin") with no pharmacy claims evidence of a lipid-lowering agent in the six month prior; and b) were enrolled in the HBC for a minimum of 12 months prior to the "Index" statin through the subsequent 6 months. Weekly, the HBC sent the VAT vendor the contact information of potential subjects. 497 gave informed consent and were randomized to Control (Con) and Experimental (Exp) groups. The primary dependent variable was six month point prevalence-defined as claims of a subject filling a 30+ day supply for a statin on days 121–180 post "Index" statin.

Intervention: All study subjects were first asked to respond to approximately 10 items from the VAT guided by behavior change theories and at the conclusion of the questions were assigned to a Con group (N=244) who received "generic" feedback and then were mailed a "generic" cholesterol guide, or an Exp Group (N =253) who received "tailored" feedback based on their unique constellation of cholesterol-related knowledge, attitudes, beliefs, barriers to medication adherence, and were then mailed a tailored guide. The Exp group had the opportunity to participate in two additional VAT calls with 67% participating in 2+ calls.

Outcomes: The Exp Group had a significantly higher six month point prevalence than Con (70.4% vs. 60.7%, $P<.05$).

Conclusion: Results suggest that behavioral support program using VAT can be a cost-effective modality to address the important public health problem of patient nonadherence with statin medication.

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B008

LATENT GROWTH CURVE MODELS OF PSYCHOSOCIAL FACTORS AND ADOLESCENT PHYSICAL ACTIVITY

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Most of what is known about psychosocial mediators of adolescent physical activity (PA) is from cross-sectional studies. In the current study, data from an RCT was used to examine the extent to which a health promotion intervention affected changes in psychosocial constructs (mediators: behavior change strategies, self-efficacy, family and peer support, decisional balance, enjoyment for PA) and if so whether these in turn influenced PA. Adolescents (ages11–15) recruited through primary care providers (age 12.7, sd 1.3; 58% white non-Hispanic) were randomized to either a PA and diet intervention (PACE) or a sun protection comparison intervention. PA (7-day PAR) and psychosocial constructs were measured at baseline, 6 and 12 months.

Parallel process latent growth curve models (LGM; n=878) found positive relationships between the growth trajectories of behavior change strategies, self-efficacy, family support, peer support and the growth trajectory of PA. As the growth trajectories for these psychosocial variables increased over time so did the growth trajectory for PA. Mediation analyses with LGM revealed that only behavior change strategies mediated the relationship between the intervention and PA, with the growth trajectory for behavior change strategies accounting for 13.8% of the variance in the growth trajectory for PA.

This is the first study to test for intervention-mediated effects using latent growth trajectories for both mediator and outcome variables. The findings suggest that the PACE intervention influenced changes in adolescent PA through its effect on behavior change strategies (e.g., considering benefits, goal setting, tracking). Other psychosocial constructs such as self-efficacy and family support were related to PA over time but were not specific to the causal pathway of the intervention.

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B009

HOW MUCH WALKING IS NEEDED TO IMPROVE CARDIORESPIRATORY FITNESS?

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Guidelines from the US Surgeon General suggest that the accumulation of 30 minutes of moderate-intensity physical activity on most days of the week will produce significant health benefits. However, the amount of walking needed to produce significant improvements in fitness among free-living sedentary adults remains unclear. We examined this question in the context of a clinical trial in which 201 sedentary adults (127 women, 64 men; mean age=50 years; mean BMI=28.1) were instructed to walk 30 minutes per day on 5 or more days per week. Cardiorespiratory fitness was assessed via a maximal graded exercise test completed at baseline and 6 months. During the 6-month study period, the participants were asked to keep daily written logs of the amounts of walking completed. We categorized participants based on self-reported minutes of walking during months 2 through 6 into one of the following three groups: "LOW" (<60 minutes per week), "MODERATE" (60 to 119 minutes per week), and "HIGH" (>120 minutes per week). The results showed that pre- to posttreatment changes in fitness varied by group. Both the HIGH (7% increase) and the MODERATE (5% increase) groups demonstrated significantly greater improvements in fitness ($p<.05$) compared to the LOW group (no change). However, the MODERATE and HIGH groups showed similar changes. Collectively, these findings suggest that sedentary individuals who increase their physical activity levels by walking for 1–2 hours per week may obtain significant improvements in cardiorespiratory fitness.

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B010

SYMPTOMS OF DEPRESSION PROSPECTIVELY PREDICT POORER SELF-CARE AND ADHERENCE IN PATIENTS WITH TYPE 2 DIABETES

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OBJECTIVE: To prospectively examine the association of depression symptoms with subsequent self-care and medication adherence in patients with type 2 diabetes.
METHODS: We surveyed 244 primary care patients with type 2 diabetes using the Harvard Department of Psychiatry/National Depression Screening Day Scale (HANDS), the Problem Areas in Diabetes Scale, the Summary of Diabetes Self-Care Activities, and self-reported medication adherence at baseline and at a follow-up, an average of 9 months later.
RESULTS: In multiple linear regression models, higher levels of depressive symptoms at baseline predicted significantly lower adherence to general diet recommendations, specific diet recommendations for consumption of fruits and vegetables and spacing of carbohydrates, and less exercise at follow-up (all ps<.002). Each one-point increase in baseline HANDS score (ranging from 0–30) was associated with a 1.08-fold increased odds of missing prescribed medication doses at follow-up (95% CI=1.02–1.16, p=0.012). After controlling for baseline HANDS score, increases in depressive symptoms over the follow-up were predictive of worsening adherence to general diet recommendations, less frequent spacing of carbohydrates, higher consumption of high fat foods, and less exercise. Controlling for diabetes distress did not alter these relationships.
CONCLUSIONS- Depressive symptoms predict subsequent nonadherence to important aspects of self-care among primary care patients with type 2 diabetes, and increases in depressive symptoms over time predict declining adherence to diet and exercise recommendations. These relationships are independent of diabetes distress. Early identification and treatment of depressive symptoms may improve diabetes self-care behaviors.

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B011

CAN FOLLOWING THE CALORIC RESTRICTION RECOMMENDATIONS FROM THE DIETARY GUIDELINES FOR AMERICANS HELP INDIVIDUALS LOSE WEIGHT?

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The Dietary Guidelines for Americans recommend creating an energy deficit of at least 500 kcal a day to facilitate weight loss. This investigation examined the relationship between creating a consistent, self-reported energy deficit of at least 500 kcal a day and weekly and overall program weight loss. The relationship between self-monitoring adherence and daily energy intake and expenditure and weekly and overall weight loss was also examined. Fifty-four overweight or obese adults (BMI≥27 kg/m^2) participating in a 14-week weight loss program were given a 5% total body weight loss goal and instructed to create an energy deficit of at least 500 kcal a day to facilitate weight loss. Participants provided daily records of total energy intake and expenditure, physical activity, as well as records of weekly and overall weight loss during treatment. Individuals who averaged an energy deficit in excess of 500 kcal per day lost nearly four times the weight as individuals whose average energy deficit was below 500 kcal per day (p<.01). Individuals who lost 5% of their body weight during the intervention self-monitored more than twice as many days than individuals who failed to lose 5% of their body weight (p<.01). Individuals interested in losing weight should continue to be advised to regularly self-monitor energy intake and expenditure as well as to create a consistent daily energy deficit (e.g., 500 kcal a day).

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B012

VARIATION BY RACE/ETHNICITY AND GEOGRAPHY IN CHILDREN'S DIETARY INTAKE: THE HEALTHY PASSAGES STUDY

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Little is known about differences in children's eating patterns by race/ethnicity and geographic area of residence. This study describes eating patterns among Black, Latino, and White children from three U.S. locations. The sample includes 4331 5th grade public school students (selected using a two-stage sampling algorithm) who participated in Healthy Passages, a longitudinal, multi-site study of children's health behaviors funded by the CDC. Children were asked on how many days in the past week they had consumed 8 foods. Using one-way ANCOVAs, controlling for income and caregiver education, interaction effects for race/ethnicity by site were found for some items. All reported associations are significant at p<.05. For all sites, Latinos and Whites drank milk on more days than Blacks (4.5, 5.1, and 4.1 days/week respectively). In CA and TX, Blacks ate fast food 1.9 and 1.7 days/week versus Whites 0.9 and 1.2 days. In TX, Blacks drank sugar sweetened beverages 5.6 days vs. 4.8 and 4.7 days for Latinos and Whites. In CA, Blacks drank these beverages on 5.3 days vs. 4.4 days for Whites. Main effects of site were found for 3 items. Children in CA consumed fruit, green salad and carrots on more days per week than children in TX (4.7 vs. 4.3; 3.7 vs. 2.8; and 3.3 vs. 2.5 days). Main effects of race/ethnicity were found, also. Whites ate vegetables 4.0 days vs. Blacks 3.5 days and Latinos 3.2 days. Whites ate fruits 4.8 days vs. Blacks 4.0 days. Blacks ate fries/chips 4.3 days vs. 3.3 and 3.1 days for Whites and Latinos, but Blacks also ate green salad on 3.4 days vs. 2.9 days for Whites. Regional differences likely reflect sociocultural, historical, economic, and food availability factors. Understanding differences in child dietary patterns by race/ethnicity and geography is an important consideration in developing dietary interventions.

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B013

CONCURRENT SELF-REGULATION OF VALUED BEHAVIORS THAT COMPETE FOR ATTENTION: WHAT DISCRIMINATES THE FREQUENT FROM THE LESS-FREQUENTLY ACTIVE?

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Being physically active (PA) is a valued goal for many individuals, but activities with family, work, school, and friends concurrently vie for attention with PA in weekly life. Concurrent self-regulation of PA with other valued life activities is challenging, as attrition rates suggest (Dishman, 1990). Determining variables that discriminate individuals who concurrently self-regulate PA with other valued pursuits (i.e., academics) at levels either commensurate or not with health benefits could provide insight about adherence. We examined this issue in an observational study using social cognitive theory (SCT; Bandura, 1997). A total of 324 participants (M age= 24.9) from a university community who highly valued exercise (M=7.3 on a 1–9 scale) were dichotomized into frequent exercisers (N=248; 4+ bouts of vigorous and moderate/week OR 3+ bouts of vigorous) and less frequent exercisers (N=76; 3 or less bouts of vigorous and moderate/week) based on the ACSM PA guidelines (2007) to achieve health benefits. We assessed PA intentions, outcome expectations, outcome value, self-regulatory efficacy for PA, self-regulatory efficacy for concurrent behaviors, and the degree to which concurrent self-regulation was perceived as interfering. Discriminant function analysis (DFA) significantly differentiated the two groups (Λ=.76, χ2 87.78 (6), p<.001). The DFA correctly classified 76.2% of participants in both PA groups. Intentions to perform vigorous and/or moderate bouts of exercise (Mfrequent=8.3 vs. Mlessfrequent=3.6) and self-regulatory efficacy for concurrent behaviors (Mfrequent=67.1 vs. Mlessfrequent=49.9) contributed the most in discriminating the groups. This investigation is one of the few to examine concurrent self-regulation of valued behaviors in relation to predicting PA behavior. Examining concurrent management of valued behaviors in future research may provide a clearer social cognitive picture of PA adherence.

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B014

DOES THE PATIENT–PHYSICIAN RELATIONSHIP PREDICT PREMATURE TREATMENT TERMINATION IN PATIENTS WITH HEADACHE DISORDERS?

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Objectives: Approximately 40% of patients seeking treatment for headache disorders fail to attend their follow-up appointments and 24% terminate treatment prematurely. Headache treatments are less effective when patients fail to work closely with their headache physician. The current study examined if patients' relationship with their physician predicted premature treatment termination.

Participants and Procedures: 300 participants were recruited through headache specialty clinics in Ohio. Participants completed self-administered surveys at baseline, 1-month, 2-month and 6-month follow-ups. Participants completed measures on neurologists' evaluation, headache frequency, severity, and disability via 30-day daily diary.

Results: A hierarchical logistic regression analysis examined relationships between patient-physician relationship and treatment completion (premature treatment termination, N=107, adherence to the treatment, N=193). The first block of variables, which headache frequency, severity, and disability were entered in the model. There were no significant relationships among the three predictors and headache treatment termination, G2=1.52, p=.67. Neurologist evaluation was entered as the second block of variables. Patients who had more negative evaluations of their physician were more likely to terminate treatment, Wald X2=6.79, p=.009, OR=.86.

Implication: In headache treatment clinics, patients who are dissatisfied with their physician are less likely to complete their full treatment protocol. Interventions that improve patient–physician relationships are needed and will may result in patients completing their headache treatment and evidencing reductions in headache frequency and severity

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B015

LINKAGES TO HIV ANTIRETROVIRAL ADHERENCE AND DISEASE SEVERITY: ETHNIC IDENTITY, BELIEFS AND ATTITUDES ABOUT MEDICINE, AND PSYCHOLOGICAL DISTRESS

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Strict adherence to highly active antiretroviral therapy (HAART) is an essential element of effective treatment of Human Immunodeficiency Virus (HIV) infection but studies have used self-reported estimates of adherence rather than measures of adherence behavior. This study examined 210 HIV-infected individuals (139 men, 71 women, 20–55 yr), who were participating in a nutrient supplementation clinical trial. Structural equation modeling was employed to evaluate psychosocial predictors of two measures of HAART adherence: 1) the AIDS clinical trial group (ACTG) 4-day self-report of HAART adherence; and 2) 9-months of adherence to the daily study supplement measured using computerized pill bottle (CPB) usage data, as a proxy for HAART adherence. Psychosocial predictors included the: 1) Beliefs about Medicine Questionnaire (BMQ); 2) Multi-group Ethnic Identity Measure (the affirmation subscale); 3) Attitudes Toward the Physician survey; and a 4) Distress latent factor [depression (BDI), impact of events (IES), perceived stress (PSS), and coping self-efficacy (CSE)]. Pathways from these psychosocial factors to the adherence measures and from adherence to disease severity (HIV viral load, T helper cell count) were tested using appropriate covariates. In both models, which evidenced good fit, less ethnic identity predicted greater distress, and both greater distress and poorer attitude toward the physician predicted less belief about the importance of HAART medications. In the ACTG model, psychosocial factors predicted ACTG adherence in a theoretically reasonable fashion but adherence did not predict disease severity. In contrast, only greater ethnic identity predicted greater adherence in the CPB model; moreover, greater CPB adherence predicted less disease severity. These findings illustrate how self-reported psychosocial and adherence measures may be reasonably related, but measures of actual adherence behavior may be more meaningfully linked with HIV disease severity.

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B016

A TELEPHONE-DELIVERED COPING IMPROVEMENT GROUP INTERVENTION INCREASES ADHERENCE TO HAART IN DISTRESSED HIV-INFECTED RURAL PERSONS

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Objectives: Research portends that many rural persons living with HIV/AIDS (approximately 50%) fail to adhere to complex regimens of highly active antiretroviral therapy. The current study examined if a telephone-delivered, coping improvement group intervention improved adherence to HAART regimens in rural persons living with HIV/AIDS.

Participants and Procedures: The current intervention outcome analysis utilized data from 59 participants who were enrolled in a RCT of two telephone-delivered, AIDS mental health interventions and who reported elevated levels of psychological symptomatology. Participants completed self-administered surveys at pre-intervention, post-intervention, and 4- and 8-month follow-up. Participants were randomized to one of three conditions: (1) an 8-session, telephone-delivered, coping improvement group intervention (n=29); (2) an 8-session, telephone-delivered, information-support group intervention (n=16); and (3) a no-treatment control group (n=14). The adherence measure used a six-point Likert scale (1 "Not adherent at all" to 6 "Have not missed a dose in the past week").

Results: ANCOVA, controlling for race and educational level at pre-intervention, found that the three treatment groups were comparable on adherence to HAART at pre-intervention. At post-intervention, coping intervention participants (M=5.04, p=.005) and information-support participants (M=4.92, p=.022) reported significantly greater adherence to HAART than control participants (M=3.42). At 4-month follow up, coping intervention (M=5.14, p=. 001) and information-support participants (M=4.60, p=.056) also reported greater adherence to HAART than controls (M=3.24). However, by 8-month follow-up, rates of adherence were comparable in the three groups.

Implications: These analyses show that telephone-delivered, coping improvement and information-support group intervention have the potential to provide short-term increases in adherence to HAART regimens in rural persons living with HIV/AIDS.

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B017

FACTORS INFLUENCING ANTIRETROVIRAL MEDICATION EXPERIENCES AMONG HIV SEROPOSITIVE ZAMBIANS

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Preliminary results of a study designed to identify the individual and institutional correlates of antiretroviral (ARV) use among Zambian users of medication are presented. Participants (n=80) were recruited from the University Teaching Hospital in Lusaka and randomly assigned to a 3 visit group intervention or time matched standard of care, crossing over to the alternate condition at 3 months post baseline.

Participants were primarily married, had a very low income (poverty level, 75%), a secondary education (45%) and a mean age of 38; older participants reported worse overall health. The majority had been diagnosed HIV seropositive for over 2 years and taking ARVs for over 20 months; 40% endorsed previous treatment by a traditional healer. Very low income participants reported more negative beliefs regarding medication, while those with higher income reported more community and healthcare-related stigma. Those on ARVs over a longer period reported more positive beliefs regarding medication; 76% reported consistent adherence. At baseline, participants reporting lower levels of interference with overall cognitive functioning reported lower perceived barriers to medical care and more positive beliefs regarding medical treatment and medication (F=4.18, p=.02). At follow-up, those who participated in the intervention before the standard of care condition (intervention followed by standard of care) had higher levels of medication-related cognitive functioning over time (F=5.35, p=.03).

Preliminary results suggest that attitudes towards medications appear to improve over time and are unrelated to education or knowledge but influenced by the perception of the ability to implement HIV treatment recommendations. Additionally, results suggest a group intervention can influence perceived cognitive functioning associated with adherence to treatment, and support the use of group interventions for skill building associated with adherence.

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B018

INFLUENCE OF MEDICAL TREATMENT BELIEFS ON PERCEIVED BARRIERS TO ADHERENCE AMONG HIV+ ZAMBIANS

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This study sought to identify determinants to HIV treatment adherence among seropositive Zambians on antiretrovirals (ARV). Preliminary analyses are presented to explore the impact of general health beliefs about medical treatment on health care utilization and perceptions of barriers to medication adherence. Participants are (n=80) HIV positive men and women, currently prescribed ARV medication recruited from the University Teaching Hospital in Lusaka, Zambia. Participants were randomly assigned to a group intervention or standard of care and crossed over to the alternate condition at three months post baseline. Baseline data indicated participant attitudes regarding medical care and HIV-specific treatment differed as a function of both income and time on ARVs. Time on ARVs influenced beliefs about medication and treatment options ($r=.26$, $p=.022$). In addition, income was associated with the negative beliefs regarding medical treatment ($r=-.49$, $p<.001$) and HIV-specific treatment, including ARVs ($r=-.41$, $p<.001$). Controlling for time since diagnosis, time on ARVs, and income, participants with negative beliefs had higher means of health care utilization (mean score negative beliefs=4.6, positive beliefs=4.3). Those with negative beliefs perceived higher barriers to medication adherence (mean score negative beliefs=52.6, positive beliefs=46.0; $F=4.36$, $p=.018$). Over the course of the intervention, communication between patients and providers increased in both the early and late start intervention conditions. These preliminary results support the development and implementation of interventions to address patient attitudes regarding medical treatment as a method to influence adherence and increase health care utilization and patient–provider communication. Developing more optimistic perceptions of treatment appears to decrease perceived barriers to adherence in this population.

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B019

ADHERENCE IN LOW DENSITY SETTINGS: IS MODIFIED DIRECTLY OBSERVED THERAPY A FEASIBLE INTERVENTION OPTION?

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Modified Directly Observed Therapy (mDOT), where a portion of doses in a medication regimen are ingested under supervision, has demonstrated success in improving the high levels of adherence necessary to benefit from antiretroviral medications (ART). Successful interventions have been implemented within methadone-maintenance programs, skilled nursing facilities, prisons, and dense urban settings, however none have attempted an mDOT intervention in an urban sprawl setting. This study reports on the feasibility and acceptability of delivering an mDOT intervention in a large geographical but low density metropolitan area spread across 15 counties (1,408 persons per square mile as compared with 26,401 in NYC). Data from participants who were randomized to receive mDOT in Project MOTIV8 (n=50; M age=39.66±9.0; 72% completed high school; 78% male; 64% African American) were collected to determine exact mileage from study offices to participants' chosen meeting site, their satisfaction with mDOT services and basic demographics. Results indicated that the average participant resided 13.5 (±10.6; range 1–54) miles from study offices. By carefully structuring mDOT meeting times, assigning patients who lived near each other to the same staff member, having staff leave from their homes when closer, and making necessary adjustments to the protocol, mDOT was feasible in this setting. Modifications to the protocol were made to address once a day ART regimes, bedtime doses, and patient preferences (e.g., directly delivered unobserved doses and phone visits). The majority of participants (n=34) had daily mDOT visits, however seven had their meds directly delivered and nine had phone mDOT. Overall patients reported that mDOT was beneficial (97%) and that they would recommend it to others (94%). With a few minor modifications, mDOT appears to be feasible and well tolerated by patients even in low density settings.

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B020

INFLUENCE OF SELF EFFICACY ON MEDICATION ADHERENCE AMONG HIV SEROPOSITIVE ZAMBIAN WOMEN

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Preliminary baseline results of female participants in a study designed to influence risk behavior and self efficacy among seropositive Zambian couples are presented. Women (n=107) and their partners were recruited from the University Teaching Hospital in Lusaka and randomly assigned to a 4 visit couples group gender concordant intervention or time matched enhanced standard of care. Female participants had a very low income (less than $1000 a year, 93%), primary school level education (57%) and a mean age of 34. The majority had been diagnosed HIV seropositive for 3 years, 91% had a seropositive partner. Of those women with children (97%), 22% of the children were seropositive. Half of the sample reported some form of domestic violence, 25% reporting high levels of physical confrontation. At baseline, 74% (73 women) were currently on antiretroviral medication. Current medication adherence was predicted by education ($F=12.07$, $p=.001$) and general self efficacy ($F=4.19$, $p=.032$), while HIV-related knowledge was not associated with adherence. At post-intervention follow up, the majority of the variance in adherence was accounted for by higher rates of adherence at baseline, though participants reported higher numbers of side effects over time. Mean levels of self efficacy increased over the course of the intervention, with greater increases reported in the group condition. Due to limited sample size, numbers are too small for significance but indicate a positive trend. Preliminary results suggest that education and self efficacy may influence adherence to HIV medications, but that future adherence behavior may be best predicted by current behavior. Further research is needed in this population to assess the attitudinal contributors to adherence. Additional data is needed to assess the educational impact of the group intervention on HIV medication adherence.

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B021

VICTIMIZATION AND CLINICAL OUTCOMES AMONG HIV-INFECTED INDIVIDUALS WITH CO-OCCURRING MENTAL AND SUBSTANCE USE DISORDERS

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Previous studies have found associations between victimization and poor health outcomes among people living with HIV. However, little is known about the relationship of trauma and health outcomes among HIV-infected individuals with psychiatric disorders. A total of 215 HIV-infected persons with co-occurring mental and substance use disorders completed a structured interview, which included the SCID, Addiction Severity Index, and SF-36 Health Survey. Viral load and CD4 count were collected by chart abstraction. Eighty-six percent of participants reported experiencing a traumatic event in their life and 47% reported being assaulted sexually, physically, or with a weapon. Of those assaulted, half were assaulted before age 16. A 2×2 analysis of variance revealed victims had worse alcohol problems ($p<.002$). Trends for victims to have worse drug problems ($p<.09$), poorer mental health ($p<.08$) and less social support were also found. 2×2×2 log-linear analyses did not find differences between victims and nonvictims in undetectable viral load or low CD4 counts, recent injection drug use, or recent unprotected sex. Victimization remained significantly associated with alcohol problems when assessed by multivariate analysis of variance controlling for age, gender, race, education, and sexual orientation. Despite the presence of psychiatric disorders, results of this cross-sectional data found assaultive violence to have a specific adverse affect on quality of life. Longitudinal studies may find a history of assault to have a broader negative impact since alcohol problems and poor social support are predictive of less adherence to antiretroviral medications. The clinical implication of the current study is that HIV-infected victims may further benefit from trauma-specific interventions in addition to other treatment services these individuals receive.

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Meritorious Student Poster

B022

SOMETIMES A JELLY BEAN ISN'T JUST A JELLY BEAN: INCREASING EMPATHY IN MEDICAL STUDENTS

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The patient-provider relationship and specifically physicians' ability to communicate empathy greatly impacts chronic disease management. Unfortunately, research demonstrates that empathy declines by 75% as medical students' advance in their training. There is growing recognition that medical education must address this decline in empathy and properly prepare physicians to work with diverse patients, however traditional educational techniques are unlikely to meet this need. Experiential learning may be a way to address this problem. This study employed a pre/post-test controlled design where the primary aim was to measure the effects of an experiential learning intervention on medical students' empathy towards HIV+ patients. First year medical students (n=163; mean age=23±3.1; 61% female; 71% Caucasian, 20% Asian) were randomized to take one of three standard antiretroviral therapy (ART) regimens for two weeks. Jelly beans were used in place of ART medication. Participants completed pre and post-test questionnaires pertaining to physician empathy (i.e., Jefferson Scale of Physician Empathy; JSPE), HIV empathy, adherence behaviors, demographics and satisfaction with the study. Overall, students viewed the intervention as well organized (88%) and easy to participate in (87%). The majority of the students felt that the intervention influenced their level of empathy (78%), should be a standard part of medical school curriculums (67%), and would impact all physicians (80%). Repeated Measures ANOVAs with pre/posttest as the within factor and school as a between subject factor indicated that the intervention was successful in increasing empathy (both JSPE and HIV empathy) in students (p's=.000). Findings suggest that experiential learning methods are well received, feasible, and effective in increasing empathy in medical students and should become a standard part of medical school curriculums.

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B023

EFFECTS OF MINDFULNESS MEDITATION TRAINING ON QUALITY OF LIFE, ANXIETY, STRESS AND POSITIVE MOOD IN WOMEN WITH CANCER

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Mindfulness meditation as an intervention to promote stress reduction has become increasingly used over the last decade. Mindfulness can be taught by practicing various forms of meditation or through mental training. This paper reports on a pilot study examining the effects of a mindfulness meditation program, delivered in group sessions, among women with varying types of cancer. The study was randomized and outcome measures included: post-traumatic stress symptoms, anxiety, depression, coping self-efficacy, stress, experience of positive moods, salivary cortisol and mindfulness skills.

In this pilot study, women with varying cancer diagnosis were recruited to participate through advertisement at the cancer clinic at the Karolinska University Hospital, Sweden. Patients were randomised to intervention or waitlist control group. The waitlist participants were scheduled to participate in the program after approximately 6 months. The intervention involves eight two hours sessions and consists of theoretical, experiential and group exercises. Meditation was trained in class and at home. The study used an experimental design with a baseline assessment and two follow-up assessments (after 3 and 6 months). Differences between groups over time were examined using repeated measure ANOVA.

Nineteen patients were assessed pre- and post-intervention. Analysis showed a significant decrease in anxiety, perceived stress and post-traumatic stress symptoms over time. This decrease was found in both groups. There was an increase in experiences of positive mood, especially for the intervention group. Even though there was a general increase in mindfulness skills, this increase was not significantly better in the intervention group. However, there was a significant positive intervention effect on perceived coping ability.

These pilot data gives preliminary support for the effect of a mindfulness meditation on cancer patients in promoting perceived coping abilities and increase positive mood.

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B024

ACCEPTANCE AND EXPERIENTIAL AVOIDANCE: ASSOCIATIONS WITH QUALITY OF LIFE AND SELF-CARE IN ADULTS WITH TYPE 2 DIABETES

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Acceptance and experiential avoidance, conceptualized by Acceptance and Commitment Therapy (ACT), represent degree of acceptance and avoidance of unwanted private experiences, such as negative thoughts, uncomfortable sensations, or unpleasant emotions. Acceptance/avoidance (assessed with the Acceptance and Action Questionnaire: AAQ) shows associations with quality of life in varied chronic illness populations including cancer and chronic pain. A recent intervention designed to decrease experiential avoidance and increase acceptance resulted in improved metabolic control in adults with type 2 diabetes (T2DM). Still, ACT research with diabetes is limited and has only addressed diabetes-specific experiential avoidance (e.g. cognitions about diabetes). No known studies have examined global acceptance/experiential avoidance in relation to outcomes in T2DM or associations to other relevant psychosocial indices, such as depression. The present study examines global acceptance/experiential avoidance in a sample of 60 adults with T2DM to assess relationships with depressive symptoms, quality of life, and self-care behaviors. Participants completed measures reflecting global experiential avoidance (AAQ), depressive symptoms (CES-D-10), quality of life (SF-12), and diabetes self-care (SDSCA; Personal Diabetes Questionnaire). Participants' levels of acceptance/avoidance were similar to non-clinical normative samples (M AAQ=33.5, SD=8.16, range 12–57). Experiential avoidance was significantly associated with depressive symptoms ($p<.001$), and mental quality of life ($p<.001$), but not with functional status or diabetes self-care. These associations suggest that global acceptance/experiential avoidance may be important to cognitive and emotional well-being in persons living with T2DM, while diabetes-specific avoidance may be more linked to behavioral aspects of their care. Further examination of moderating effects of ACT constructs and optimal psychosocial interventions in diabetes are warranted.

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B025

IMPACT OF MINDFULNESS-BASED EATING AWARENESS THERAPY ON ADOLESCENTS' DIET AND EXERCISE HABITS

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BACKGROUND: Childhood and adolescent overweight is one of the most important current public health concerns. There is an urgent need to initiate community based prevention and treatment of obesity to support healthy eating and physical activity in children. Mindfulness-Based Eating Awareness Therapy (MB-EAT) is a 12-week manualized intervention developed by Kristeller et al. that uses focused meditation techniques to help obese individuals normalize eating behaviors, and improve exercise and dietary habits.

OBJECTIVE: To assess the impact of the MB-EAT program implemented in a high school setting on self-reported assessment of exercise habits and dietary intake of fat.

METHOD: 40 ninth grade adolescents (14 males; 35 African–Americans, 1 Caucasian, 4 others; mean age 16.2±1.2 yrs; BMI=32.4±9.0, BMI range 19.1 to 58.4) from 6 high school health/physical education classes were randomly assigned to 12-weekly sessions of MB-EAT intervention (n=18) or health education control (CTL, n=22). Assessments of exercise habits and dietary fat and caloric content were conducted at pre-test, post-test and 6 months follow-up, with 85% retention at 6 months.

RESULTS: At 6-months follow-up the MB-EAT group increased days/week of moderate exercise >30 min/day (0.5 vs −0.8 days/week) and intense aerobic exercise>20 min/day (0.7 vs. −0.1 days/week, both ps<.05) and increased number of servings per week of low calorie foods (7.7 vs. −.05, $p<.02$), foods with no saturated fats (5.1 vs. −0.4, $p<.10$) and low in saturated fats (4.6 vs. −2.7, $p<.02$), and foods with no fat (3.9 vs −0.3, $p<.08$) and low in fat (5.8 vs. −1.4, $p<.02$) compared to decreases in CTLs. Weight gains (4.2 vs 6.2 lbs, MB-EAT vs CTL) did not differ between the two conditions ($p=.87$).

CONCLUSIONS: The MB-EAT program appears to increase moderate and intense aerobic exercise and improve dietary habits in favor of low calorie and low fat foods in adolescents.

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B026

THE EFFECTS OF MINDFULNESS-BASED STRESS REDUCTION ON SELF-EFFICACY IN FIBROMYALGIA PATIENTS

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Fibromyalgia is a chronic rheumatic pain disorder primarily affecting women. Many patients experience symptoms of depression and sleep disturbance. Self-efficacy, one's perception of the capability to perform a specific task or attain a goal, may be impacted negatively by those symptoms. Conversely, interventions such as Mindfulness-Based Stress Reduction (MBSR) may enhance self-efficacy. We have reported results of a randomized clinical trail in which MBSR decreased depressive symptoms in fibromyalgia patients. It was hypothesized that pain and depressive symptoms would be associated with poor self-efficacy and that the MBSR intervention would increase self-efficacy. Ninety-one women with fibromyalgia provided self-reports of pain (Visual Analogue Scale), completed the Beck Depression Inventory, and the Fibromyalgia Self-Efficacy Scale (FSE, subscales: managing pain, physical functioning, and other symptoms) and the Stanford Self-Efficacy Scale (a 15-item measure of perceived self-efficacy to cope with the emotional aspects of illness) at baseline and at two follow-up points (immediately post-program and two months after the intervention). Hierarchical regression analyses controlling for relevant variables were employed to test the first hypothesis. Slopes of change in self-efficacy scores were calculated to examine the second hypothesis.

Pain significantly predicted lower FSE (physical functioning; partial $r=-.265$, $p=.014$) while higher depressive symptoms predicted lower FSE (other symptoms) and lower SSE (partial $r=-.390$, $p<.001$; partial $r=-.224$, $p=.033$, respectively). MBSR participation was associated with a significant increase in SSE in treatment versus control participants (ANCOVA $F(1, 56)=7.03$, $p=.01$). Changes on the FSE did not reach significance.

These findings suggest interrelationships among pain, depressive symptoms, and self-efficacy. In addition to ameliorating depressive symptoms, MBSR may increase self-efficacy in the context of fibromyalgia.

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B027

DISPOSITIONAL MINDFULNESS IN PEOPLE WITH HIV: ASSOCIATIONS WITH PSYCHOLOGICAL AND PHYSICAL HEALTH

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We used a Stress and Coping model to examine the association of 4 hypothesized facets of mindfulness (Act with Attention/Awareness, Non-judging of Experience, Observing, and Describing) with appraisal, positive and negative affect, rumination, coping, and health in 112 adults with HIV who were not on HIV medication. Data were collected at baseline of a randomized clinical trial of Mindfulness Based Stress Reduction. Mindfulness was assessed with the KIMS (Baer et al., 2004) and the MAAS (Brown & Ryan, 2003). Other measures included the Perceived Stress Scale (Cohen & Williamson, 1988); PANAS (Watson et al.,1988), Rumination Responses Scale (Nolen-Hoeksema & Morrow, 1991), Ways of Coping (Folkman et al., 1987), and BDI (Beck et al., 1961). HIV disease status was assessed directly with CD4 and viral load (log transformed).

The sample was 97% male; 57% White, 20% Latino, and 9% African American. Mean age was 40 and 60% had a college degree. Of the Mindfulness facets, Attention/Awareness (Att) and Nonjudging (NJ) were most consistently correlated with components of the Stress and Coping model. Specifically, Mindfulness was inversely related to stress appraisal (Att $r=-.41$, $p<.0001$; NJ $r=-.46$, $p<.0001$) and negative affect (Att $r=-.48$, $p<.0001$; NJ $r=-.42$, $p<.0001$), and positively related to positive affect (Att $r=.38$, $p<.0001$; NJ $r=.33$, $p<.001$). Mindfulness was also inversely related to brooding rumination (Att $r=-.35$, $p<.001$; NJ $r=-.61$, $p<.0001$), and escape/avoidance (Att $r=-.42$, $p<.0001$; NJ $r=-.29$, $p<.01$) and self-blame (Att $r=-.33$, $p<.001$; NJ $r=-.31$, $p<.001$) forms of coping. Mindfulness was inversely related to depression (Att $r=-.36$, $p<.0001$; NJ $r=-.44$, $p<.0001$) and viral load (Att $r=-.24$, $p<.05$) but not CD4. Although preliminary, the pattern of associations suggests that mindful attention and nonjudging may contribute to adaptive appraisal and coping processes and better health in people with HIV. Causal relationships will be tested at the conclusion of the full trial.

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B028

ASSOCIATIONS BETWEEN MINDFULNESS SKILLS AND ANXIETY, DEPRESSION AND POSITIVE MOOD IN THE PRESENCE OF VARYING LEVELS OF STRESS

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Mindfulness based intervention has been increasingly used in medical and mental health settings. They are generally meant to promote psychological wellbeing by means of stress reduction. This is often enabled by acquisitions of mindfulness skills trough different types of exercises e.g. meditation. Recently, efforts have been made to develop scales measuring these skills. The aim of this study was to examine the predictive value of an overall measure of mindfulness skills on anxiety, depression and positive mood in a population based sample. Further, different subscales measuring specific mindfulness skills were examined.

A sample consisting of 383 randomly selected individuals in Sweden aged 16–60 years, completed a mailed questionnaire in April 2007. It included items regarding perceived stress, anxiety, depression, positive mood, and the Five Facet Mindfulness Questionnaire developed at the University of Kentucky.

The respondent was categorized into three groups based on level of perceived stress. The association between overall mindfulness skills and anxiety, depression and positive mood increased considerably with increasing level of perceived stress. For those in the high level stress group mindfulness skills was strongly associated with the psychological outcome variables (Anxiety: $\beta=-.58$, $p<.001$, Depression: $\beta=-.50$, $p<.001$ and Positive mood: $\beta=-.48$, $p<.001$). The subscales that best predicted psychological outcomes were Acting with awareness (Anxiety: $\beta=-.40$, $p<.001$: Depression: $\beta=-.32$ $p<.001$; Positive mood: $\beta=.29$, $p<.01$), Non-judging of experiences (Anxiety: $\beta=-.30$, $p<.001$; Depression: $\beta=-.23$, $p<.05$) and Non-reactivity to inner experiences (Anxiety: $\beta=-.26$, $p<.01$; Positive mood: $\beta=.25$, $p<.01$).

This study gives support for the assumption that mindfulness skills might have a positive influence on psychological wellbeing for individuals exposed to stress. Especially the skills of acting with awareness and concentration, being non-judging of experiences, and being non-reactive to inner experiences seem to be of importance.

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B029

DEPRESSED AND ANXIOUS COLLEGE STUDENTS: USE OF PSYCHOLOGICAL AND CAM THERAPIES

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Increasing access to mental health screening and treatment is a goal of Healthy People 2010 and should be included in college campus health programs. We conducted a cross-sectional survey that measured anxiety and depression symptoms among college students and included their use of psychological and CAM therapies. The majority of the students ($N=470$) were female (61%), Caucasian (79%), less than 21 years of age (68%), and in their first year of college (49%). All students had health insurance. Over half of participants ($n=240$; 51%) scored above the clinical cutoff for anxiety (Beck Anxiety Inventory>8 "Mild to Severe") or depressive symptoms (Center for Epidemiological Studies-Depression>16; "Clinically significant"). Of these individuals, only 48 (20%) reported having received a diagnosis of anxiety or depression. Students (including those without a diagnosis) reported "anxiety/depression" as the primary health concern prompting use of the following therapies: psychological therapy (15%), meditation (6%), aromatherapy (2%), and yoga (1%). Chi-square analyses indicated that a greater percentage of anxious students used psychological therapy (28% vs. 15%; $p=.001$), meditation (39% vs.24%; $p=.001$), and yoga (31% vs.23%; $p=.034$) compared to non-anxious students. In addition, a greater percentage of depressed students used psychological therapy (28% vs. 15%; $p<.001$), compared to non-depressed students, however they were not more likely to use CAM therapies. In conclusion, while approximately half of these college students reported significant symptoms of anxiety or depression, few reported receiving treatment for their symptoms. Health programs for college students should be developed focusing on the awareness of symptoms of anxiety and depression and include available mental health services and CAM programs that address these symptoms.

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B030

CHARACTERISTICS OF UNDERSERVED POPULATIONS THAT MAY INFLUENCE USE OF HEALTHCARE AND PARTICIPATION IN MEDICAL RESEARCH

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Background. Factors that influence perceptions of underserved nonwhite populations about healthcare and clinical research/trials are not well understood. We utilized a medical center database and conducted focus groups among four nonwhite groups to establish a framework.

Methods. Interrogation of institutional databases provided a demographic profile of our medical center. We also conducted 16 focus groups of four underserved racial/ethnic populations, interviewing 68 of 80 projected participants.

Results. Nonwhite groups represented<5% of the patient population and were younger than White patients by a minimum of 8 years, a reflection of the surrounding community demographics. Of four nonwhite patient groups, more than 60% of three groups requested interpreters. Median travel distance for White patients was 80 miles, while for Native Americans the distance was 177 miles. Other nonwhite groups traveled less than 80 miles. In focus groups, unique expressive strategies and interpretations of questions suggested opportunities for developing strategies for improving use of health care. Some groups viewed good health as a personal responsibility while others saw it as a societal one. Groups had false notions of research and would decline research participation because of fear, lack of information, or conflicts with other responsibilities. Groups expressed desire for proof of safety, benefit, and minimal side effects before participating in a clinical trial, and identified barriers to health care use that were both personal and systemic.

Discussion/Conclusions. Improved healthcare use and research participation will require strategies tailored to specific racial/ethnic groups.

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Meritorious Student Poster
B031

DOES PATH TO DETECTION MEDIATE ETHNIC MINORITY DISPARITIES IN STAGE AT BREAST CANCER DIAGNOSIS?

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This study examined method of detection, patient delay, and medical system delay as mediators of ethnic minority disparities in stage at breast cancer diagnosis. The sample consisted of 401 female residents of Chicago diagnosed with a first primary breast cancer and recruited through the Illinois State Cancer Registry. The sample was 52% African–American, 34% non-Hispanic, white and 14% Hispanic with a mean age of 56.0 years. Late stage was defined as stage II or higher at diagnosis. Information gathered via interview and medical chart review included race/ethnicity, stage at breast cancer diagnosis, method of detection (radiological vs clinician or patient), time from symptom detection to presentation for care, and time from first medical visit to therapeutic intervention. Using path analysis to compute direct and indirect effects, we found that African–American and Hispanic women were more likely to be diagnosed with late stage breast cancer [age adjusted ORs=1.64 (95% CI= 1.03, 2.59) and 3.10 (95% CI=1.60, 6.02) respectively] than non-Hispanic, white women. Only non-radiological detection was significantly associated with both African–American and Hispanic ethnicity and late stage diagnosis and met criterion for mediation. After including non-radiological detection in the model, direct paths from ethnicity to late stage diagnosis were no longer statistically significant, but the indirect paths through non-radiological detection were significant [probit coefficients=.26 (African–American) and .38 (Hispanic), both p<.05]. Final models suggest that 84% of the effect of African–American and 55% of the effect of Hispanic ethnicity on likelihood of late stage breast cancer diagnosis is mediated through non-radiological detection. Results suggest that method of detection, not system or patient delay, plays an important role in understanding disparities in stage at breast cancer diagnosis.

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B032

GENDER DIFFERENCE IN DEPRESSION AMONG CHINESE AMERICANS: THE ROLE OF SMOKING STATUS

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Mixed findings on gender difference in depression have been reported in population studies across various ethnic groups, but few have considered the account of smoking status. This study investigated the association between smoking status and depression among 1393 Chinese American males and females using baseline data from a nationwide smoking cessation study. Participant characteristics were 55.1% female, mean age=40.4 (range:18–87), 64.1% employed, 73.4% married or living with partner, and 44.3% lived in the U.S. for at least 10 years. The sample included 53.4% current smokers (defined by having ever smoked 100 or more cigarettes and smoked in the past 7 days), 7.3% former smokers (have had smoked 100 or more cigarettes in lifetime but had not smoked in past 7 days), and 39.3% never smokers (have never had smoked 100 or more cigarettes in lifetime). A 2 (gender)×3 (smoking status) ANCOVA on depression as measured by a 10-item CES-D (Center of Epidemiological Studies—Depression Scale) using employment status, acculturation and perceived social support as covariates showed significant gender×smoking interaction ($F=6.01$, $p=0.003$) and smoking status main effects ($F=14.43$, $p<0.001$). Current smokers scored higher on the CES-D than both former and never smokers (current: 11.48, former: 8.89, never: 9.49, $p<0.001$). Females reported a higher mean CES-D score than males among current smokers (13.09 vs. 11.27, $p=0.002$). No gender difference in depression was observed among former and never smokers. Results suggested that current smoking is associated with elevated depressive symptoms in both Chinese American males and females. Demographics and perceived social support did not account for the observed associations. The findings underscore the importance of addressing depression among Chinese American smokers, especially among females.

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B033

PREVALENCE AND CORRELATES OF CIGARETTE SMOKING AMONG LATINO IMMIGRANT MEN

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The objective of the study was to evaluate the prevalence and psychosocial correlates of cigarette smoking among Latino immigrant men in North Carolina. The study was a secondary data analysis of baseline data collected from 291 Latino immigrant men who participated in the Men as Navigators for Health and HoMBReS lay health advisor intervention study in central North Carolina. Surveys were self-administered in a group setting and included measures of cigarette smoking, masculinity, attitudes towards health, coping responses, and demographic characteristics. Descriptive statistics were used to evaluate the percentage of current cigarette smokers by demographic characteristics and group differences were evaluated using chi-square statistics and ANOVA. The average age of men in the sample was 29 (range 18–71) years; 59% were either married or living as married; and 38% had at least a high school education or GED equivalent. Men reported living in the U.S. an average of 8 years and 71% were from Mexico. Current cigarette smoking was reported among 37% of the men. Cigarette smokers were less likely to have a high school education ($X^2=10.47$, $p<.05$). There were no differences between smokers and non-smokers by age, marital status, or employment status. Neither length of residence in the U.S. nor country of origin was associated with increased risk of smoking. Cigarette smokers were more likely to report using avoidant coping responses ($F=9.09$, $p<.01$) and negative attitudes towards health than those that did not smoke ($F=11.62$, $p<.01$); however, there were no differences in levels of masculinity. Our results show that men with less than a high school education, those that use avoidant coping responses, and those with negative attitudes about health may be at increased risk of smoking. Interventions that target men with these characteristics may help to reduce tobacco use in this population.

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B034

PSYCHOSOCIAL AND DEMOGRAPHIC CORRELATES OF CANCER SCREENING IN LOW INCOME LATINAS

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Correlates of colorectal cancer screening (CRCS) have been less studied than breast and cervical screening. We present data from a community cancer prevention study (Juntos en la Salud) in Arizona, profiling psychosocial correlates of screening at baseline.

Data were collected for screening, social support (information, health, instrumental, emotional, appraisal), acculturation, traditionalism, rural preferences, demographics. Mean age: 38.5 years. 57% reported HH incomes<$15K; 83%<$25K. 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.

This very low SES group of Latinas showed high rates of Pap tests, 90.7% ever completing, 73% within past year (reflecting frequent travel to Mexico where Pap tests are recommended q 6 mos., cost covered by the national health system). Only 25.4% reported ever having mammogram; 17.4% in the past two years.

Binary logistic regressions for pap tests and mammography (>age 40) yielded significant models for both (R2=.039 and .391 respectively). Significant predictors included having a regular provider, higher income, and emotional support. Education was a significant predictor of ever having had a Pap test ($p<.05$ for all predictors).

For women aged 50 or older, 18.8% reported FOBT in the past year. In the past 5 years, 6.8% reported barium enema, 3.7% flex sig, and 7.8% colonoscopy. Combining CRCS options as a single dependent variable for a logistic regression model with those aged 50 and older (R2=.42) showed income and insurance ($p<.05$) and older age, informational support, and traditional values ($p<.01$) as significant predictors. Instrumental support (e.g., friends would likely loan you money, provide transportation) was negatively associated with CRCS, potentially indicating an underlying predictive construct related to independence.

Rates of CRCS lag for low income Latinas, but the set of predictors noted may provide guidance for continued capaigns.

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Citation Poster

B035

RESIDENTIAL SEGREGATION AND CANCER-SCREENING AMONG BLACK AND WHITE WOMEN

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Residential segregation refers to the uneven distribution of Blacks and Whites across the neighborhoods of a metropolitan statistical area (MSA). In high-segregated MSAs, most Blacks reside in mostly-Black neighborhoods and most Whites in mostly-White neighborhoods that are separate and unequal in resources (e.g., grocery stores, parks, hospitals) and risk-factors (e.g., tobacco outlets and advertising, fast-food restaurants). Studies have revealed that segregation may account for Black-White health disparities; for example, Blacks who reside in highly-segregated cities exhibit cardiovascular disease mortality rates 3 times higher than those of Whites, whereas Blacks in low-segregated cities do not differ from Whites. The possibility that segregation might play a similar role in Black-White differences in health-behaviors has not been investigated. We explored this for the first time with the sample of N= 53,332 White and Black women (ages≥18) in the Behavioral Risk Factor Surveillance Survey (BRFSS) by linking BRFSS 2000 data to Census 2000 data for 322 MSAs in the BRFSS. Segregation was measured by the Segregation Index (SI) scores in the census. SI ranges from 0 (totally integrated) to 100 (totally segregated MSA), with SI≥70 categorized as highly-, SI=51–69 as moderately-, and SI≤50 categorized as low-segregated cities. Breast- and cervical- cancer-creening items were used. Univariate analyses (in SUDAAN, with weighted cases) revealed that (the population prevalence of) both breast- and cervical-cancer screening among Black women in high-segregated MSAs was significantly lower than that of White women, whereas, Black women in low-segregated MSAs did not differ from White women on either screening variable as predicted. Separate logistic regressions predicting breast and cervical cancer screening from income, education, health insurance and segregation for Black and White women revealed complex patterns in which segregation contributed significantly. This novel study highlights the need for further study of the role of segregation in Black health behavior.

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B036

UNEXPECTED FINDINGS IN A CULTURALLY CLOISTERED COMMUNITY: A STUDY OF MAMMOGRAPHY PERFORMANCE IN THE ULTRA-ORTHODOX JEWISH POPULATION

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Ultra-Orthodox Ashkenazi Jewish women are at increased risk for developing breast cancer and may face cultural barriers to engaging in breast cancer screening. This study examined the rates and predictors of receiving a mammogram at least once, mammography adherence, and interest in receiving mammography reminders in an Ultra-Orthodox Jewish community. Questionnaires distributed at community breast cancer education programs assessed socio-demographics, personal and family health factors, and health behaviors in 486 Ultra-Orthodox Jewish women age 40 and above. Eighty-one percent of women reported ever having a mammogram, 60% reported adherence, and 25% requested reminders. Predictors of adherence include age (OR=3.64, 95% CI=2.07–6.41, $p<.001$), previous breast irregularities (OR= 2.73, 95% CI=1.39–5.35, $p<.01$), regular gynecologist visits (OR=12.67, 95% CI=7.37–21.77, $p<.001$), and monthly breast self-exams (OR=2.07, 95% CI=1.05–4.06, $p<.05$). Implications include targeting screening programs to the non-adherent in this population and identifying this community's positive influences on screening in order to inform community-based initiatives in similar populations.

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B037

EFFECTIVENESS OF SOCIAL MARKETING MEDIA CAMPAIGN TO REDUCE ORAL CANCER RACIAL DISPARITIES

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Objectives/Background: Survival rates for oral cancer have not improved appreciably in decades. Significant racial disparities exist in oral cancer detection and mortality. The purpose of this study was to assess the efficacy of a social marketing mass media campaign to increase awareness of oral cancer and the oral cancer screening exam among African Americans.

Methods: We surveyed a cohort of residents in the intervention city (Jacksonville) and a control city (Tampa) immediately prior to the campaign and immediately after the media campaign. Two hundred and fifty (125 Black and 125 White) participants completed the survey in each city. Oral cancer campaign awareness was assessed in both cities along with four hypothetical health campaigns. In addition, oral cancer awareness, oral cancer exam awareness, intent to receive an oral cancer exam, and reported receipt of an exam were assessed both at baseline and follow-up.

Results: Jacksonville residents showed a significant increase in interest in getting an exam ($T=-6.57$, $p<.001$), awareness of the oral cancer exam (Chi Sq=8.86, $p=.003$), and recognition of the campaign (Chi Sq=34.38, $p<.001$), and while no significant changes in those topics were found for the control city. In the intervention city, Blacks were significantly more likely than whites to demonstrate increases in awareness of the campaign (OR= 2.71, $p<.001$), oral cancer awareness (6.43, $p=.02$), and interest in receiving an oral cancer exam ($T=-4.89$,$P<.001$).

Conclusions: A theory-driven media campaign was successful in increasing awareness of the oral cancer exam and intent to get examined among African American adults.

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B038

PHYSICIAN COMMUNICATION AND CANCER SCREENING AMONG UNMARRIED WOMEN

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Background: Unmarried women are less likely than married women to receive recommended cancer screenings. Physician communication (PC) is a consistent correlate of cancer screening among women. This study investigated the relationship between PC, barriers to cancer screening, and on-schedule breast and cervical cancer screening (BCCS) among unmarried women. *Method*: Data were from the Cancer Screening Project for Women, a 2003–2005 survey examining cancer screening practices among unmarried women in RI who had never been diagnosed with cancer. On-schedule BCCS was based on timing of the two most recent screenings (both on-schedule, on-schedule breast, on-schedule cervical, both off-schedule). PC was coded in 2 areas: communication about tests and about sexual history. Barriers were combined in 3 areas: practical (e.g. lack of insurance), emotional (e.g. fear of pain), and communication (e.g. waiting for physician to recommend test). *Results*: 630 women aged 40–75 enrolled, and 605 completed the questionnaire. Approximately 35% were women who partner with women. More than 60% reported on-schedule BCCS. Nearly 70% reported that their physician communicated about BCCS most or all of the time. Fewer than half (46%) communicated about sexual history. The mean total number of screening barriers was 1.41 (SD 1.84, range 0–10). Women with more barriers were more likely to be off-schedule for BCCS ($p<.001$); this was consistent across all 3 types of barriers. Women whose physicians communicated about tests and sexual history were more likely to be on-schedule for BCCS ($p<.0001$; $p=.02$ respectively). There was an interaction between number of barriers and communication about screening tests for those who were off-schedule for BCCS ($p<.02$). *Conclusions*: Physician communication is an important correlate of BCCS among unmarried women. Communication about tests may encourage women with multiple barriers to remain on-schedule for recommended screenings.

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B039

CERVICAL CANCER RISK FACTORS AMONG FILIPINA, KOREAN, AND VIETNAMESE AMERICAN COLLEGE STUDENTS

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OBJECTIVES: Human papillomavirus (HPV) infection is the single strongest risk factor for cervical dysplasia and carcinoma. The highest rate of HPV infection occurs among women who are between 18–28 years old. Little is known of risk factors associated with HPV infection among young Filipina, Korean, and Vietnamese American women. In this study, a purposive sample of Filipina, Korean, and Vietnamese American, and White women enrolled at San Francisco Bay Area colleges and universities was utilized. METHODOLOGY: Four hundred women were given self-administered surveys. FINDINGS: The findings of this study describe the risk factors associated with HPV infection, including knowledge, attitudes, and practices of sexual behavior, but also examines the use of cervical cancer screenings in these populations. The lack of pap smear testing was significantly associated with race/ethnicity and place of birth. Korean American and Vietnamese American women were less likely than white women to have had a Pap smear test. Foreign born Korean American and Vietnamese American women less likely than American born Korean American and Vietnamese American women to have had a pap smear test. There were also significant differences between Asian American groups. Korean American and Vietnamese American women were less likely than Filipina American women to have had a pap smear. CONCLUSIONS: Results of this study provide valuable information to help create new effective interventions to decrease risk factors and increase the rate of early detection of cervical cancer in Filipina, Korean, and Vietnamese American women. The results also show that there are differences between and among different Asian American groups.

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B040

WILLINGNESS OF RACIAL/ETHNIC MINORITY YOUNG ADULTS TO DISSEMINATE CANCER PREVENTION AND CONTROL INFORMATION TO FAMILY MEMBERS

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On average, racial/ethnic (r/e) minorities have higher rates of cancer incidence and lower rates of cancer survival than their non-Hispanic White counterparts. Underutilization of cancer prevention and control services has been identified as an important contributor to these disparities, and is itself associated with both lack of knowledge and lack of insurance. As a potential means of addressing these barriers, the present study assessed the feasibility of mobilizing r/e minority college students to disseminate cancer prevention and control information to family members. Our specific aim was to identify sociodemographic and psychosocial correlates of students' reported willingness to share cancer screening and smoking cessation information with family members. Participants were 187 undergraduate students (median age 19 years; 61.5% female; 30.2% Hispanic/Latino, 29.3% Black, 22.4% Asian, 18.1% mixed r/e) who completed a family network delineation, along with assessments of individual and family health behaviors, family functioning, attitudes and beliefs about cancer and the medical system, and self-efficacy for communicating about health. Participants were also provided with American Cancer Society documents that provide brief, low-literacy information about colorectal cancer screening, mammography, the Pap test, the PSA test, and smoking cessation, as well as contact numbers for accessing these services if uninsured. Results indicate that reported willingness to discuss cancer-related health information with family members was high, with the greatest willingness reported for mammography (80.8%) and the least reported for the PSA test (60.9%). Female gender, self-efficacy, belief in the pros of cancer screening/smoking cessation, and describing one's family as high in expressiveness were each positively correlated with willingness to share the information. Findings are interpreted based on the potential of engaging students to be "health ambassadors" within their families.

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B041

CHANGING MULTIPLE BEHAVIORS: CONFLICTING ASSOCIATIONS BETWEEN SMOKING AND EXERCISE IN A HISPANIC SAMPLE

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An understanding of cognitive-behavioral mechanisms that underlie multiple risk behavior change may facilitate tailored intervention design in Hispanic populations with concurrent health risks. The present study examines relationships between smoking and exercise behaviors across self-efficacy, decisional balance, and stage of change constructs of the Transtheoretical Model (TTM). Hispanic college smokers (N=146) completed demographic and TTM questionnaires. Significant polychoric associations were uncovered between smoking and exercise readiness variables. Consistent with expected hypotheses, smokers with reduced temptation to smoke out of habit or craving also perceived greater benefits of exercise ($p=0.013$). Respondents who perceived greater costs of smoking were less likely to perceive costs of exercise ($p=0.02$). Contrary to expected predictions, individuals with higher motivational readiness to exercise reported fewer, rather than greater, cons of smoking ($p=0.002$). Smokers with more positive views toward smoking perceived greater benefits of exercise ($p=0.001$). Likewise, negative perceptions of smoking correlated with fewer positive views toward exercise ($p=0.001$). Results suggest a complex, more nuanced relationship between smoking and exercise variables in Hispanic smokers. Such complexities highlight the need for efficacious synergistic interventions tailored to multiple health behaviors rather than the use of single behavior interventions used simultaneously in individuals with multiple risks. *Research funded by: A Smoke-Free Paso del Norte Grant No. 26-8112-75; NIMH-COR Grant No. 2 T24 MH19978-05.

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B042

ANXIETY IS ASSOCIATED WITH SMOKING STATUS AND FREQUENCY IN A SAMPLE OF URBAN AND PREDOMINANTLY IMMIGRANT BLACK MEN

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The burden of tobacco-related morbidity/mortality in the U.S. is higher among black and African American men than among other racial groups. Anxiety has been implicated in the use and maintenance of smoking, but evidence is limited for black men. The present study examined the association between current anxiety and smoking status and consumption in a sample of 430, 45–71 year-old men of African descent who were enrolled in a larger study on informed decision making about prostate cancer testing. Anxiety was measured using the 7-item anxiety subscale of the Hospital Anxiety and Depression Scale, which can range from 0 (none) to 3 (high). Current smoking status (no/yes) was assessed by self-report. Results indicated that on average, smokers (n=60) had been smoking for 26.17 (sd=10.9) years and smoked 9.95 (sd=7.6) cigarettes per day. Overall, anxiety was low in the sample (mean=.30, sd=.40). However, smokers had a significantly higher mean level of generalized anxiety (0.40, sd=0.58) than non-smokers (0.29, sd=0.35) (t=−2.4, p=0.02). Furthermore, heavier smokers reported higher levels of anxiety (r=0.37, p=.004). These findings suggest that there is a potentially strong relation between current smoking and self-reported anxiety symptoms among black men, and that current level of tobacco consumption is related to current anxiety presentation. Potential implications of these findings suggest that smoking cessation interventions may be more successful in black men if they address anxiety in addition to tobacco use.

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B043

LANGUAGE IS ASSOCIATED WITH WOMEN'S PHYSICAL ACTIVITY: NHANES III, 1988–1994*

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Physical inactivity is a leading public health concern, particularly among women and ethnic minority groups. Acculturation, known to affect other health behavior, may explain low physical activity (PA) among women from diverse backgrounds. Research on the effects of acculturation on PA, however, is scarce or limited by methodology. The study purpose was to evaluate the association between acculturation (i.e., language, birth country, and duration of US residency) and PA in a national sample of women. A total of 5,893 women (86% White, Mean Age=40.8) were sampled from NHANES III. Most women reported less than recommended PA (Recommended PA=52; Sample mean PA=10.6, SE=0.6). Hierarchical multivariable regression modeling results indicate that speaking a language other than English was associated with decreased PA among women, after adjusting for PA confounds, p<0.001. These findings indicate that language is important to consider when understanding women's PA, a finding that has important implications for clinical practice and tailoring interventions (e.g., making available PA assessments in multiple languages and understanding how language affects the type of PA in which a woman engages).*Research was completed at the University of Alabama at Birmingham, Department of Psychology as part of disseratation work.

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B044

CULTURALLY SPECIFIC INTERVENTIONS AMONG AFRICAN AMERICAN SMOKERS: AN EXPERIMENTAL TEST OF EFFICACY

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There is a consensus that culturally specific (CS) tobacco interventions should be used among African American smokers. However, few randomized controlled studies have directly tested CS interventions against non-CS comparison groups. The present study used a dismantling design to test whether the efficacy of self-help materials is due to elements of cultural specificity in addition to the tobacco cessation content.

African American smokers (N=255) were randomized to one of two conditions: standard booklet (N=129) or culturally specific (CS) booklet (N=132). The research question was addressed by comparing two variations of a written smoking cessation intervention: a standard (non-CS) guide, and a CS guide. Aside from the culturally specific components of the CS guide, the content of both interventions was identical. That is, the content was held constant except for cultural specificity. The CS intervention was Pathways to Freedom and the standard intervention was an adapted version of Pathways, in which the CS aspects were modified. Thus, the standard guide could be described as a 'de-culturally specified' version of Pathways. The follow-up assessment was completed by 72% of participants, who were mostly low income, female, and moderately nicotine dependent. A positive effect of cultural specificity was hypothesized for content evaluation, readiness to quit smoking, and actual behavior change. Evidence suggested that the CS material was more effective at capturing attention, providing encouragement, and gaining interest compared to standard materials, however greater credibility was found for standard materials. Contrary to the hypotheses, the standardized intervention led to greater readiness to quit smoking and more 24-hour quit attempts compared to the CS intervention. In conclusion, CS interventions may be preferred more than standard approaches. However, high quality standardized interventions, may lead to greater behavior change. Implications for contemporary minority health interventions and cultural specificity are discussed.

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B045

HOSPICE CARE AND PALLIATIVE CARE AWARENESS AMONG AFRICAN AMERICANS AND CAUCASIANS AT AN URBAN ACADEMIC CANCER CENTER

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Hospice care and palliative care (HP) are focused on enhancing the quality of life and minimizing the suffering of those who are sick, rather than specifically concentrating on curative care. Access and utilization of HP services have been limited for minorities, with Whites chiefly utilizing such services. African Americans, however, experience disproportionately high rates of mortality from cancer, cardiovascular disease, and AIDS, as well as have less access to symptom and pain management than Caucasians. These statistics suggest that African Americans are in great need of HP. The current study proposed that a significant difference exists between awareness levels of HP services among Caucasians and African Americans. The objective of the current study was to assess awareness of HP services among African Americans and Caucasians.

A cross-sectional survey was conducted at an urban, university-affiliated oncology clinic (N=190). Participants were White (52%), African–American (40%), and other races (8%). Findings are reported only for Whites and African Americans. Chi-square tests were used for bivariate comparisons. Logistic regression was used for multivariate analyses.

Results indicated that African Americans were less likely than Whites to have heard of hospice (73% vs. 95%, p<.01) and to have known anyone who received hospice services (53% vs. 72%, p<.01). When controlling for education and income, ethnicity continued to contribute a significant amount of variance in those who had heard of hospice. Respondents who had heard of hospice were not necessarily able to define it accurately. African Americans also were less likely than Whites (9% vs. 33%, p<.01) to have awareness of palliative care. Higher educational levels and income were also associated with having heard of palliative care.

These findings indicate important gaps in knowledge about HP services, particularly among African Americans and individuals from lower educational and income groups. Lack of awareness may limit access to HP when needed by patients.

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B046

THE IMPACT OF OCCUPATIONAL PHYSICAL ACTIVITY ON LTPA PARTICIPATION AMONG ETHNIC/RACIAL MINORITIES

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Surveys examining leisure time physical activity (LTPA) have found that Latinos and non-Hispanic Blacks (NHB) are more sedentary than non-Hispanic whites (NHW). Few studies have examined the relationship between LTPA and occupational physical activity (OPA), most have not accounted for socio-economic and OPA factors that may account for disparities in LTPA, and no surveillance studies have examined differences in LTPA at recommended levels among NHW, NHB and Latinos. We examined prevalence of OPA and LTPA among employed adults pooling years 2000–2003 of the National Health Interview Survey (unweighted N=74,883). Using multivariate ordered logit models, we examined 1) differences among racial/ethnic groups in OPA and 2) whether OPA accounts for disparities in LTPA using a three-category outcome: 1) no-LTPA, 2) sub-threshold LTPA, and 3) LTPA at recommended levels. All analyses accounted for the complex sampling design. We used 41 standardized occupational codes of the NHIS to classify reported occupations as either at-least-moderately active or not. Univariate analyses indicated statistically significant differences in proportions of individuals in physically active occupations among subgroups: Latinos=0.28 (95% CI=0.27–0.29), NHB= 0.15 (0.14–0.17), and NHW=0.12 (0.11–0.12). Additionally, the racial/ethnic groups were significantly different in LTPA, with the following proportions reporting no LTPA: Latinos=0.51 (0.50–0.52), NHB=0.43 (0.42–0.45), and NHW=0.30 (0.30–0.31). In multivariate models controlling for numerous socio-demographic factors including education and health insurance, OPA was not associated with LTPA (0.94; 0.89–1.00) nor accounted for racial/ethnic disparities. Occupational activity levels vary significantly across ethnic/racial groups yet these differences do not account for disparities in LTPA after adjusting for socio-demographic differences.

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B047

IS THERE A GENDER BIAS IN THE DIAGNOSIS, TREATMENT, AND INTERPRETATION OF CHD SYMPTOMS? A STUDY OF INTERNISTS AND FAMILY PHYSICIANS

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Research shows a delay in the diagnosis/treatment of women with heart disease. Our past research with medical students, residents, and PA students found a consistent bias in the assessment of women's CHD symptoms when presented with stress/anxiety. The purpose of this research was to replicate the earlier research with experienced internists (Study 1; N=87) and family physicians (Study 2; N=143) as they are generally the first professionals to assess/treat patients' symptoms. We posited that the presence of stress/anxiety produces a shift in the interpretation of women's -but not men's- CHD symptoms so that these are perceived to have a psychogenic etiology. The greater prevalence of anxiety disorders in women along with the overlap of CHD and anxiety symptoms contribute to this shift in interpretation.

In a 2 (male vs female pt)×2 (no stress vs plus stress) design, physicians read 1 of 4 vignettes of a patient presenting a multitude of easily identifiable, typical CHD symptoms. They then selected diagnoses, made treatment referrals, and indicated symptoms' etiology (organic or psychogenic). As in all previous studies, a strong gender bias was observed only when stress/anxiety was included, where fewer women received a CHD diagnosis (18% vs. 57%; p<.001) and cardiologist referral (35% vs. 76%; p<.001) than men. Results also showed that the addition of stressors shifted the interpretation of women's chest pain and shortness of breath so that these were perceived to have a less organic/more psychogenic origin. By contrast, men's cardiac symptoms were perceived as organic whether or not stressors were present. The consistent results observed with six separate samples attest to the strength of the research.

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B048

ARE ATYPICAL SYMPTOMS RESPONSIBLE FOR THE UNDER-DIAGNOSIS OF HEART DISEASE IN WOMEN? A RANDOMIZED STUDY OF FAMILY PHYSICIANS

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The leading cause of death in women in the US is heart disease, accounting for 330,513 deaths in 2004. Atypical CHD symptoms (e.g. back pain, abdominal discomfort, nausea, nonexertional chest pain) are more commonly observed in women than men than are typical CHD symptoms (exertional chest pain/ dyspnea). Their nonspecificity and greater ambiguity are thought to be responsible for women's CHD underdiagnosis and referral for cardiac care. Our past research examined physicians' assessment of patients presenting typical CHD symptoms and observed a consistent gender bias when these were presented in the context of stress/anxiety. The present work with atypical CHD symptoms parallels the previous research and is the first randomized study to examine atypical symptoms in this manner.

In a 2 (female vs male pt)×2 (no stress vs plus stress) design, 142 family physicians read one of four vignettes of a patient presenting atypical CHD symptoms and indicated their diagnoses. We hypothesized that the greater nonspecificity of atypical symptoms would contribute to the underdiagnosis of CHD in women. This was confirmed: only 30% of women with atypical symptoms (no stress) were diagnosed with CHD (vs. 65% with typical CHD symptoms in previous research). Results (ANOVA) also showed that both men and women were more likely to receive a gastroenterologic diagnosis than a CHD diagnosis (p<.000), with a stronger effect for women (p<.01). In the absence of more definitive typical symptoms such as exertional chest pain, atypical symptoms increased the underdiagnosis of CHD in both men and women, particularly with stress, and more strongly among women. These results, together with the greater prevalence of atypical symtoms and anxiety found in women, point to women's CHD underdiagnosis.

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B049

CONTEXT AND SCIENTIFIC VALUE OF THE INSTRUMENTS IN THE HCHS/SOL

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Social factors, such as socioeconomic status, access to health care, exposure to stress and discrimination, have a significant effect and complex relationship with health. As a group, Latinos show substantial social "vulnerability", as exhibited through low levels of socioeconomic status, poor access to healthcare, and potential disproportionate exposure to stress or discrimination across multiple domains. Despite these vulnerabilities, Latinos often exhibit better health than their non-Latino counterparts. In explaining these paradoxes, researchers have sought to understand how the Latino culture may foster resiliency in the face of adversity. For example, a strong reliance on family and community rather than government support, a tendency to provide mutual tangible and behavioral aid, and a climate where resources and responsibilities are pooled may help attenuate the stresses associated with low socioeconomic position and ethnic minority status. Likewise, behaviors specific to the Latino culture, such as dietary practices, may be health protective. However, protective cultural factors may be jeopardized through the processes of assimilation and acculturation that result form enduring exposure to the US culture. Ethno-regional sub-group differences in the impact of cultural processes are important to consider. For example, whereas Mexican immigrants often retain a strong identity with their country of origin, immigrants from Puerto Rico, by nature of their citizen status, have already been heavily exposed to American culture. This presentation will focus on these issues and how social determinants of health, including social, cultural, and behavioral perspectives and practices, are being assessed in the context of the HCHS/SOL.

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B050

CORRELATES OF PATIENT CONTACT IN A REAL-WORLD WEIGHT MANAGEMENT PROGRAM

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Experts recommend that providers offer obese patients frequent counseling and recent randomized trials support the positive association between contact frequency and weight loss. Little is known about how to achieve frequent contact. We report data on patient characteristics associated with number of contacts over one-year in the context of a real-world primary care weight management program, called TCL, designed to maximize contact frequency.

Through TCL, providers can refer patients to a "coach" via an electronic prescription. After a prescription, patients may schedule a contact with the coach who follows the five A's of behavior change counseling model. Initial contact is a one-on-one counseling session but, based on patient preference, follow-up contact may be by telephone or group format and could be counseling, education, exercise, or support. A web-tracking system registers all patient contacts.

Of 3,062 eligible patients, 513 received a provider referral and completed a survey assessment. Total contacts over one-year ranged from 0 to 71. For analyses, the highest contact frequencies were recoded into two categories giving 8 total contact categories (0, 1, 2, 3, 4, 5, 6 to 10, and 11 or more). Twenty five percent of patients had no TCL contact and 20% had 5 or more contacts.

Using ordinary least square regression, we explored the association between self-reported demographic characteristics, education, body-mass index (BMI), chronic illness, weight loss motivation, self-efficacy for exercise and eating habits, and self-monitoring of weight-related behaviors with total number of contacts. Each BMI class was associated with a 0.9 increase ($p<.05$) in total contact and smoking was associated with a 0.6 decrease ($p<.05$) in total contact. No other variables were associated with total contact.

Most individual level measures were not associated with total contact. Provider or program level factors may influence contact frequency. TCL will continue for five years and is being implemented in additional primary care sites.

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B051

PREDICTING ADOLESCENT DIETARY INTAKE: THE ROLE OF ETHNIC IDENTITY AND SELF-EFFICACY

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Ethnic identity and self-efficacy may contribute to health behaviors. Structural equation modeling was used to test a model consisting of ethnic identity, nutrition self-efficacy, and the interaction between the two variables as predictors of a dietary intake latent variable controlling for gender and parent education. Participants were Hispanic and Black adolescents ($n=126$), 15–17 years old, with blood pressure ≥90th percentile for their age, gender, and height; enrolled in a larger study examining cardiovascular risk. Each participant completed a 24-hour dietary recall, the Multigroup Ethnic Identity Measure, and a self-efficacy questionnaire.

The model worked differently for Blacks and Hispanics ($\chi 2$ diff=23.694 (9), $p<.05$). Dietary intake was significantly predicted by nutrition self-efficacy ($b=-44.438$, $p<.05$) and ethnic identity ($b=64.912$, $p<.05$) only in Black adolescents. Ethnic identity was a significant moderator of the relationship between nutrition self-efficacy and dietary intake in Blacks. For Black adolescents who scored one standard deviation above the mean in ethnic identity, a one-point increase in nutrition self-efficacy predicted a decrease of 48.7 kilocalories in dietary intake.

The results underscore the need to address ethnic identity and nutrition self-efficacy in Black adolescents with elevated blood pressure. Blacks who have a strong sense of belonging to their ethnic group and have high nutrition self-efficacy are more likely to have a healthier diet. Researchers may be able to capitalize on the association among ethnic identity, nutrition self-efficacy, and dietary intake when designing culturally sensitive dietary health interventions. The lack of findings for Hispanics suggests that consideration of other determinants of dietary intake is warranted.

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B052

RELATION BETWEEN PHYSICAL ACTIVITY AND DEPRESSION AMONG LATINOS

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Introduction: Few studies examining the relation between physical activity and depression include ethnic minorities. This study assessed the association between physical activity and depressive symptoms among adult Latinos using two measures of physical activity: (1) engagement in leisure walking for at least 10 consecutive minutes on an average day and (2) intensity (moderate versus vigorous) of average daily physical activity. Methods: Six-hundred and seventy-two Latino adults in Southern California were randomly sampled to participate in a telephone interview in either Spanish or English (59% completed the interview in Spanish). The mean age of the respondents was 39.23 (SD=13.40) and close to 40% reported some college education. Depressive symptoms were assessed using two items, one relating to sad or depressed mood and the other to loss of interest or pleasure in activities.

Results: Approximately 28% of the sample endorsed one of the two depression items, and 31% endorsed both items. Close to 38%, 57%, and 64% reported no leisure time walking, moderate or vigorous physical activity, respectively. Polychotomous logistic regression analyses controlling for socioeconomic factors indicated that participants who reported walking or engaging in vigorous activity during their leisure time endorsed less symptoms of depression ($p's<.05$). There were no associations between depression and leisure time moderate activity. Discussion: Findings indicate that self-reported daily leisure walking and engagement in regular vigorous physical activity are each associated with lower levels of self-reported depressive symptoms among Latinos. The relation between physical activity and depression among Latinos merits further research. For instance, future studies using Latino samples should investigate whether regular physical activity predicts improved depressive symptoms longitudinally. Our results suggest that physical activity may be a promising arena for the development of strategies to treat or prevent depression among Latinos.

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B053

PSYCHOSOCIAL FACTORS RELATED TO CARDIOVASCULAR DISEASE RISK IN UK SOUTH ASIAN MEN AND WOMEN

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The reasons for the increased coronary heart disease (CHD) risk of South Asians (people originating from the Indian subcontinent) living in the United Kingdom (UK) are not well understood. The standard risk factors, hypertension, smoking and hypercholesterolemia, appear not to be responsible, and although diabetes, insulin resistance and abdominal obesity are involved, other variables may also be relevant. This study tested the hypotheses that UK South Asians are exposed to greater psychosocial adversity than European whites, and that psychosocial factors are associated with subclinical CHD risk in South Asians. 1130 apparently healthy UK South Asian and 818 European white men and women, aged 35–75 years, were randomly selected from a larger study in West London. Psychosocial data was collected in questionnaire form. CHD markers (coronary artery calcium, carotid intima-media thickness) and potential biological mediators were also measured. Analyses showed that South Asians experienced greater financial strain, residential crowding, family conflict, social deprivation and racial discrimination than white Europeans. They had larger social networks, but reported lower social support, higher negative support, greater depression and hostility. The South Asian group also had elevated waist/hip ratios, higher rates of the metabolic syndrome and diabetes, and were less physically active. In comparison to UK whites, UK South Asians showed a significantly higher CHD risk profile in psychosocial and biological factors, which was largely independent of socioeconomic status. These findings are concordant with the hypothesis that psychosocial disadvantage contributes to a heightened propensity to CHD in UK South Asians, and must be acknowledged when clinicians and researchers address this issue.

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B054

PERCEIVED RACISM, BLOOD PRESSURE AND PSYCHOLOGICAL DISTRESS IN ARAB AMERICAN YOUNG ADULTS: THE ROLE OF RELIGIOUS AFFILIATION AND ETHNIC IDENTITY

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Perceived racism has been linked to elevated blood pressure and PD (PD) in African Americans. Given current events, Arab Americans may be at increased risk for exposure to racism related events. Little is known about how perceived racism may be related to physical and mental health outcomes in Arab Americans. The purpose of this study was to explore the relationship of perceived racism, religious affiliation and ethnic identity with blood pressure (BP) and PD. The sample was comprised of 126 (52% Christian, 48% Muslim) Arab American college students (M age=21, SD=2.12; 64% female) from a large urban university in the Midwest. Perceived racism (Brief Racism and Life Experiences Scale), religious affiliation, ethnic identity (Multigroup Ethnic Identity Measure) and PD (Global Severity Index of the Brief Symptom Inventory) were self-reported. Automated BP readings were recorded. Mean levels of perceived racism was 2.77 on a five point scale with Muslim students reporting higher levels of perceived racism ($r=-.36$, $p\leq.001$) than their Christian student counterparts. Hierarchical regression analyses with the average of four diastolic (DBP) and systolic (SBP) blood pressure readings and PD as the outcomes were conducted. Gender, religious affiliation and perceived racism were significant in the analyses. Male students had higher recorded SBP ($\beta=-.50$, $p\leq.001$) and DBP ($\beta=-.32$, $p\leq.001$). Christian students reported higher levels of both SBP ($\beta=.23$, $p\leq.006$) and DBP ($\beta=.22$ $p\leq.016$). Students who reported higher levels of perceived racism had higher DBP ($\beta=.195$, $p\leq.04$) and reported more PD ($\beta=.24$, $p\leq.015$). 28.3% of the variance in SBP, 18.9% of the variance in DBP and 9.9% of the variance in PD was explained by the models. Ethnic identity was not related to BP or PD. Findings highlight the importance of intra-ethnic group explorations and the potential important implications of perceived racism in the health of Arab Americans.

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B055

METHODS FOR TRANSLATING HEALTH EDUCATION MATERIAL FOR NON-ENGLISH SPEAKING PATIENTS

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Written materials play a vital role in health literacy. Increasing numbers of ethnic patients have caused demand for translated health education material to outstrip capacity for production. Traditionally, a direct translation method has been the norm for production. However this method is expensive, lengthy and often culturally inappropriate. A culturally appropriate "key message" approach is proposed as an alternative. While evidence supports the effectiveness of the key message approach for English speaking patients, no evidence exists for non-English speaking patients.

Objective: To pilot and evaluate a culturally sensitive key message approach to translating patient education material for Spanish speaking patients.

Methods: A multidisciplinary team of clinicians, health education, language, design and behavioral experts was convened to develop and implement the new translation process. We piloted the development of a blood glucose monitoring brochure for diabetic patients utilizing culturally sensitive key messages grounded in behavioral theory with appropriate visuals and targeted at appropriate literacy levels of patients. A patient advisory group was convened to qualitatively compare brochures developed though old and new methods with Doak and Doak's suitability of material (SAM) assessment.

Results: Patients assessed the new method better than the old on all six criteria of SAM. Qualitative themes relating to benefit of the new method included motivational sequencing, simplicity, visual attractiveness, cultural appropriateness and behavior orientation of the new brochure. This brochure also incurred half the costs and development time and a fourth of the word count of directly translated material.

Conclusion: Whether this preliminary yet promising evidence of success of the new translational process positively impacts patient behavior is currently being investigated with a randomized controlled trial. This study will test the comparative effectiveness and costs associated with use of old versus new brochures on diabetic patients' knowledge, activation and health outcomes.

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B056

PREDICTORS OF GLYCEMIC CONTROL AND SELF MANAGEMENT IN HISPANIC YOUTHS WITH TYPE 1 DIABETES

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Hispanics are the largest, fastest growing, and youngest minority group in the US. Research has documented disparities in SES and health among Hispanics, but few studies have examined factors predictive of health and behavioral outcomes in Hispanic youth with type 1 diabetes. The aims of this study were to identify predictors of glycemic control and self management behaviors in Hispanic youth with type 1 diabetes.

Participants included 117 10–17 year old Hispanic youth with mean age of 13.6 years who were recruited from outpatient clinics; mean diabetes duration was 6.4 years. The sample was diverse in SES and 35% lived in single parent families. Glycemic control was measured by HbA1c and self management by the Diabetes Self Management Profile. Psychosocial measures included the Diabetes Social Support Questionnaire and the Organization subscale from the Family Environment Scale.

Most youth did not meet ADA guidelines for HbA1c, with 51% of 10–12 year-olds exceeding 8% and 64% of adolescents exceeding 7.5%. Regression analyses indicated that glycemic control was predicted by higher family income ($p<.009$) and better self management behaviors ($p<.002$), with the model accounting for 28% of the variance. Better self management was predicted by younger child age ($p<01$), being foreign born ($p<.001$) or first generation born in US ($p<.01$), preference for speaking English rather than Spanish($p<.002$), two parent families ($p<.02$), and having more family organization ($p<.01$) and more diabetes family support ($p<.01$), accounting for 40% of the variance.

These findings document high levels of poor glycemic control in Hispanic youths and underscore the importance of higher SES and increased self management in predicting good glycemic control. Self management was related to acculturation and more supportive and organized family environments. These findings suggest that interventions to improve glycemic control should improve self management by helping families to be more organized and supportive.

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B057

RISK FACTOR PROFILE OF LOW-INCOME HISPANICS WITH UNCONTROLLED DIABETES

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Type 2 diabetes (T2DM) is prevalent and poorly controlled in Hispanics. Uncontrolled T2DM is associated with diabetes-related complications and mortality. Little is known about other risk factors that contribute to adverse cardiovascular (CVD) outcomes in this population. This knowledge is needed to target efforts to reduce health disparities. This study describes the characteristics of a group of Caribbean Hispanics with uncontrolled T2DM (HbA1c>7.0) (n=168 females, 51 males) and their status with regard to modifiable CVD risk factors including smoking, lipids (HDL, LDL, triglycerides), blood pressure (BP) and obesity. Participants were enrolled in Latinos en Control, a randomized trial of a diabetes self-management intervention conducted at five community health centers in Massachusetts. Baseline data were collected upon study enrollment and included laboratory (HbA1c, HDL, LDL, triglycerides), clinical (BP, body mass index or BMI-calculated from height and weight) and survey measures (demographics). Statistical analysis included descriptive bivariate frequency distributions and t-tests. Participants were predominantly middle age (mean 55.7; SD=11.1), female (77%), non-English speaking (93%), low literate (54%<8th grade), low-income (56%< $10,000 household), not working (89%) and insured (95%). Eighty percent of patients were obese (BMI>30), 65% had uncontrolled BP (DBP>80 or SBP> 130); 69% had low HDH (<40); 54% had high LDL (>100); 61% had high triglycerides (>150); and 13% reported smoking. Gender differences were observed with a greater prevalence of obesity and high LDL among women, and a greater prevalence of low HDL among men. Only 7% of patients met ADA recommendations for BP, LDL, HDL and triglycerides. Modifiable CVD risk factors are prevalent among Caribbean Hispanics with uncontrolled diabetes and are likely to contribute to diabetes-related health disparities. Strategies are needed to facilitate the management of modifiable CVD risk factors in this high-risk population and thus improve adherence to ADA guidelines.

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B058

FACTORS ASSOCIATED WITH HEALTH OUTCOMES AMONG PUERTO RICANS WITH DIABETES

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Little is known about the association between person factors and health outcomes in Puerto Rican Americans, an understudied, high-risk group. This study examined the impact of education, gender, and meal preparation responsibilities on diet knowledge and attitudes, and waist-hip-ratio (WHR) among Puerto Ricans with diabetes.

Patients (N=118; 37 males, 81 females) at Hartford Hospital in CT completed self-report measures of diet knowledge and attitudes, education, gender, and whether they were in charge of preparing meals at home. A qualified staff member measured WHR.

Compared to patients with<8th grade education, patients with >8th grade education had more diet knowledge (M=8.86, SD=4.19 vs. M=6.78, SD=3.41), p<.01; more favorable diet attitudes (M=41.53, SD=6.94 vs. M=38.38, SD=7.44), p<.05; and a lower WHR (M=.93, SD=.06 vs. M=.96, SD=.07), p<.05. Patients in charge of meal preparation had more diet knowledge (M=8.05, SD=3.82 vs. M=6.34, SD=3.90), p<.05; and a lower WHR (M=.94, SD=.07 vs. M=.99, SD=.06), p<.001. More females were in charge of meal preparation (n=75) than males (n=20), $\chi 2$ (1, N=118)=32.17, p<.001, and females had a lower WHR (M=.93, SD=.06) than males did (M=.99, SD=.06), p<.001.

Patients with more education, or those in charge of meal preparation, had more diet knowledge and lower WHRs than their counterparts. Also, females were more likely to prepare meals, and had lower WHRs than males, which is inconsistent with the popular belief that diabetic women who prepare meals for their families have poorer health outcomes.

Our findings suggest that diabetes self-management interventions for Puerto Ricans should be sensitive to limited health literacy, targeting both the diabetic patient and non-diabetic family members in charge of meal preparation.

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B059

IMPACT OF ACCULTURATION ON OBESITY, BODY IMAGE, AND DIET AMONG LOW-INCOME MEXICAN–AMERICAN WOMEN

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Acculturation level is a key variable to help explain the increased rate of obesity found in Mexican–American women compared to their non-Hispanic White counterparts. Oversimplified measurement of the construct of acculturation likely contributes to the inconsistent results found in much of the obesity and acculturation literature. The purpose of this study was to use a bidimensional acculturation measure to explore the relationship between acculturation, obesity, body image, and diet among low-income Mexican–American women. In addition to having their height and weight measured, participants completed demographic, diet, body image questionnaires. The Acculturation Scale for Mexican Americans-II that was utilized in this study provides scales for Anglo Orientation, Mexican Orientation and an overall Acculturation Level. Participants were 72 Mexican–American women (M=30.5 years) with 51.4% reporting household incomes of less that $16,000, and 65.3% endorsing first generation in the US. Anglo Orientation was positively correlated with BMI (r=0.25, p<.05), Ideal Body Image (r=0.41, p<.001), and Perceived Body Image (r=0.26, p<.05). Anglo Orientation was negatively correlated with Total Fiber (r=−0.36), p<.05). Mexican Orientation was positively correlated with Total Fiber (r=0.26, p<.05) and negatively correlated with Ideal Body Image(r=−0.33, p<.001). There were significant difference across Acculturation Levels in Ideal Body Image [F (3, 65)=6.542, p<.001], Total Kcal [F (3,65)=2.717 , p<.05], Total Fiber [F (3,65)=3.532 , p<.05], Total Fat [F (3,65)=3.042 , p<.05]. These results suggest that separate analysis of Anglo and Mexican–American Orientation provides greater insight to what cultural shifts underlie health and health behaviors changes which, in turn, would allow health promotion advocates to better target their intervention efforts.

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B060

ANALYSIS OF STRATEGIC SELF-PRESENTATION OBSERVATIONAL CODING FOR EVALUATING INTERVIEWER-INTERVIEWEE INTERACTIONS AS A FUNCTION OF GENDER AND RACE CONGRUENCY

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This study presents the preliminary data obtained in the coding of Strategic Self-Presentation (SSP) interviews, a motivational intervention component of the Active by Choice Today (ACT) school-based trial to increase physical activity (PA) in 6th graders. Previous research has shown that, especially in the clinical setting, racial and gender stereotypes or misconceptions may influence interview quality and that patients are often more comfortable interacting with a physician who is similar to themselves. Additionally, the matching of race between patient and provider may reduce tension and mistrust while the matching of gender appears to foster more rapport and disclosure. This study focuses on how the interviewer-interviewee interaction is affected by gender and race congruency. These interviews were coded by two raters and analyzed using an observational coding scheme. The variables of interest were the participant's level of comfort in the interview situation, trust with the interviewer, and extent of engagement in the interview, each evaluated on a five-point Likert scale by observing participant interaction with the interviewer on criteria such as voice tone, non-verbal body language, and content of answers. Data (n=41) suggest that gender matching of the interviewer and interviewee improved student trust (3.88±0.72 vs.3.43±0.81, p<.05), and race matching improved student trust (4.09±0.83 vs. 3.56±0.72, p<.05) and engagement (4.18±0.75 vs. 3.73±0.86, p=.059). These preliminary findings indicate that gender and race congruency of interviewer and interviewee may influence the outcome of an interview as observed in videotaped sessions. The greater engagement with race congruency may be due to a perception of lifestyle commonality or reduced tension (absence of racial stereotypes). These results may extend to other clinical interview situations with implications of having an interviewer similar in race and gender to the interviewee.

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B061

WEIGHT GAIN TRAJECTORY OVER 3-YEARS AMONG LOW-INCOME PREDOMINANTLY AFRICAN AMERICAN MEDICAL PATIENTS

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We have found that among low-income, minority medical patients 61% were obese, and 20% were extremely obese. Weight gain continues throughout life and larger gains tend to occur in young adulthood and among the overweight. Among middle-aged persons, older age and higher baseline weight have been predictive of less weight gain. Little is known about the weight trajectory for poor, minority outpatients. Understanding weight gain patterns among this group has implications for intervention efforts. Participants were randomly selected for a medical chart review from patients who had a primary care visit within a 6-month window. 845 patients had complete baseline data and were followed for 3 years. Data were available for 539 patients. The sample was 78% African American (AA), and 78% female. At baseline the average (SD) age was 51.1(11.1) years. BMI was 33.3 (32.7). Over 3 years, BMI increased 0.26 (2.7) kg/m^2, and weight 1.7 (16.5) lbs. Data were analyzed using a mixed model with time as a random, first level effect. Gender, race and age were second level (fixed) effects. There was a main effect for gender (p<.003), and an interaction of gender and race (p<.03), reflecting the higher BMI's of AA females than any other gender/race group. The main effect for time was significant, (B=.27, SE=.14, p<.02), but this was moderated by age of the participant (Age*Time B=−.04, p<.03). No other interactions with time were significant. The results suggest that there is a small, but statistically stable increase in BMI and weight over time, with younger patients gaining more weight than older patients. These results are consistent with the literature in that the most dramatic weight gain occurs in young adulthood, with a slow, steady increase through middle-age, and then a decline in later life. This pattern extends to our disadvantaged patients. Intervention and weight gain prevention efforts for this population are greatly needed.

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B062

DESIGN OF MOTHERS IN MOTION PROGRAM FOR YOUNG, LOW-INCOME OVERWEIGHT AND MOTHERS

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Nearly 90% of young, low-income mothers receive nutrition consultation and other services from WIC (Special Supplemental Nutrition Program for Women, Infants, and Children). A majority of WIC mothers are overweight and at high risk of major weight gain and type 2 diabetes in part because they have poor diets and inadequate physical activity, both of which are exacerbated by stressful situations. The pilot Mothers In Motion (MIM) program, a community-based participatory research project, is a randomized control trial testing strategies to reduce diabetes risk by improving dietary intake, physical activity, stress responses, body weight, and blood glucose of young, low-income overweight mothers aged 18 to 34 years. The Social Cognitive Theory that addresses interactions among personal factors, environmental factors, and lifestyle behaviors was applied in the development of MIM. The theoretical and conceptual frameworks that guided the development and cultural-sensitivity of MIM are described. The intervention was delivered via a theory-based, culturally-sensitive interactive DVD featuring peers from the target audience and a series of peer-support group teleconferences led by WIC educators. The primary purpose of this study was to test the feasibility of implementing MIM in WIC settings over a 10-week intervention and 14-month followed up. Participants (N=130) were randomized to an intervention group (diet, physical activity, stress management, and usual WIC) or control group (usual WIC care) based on their body mass index (25.0–29.9, 30.0–34.9, 35.0–39.9) and race (African American, white). Lessons learned from the development of an interactive DVD are described.

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B063

BODY MASS INDEX PREDICTS GREATER STRESS AMONG AFRICAN AMERICAN BUT NOT CAUCASIAN MEDICAL PATIENTS

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Persons of low-socioeconomic status (SES) and ethnic minorities experience disproportionately high levels of stress. Stress is associated with behaviors and physiological responses that can increase risk for chronic medical conditions including obesity. Little is known about whether ethnicity is a factor in the relationship between stress and obesity among low-income individuals. In this study, 122 patients were recruited from outpatient clinics at a public hospital. Participants completed a demographic questionnaire and the Weekly Stress Inventory Short Form, a measure of minor life events, or daily hassles. Weight and height were obtained from a medical chart review. The sample was largely female (86.4%) and more than half were African American (59.2%). Only 42% of patients reported being employed and the average monthly income was $1,003 (SD=690.85). The mean educational level was a high school degree (M =12.02 years, SD=1.90). There were no differences between African Americans (M=11.89) and Caucasians (M=12.18) on education (p=ns); however African Americans (M=859.78) had significantly lower monthly income than Caucasians (M=1205.70; p<.05). Multiple regression analyses controlling for income and main effects for race and BMI revealed that race was a significant moderator of the relationship between BMI and stress (beta=.98, p<.05;R square change=.049). Simple effect analyses revealed that among African Americans, greater BMI was associated with higher stress (r=.24, p<.05), but no significant relationship was found among Caucasians (r=−.15, ns). Results suggest that BMI and stress are linked for low-income African Americans but not Caucasians. Among African Americans, stress may be a risk factor for obesity or vice versa. Future research is needed to determine the pathways linking stress and obesity among African Americans.

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B064

CULTURAL FACTORS AND TRANSPLANT KNOWLEDGE RELATED TO RACE DISPARITIES IN LIVING DONOR KIDNEY TRANSPLANTATION

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African Americans (AAs) are four times as likely as European Americans (EAs) to have end stage renal disease (ESRD), but only half as likely to receive living donor kidney transplants (LDKT), the optimal treatment for ESRD. Reasons for race disparities in LDKT are poorly understood. This study was designed to examine how cultural factors (e.g., perceived discrimination, medical mistrust, religious objection to transplant, family loyalty), transplant-related beliefs (e.g., knowledge, learning activities), and psychosocial characteristics (e.g., coping, social support, self-esteem, anxiety) contribute to race disparities in LDKT. ESRD patients being evaluated for kidney transplant either at the VA Pittsburgh Healthcare System or at the University of Pittsburgh, School of Medicine completed telephone interviews shortly after their first transplant clinic appointment (n=129). Results indicated that AA (n=34) and EA (n=95) patients did not differ on most demographic characteristics, although AA candidates tended to have lower status occupations and lower incomes than did EA candidates. Further, analyses showed that AAs reported experiencing significantly more discrimination in healthcare, perceived more overall racism in healthcare, had higher levels of medical mistrust, indicated more religious objections to LDKT, and reported greater family loyalty than did EAs (all *p*s <.01). AA candidates also had significantly less transplant-related knowledge than did EAs ($p<.01$). However, AA and EA patients did not differ on any of the psychosocial characteristics. Patients who had greater transplant-related knowledge had a greater likelihood of having a living donor ($r=.29$, $p<.001$). These findings suggest that while patients' cultural concerns are important to consider when designing educational material about transplantation, providing patients with more information about LDKT is an essential component to help increase the rate of LDKT among AA ESRD patients.

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B065

SOCIAL CAPITAL AS A DETERMINANT OF HEALTH: IMPLICATIONS IN A MULTICULTURAL SOCIETY

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Social capital presents itself as a potential antidote to materialistic and structural inequalities (class, gender and race) and has a "common sense" appeal to which everyone can relate (e.g., good relationships are good for your health). A number of indicators suggest that social capital is strongly associated with better health outcomes as well as with civic and economic dimensions of equality in the United States. The empirical evidence on recent trends is unambiguous across space and time, social capital and health are positively correlated. However, in seeming contradiction to this thesis, social capital and its related factors do not necessarily bridge across racial groups, nor do they always produce relative civic and economic equality between ethnic groups. Most analysis of social capital do not adequately confront conditions associated with race, as a result, conclusions obscure important dimensions and are misleading regarding ethnic and racial populations in America. However, the appropriate assessment of social capital should not depend on whether one lives in a more or less racially heterogeneous community. The central idea is that networks and the associated norms of reciprocity have value both for the individuals and the community.

This presentation inspects the thesis of social capital more directly through the lens of racial diversity. An index of social capital is examined in terms of public health, equality, civic engagement, community volunteerism, sociability, and social trust. Discussion involves refuting the assumptions that civic engagement is lower in more heterogeneous communities and community heterogeneity negatively influences the production of social capital. Suggestions are made related to policy issues for overcoming disparities in economic and political conditions, and developing social capital to promote public health.

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B066

PERCEIVED DISCRIMINATION MEDIATES THE RELATIONSHIP BETWEEN ACCULTURATION AND DRINKING BEHAVIOR AMONG A TREATMENT SEEKING SAMPLE OF HISPANIC ADOLESCENTS

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Acculturation is the process by which an individual enters a new culture and slowly adapts to the customs and values of that culture. The alcohol use-acculturation literature is marked by mixed results with some studies suggesting that less acculturation is correlated with higher AOD while others find the opposite relationship (Gil, Wagner, & Tubman, 2004). Studies also have shown that differing rates of acculturation in families can lead to deterioration of values and altered dynamics that can lead to conflicts between parents and adolescents. The purpose of this study was to examine the relationship between acculturation and alcohol use among a treatment seeking Hispanic/Latino adolescent population. In addition, potential mediators such as perceived discrimination and child–parent relationships were examined. All participants (N=359) were part of an NIAAA funded clinical trial designed to test the effectiveness of a brief motivational/cognitive behavioral intervention on reducing AOD use. Eligibility criteria for the primarily male sample (N=317, mean age 16.7 years) included reporting 5 or more AOD use episodes in the past 3 months. Only baseline data were included in the analysis. Results revealed a negative relationship between acculturation and alcohol use with higher levels of acculturation associated with less drinking behavior. Furthermore, a positive relationship was found between alcohol use and perceived discrimination, while no relationship was found between parenting behaviors and adolescent alcohol use. Using the Sobel test for mediation, the relationship between acculturation and number of drinking days was partially mediated by perceived discrimination (p=.03). This study supports the acculturative stress model which states that acculturation is a stressful process that may lead to AOD use to cope with stress. Limitations and future directions are discussed.

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B067

ACCULTURATION MODERATES THE EFFECT OF SELF-MASTERY ON SELF-RATED HEALTH IN HISPANIC WOMEN

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Self-mastery, conceptualized as a source of resiliency and a potential mediator of various health and behavioral outcomes, is frequently targeted by interventions. However, personal control is an individualistic cultural concept that may not be as central or beneficial to more collectivistic cultures such as in Mexico, where a focus on the self may represent a deviation from cultural norms. For individuals of Hispanic descent living in the US, less acculturation represents a greater adherence to Mexican culture and greater acculturation represents a greater adherence to U.S. culture. The present study examined how the influence of self-mastery on health differs as a function of Hispanic women's level of acculturation. Participants for the current analyses were drawn from a study examining prenatal care utilization among a very low income, predominantly Hispanic sample of women residing in Maricopa County, Arizona (N=133; mean age=26.5). Only data from participants who self-identified as Hispanic were used in the present study (N=93). Interviews were conducted at birth and at 5 months postpartum. Regression analysis predicted mothers' self-rated health at 5 months from acculturation (measured by language use) and self-mastery at birth, controlling for self-rated health at birth. Results found a significant interaction between self-mastery and acculturation ($\beta=-.04$, p=.02). For low acculturated women a higher sense of self-mastery predicted lower self-rated health whereas for moderately acculturated women self-mastery did not influence self-ratings of health. The present study illustrates the importance of considering cultural factors in interventions. While self-mastery may be a source of resiliency for individualistic societies, it may be less beneficial or even have detrimental effects for individuals from collectivist societies, where factors reflective of cultural values of family and social networks may play a more significant role in health outcomes.

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Citation Poster
B068

PRE-TERM BIRTH AND HIGHER ACCULTURATION ARE ASSOCIATED WITH ASTHMA IN 4-8YR OLD LATINO CHILDREN LIVING IN SAN DIEGO CALIFORNIA

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INTRODUCTION: Asthma is the number one childhood disease in the US and it disproportionately affects minority populations. Latinos living near the US-Mexico border may experience unique exposures related to asthma. The purpose of this study was to assess the biological, social and environmental factors associated with asthma diagnosis in a sample of 4–8 yr old Latino children living in San Diego California. METHODS: Data were drawn from the Aventuras Para Niños obesity prevention community trial (n=794). Child asthma status, acculturation status, socio-economic status, insurance status, breast feeding history, race/ethnicity, sex, age, traffic exposure perceptions, birth weight and pre-term birth status were collected via a parent self-administered questionnaire. Child's height (cm) and weight (kg) were directly measured, and BMI percentiles calculated from the CDC's national reference data. Child ever diagnosed with asthma was the dependent variable in logistic regression analyses. RESULTS: The mean age was 5.97±0.94 yrs, BMI =18±3.5, and BMI%ile=72.9±26.6. There were no significant sex differences for any variables of interest. The overall asthma prevalence was 11.4% and pre-term birth was 6.4%. Children born pre-term were 2.51 times more likely to be asthmatic compared to normal-term children (95%CI:1.15, 5.57). Higher acculturation was associated with a 36% increased odds of asthma (OR=1.36, 95%CI:1.06, 1.75). No other factors were associated with asthma. CONCLUSIONS: Latino children born pre-term and of more acculturated parents are at increased risk of being diagnosed with asthma. These findings show that non-biological factors such as acculturation increase the risk of childhood asthma. Further studies are needed to determine the specific behavioral and/or environmental factors that explain these associations.

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B069

BODY-RELATED DIMENSIONS AND ADDICTIVE BEHAVIORS IN COLLEGE WOMEN

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Body-related dimensions, such as beliefs about appearance and self-objectification have been examined in the etiology of eating behaviors; however, there has been limited analysis of these dimensions in the development of other addictive behaviors. Images highlighting thinness and female bodies are used to market alcohol and cigarettes to women. There is also evidence that women who focus on their bodies are more prone to depression and negative affect. Addictive behaviors are also related to negative affect. Thus, common factors for other addictive behaviors in women may include both affective and body-related domains. The purpose of this study was to determine the relationship between body-related dimensions, affect and alcohol, smoking, and drug use among college women. The sample consisted of 664 female students was 69.5% White and 30.5% students of color. Three body-related dimensions were examined: self-objectification (SO), awareness of sociocultural appearance standards (AS), and internalization of sociocultural appearance standards (IS). Higher AS, IS and SO were related to greater alcohol problems. More frequent smoking was related to higher SO and greater drug problems were related to AS. Multivariate analyses revealed that SO (beta=.13, p<.05) and IS (beta=.22, p<.001) were predictive of alcohol problems with affective domains (ns) included in the model. AS (beta=.13, p<.01) and depression (beta=.11, p<.05) were both significant predictors of alcohol problems. AS (beta=.17, p<.05) and depression (beta=.21, p<.01) were predictive of drug problems. However, in the multivariate analysis, lower rumination (beta=−.32, p<.05) predicted higher smoking behaviors above SO (ns). The discussion explores the implications for body-related messages related to addictive behaviors.

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B070

ETHNIC DIFFERENCES OF COGNITIVE STRATEGIES IN MANAGING PAIN

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There is consistent evidence of ethnic group differences in pain response in both clinical and laboratory settings. However, few studies have assessed the efficacy of brief interventions to reduce pain across ethnic groups. We evaluated the effects of two brief cognitive strategies, sensory focus and distraction, on measures of pain tolerance and ratings of the intensity and unpleasantness of pain evoked by the Cold Pressor Task (CPT). Participants included 58 healthy students (36 African American, 22 Non-Hispanic White) from the University of Alabama at Birmingham. Participants were randomly assigned to the sensory focus or distraction groups prior to the study. Each participant completed a pre (CPT1) and a post CPT (CPT2) following training in sensory focus or distraction. Pain tolerance was recorded in seconds (s) for each CPT. Visual analog scale ratings of pain intensity and unpleasantness were recorded following each CPT. Repeated measures ANOVAs were used to measure differences in tolerance, intensity, and unpleasantness for CPT1 and CPT2. A significant interaction for ethnicity, condition, and time was obtained. Overall, Whites had higher average pain tolerances than African Americans (difference of 56.4 s). African Americans in the distraction group had an increase of 26 s in their pain tolerance from CPT1 to CPT2. There was an 8 s decline from CPT1 to CPT2 for African Americans in the sensory focus group. Whites in the sensory focus group had an increase of 28.6 s in their pain tolerance from CPT1 to CPT2, although this difference was not significant. Whites in the distraction group had a decrease of 7 s from CPT1 to CPT2. There were no significant differences for African Americans' or Whites' intensity or unpleasantness ratings. Additional participants are being recruited to increase statistical power. Results suggest that the effects of the interventions varied according to ethnic group. Interventions aimed at reducing pain may be more successful if they consider ethnicity as an important determinant of the pain experience.

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B071

RACIAL/ETHNIC VARIATION IN ENERGY EXPENDITURE AMONG HIV-INFECTED PATIENTS

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Introduction: Metabolic abnormalities among HIV patients have persisted despite the use of highly active antiretroviral therapy (HAART) in recent years. HIV infection is associated with increased resting energy expenditure (REE) and associated weight loss/wasting, an important comorbidity and predictor of mortality among these patients. Purpose: To examine ethnic variation in REE using a conceptual model. Design: Cross-section study. Subjects: 118 HIV-infected patients who had evidence of HAART-associated dyslipidemia but with no evidence of secondary infection were recruited from the primary care and specialty clinics in Houston. Measures: Age, duration of the disease, viral load, protease inhibitor (PI) drug usage, fat free mass (FFM), waist-hip-ratio, and ethnicity. Analysis: ANOVA examined ethnic differences in study variables and Structural Equation Modeling (SEM) the adequacy of the model and model parameters. Results: The mean age was 44±8.5 years, duration of HIV infection was 9.4±5.7 years, and HAART years was 4.1±3.4 years. Ethnic distribution of respondents indicated 47% Hispanics, 12% African American and 41% whites. REE was significantly higher among whites than African Americans and Hispanic respondents ($p<.001$). Age, FFM and viral load exhibited the strongest (direct) effects on REE in the SEM model. Ethnic disparities in REE were noted with significant differences among whites and minorities but not between African Americans and Hispanics. REE was directly and positively associated with viral load, and indirectly with PI drug use based on the ability of PI drugs to reduce viral load, which were higher among minorities. The indices of fitness for the tested model were good, and the predictors accounted for 75% of the variance in REE. Conclusion: Ethnicity affects REE in HIV patients. Culturally specific programs to improve factors related to abnormal REE should take into account these ethnic differences.

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B072

GLUCOSE INTOLERANCE AMONG HIV-INFECTED PATIENTS: EFFECTS OF ETHNICITY AND IMMUNOLOGIC RESPONSE TO TREATMENT

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Background: Insulin resistance is reported to be highly prevalent among HIV patients, especially those taking protease inhibitor drugs (PIs). This study measured glucose tolerance and its associated factors among HIV-infected patients. Subjects: 118 non-diabetic HIV-infected patients on stable HAART with hypertriglyceridemia, recruited from primary care and specialty clinics in Houston.
Measures: Age, BMI, CD4 count, PI usage, fat mass, oral glucose tolerance test (OGTT) and ethnicity. All subjects underwent OGTT with glucose and insulin measurements after an overnight fast and 30, 60, 90, and 120 min after consuming 75 g glucose. IGT was defined as glucose >140 mg/dL but< 200 mg/dL at 120 minutes.
Analysis: T-test examined differences in study variables by IGT. Repeated measures ANOVA examined glucose tolerance with BMI, age, fat mass, PI drug use and race as control variables. Glucose tolerance was examined by patient's ethnicity (White, African American, Hispanic) and CD4 count (low (<300/cc), moderate (300–700/cc), high (>700/cc)).
Results: The mean age and duration of HIV infection was 44±8.5 years and 9.4±5.7 years respectively. The ethnic distribution was 47% Hispanic, 12% African American and 41% White. IGT was present in 21% of the subjects; these individuals were older, had higher triglycerides but lower HDL-C, % fat, and hip circumference. Ethnic disparities in glucose tolerance was noted ($p<.001$). Minorities had worse glucose tolerance; African Americans has significantly worse glucose tolerance than Hispanics and Whites. Individuals with low CD4 counts had significantly worse glucose tolerance than those with moderate to high CD4 counts ($p<.001$). There was a significant interaction between ethnicity and CD4 counts.
Conclusion: Undiagnosed IGT may be relatively common in HIV patients and this risk is predicted by ethnicity and low CD4 count. Culturally specific programs may need to take these differences into account.

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B073

RELATIONSHIP OF HIV-, RACE-, AND SEXUAL ORIENTATION-RELATED DISCRIMINATION TO ALCOHOL USE AMONG AFRICAN AMERICAN MEN LIVING WITH HIV

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Prior research indicates that discrimination may be associated with worse health behaviors. However, little is known about the extent to which discrimination from different sources has distinct effects on health behaviors. In the present study, we examined the cross-sectional relationship of HIV-, race-, and sexual orientation-related discrimination to alcohol use among 79 low-income African American men living with HIV recruited from a social services agency (Mean age=44+7, range=27–63). All participants were taking antiretroviral medications. Past-year discrimination was measured in terms of both unfair treatment (e.g., by strangers, health care providers) and hate crimes (e.g., physical violence); prior scales were adapted for comparable measurement across all three social categories. In multivariate analyses including all three discrimination types and controlling for age, racial discrimination was significantly related to more problem drinking behaviors, $b=1.3, SE=0.6, p<.05$; sexual orientation discrimination was marginally related, $b=0.8, SE=0.3, p<.10$. Sexual orientation discrimination was related to a higher likelihood of having any sex while drunk in the past 30 days, $OR=7.0, p<.05$. In aggregate, discrimination contributed significantly to model fit in both the problem drinking (change in R-square=.12, $p<.05$) and sex [chi-square (3)=9.8, $p<.05$] models. These results provide further support for the negative effects of discrimination on health behaviors. Such behaviors may be a result of maladaptive coping with the stress associated with discrimination. Findings suggest a need for culturally-tailored stress-reducing interventions that address coping with discrimination experiences among African American men with HIV.

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B074

PREDICTORS OF SEXUAL ASSERTIVENESS IN BLACK AND WHITE WOMEN: EXAMINING STRESS, SOCIOECONOMIC STATUS, AND CHILDHOOD SEXUAL ABUSE

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Sexual assertiveness is important in HIV prevention because it is strongly linked to having protected sex. Stress endured in the context of low socioeconomic and minority status could contribute to decreased assertiveness for condom use. Furthermore, links have been noted between childhood sexual abuse (CSA) and sexual health outcomes suggesting that abused children have a greater likelihood of engaging in sexual behaviors as adults that put them at risk for contracting sexually transmitted diseases. Relationships have been posited between socioeconomic status (SES) and health outcomes suggesting that individuals in lower SES strata are at greater risk of suffering worse health due to engaging in poorer health behaviors. Data from the Rhode Island Project Respect study were collected using structured questionnaires assessing sex attitudes and beliefs as well as rape and CSA history from heterosexual men and women (n=527, aged 18–44).

The current study examined 245 of the 350 original female respondents (Black n=113, White n=132). Results indicated that White women reported higher levels of stress than Black women. For White women, CSA was the most significant predictor of assertiveness for refusal. For Black women, CSA predicted assertiveness for condom use. Also in Black women, SES was the most significant contributor to both assertiveness for initiation and refusal of sex. Complex combinations of factors contribute to sexual assertiveness. Understanding factors that work as barriers to assertiveness is important. Culturally tailored clinical interventions might focus on improved coping to counteract negative effects of stress, CSA, and SES among Black women. Findings generated from a better understanding of factors may lead to more effective long-term HIV prevention interventions for women.

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B075

DIFFERENCES IN SMOKING RISKS BETWEEN MEXICAN AMERICANS AND NON-HISPANIC WHITES

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Rationale: The positive associations of tobacco use with depression and health habits such as alcohol or coffee use are well known and have been described in US Latinos. However, no comparisons of smoking risks exist between Mexican Americans (MA) and non-Hispanic Whites (NHW).

Objective: We compared the use tobacco between MA and NHW living in San Diego County. We hypothesize that MA would have higher use of tobacco than NHW.

Methods: A telephone survey to determine use of tobacco, alcohol, and coffee, and history of depression/anxiety was administered to MA and NHW in San Diego County from January to June 2007. Households were reached by random digit telephone dialing and the within-household method of Kish was used to select a single adult per dwelling.

Results: Three hundred and ninety-six MA and 392 NHW completed surveys. There was no significant difference in the proportion of males to females (1:2.2 and 1:1.7, for MA and NHW respectively. p=0.1). Non-Hispanic Whites on average were older than MA (52.1±17 vs. 40.2±14 years, p=0.001). There were more smokers (18.1% vs. 11.9%, p=0.03) and more alcohol users (50.8% vs. 31.8%, p=0.001) among NHW than MA, but no difference in the number of coffee drinkers (63.3% and 63.6%, p=0.9). Logistic regression was used to predict smoking status using alcohol and coffee drinking and history of depression/anxiety as predictors while controlling for age, gender, and education. Mexican Americans had a greater odds ratio of smoking than NHW when they had a diagnosis of depression/anxiety (OR 4.1, 95% CI=2.0, 8.5 vs. 2.0, 95% CI=1.1, 3.4) or if they used alcohol (OR 4.1, 95% CI=2.0, 9.3 vs. 0.8, 95% CI=0.5, 1.2). Coffee was a predictor of tobacco use only in NHW (OR 2.5, CI=1.4, 4.6).

Conclusion: Our data suggest that MA living in San Diego County use tobacco less often than NHW, however; MA may be at a greater risk of smoking than NHW when exposed to alcohol or have the diagnosed of depression/anxiety.

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B076

IMMIGRANTS' ETHNO-CULTURAL BACKGROUNDS AND PERCEPTION OF SEVERITY OF PSYCHOLOGICAL DISTRESS: A MULTIETHNIC STUDY

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The high rate of immigration to the U.S. is rapidly changing its demographic profile. Immigrants in the U.S. (34.2 million in 2004) carry with them health beliefs and worldviews that are specific to their native culture. The present study examined the influence of ethnicity on perception of severity of psychological distress in a multi-ethnic sample.

METHODS: The sample included English-fluent adults (18 to 65 years-old) from six ethnic groups (55 Haitians, 30 Cape Verdeans, 41 Dominicans, 39 Puerto Ricans, 44 Irish, and 46 Italians). Participants provided demographic data, responses to questionnaire items (e.g., acculturation) and rating of severity of psychological distress.

RESULTS: Participants varied in acculturation based on ethnicity ($p<.05$). Individuals from ethnic minority groups (e.g., Haitians, Dominicans, and Puerto Ricans) were less acculturated ($p<.001$). The analyses revealed a significant ethnic-based difference in severity rating of psychological distress($p<.005$). Dominicans rated psychological distress more severe followed by Haitians, Irish, Puerto Ricans, Cape Verdeans, and Italians. The results showed significant relationships among perceived severity of psychological distress, prior mental health contact ($p<.01$), and acculturation ($p<.05$). Participants with prior contact with the mental health system and those less acculturated perceived psychological distress as more severe.

DISCUSSION: The results underscore the need to integrate information about patients' ethno-cultural backgrounds in the assessment and treatment process. This approach will facilitate the development of effective and reliable behavior change interventions to improve health quality across ethno-cultural groups.

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B077

POSTTRAUMATIC STRESS DISORDER, POSTTRAUMATIC GROWTH, AND ACCULTURATION IN REFUGEES FROM SUB-SAHARAN AFRICA

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Background: Research in the area of posttraumatic growth (PTG) has expanded exponentially in the last decade. The aims of the study were to (1) assess PTG in refugees from sub-Saharan Africa, (2) determine if PTG was related to the severity of trauma and Posttraumatic Stress Disorder (PTSD), and (3) to test whether PTG was related to acculturation.

Methods: Nonprobability sampling was used to recruit 206 refugees from sub-Saharan Africa who had sought asylum in Sweden. Participants were interviewed using the Harvard Trauma Questionnaire, Posttraumatic Growth Inventory, Post-emigration Living Difficulties Questionnaire, and the Posttraumatic Growth Inventory. Multivariate Analysis of Variance was employed to assess the relationship between the PTGI, PTSD, and acculturation.

Results: Eighty-nine percent of participants reported some type of trauma using the HTQ. Approximately 21% of the sample met the DSM-IV criteria for PTSD. The PTGI was found to have a Cronbach's alpha of 0.91 in this population. Participants who reported high levels of the PTSD-related avoidance reported significantly lower levels on the New Possibilities PTGI subscale [$F(1,202)=5.4$, $p=0.02$]. The overall PTGI score was found to be associated with the higher reported acculturation on the Traditions and Customs subscale [$F(1, 205)=4.6$, $p=0.03$] and the overall Acculturation score [$F(1,205)=0.5.1$, $p=0.03$]. Several of the PTGI subscales were also found to be associated with acculturation.

Conclusion: The PTGI was found to have adequate internal consistency in this sample of refugees from sub-Saharan Africa. The mean total PTGI score reported by refugees from sub-Saharan Africa was higher when compared to people diagnosed with cancer, people who have experienced other traumatic events, and the general population. Posttraumatic stress disorder (Avoidance subscale) was associated with decreased PTG (New Possibilities subscale). The overall PTGI score and subscales were positively with accultration.

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B078

AFFECTIVE RESPONSIVENESS TO CANCER PATIENTS' EXPRESSIONS OF EMOTION

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Oncology patients frequently experience emotions in response to cancer diagnosis and treatment. Provider responsiveness may facilitate patient disclosure and adjustment. This study examined nurse responses to cancer patient expressions of 3 emotions:anger,sadness and neutral emotion. Previously-identified variables that may influence affective responsiveness included age,length of work experience,work stress, self-efficacy,and trait anxiety. The Crick and Dodge Model of social-information processing served as the theoretical framework to examine response generation.A videotape of a male cancer patient was created using a 3 step validation process. The final video contained 3 scenes for each emotional condition.74 nurses(72 female,2 male)from 8 sites participated in this experimental, crossover design study. The mean age was 45.9(SD=9.6)and mean length of work experience was 21.3 years(SD=11.7). Responses to the videotape were audio taped,transcribed, and coded with Roter Interaction Analysis System (RIAS)with good inter-coder reliability(ICC>.70). Relevant RIAS codes were combined into 2 composite categories:instrumental behaviors (providing information) and affective behaviors. Age and length of work experience were negatively correlated with work stress. Findings revealed significant variation in nurse responses to patient emotional expressions. Repeated measures ANOVAs demonstrated a significant difference in affective behaviors across the emotional conditions $F(2,69)=348.50, p<.01$, with sadness eliciting more affective responses than anger.HLM revealed that none of the identified variables predicted affective responsiveness. There was a marginally significant interaction effect for order of presentation with more effort required to respond to anger if sadness was presented first $F(1,67)=.37, p=.058$. Responding to a variety of patient emotions may diminish nurse responsiveness due to the perception of increased effort and stress. Nurses respond less affectively to patients expressing anger possibly minimizing patient disclosure and adjustment.

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B079

DIFFERENCES IN CANCER INFORMATION SEEKING BEHAVIOR, PREFERENCES, AND AWARENESS BETWEEN CANCER SURVIVORS AND HEALTHY CONTROLS: A NATIONAL, POPULATION-BASED SURVEY

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Background: Attempts to acquire information about their disease are very common among cancer patients and survivors and are considered a common means of coping with cancer. However, no research has examined how cancer diagnosis and treatment might alter information source preferences or opinions.

Methods: Data from 719 cancer survivors (CS group) and 2012 matched healthy controls (NCC group) regarding cancer-related information seeking behavior, preferences, and awareness from the population-based 2003 Health Information National Trends Survey (HINTS) was examined.

Results: The CS group reported greater consumption of cancer-related information ($X2=123.95$; $p<.001$; $\eta=.50$), but the CS and NCC groups did not differ in information source use ($X2=8.23$; n.s.) or preferences ($X2=4.60$; n.s.). The CS group was more confident of their ability to get cancer information ($X2=9.39$; $p<.05$; $\eta=.13$), reported more trust in health care professionals ($X2=9.24$; $p<.05$; $\eta=.13$) and television ($X2=9.45$; $p<.05$; $\eta=.13$) as cancer information sources, but evaluated their recent cancer information seeking experiences more negatively than the NCC group. Awareness of cancer information resources was surprisingly low in both the CS and NCC groups.

Conclusions: Cancer diagnosis and treatment subtly alters cancer information seeking preferences and experience. However, awareness and use of cancer information resources was relatively low regardless of personal history of cancer.

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B080

COMPARING COLONOSCOPY AND VIRTUAL COLONOSCOPY: A FOCUS GROUP STUDY

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Computed tomographic colonography (CTC) (also known as virtual colonoscopy) is a new technology for large bowel imaging that has been widely assumed to be more acceptable than colonoscopy (CC) because it is a non-invasive procedure with almost equally good sensitivity. A series of focus groups explored the impact of information on the four aspects of the examination (practical issues, outcomes, sensitivity, and risks and side effects) on patient preferences in 26 older adults (mean age=64). Information choices and CC vs CTC preferences were recorded following presentation of each aspect of the information. On the basis of minimal information, a majority of participants preferred CTC to CC (65% vs 11%), while 24% had no preference. However, once they had received information on all aspects, this was reversed, with 80% of participants preferring CC compared with 8% preferring CTC. Thematic analysis of the discussion was used to understand the dramatic change in preference. It showed that participants almost unanimously considered information about sensitivity (the ability to detect abnormalities) to be most important, and perceived relatively modest differences in test sensitivity to be highly significant. Information about risks and side effects was considered to be the second most important aspect and attracted notable comments from participants about the risk of bowel perforation and health consequences following exposure to radiation.

The results highlight the risk of under-estimating the value patients place on the quality rather than the comfort of medical investigations which has important implications for the development of educational materials supporting informed choice between different diagnostic options and future directions in the delivery of CTC.

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B081

SUSTAINING CHANGES IN RISK PERCEPTION AFTER AN E-HEALTH INTERVENTION

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Objective: Previous studies of breast cancer risk perceptions have follow-up assessments one year or less post-intervention. Thus, implications are unclear for health behaviors like mammograms that are repeated yearly or less frequently. This study explored longer-term effects of a brief computerized breast cancer risk appraisal on risk perceptions after 18 months. Design: The study involved Women's Health clinic patients who were at least 40 years old with no previous breast cancer and not selected for high risk. 899 women were randomized to a computerized assessment of breast cancer risk using an online version of the Gail model or control. Women received a lifetime risk print-out in three formats: numeric range (e.g., "15% to 30%"), comparison (e.g., "somewhat higher than average"), and label (e.g., "moderate"). Repeated measures regression models assessed the effect of being in the intervention or control group. Comparison and label perceptions were dichotomized for analyses. Main Outcome Measures: Outcomes were perceived breast cancer risks at baseline, 1-, 6-, and 18-month follow up. Results: Gail risks for breast cancer were similar for intervention participants and controls (8.2% vs. 8.3%). Mean perceived numeric risk was lower at baseline for intervention participants than controls (29.6% vs. 32.8%, $P=0.04$). Groups did not differ significantly at baseline for other perceived risk measures. 57% said they had average or higher risk at baseline, and 45% reported "moderate" or "strong" risk. Compared to controls, at each follow-up time point the intervention group reported lower numeric risk that was sustained at 18 months (26.6% vs. 31.8%, $P<0.01$). The intervention group was also more likely than controls at follow-up to report lower risk by the comparison measure ($OR=1.41$, $P<0.01$) and the label measure ($OR=1.53$, $P<0.01$) Conclusion: A computerized health risk appraisal lowers breast cancer risk perceptions for at least 18 months. This finding could have implications for long-term repeated health behaviors.

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B082

THE RELATIONSHIP BETWEEN MEDIA, ATTITUDES AND BEHAVIORS TOWARD BREAST HEALTH AWARENESS

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This study examines the relationship between media and attitudes and behavior towards breast cancer screening. One hundred and seven women were randomized to one of three groups. Group one participants viewed a television episode of ER, which contained a storyline portraying one of the main characters discussing breast cancer. Group two were provided with educational print material that addressed healthy living for breast health. Group three acted as the control group, and completed instrumentation only. All study participants completed assessments that measured health beliefs, self-efficacy, and stages of change at three different intervals: pre-intervention, one-week, and six-weeks post-intervention. The primary endpoint was a change in frequency and proficiency of breast cancer screening behavior. There are two main hypotheses for this study: (1) ER will act as a cue to action and those randomized to the television show ER will be more likely to conduct breast self-examinations as measured by increased frequency and proficiency when compared to those randomized to educational print material or to the control group; (2) Women with higher scores on the confidence sub-scale of the health belief model will have higher scores on the frequency and proficiency scales. Results suggested that media acted as a cue to action, and those randomized to ER increased their frequency and proficiency of breast self-examinations [BSE]. Results also support a strong positive relationship between self-confidence and frequency and proficiency of breast self-examinations. Women in the media group had the greatest increase in self-confidence and frequency and proficiency of BSE.

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B083

THE ROLE OF HEALTH LITERACY IN ASSIGNING MEANING TO BREAST CANCER RECURRENCE RISK

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INTRODUCTION: Although breast cancer survivors routinely receive recurrence risk estimates to aid their treatment decisions, new and potentially more precise genomic tests are now available. We examined how health literacy informs the way survivors understand and assign meaning to breast cancer recurrence risk yielded by genomic tests such as Oncotype Dx.

METHODS: We interviewed post-treatment female breast cancer patients (N=163), assessing their health literacy (using REALM) and their interpretation of hypothetical recurrence risk results from a genomic test, presented in verbal and numerical formats. Most of the women were Caucasian (86%) and relatively well-educated.

RESULTS: Women assigned relatively high percentages to verbal risk terms, a finding exacerbated by health literacy. Lower literacy women used larger percentages to describe a "low" risk than higher literacy women (mean=25% vs. 15%, $p<.05$). Women with lower health literacy showed greater variability in the numbers used to describe "low" and "high" risk ($ps<.05$). Health literacy did not affect percentages used for "high" risk nor did it affect verbal terms used to describe "6%" and "35% risks.

CONCLUSION: The percentages that women assigned to "low" risk were much higher than intended by the test's maker. Women with lower health literacy were more variable in the numerical meaning they assigned to low recurrence risk when presented in verbal terms. These findings have implications for informed decision making because perceiving "low" risk as higher than experts assign may influence women's preferences for treatments. Ultimately, these findings have important implications for helping women with different levels of health literacy incorporate recurrence risk information into treatment decisions. This research is supported by grants from the Lineberger Comprehensive Cancer Center and ACS (MSRG0625901CPPB).

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B084

USE AND EFFECTS OF THREE ONLINE NUTRITION EDUCATION GAMES PROMOTING FRUITS AND VEGETABLES

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Nutrition information is prevalent on the Internet but the number of websites that have been carefully evaluated is small. Three interactive game-style features intended to promote fruits and vegetables were developed to reduce common barriers, increase self-efficacy, and teach guidelines from the food guide pyramid. They included activities in which users selected different meals and received feedback and tips for improving them; re-made favorite recipes; and shopped for fruits and vegetables learning how to overcome cost, time, and taste barriers in a 3-D virtual environment. Two samples of 1005 adults (n=2010 combined) were recruited and pretested online and enrolled in a randomized pretest-posttest controlled design. Overall, 51% of adults visited the website at least once (mean=0.8 visits; sd=1.3). More older adults logged on than younger adults ($p<.01$), and more often ($p<.01$). Women visited it more often then men ($p<.01$). The grocery store game was most popular (73% used it; 55% used meal analysis; 49% used recipe analysis). One month after enrollment, 81% of adults (n=1634) completed a posttest online. Adults assigned to the website had greater self-efficacy for eating 3 daily servings of fruits and vegetables at posttest (M=3.94) than controls (M=3.84; F=4.93, $p=.03$ adjusted for gender; intent-to-treat analysis confirmed this difference, $p<.01$). However, the games did not improve actual intake ($p=.21$) or stage of change ($p=.30$). The positive effect on self-efficacy was evident among adults who visited the website (M=3.99; F=6.56, $p=.01$) but not those who did not (M=3.95; F=1.39, $p=.23$). The online nutrition education games were most appealing to females and older adults. In the short-term, the games had limited dietary effects, primarily on self-efficacy which is often a precursor to dietary change. Achieving actual dietary change requires more intensive intervention over longer time periods.

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B085

COMPUTER-DELIVERED INTERVENTIONS FOR HEALTH PROMOTION AND BEHAVIORAL RISK REDUCTION: A META ANALYSIS OF 75 RANDOMIZED CONTROLLED TRIALS, 1988 TO 2007

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Use of computers to promote healthy behavior has been increasing as their ability to tailor intervention content and standardize intervention delivery has become known. While this trend is likely to increase, little is known about their efficacy. To summarize and evaluate these interventions, we conducted a meta-analysis of computer-delivered interventions focused on health domains in Healthy People 2010. Data from 75 randomized controlled trials, published between 1988 and 2007, with 35,685 participants and 82 separate interventions were included. Studies were coded independently by two raters for study and participant characteristics, design and methodology, and intervention content. Weighted mean effect sizes for theoretically-meaningful psychosocial and behavioral outcomes at the first post-intervention assessment were calculated; moderator analyses determined the relation between study characteristics and the magnitude of effect sizes. Compared with controls, participants who received a computer-delivered intervention improved several hypothesized antecedents of health behavior, namely knowledge, attitudes, and intentions. Intervention recipients also improved health behaviors including nutrition, tobacco use, substance use, safer sexual behavior, binge/purge behaviors as well as general health maintenance. Outcomes were moderated by sample characteristics (e.g., age) and intervention content. Results of this meta-analysis suggest that computer-delivered interventions can lead to improved behavioral health outcomes over a wide range of behaviors. While these results are promising, evaluations of outcomes at extended assessment periods are needed to establish the long-lasting efficacy of computer-delivered interventions.

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B086

USING FACTUAL VERSUS NARRATIVE MESSAGES IN COMPUTER-BASED HEALTH COMMUNICATIONS

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Health communications use factual information or/and personal testimonials to inform and influence individual decisions that enhance health. Increasingly, Web and other computer-based systems are being used to communicate with patients. We evaluated the relative effectiveness of testimonials compared to factual messages delivered to a recipient through the Web. 420 participants took part in 2 Web-based experiments, in which they were randomly assigned to be exposed one of four kinds of messages about weight management (Experiment 1) and moderating alcohol drinking (Experiment 2). The study demonstrated that the testimonials were more persuasive when presented through the audio mode rather than when written on a computer screen. Also, testimonials were more persuasive compared to factual messages if perceived by the individuals who had low rather than high readiness to change their behavior. We interpret the results in terms of the elaboration likelihood model that states that individual's persuasion depends on his/her motivation to scrutinize the message. The findings help in developing the more effective ways of computer-based health communication.

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B087

EFFECT OF INTERACTIVE VIDEO BIKES ON EXERCISE ADHERENCE AND SOCIAL COGNITIVE EXPECTANCIES IN YOUNG MEN: A PILOT STUDY

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Limited research has evaluated the potential efficacy of interactive video games that foster physical activity (PA), though several have entered the retail market recently. These interactive games have the potential to 1) reach a sedentary community who enjoy traditional video games and 2) manipulate affective attitudes about PA through presenting a fun and interactive gaming experience that should translate to PA adherence. Thus, the purpose of this study was to evaluate the effectiveness of the gamebike TM in maintaining adherence to an exercise program compared to a traditional stationary bike and to examine whether the social cognitive expectancies differed between the two conditions. It was hypothesized that the videobike condition would result in better adherence and higher affective attitude than the traditional cycling condition. Participants were 27 inactive young men (M age=22.78, SD=4.30) with interest in video gaming who were stratified (aerobic fitness and body mass) and then assigned randomly to experimental (n=16) or control (n=11) conditions. The recommended training regime consisted of moderate intensity activity (60–75% heart rate reserve), 3 d/wk for 30 min/d for 6 wk. At the end of the first session, participants completed theory of planned behavior (TPB) measures framed as expectancies across the trial. Results showed that affective attitude (d=1.2), intention (d=0.67), and adherence across the six weeks (d=0.71) all favored the videobike condition. Other TPB constructs did not differ (d<0.20). Regression analyses suggested partial mediation of the effect of the videobike condition on adherence ($\Delta\beta$=.11 from original β=.31) via intention and affective attitude. In summary, this pilot study provided evidence that interactive video gamebikes may improve adherence over traditional cycling because the activity produces higher affective attitudes and intentions. The moderate and large effect sizes are particularly promising for expanding to larger community-based evaluation.

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B088

EFFECTS OF AN INTERNET-BASED COGNITIVE-BEHAVIORAL INTERVENTION ON EXERCISE OUTCOMES IN PATIENTS WITH COPD

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Background. There is limited research on use of the Internet and mobile technologies to facilitate behavior change in patients with chronic obstructive pulmonary disease (COPD). The purpose of this study was to test the effects of two 6-month cognitive-behavioral dyspnea self-management programs, an Internet-based (eDSMP) and a face-to-face (fDSMP) program on exercise outcomes.

Methods. Fifty participants with COPD were randomized to either the eDSMP (n=26) or fDSMP (n=24). The content of the two self-management programs which focused on education, skills training, and ongoing support for exercise adoption and maintenance were similar, as was the frequency of contact. The only difference was the mode in which the reinforcements, education, and peer interactions took place. Participants completed web-based questionnaires that measured their stage of readiness for exercise and exercise behaviors at baseline, 3 and 6 months.

Results. Data were available for 38 participants (42% females; age: 70±8; forced expiratory volume in 1 second: 49.1±16.9% predicted). At baseline, 29% of all study participants reported being in the action or maintenance (A/M) exercise stages. At 3 months, 83% and 70% of eDSMP and fDSMP participants were in A/M; these figures declined slightly at 6 months, eDSMP: 75%; fDSMP: 67% (main effect of time, p<.05). Change in total duration of aerobics-type exercises per week from baseline to 3 months were, +83 mins (eDSMP) and +64 mins (fDSMP) and at 6 months, +40 mins (eDSMP) and +44 mins (fDSMP), (time effect, p<.001).

Conclusions. Older people with COPD who participate in either an Internet-based or face-to-face dyspnea self-management program that focuses on exercise as a symptom management strategy have similar improvements in their readiness for exercise and reported increased exercise over six months. Whether these improvements are durable and are better than standard care needs to be determined.

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B089

EFFECTS OF A THEORY-BASED HIP FRACTURE PREVENTION WEBSITE FOR OLDER ADULTS

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Approximately 340,000 American older adults experience hip fractures yearly; however, many have inadequate information about preventive measures. With the increasing number of older adult online users, the Web can be an excellent medium to disseminate this information. In this online study, we developed a theory-based, structured hip fracture prevention website (TSW) and tested its effects on: (1) knowledge gains (hip fractures and osteoporosis); (2) self-efficacy (calcium intake, exercise, and web-based learning); (3) outcome expectations (calcium intake and exercise); and (4) health behavior changes (calcium intake and exercise).

The preliminary effects of the 2-week TSW intervention, which included web-based learning modules and moderated discussion boards, were compared to those of the Conventional Website (CW). The study was a two-group randomized controlled trial with repeated measures (baseline, end-of-treatment, and 3-month follow-up). A total of 245 older adults (mean age, 69.3) recruited from the two websites and through a minority-focused newspaper participated. A mixed linear model was used as the overall analytic model. Qualitative data were analyzed using content analyses. Despite the short intervention period, both groups improved upon all knowledge measures, as well as their calcium self-efficacy and outcome expectations. TSW group participants improved their calcium consumption, and CW group participants improved their outcome expectations for exercise. While no differential outcome effects were observed between the two websites, TSW participants used the site more frequently and were more satisfied. The discussion board was found to be an effective tool to apply the SCT-based intervention. In summary, findings showed that online health interventions could be used successfully for older adults. The TSW demonstrated some benefits on selected health outcomes. Further studies, however, are needed to examine the long-term effects of the TSW compared to the CW.

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B090

PROCESS AND OUTCOME EVALUATION OF A SOCIAL-NETWORKING WEBSITE FOR HEALTH PROMOTION

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PURPOSE: The purpose of this pilot study was to evaluate the usability and acceptability of a social-networking health promotion website to promote health behavior (HB) change. **METHODS:** The sample consisted of 39 public health graduate students. Participants each selected an HB goal that they wished to achieve in the 10-week period of the study. To assess website use and change in HB, we 1) assessed patterns of use of the website features, including the discussion board, personal blog, peer feedback to blogs, graph of HB change, and private e-mail communication, 2) conducted qualitative analyses of users' self-reported likes and dislikes of the website, 3) measured changes over time of selected HB, and 4) identified moderators of change. **RESULTS:** The average time spent by users on the website was 13 minutes a day. The most helpful features, as reported by participants, were peer feedback, personal blog, graph of HB change and discussion board. The most common frustrations were website technical difficulties. Results indicated a significant improvement in HB from baseline (day 1) to end of study (day 69, $p<.01$). In addition, a 3 (level of peer feedback)×4 (time) RM ANOVA showed that number of peer feedback messages received significantly moderated change in HB across time such that participants who received the greatest number of feedback messages showed more improvement than those with fewest feedback messages ($p<.05$). The average number of minutes spent online was not a significant predictor of change in HB. **CONCLUSION:** HB change was observed and found to be related to social support but not time spent online. Participants who received a greater number of feedback messages showed the most improvement over the 10-week period. In general, the participants found the website to be helpful for changing HB. **CLINICAL AND RESEARCH IMPLICATIONS:** The results suggest that web-based social support may be effective in promoting change in a variety of HB. Additional research is needed to evaluate the generalizability of these methods.

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B091

A RANDOMIZED TRIAL OF INTERNET DELIVERED SUPPORT FOR TOBACCO CONTROL IN DENTAL PRACTICE: A DPBRN STUDY

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Background: Routine dental visits are under-used opportunities for tobacco control.

Methods: Practices participating in the "Dental Practice-Based Research Network" were randomized to a control group (C) or an interactive, longitudinal, multi-component Internet-delivered intervention (I) designed to motivate and educate. Dentists and hygienists were recruited. Pre and Post-intervention, each practice distributed exit cards (brief patient surveys completed immediately after the dental visit) to 100 patients. Based on exit cards, two patient-reported measures of practice tobacco control activity were assessed: whether all patients were asked about tobacco use (ASK) and, among tobacco users, whether they were advised to quit tobacco (ADVISE). Using an intent-to-treat analysis, we quantified differences in the proportions of patients reporting ASK and ADVISE (comparing I vs. C groups). We adjusted for patient age and gender using mixed effects models to account for clustering of patients in practices.

Results: Of the 143 dental practices, most (92%) were general dental practices. Of the 70 intervention practices, 56 (80%) actually participated, with 108 unique dentists and hygienists logging on. Of 14,300 pre-intervention patient exit cards distributed, 11,898 (84%) were completed. I practices' mean performance improved post-intervention by 4% on ASK from 29% pre-intervention (adjusted odds ratio=1.29 (95% CI 1.17–1.42)), and by 11% on ADVISE (44% pre-intervention), Adj. OR=1.55 (1.28–1.87). C practices improved by 3% on ASK (Adj. OR 1.18 (1.07–1.29) and did not significantly improve in ADVISE. Using a group-by-time interaction term, we found that I practices demonstrated more improvement over the study period than C practices for ADVISE (p=0.042) but not for ASK.

Conclusion: This low-intensity, easily disseminated intervention was successful in improving patient-reported provider performance on advice to quit among tobacco users. (Supported by NIH grants U01-DE-16747 and R01-DA-17971)

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B092

GUILTY PLEASURES: USING VIRTUAL ENVIRONMENTS TO REDUCE SEXUAL RISK-TAKING

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Using an interactive HIV-prevention video (IAV), we examined whether men who felt guilty after making a virtual decision to have unprotected anal intercourse (UAI), would subsequently reduce their real life UAI. The IAV was designed to simulate the interpersonal, emotional, and contextual cues of a sexual scenario (e.g. a virtual date) in which MSM, in the IAV experimental condition, make a series of virtual choices. Virtual guides 'pop' up to scaffold safe behavior by using loss-frame messages (Rothman & Salovey, 1997) to negatively frame risky decisions. A control group passively viewed a yoked version (played back choices and subsequent guide feedback from the IAV condition). In the IAV condition only, men who have sex with men (MSM), who reported higher levels of post-intervention negative affect (guilt), reduced their sexual risk-taking at time 2 (3 months follow-up), $F(2, 48)=5.879$, $p<.01$. Furthermore, within the virtual environment, for MSM who chose UAI higher levels of immediate-post intervention guilt predicted reduced real-life UAI over the next 3 months: This risk × guilt interaction was significant, $F(3, 47)=8.100$, $p<.01$ in the IAV but not in the Yoked condition. Findings suggest the value of interventions in interactive environments for linking risk-taking with immediate negative affect. Unlike traditional approaches, this intervention may result in a more automatic encoding of cautionary affective signals (e.g., guilt) that subsequently reduce real-life UAI.

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B093

BEEN THERE, DONE THAT: VIRTUAL RISK TAKING AND THE THEORY OF PLANNED BEHAVIOR

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Using an interactive video environment (IAV), we examined whether risk taking on a virtual date (e.g., unprotected anal intercourse (UAI)) would predict subsequent real-life behavior above and beyond self-report variables from the Theory of Planned Behavior. One hundred and fifty one men who have sex with men (MSM) filled out initial baseline measures of their past risk-taking behavior (e.g., sexual history) and other measures (e.g., demographics, traditional self-report predictors) and were then randomly assigned to an IAV condition or a non-interactive yoked control condition (choices predetermined by yoked partner's choice). MSM in the IAV condition made a range of behavioral choices on a virtual date that were electronically recorded. MSM assigned to the yoked condition passively observed the choices that had been made by another MSM. Participants in both conditions then answered immediate post-measures (e.g., traditional psychosocial health risk predictor variables). After three months, risk-taking behavior was again re-assessed.

Separate multiple regression analyses revealed that the Theory of Planned Behavior (TPB) (e.g. intentions, self-efficacy) significantly predicted future UAI in both the IAV and Yoked conditions. Virtual risk-taking in the IAV condition accounted for additional significant unique variance (8%) in future risk-taking behavior above and beyond the TPB: As expected this was not found in the Yoked condition. Past behavior accounted for 20% of the variance in future behavior. Virtual risk and the TPB variables completely mediated the relationship between past and future UAI. These findings suggest that virtual environments may help us unobtrusively identify those most at risk for HIV.

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B094

EXERCISE BARRIERS AMONG OLDER BLACKS WITH ARTHRITIS

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Non-Hispanic Blacks (NHBs) with arthritis exercise less than non-Hispanic Whites with arthritis. To date, little is known about exercise barriers within this population. Purpose: To qualitatively examine exercise barriers among older NHBs with osteoarthritis (OA). Methods: Barriers to exercise among older (age 50+), NHBs with OA will be examined through in-depth interviews (n=30). All interviews will be audio-taped and transcribed verbatim. A Grounded-Theory approach will be used for analyses.
Results: To date, 19 interviews have been conducted (mean age=63.6[11.6] years; 79% female). The exercise barriers that emerged were organized into four categories based on the Social Ecological Model: physical, psychological, social and environmental barriers. The salient physical barriers that emerged included pain, mobility limitations, fatigue and co-morbid conditions. Embedded in the theme of pain was "knowing one's limits." The main psychological barriers identified were attitudes or beliefs including "not being motivated to exercise" and "laziness." "Not enjoying" and "not liking" exercise emerged as common emotional barriers. Social barriers that emerged included a lack of support for exercise from family members or friends, not having someone with whom to exercise and receiving insufficient exercise advice from a healthcare provider (HCP). The participants clearly indicated the need for specific exercise advice from their healthcare providers, including information about where they could go to exercise, what exercises are appropriate and how much exercise they should do given their health. The key environmental barriers that emerged were access to and availability of arthritis-specific exercise programs. Conclusions: While barriers to exercise participation have been identified for the general older population, it is clear that chronic disease specific barriers deserve attention. Intervention efforts for NHBS with OA should focus on pain management and coping strategies, increasing the specificity of exercise advice from HCPs and on increasing the availability and accessibility of arthritis-specific community-based exercise programs.

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B095

PEDOMETER STEP COUNTS AND HEALTH STATUS AMONG OLDER ADULTS IN RETIREMENT COMMUNITIES

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Background: Walking is an important activity for older adults to maintain mental and physical health and independence; little is known about walking for those in Continuing Care Retirement Communities (CCRCs).
Purpose: To examine associations of step counts with measures of physical and mental health status among older persons living in large and small CCRCs.Participants: Older adults from 4 CCRCs in San Diego were recruited (N=86, M age=84 years, range 69–98, 77% female, 98% white) to participate in a 12 week independent walking intervention. Two sites had large campuses and two were small. Step counts were recorded for 1 week using pedometers (New Lifestyles NL800). Participants reported their health status (BMI, medical conditions, etc.) and activities of daily living (ADLs) and depression with validated scales. Trails A and B and Symbol Search measured cognitive function. The Short Physical Performance Battery (SPPB) was used to assess physical function. All analyses controlled for age, gender, and education level.
Results: The oldest older adults (age 85+) had significantly lower daily step counts (Adj M=2648, SE=306) than younger older adults (under age 85) (Adj M=3812, SE=284) ($p<.01$, Partial $Eta^2=.11$). Participants living in large (Adj M=3600, SE=254) compared to small (Adj M=2269, SE=489) sites also had higher step counts ($p=.03$, Partial $Eta^2=.08$). Overweight participants had significantly lower step counts (Adj M=2957, SE=275) than normal weight participants (Adj M=3916, SE=361; $p=.04$, Partial $Eta^2=.07$). There were no significant differences in step counts depending on cognitive impairment, having at least one medical condition, or SPPB category. Step counts were associated with better ability to perform ADLs (partial $r=.40$, $p=.001$) and lower depression scores (partial $r=-.25$, $p=.04$).
Conclusions: Among older adults in CCRCs, walking is associated with better physical and mental health and living at a larger site may facilitate more walking.

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B096

MULTIPLE CANCER-RELATED HEALTH RISK BEHAVIORS AMONG FEMALE COLLEGE STUDENTS

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Studies have generally indicated that multiple health risk behaviors in adult populations tend to co-occur. This study provides another perspective on the co-occurrence of behaviors by describing how a comprehensive set of cancer-related health risk behaviors are inter-related among college students. The objectives of this study were to 1)examine associations between having a high number of health risk behaviors among demographic groups, 2)identify clusters of health risk behaviors, and 3)examine associations between the clusters and demographic groups. Women enrolled full-time at a U.S. urban university, between the ages of 18 and 22 were invited to complete a web-based survey. Six health behaviors were assessed: binge drinking, fruit and vegetable intake, smoking status, cervical screening, physical activity, and use of protective measures during sexual intercourse. Based on 1563 participants with complete data, the mean number of risk behaviors was 2.43. Demographics associated with having more risk behaviors were being in a single monogamous relationship (OR=1.60; 95%CI:1.28, 2.01) and being of Hispanic ethnicity (OR=1.51; 95%CI:1.03, 2.21). Analysis revealed four clusters. Compared with the cluster with the lowest levels of health risk behaviors, the most risky cluster had a higher percentage of those with Hispanic ethnicity, in single monogamous relationships, and with higher class standing. These findings suggest college students, although generally healthy and with access to health services, are an important audience for health promotion efforts. The risk clustering suggests that programs directed at college students address multiple behaviors simultaneously. Strong social norms around health behaviors, on-site recreation facilities, and the limited number of food vendors have implications for designing such programs targeting women's health in the college setting.

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B097

STAGES OF SMOKING INITIATION AND ALCOHOL USE IN A STATEWIDE SURVEY OF ADOLESCENTS

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Adolescents who smoke are at higher risk for other negative health behaviors, including alcohol use, than youth who do not smoke. Simple point-prevalence rates, however, do not capture youths' attitudes and intentions related to smoking. Thus, the Transtheoretical Model's Stages of Smoking Initiation may provide a more sensitive assessment of the progression of smoking initiation and may be useful in identifying youth at risk for other negative health behaviors. Data derived from the 2006 Maryland Youth Tobacco Survey (MYTS) were used to classify underage Middle (MS) and High (HS) School youth into one of the five Stages of Smoking Initiation: Precontemplation (PC), Contemplation (C), Preparation (P), Action (A), and Maintenance (M). The purpose of this study was to examine whether adolescents differ in their alcohol use by their Stage of Smoking Initiation and by school status (Middle or High school). The results indicated that underage youth differed across Stage of Smoking Initiation in terms of their use of alcohol. Specifically, the majority of youth (87% in MS and 80% in HS) with no future intention of initiating smoking (i.e., in Precontemplation) also reported no alcohol use in the past 30 days. However, among youth who were regular smokers (i.e., in Action or Maintenance), approximately 80% of MS youth and approximately 86% of HS youth did report past month alcohol use. Similarly, binge drinking behavior (i.e., 5 or more drinks in a row on one drinking occasion) was linearly related to Stage of Smoking Initiation, with youth further along in the Stages of Smoking Initiation reporting a greater number of binge drinking episodes. Assessing Stage of Smoking Initiation can provide information about a youth's risk for alcohol use or perhaps other negative health behaviors. Additionally, this more sensitive measure of the process of smoking initiation may aid in the design and implementation of more effective prevention interventions.

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B098

ADOLESCENT SMOKELESS TOBACCO AND CIGARETTE USE: FACTORS THAT PREDICT TRANSITION

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While several studies have explored the relationship between smokeless tobacco (ST) use and initiation of cigarette smoking, results have been inconclusive and there is a lack of longitudinal data to track initiation over time. Adolescents and young adults are an important group to study given that both smokeless tobacco use and smoking initiation are highest among these age groups. The current study addresses this gap by utilizing data from the National Longitudinal Study of Adolescent Health, a nationally-representative study following adolescents through three survey waves ranging from 7th grade into young adulthood.

Approximately 15% of the study population reported using ST during the last thirty days, 47% reported using cigarettes regularly, and 8% reported using both ST and cigarettes during at least one of the three waves. Experimentation with cigarettes was common, as 82% reported trying a cigarette during at least one wave. Approximately 35% of ST users not using cigarettes at baseline went on to use cigarettes, while 33% of those who had not used ST first went on to use cigarettes. In a logistic regression analysis using a model including demographic variables and ST use, peer smoking ($p<.0001$) at Wave I was the strongest predictor of transitioning to cigarette use, such that a person with more smoking peers was more likely to transition.

In contrast, only 5% of cigarette smokers who were not using ST at baseline went on to use ST later. In a logistic regression analysis controlling for demographic factors and peer smoking, the number of days an individual smoked during the previous month at Wave I significantly predicted later ST use ($p<.05$).

The Add Health dataset has some substantial limitations in its assessment of ST use that limited our ability to explore the relationship between ST use and cigarette smoking more fully. However, these results suggest that transitioning from ST use to smoking and vice versa is moderated by key environmental and behavioral factors, particularly peer influence and frequency of smoking.

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B099

INVESTIGATING DEPRESSION AND BODY IMAGE AS PREDICTORS OF FEMALE ADOLESCENT SMOKING

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Cigarette smoking is causally associated with at least ten types of cancer and accounts for at least 30% of all cancer deaths. As smoking typically begins in adolescence, understanding factors associated with the uptake of regular smoking in this developmental window is extremely important. Evidence of gender differences in predicting adolescent smoking have been established. For example, females may use smoking as a weight control method, potentially increasing the risk to smoke among those with poor body image. Additionally, depression is linked to increased substance use and since females are more likely to report depression, this may contribute to smoking among females. Using a sample of adolescent females (n=6509) from the National Longitudinal Study of Adolescent Health, we examined the relationship between body image and depression measured at Wave I with regular smoking measured at Wave II.

The impact of body image was assessed using four variables at Wave I: perceived body weight, perceived physical development, trying to lose weight, and self-esteem. Depression was measured at Wave I with a modified version of the Center for Epidemiologic Studies Depression Scale (CES-D). Additional baseline variables included regular smoking, grade, ethnicity, body mass index, and peer smoking.A logistic regression analysis assessed the predictive value of body image variables and depression at Wave I on Wave II regular smoking controlling for potential confounders. Of the body image variables, perceived physical development ($p<.05$) and self-esteem ($p<.05$) significantly predicted Wave II regular smoking. Depression significantly predicted Wave II regular smoking (OR=1.03, CI=1.01–1.04, $p<.01$).

Results from this study utilizing a longitudinal, nationally representative sample of female adolescents point to several factors that may impact subsequent smoking behavior. Given the severe health consequences of smoking, it is important to understand the causes of regular smoking in order to develop effective interventions which target young women.

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B100

BEYOND THE SNAPSHOT: A DEVELOPMENTAL PERSPECTIVE FOR HEALTH PSYCHOLOGY AND BEHAVIORAL MEDICINE

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A full conceptualization of the meaning of illness cannot be realized when quality of life assessment is constrained to a single snapshot as is traditionally the case in health psychology and behavioral medicine. The experience of illness is a lifelong process that affects individuals differentially relative to their developmental stage (Naus et. al, 2007). Integrating a developmental perspective into health psychology and behavioral medicine is essential to achieve a more complete understanding of the disease experience throughout the diagnosis, management, and recovery phases. A developmental perspective promotes fresh theoretical ideas (e.g., Erickson, Bowlby, Conway), new research questions addressing change and process over time, longitudinal methodologies, and age-appropriate interventions. The present paper provides a blueprint outlining the synthesis of a developmental perspective into research and practice in health psychology and behavioral medicine. Drawing from disability, bereavement, parental illness and breast cancer literatures (e.g., Braun & Berg, 1994; Kendall & Terry, 1996; Baker et. al, 1999, 2001; Adams et. al, 2001), we compared traditional approaches toward illness conceptualization to developmental approaches across quality of life constructs including coping strategies, goal attainment/loss, cognitive abilities, comprehension of parental illness, impact of family member death. For example, traditional approaches consider the effect of parental illness on adolescents' current quality of life while a developmental perspective examines this impact as a function of attachment style and coping strategies over time. Moreover, traditional approaches to PTSD in breast cancer survivors may focus on underlying mental illness as a risk factor while a developmental view may also consider contextual vulnerabilities, such as a woman's health expectations in relation to her age. A discussion of how a developmental perspective impacts clinical interventions to improve quality of life for patients and their families is also provided.

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B101

LIFESTYLE FACTORS ASSOCIATED WITH PREHYPERTENSION AMONG YOUNG, HEALTHY ADULTS

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It has been recognized that blood pressure levels previously considered "normal" are associated with increased risk of cardiovascular disease mortality. The purpose of this investigation was to determine the prevalence of prehypertension among young, healthy adults, and to investigate associations between lifestyle factors and prehypertension in this population. Healthy, young adults (n=47; aged 18+/−0.1 yrs) underwent measures of cardiorespiratory fitness (VO2 max), habitual dietary intake, waist circumference and body mass/composition. Resting blood pressure (BP) was determined on two laboratory visits using recommended measurement procedures; measurements were repeated until within-session stability was achieved (+/−5 mmHg on three sequential measurements). The mean BP of the two sessions was used to categorize participants as normotensive (n=23; mean: 111+/−1 mmHg) or prehypertensive (n=24; mean: 129+/−1 mmHg). The two BP groups did not differ with respect to age, percent body fat, or body mass index (BMI; all $P>0.05$), however prehypertensives as compared to normotensives had significantly higher waist circumference (80+/−1 vs. 76+/−1 cm), body weight (70+/−2 vs. 62+/−2 kg), and dietary sodium intake (3930+/−258 vs. 3057+/−128 mg; all $P<0.05$). Surprisingly, VO2 max was significantly higher in prehypertensives as compared to normotensives, when expressed either relative to body weight (53+/−2 vs. 46+/−2 ml/kg/min) or according to age- and sex-specific VO2 max percentiles (77+/−3 vs. 66+/−5%). In the entire sample, dietary sodium intake was the only factor significantly associated with systolic BP after controlling for sex ($r=0.47$, $P=0.002$). In conclusion, we found that prehypertension was prevalent among young, healthy adults, despite being predominantly of normal BMI and high cardiorespiratory fitness. Because individuals with prehypertension are at increased risk for future development of hypertension, preventive efforts are needed even among young, healthy adults. Health promotion programs targeted at this population should emphasize moderation of dietary sodium intake.

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Citation Poster
B102

INTRUSIVE MATERNAL INVOLVEMENT AND ADOLESCENT FUNCTIONING IN YOUTH WITH DIABETES

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Maternal involvement in adolescent diabetes management is generally associated with better child functioning (decreased depression, better adherence and metabolic control). However, involvement that is intrusive or overly protective is often associated with decreased functioning during adolescence. This pattern could indicate that intrusive maternal involvement (IMI) causes this decline in functioning, potentially because of its conflict with autonomy development. Alternatively, from a transactional perspective, it may indicate that mothers become intrusively involved in response to child struggles with diabetes care. We explored temporal relationships between adolescents' perceptions of IMI and child functioning (depression, adherence, metabolic control) over time. Youth (N=83, 10–15 yrs at baseline, 53% male) with type 1 diabetes (duration >1 yr) reported on adherence, depression, and intrusive involvement (e.g. How often do you find that your parents act like diabetes is their disease, not yours?) at two time points (avg. 16 months apart). Metabolic control was obtained from medical records. Cross-lag panel analyses compared associations between IMI at Time 1 (T1) and child functioning at Time 2 (T2) with those between child functioning at T1 and IMI at T2. For the non-diabetes specific outcome of depression, IMI at T1 was associated with increased depression at T2, while child depression at T1 was not associated with increased IMI at T2 (cross-lag differential $z=3.07$, $p<.001$). Relationships of IMI with both adherence and metabolic control were significant within and across time but the cross-lags did not significantly differ (ps>.10). That is, IMI at T1 was as likely to predict poor metabolic control/adherence at T2 as metabolic control/adherence at T1 were to predict IMI at T2. Results support IMI as a contributor to declines in emotional well-being in youth with type 1 diabetes, and also as a factor in reciprocal transactions within coping dyadic relationships.

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B103

EXAMINATION OF MENTAL AND BEHAVIORAL CONSTRUCTS IN AFFECTING GLYCEMIC CONTROL IN MIDDLE AGED AND OLDER ADULTS WITH DIABETES: A SEM APPROACH

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Background: Few studies have been conducted to determine the long-term effects of healthy lifestyle on glycemic control. Purpose: This study examined: (1) the long-term effect of healthy lifestyle on glycemic control, controlling for depression; (2) the cumulative effect of healthy lifestyle, controlling for baseline healthy lifestyle; and (3) the mediation effect of healthy lifestyle on the links between depression and baseline healthy lifestyle and glycemic control in middle-aged and older adults with diabetes. Methods: Using the US nationally representative Health and Retirement Study, we used structural equation modeling to analyze data on a sample of 1144 diabetics aged 51–88 in 1998 who participated in all three surveys in 1998, 2000, and 2003. Healthy lifestyle was defined as exercising more than three times a week, having a BMI<30, and being a non-smoker; depression was measured by the CES-D scale; and glycemic control was assessed by clinical measure of HbA1c. Results: The model with the best fit implied five main findings: (1) mental and behavioral constructs are both significant factors in affecting HbA1c values ($\beta=0.087, -0.045$, $p<.05$); (2) the effect of healthy lifestyle on HbA1c is cumulative over the five-year period of evaluation; (3) adults with healthy lifestyles in 1998 tend to retain their healthy lifestyle in 2000 ($\beta=0.6$, $p<.001$); (4) healthy lifestyle attenuates but does not significantly mediate the relationship between depression and glycemic control; and (5) the effect of healthy lifestyle on HbA1c values is equally significant in both Type 1 and Type 2 diabetics. Conclusions: The long-term and cumulative effect of healthy lifestyle on glycemic control was supported in the present study. The mechanism linking depression and glycemic control must still be clarified.

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B104

THE RELATIONSHIP OF DIABETES AND WORKING MEMORY: RESULTS FROM THE HEALTH AND RETIREMENT STUDY, 1998–2006

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Background: Previous literature indicates that diabetes is related to accelerated deterioration of working memory (WM). However, more recent research shows that diabetics who have good glycemic control (HbA1c values<7%) do not experience working memory problems related to their diabetes. Purpose: The present study aims to examine the long-term relationship of diabetes and change in working memory in older adults in the US using nationally representative data. Methods: A sample of 4346 individuals aged 65 and above in 1998 were categorized into three groups: individuals without diabetes (n=4051), individuals with good-controlled diabetes (n=153), and individuals with poor-controlled diabetes (n=142). ANCOVA analysis was performed with 1998 age and WM measured as covariates and 2006 WM as response. Results: Results from the whole sample show that 8-year change of WM is strongly influenced by which a person is categorized in diabetes groups ($p=.037$). In individuals who scored high in the baseline 1998 WM test (90% of the whole sample), people who have poor-controlled diabetes showed the greatest deterioration in the subsequent eight years WM ($\Delta=-0.58$), while individuals who have good-controlled diabetes demonstrated the least decrease in the WM scores ($\Delta=0.39$), and people without diabetes showed more decΔrease than expected but less decrease than people with poor controlled diabetes ($\Delta=-0.47$). Analyses in different age groups revealed that the above pattern was only evident in people under age 75; for people aged 75 and above, age was the only predictor of change in WM scores. Conclusions: Our findings add credence to recent research, suggesting that good blood glucose control improves the cognitive functioning in middle aged and older adults aged less than 75.

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B105

BENEFIT FINDING, EMOTION COPING, AND WELL-BEING IN ADOLESCENTS WITH TYPE 1 DIABETES

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Benefit Finding (BF) is inconsistently associated with illness adjustment. This may be because BF measured shortly after diagnosis reflects emotional coping, which is inconsistently associated with well-being, while later measures of BF reflect genuine growth and adaptation (Helgeson et al., 2006). We examined whether illness duration moderates BF associations with well-being among 10–14 year olds with type 1 diabetes (n=185; 55% female; illness duration=1 to 12 years). BF has not been studied in this population, but may be important because adolescents are establishing patterns of coping and self-management to carry them into adulthood. Teens completed measures of diabetes-specific BF, depression, adherence, and diabetes self-efficacy and problem-solving; they also reported their emotional reactions to recent diabetes stressors. BF was associated with lower depression and higher self-efficacy ($r>|.27|$, $p<.01$) and problem-solving ($r>|.15|$, $p<.05$), and these effects were not moderated by illness duration. Duration did, however, moderate BF associations with emotional reactions to stress; BF was higher among those reporting more anger ($b=.006$, $p<.05$) and sadness ($b=-.004$, $p<.10$) in response to diabetes stress, particularly when illness duration was shorter. Thus, in this sample of emerging adolescents who have been coping with diabetes for at least one year, BF may be elicited by negative emotional arousal, particularly among those who have had diabetes for a shorter period of time, but BF appears to be broadly beneficial for the adolescent's well-being.

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B106

WATER CONSUMPTION REDUCES MEAL CALORIE INTAKE IN OLDER OVERWEIGHT AND OBESE ADULTS

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Although it may be commonly perceived that weight gain is an inevitable consequence of aging, overweight and obesity in older adults has serious consequences including increased morbidity and mortality, decreased mobility, and increased healthcare costs/utilization. Numerous factors likely contribute to age-related weight gain, including a reduction in caloric expenditure and requirements, and an increased susceptibility to energy (calorie) overconsumption. Thus, effective strategies to facilitate weight management among older adults are needed. One possible strategy could target water consumption, as caloric beverage consumption has been implicated in weight gain and obesity development. Our objective was to determine if pre-meal water consumption reduces meal calorie intake in this target population. Older overweight and obese adults (n=18; BMI=33.9+/−1.4; aged 61.8+/−1.2 yrs) were provided with an ad libitum standardized breakfast meal on two randomly assigned occasions. Thirty minutes before the meal, subjects were given either a 500 ml water preload or no preload. Calorie intake at each meal was covertly measured. Meal calorie intake was significantly lower in the water preload condition as compared to the no-preload condition (507+/−40 vs. 598+/−48 kcals, respectively; P=0.005), representing ~13% reduction in meal calorie intake. The percentage reduction in meal caloric intake following the water preload was not related to sex, age, or BMI (all P>0.05). We conclude that pre-meal water consumption acutely reduces meal calorie intake in overweight and obese older adults. Given the high prevalence of overweight and obesity among older adults, future studies should determine if pre-meal water consumption is an effective long-term weight control strategy for aging adults.

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B107

PSYCHOSOCIAL CORRELATES OF PHYSICAL ACTIVITY IN LOW INCOME COLLEGE STUDENTS

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The importance of physical activity as a health promoting behavior has been well documented. Exploring the psychosocial correlates of physical activity has shown promise in explaining the decision process that underlies physical activity behavior. Although there is supporting evidence that low income populations participate in less physical activity and physical activity levels decline with age, research on low income populations is sparse. The present study utilizes constructs of Pender's Health Promotion Model to explain physical activity behavior in a sample of 85 low income college students attending a four year university in New Jersey. The purpose of this cross sectional descriptive study was to add to the body of knowledge that explains physical activity in targeted populations. This study used hierarchical and simultaneous multiple regressions to test the relationship of social support, self efficacy, and commitment to a plan of physical activity on physical activity behavior. Results indicated that the overall regression model is statistically significant ($F(3,81)=7.124$, $p<.0005$) and 21% of the variance in physical activity scores is explained by these three constructs collectively, however, independently only the unique contribution of commitment to a plan of physical activity is significantly associated with physical activity. Additional findings indicate that commitment to a plan of physical activity significantly mediates the relationship of social support on physical activity behavior and also mediates the relationship of self efficacy on physical activity behavior.

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B108

FACTORS ASSOCIATED WITH POSITIVE BODY IMAGE IN YOUNG AND MIDDLE-AGED WOMEN

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The majority of published body image research has focused on body dissatisfaction in young women. The present study aims to complement existing research by investigating factors associated with positive body image (PBI) and body image investment in both young and middle-aged women. Young adult (YA; n=242; mean age=21) and middle-aged (MA; n=124; mean age=46) primarily Caucasian (90%) women completed the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Cash, 1994), the Appearance Schema Inventory-Revised scale (ASI-R; Cash, Melnyk, & Hraboky, 2004) and several additional psychosocial measures. Although YA and MA women reported equivalent body image satisfaction, MA women reported less eating pathology ($p<.01$) and less investment in their appearance ($p<.05$) compared to YA. Additionally, MA women reported higher self-esteem ($p<.01$) and greater optimism ($p<.001$) compared to YA. Participants were categorized as having PBI or negative body image (NBI) based on the MBSRQ-Appearance Evaluation scale. PBI was associated with lower BMI, greater perceived support, higher self-esteem, less eating pathology, greater optimism, less teasing history (all p values<.001), and more education ($p<.01$) compared with NBI. Those with PBI and NBI did not differ significantly in age, marital status, or smoking status. Factors associated with the role of body image in one's self-appraisal (based on the ASI-R self-evaluative salience scale) included age, education level and relationship status (all p values<.001). Although there were no significant differences between YA and MA in relation to PBI or NBI, MA women reported that body image plays less of a role in their self-evaluation than YA women ($\chi(1, 20),=27.25$ $p<.001$.). Thus, the findings suggest that as women age, their body satisfaction remains stable but body image becomes less important in their self-definition. This finding, combined with understanding factors related to positive body image, improves our understanding of lifespan changes and the role of psychosocial factors in body image satisfaction.

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B109

SHORTER SLEEP DURATION IS ASSOCIATED WITH HIGHER BODY MASS INDEX IN CHILDREN AND ADOLESCENTS

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The prevalence of obesity among children and adolescents has increased almost threefold over the past two decades. In parallel with these trends, total sleep duration has decreased among children largely due to increasingly later bedtime but unchanged wake time across decades. Recent studies have found that youth report sleeping 1 to 2 hours less than the recommended 9 hours each night. Decreased sleep duration has been linked to higher body mass index (BMI) and obesity rates in adults. The aim of the present study was to extend previous findings and examine the association between children and adolescents' sleep duration and BMI. Participants included 61 youth (37 male, 24 girls) aged 8 to 16 years (M=12.9, SD=1.76) who were part of the larger Healthy Heart Project of Concordia University. Anthropometric measures (height, weight, BMI) were measured by two trained research assistants as well as a bio-impedance scale. Sleep duration and sleep quality were measured by self-report using the Adolescent Sleep Habits Survey (Owens, 2002). Sleep duration was calculated as the difference between reported bedtime and wake. BMI (M=20.98, SD=3.82) was strongly negatively correlated with sleep duration ($r=-0.43$, $p<0.01$), suggesting that heavier youth sleep fewer hours than their lean counterparts. Sleep duration alone explained 18.5% of the variance of BMI. Sleep duration was strongly positively correlated with sleep quality ($r=0.30$, $p<.05$), such that youth with longer sleep duration rated their sleep quality higher than those with shorter sleep durations. However, sleep quality was not associated with BMI. Consistent with previous findings, our results support an inverse relationship between sleep and obesity. Future researchers should aim to better understand the pathogenic mechanisms linking sleep and obesity.

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B110

GENDER DIFFERENCES IN ADAPTING DRIVING BEHAVIOR TO ACCOMMODATE VISUAL LIMITATIONS

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Problems with vision are associated with increased risk of automobile accidents and reduction in or cessation of driving. Reduced driving is associated with more depressive symptoms, with loss of driving mobility causing greater distress for men than for women. The current study investigates whether men and women are equally likely to change their driving behaviors in response to visual limitations. Ninety-nine male and 145 female pre-surgical cataract patients ages 40 to 90 (mean=68) completed the Visual Functioning Questionnaire, which assesses self-reported visual symptoms, functional limitations, and behaviors including driving during the day, at night, or in difficult conditions. Visual acuity was tested by clinic personnel utilizing the log of the minimal angle of resolution (LogMAR). All 244 subjects drove "at least once in a while" when assessed.

While 21 females (14.5%) reported that problems with eyesight caused them to stop driving at night, only four males (4.0%) reported eyesight as a reason for stopping night driving. Eight females (5.5%) reported that eyesight caused them to stop driving during difficult conditions such as bad weather, rush hour, freeway driving, and city traffic, whereas only one male (1.0%) cited eyesight as a reason for stopping driving during difficult conditions. Despite this difference in reported driving behavior, there were no significant differences between males and females on LogMAR visual acuity scores or self-reported visual ability, including overall eyesight, distance vision, or ability to read street signs.

It is possible that females are more cautious or need to drive less. However, failing to adapt driving behaviors to accommodate visual limitations may represent a potential behavioral health risk for males.

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B111

EFFECTS OF RETIREMENT ON HEALTH AMONG MEN AND WOMEN IN THE HEALTH AND RETIREMENT STUDY

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This study was designed to evaluate the widely held 'myth' that health declines following retirement. Several previous studies have found support for the myth, but others have found that health may actually improve in retirement. Additionally, it has been suggested that retirement may affect health of men and women in different ways. This study utilized archival longitudinal data to clarify the relationship between retirement and health in both men and women. The study sample included working participants from the Health and Retirement Study, half of whom had retired at the time of the four-year follow up. Retirees and non-retirees were matched on age, sex, and education. Baseline job stress and baseline endorsement of the myth were examined as moderators of the relationship between retirement and health. Results at follow up indicated that retired participants reported more functional health impairment ($t=5.49$, $p<0.001$) and more symptoms of depression ($t=2.89$, $p<0.005$). However, in the subset of voluntary retirees, no differences were observed in functional impairment between retirees and working individuals. Forced retirees reported significantly more functional health impairment ($F=78.25$, $p<0.0001$) and symptoms of depression ($F=31.64$, $p<0.0001$) than working or voluntarily retired participants. Structural equation models demonstrated that among retired men, baseline job stress moderated change in symptoms of depression over time such that men with higher baseline job stress reported more symptoms of depression at follow up, after retirement. Because forced retirement has been described as a significant factor in prior studies, additional models were analyzed comparing retirees who reported they were forced to retire and those who retired voluntarily. Endorsement of the myth at baseline moderated depressive symptoms at follow up among participants forced to retire such that endorsement was associated with more symptoms of depression at follow up. Overall, these results indicate support for the myth of retirement and health, but only among people forced to retire.

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Citation Poster

B112

ATTENTIONAL STYLE PREDICTS CHANGES IN ANXIETY AND QOL IN WOMEN WITH BREAST CANCER

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BACKGROUND: One in eight women will develop breast cancer. Most will suffer medically and psychologically from the disease. Previous research has revealed that attentional style is predictive of how individuals cope with stressors, including distress levels. Two attentional coping styles have been studied extensively in a number of healthcare situations: namely "monitoring" or those who attend to threatening information, and "blunting" or those who avoid threatening information. In patients with cancer, monitors are generally more concerned and distressed about their cancer risk, experience greater treatment side effects, are more knowledgeable about their medical conditions, and manifest greater psychological morbidity in response to cancer-related threats. METHODS: The purpose of this prospective longitudinal study was to evaluate the role of attentional style in changes in anxiety and quality of life (QOL) in 40 women recently diagnosed with early stage breast cancer. Data were collected just prior to beginning chemotherapy, and again 10 weeks later. RESULTS: Participants were primarily Caucasian (73%) with a mean age of 49 years. Hierarchical regression analyses revealed that monitoring was a significant predictor of changes in anxiety (accounting for 25% of the variance; $p<.05$) and QOL (accounting for 34% of the variance; $p<.05$). However, contradictory to previous findings on attentional style, we found that higher levels of monitoring were predictive of improved outcomes; specifically, reductions in anxiety, and increases in QOL. Blunting was not a significant predictor of either anxiety or QOL changes. DISCUSSION: This research provides valuable information on how stable personality factors may interact with health education and treatment. Understanding any factors beneficial to adjustment in chronic illness are of great value.

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B113

SEARCHING FOR AND MAKING MEANING AFTER BREAST CANCER: PREVALENCE, PATTERNS, AND NEGATIVE AFFECT

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This study examines the prevalence and patterns of searching for meaning (SFM) in the aftermath of breast cancer and asks how the search relates to made meaning (MM) and emotional adjustment. Women (n=72) reported their level of SFM, MM and negative affect (NA) at multiple time points in the first 18 months after breast cancer treatment. Over time, four SFM patterns emerged: continuous (44%), exiguous (28%), delayed (15%), and resolved (13%). Just over half of the participants reported having MM at early and late time points. A higher level of SFM was unrelated to MM, but was associated with a higher level of NA in longitudinal analyses controlling for baseline NA ($p<.05$). Women who engaged in an ongoing, unresolved SFM from baseline to follow-up also had a significantly higher level of NA at follow-up than women who infrequently or never engaged in SFM over time ($p<.05$). Finally, we found no evidence to support the theory that searchers who made meaning were better adjusted emotionally than searchers who did not make meaning. These analyses reveal that there is great variability in the prevalence and pattern of SFM in the aftermath of breast cancer and SFM may be both futile and distressing.

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Meritorious Student Poster

B114

SUPPORTING THE "ACTIVATED PATIENT:" A POPULATION-LEVEL ANALYSIS OF THE RISK PERCEPTION ATTITUDE FRAMEWORK

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Background: The public is increasingly urged to proactively engage in cancer prevention, and theory-driven, population-level investigations can offer guidance in supporting the "activated patient." The Risk Perception Attitude framework (RPA; Rimal & Real, 2003) examines associations between risk perceptions (RP), self-efficacy (SE), psychological distress, and health behavior within four attitudinal groups: Proactive (low RP/high SE), Indifferent (low RP/low SE), Responsive (high RP/high SE), and Avoidance (high RP/low SE).
Methods: Nationally-representative data from the 2005 Health Information National Trends Survey were analyzed to examine RPA in relation to cancer information seeking and skin cancer prevention. Respondents reported skin cancer risk perceptions and prevention self-efficacy (n=1551). Multivariate models examined RPA in relation to skin cancer prevention, information seeking, skin cancer worry, and psychological distress.
Results: Respondents reported high self-efficacy: 43% were Proactive and 43% were Responsive; 9% were Indifferent and 5% were Avoidance. In multivariate analyses, self-efficacy moderated the association between risk perception and skin cancer prevention: 48% of Avoidance respondents feared getting checked for skin cancer compared to 17% of Responsive ($p<0.01$). RPA group was not associated with information seeking, but higher self-efficacy was associated with better search experiences ($p<0.01$). Higher skin cancer risk perception was associated with more skin cancer worry ($p<0.01$).
Conclusions: Our results highlight cancer prevention self-efficacy as especially important for promoting health behavior, particularly among those who feel at risk for skin cancer. Health communication efforts aimed at promoting self-efficacy have potential to support activated patients' engagement with health information and participation in health behavior.
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B115

BREAST CANCER RISK PERCEPTIONS AND SELF-EFFICACY: AN ANALYSIS OF THE RISK PERCEPTION ATTITUDE FRAMEWORK

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Background: Women are increasingly urged to proactively engage in breast cancer prevention, and theory-driven, population-level investigations can offer guidance in supporting their efforts. The Risk Perception Attitude framework (RPA; Rimal & Real, 2003) examines associations between risk perceptions (RP), self-efficacy (SE), psychological distress, and health behavior in four attitudinal groups: Proactive (low RP/high SE), Indifferent (low RP/low SE), Responsive (high RP/high SE), and Avoidance (high RP/low SE).
Methods: Nationally-representative data from the 2003 Health Information National Trends Survey were analyzed to examine RPA in relation to cancer information seeking and breast cancer prevention. Women age 40+ without a history of breast cancer reported breast cancer risk perceptions and prevention self-efficacy (n=2515). Multivariate models examined RPA group in relation to information seeking and search experiences, mammography, and psychological distress.
Results: Women reported high self-efficacy: 36% were Proactive and 33% were Responsive; 15% were Indifferent and 16% were Avoidance. In multivariate analyses, Avoidance women were the most distressed and Proactive the least ($p<0.01$). Women who felt at risk for breast cancer sought cancer information more when self-efficacy was also high: 63% of Responsive women had searched for information versus 56% of Avoidance ($p<0.01$). Distress partially mediated the association between RPA group and information search experiences. Responsive women were more likely to have had a mammogram than Indifference ($p<0.01$).
Conclusions: Our results highlight self-efficacy as especially important for promoting health behavior, particularly among women who feel at risk for breast cancer. Health communication aimed at promoting self-efficacy and minimizing distress has potential to support womens' engagement with health information and participation in health behavior.
Acknowledgement: This project was supported in part by a grant from the Anthony Marchionne Small Grants Program.

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B116

EXAMINING HOW INDIVIDUALS FORM PERCEPTIONS OF ACCURACY OF GENETIC TESTING FOR BRCA1/2 MUTATIONS

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BACKGROUND: Individuals testing for BRCA1/2 genetic mutations (associated with elevated risk for breast and ovarian cancer) may have difficulty understanding test results, which may have consequences for how they use the test results (e.g., seeking unnecessary screening). PURPOSE: The current study aimed to examine predictors of perceived accuracy of genetic testing before genetic counseling and testing (pre-counseling) and after receiving test results (post-results). METHOD: Participants (n=120), of Ashkenazi Jewish descent, completed assessments of perceived accuracy, perceived risk of having a mutation, distress about gene status, and measures of genetic knowledge and beliefs at pre-counseling and post-results. Demographics, cancer history, participants' objective risk of having a mutation using the BRCAPRO model, and actual test results were also recorded. RESULTS: The study included mostly women (n=107), and participants had a personal (n=57) or family history (n=63) of cancer. Those who underwent testing received a positive result (n=24), an informative negative (n=10), or an uninformative negative (n=73). At pre-counseling and post-results, univariate analyses were used to compare those with low perceived accuracy (<3, n=27) to those with high perceived accuracy (>3, n=92). At pre-counseling, participants were likely to judge genetic testing as accurate or highly accurate if they had understood the meaning of a positive result ($p<.05$) and the mechanism of cancer inheritance ($p<.01$). Higher education predicted low post-results perceived accuracy ($p=.05$). CONCLUSION: Paradoxically, greater knowledge of cancer genetics predicted higher perceived accuracy of genetic testing at pre-counseling, but higher education predicted lower perceived accuracy following after receiving results.

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B117

PERCEIVED VERSUS ACTUAL RISK FACTORS: HOW CANCER RISK FACTOR INFORMATION IS WEIGHTED

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Perceptions of risk have been found to be a consistent predictor of cancer prevention and control behaviors. Yet, it is unclear how people use risk factor information to estimate their cancer risk. The aim of the current studies was to address this gap. Participants' cancer beliefs, risk factors, perceived risk, and objective risk for colon cancer (study 1, N=342) and for breast cancer (study 2, N=173) were assessed. Cancer affect was more strongly related to perceived risk (study 1: $\beta=0.37$, $p<.01$; study 2: $\beta=0.40$, $p<.01$) than actual risk factors (study 1: β range: -0.12 to 0.13; study 2: β range: -0.23 to 0.33). Comparing the relationships between risk factors and perceived risk to the relationships between risk factors and objective risk revealed substantial errors in how participants weight their risk factor standing. For example, in study 1, the relationship between the following risk factors and perceived risk was significantly weaker than with objective risk, indicating participants did not use their risk standing on these variables as much as they should have when estimating their risk: family history ($t(339)=2.34$, $p<.05$), red meat consumption ($t(339)=2.34$, $p<.05$), exercise behavior ($t(339)=2.34$, $p<.05$), alcohol consumption ($t(339=2.34$, $p<.05$), multivitamin use ($t(339)=2.34$, $p<.05$). Similarly, in study 2, family history ($t(138)=5.39$, $p<.05$), number of AH biopsies ($t(138)=2.81$, $p<.05$), history of DCIS/LCIS ($t(138)=5.14$, $p<.05$), age ($t(138)=3.38$, $p<.05$), and age at first childbirth ($t(138)=2.72$, $p<.05$) were all risk factors used less than they should have been to judge breast cancer risk. Subsequent analyses with risk attributions revealed that participants were accurate in their ratings of the importance of risk factors (i.e. risk factors which were objectively more important were rated as such), yet they did not use these factors when estimating their risk. Collectively, these studies suggest that participants may have sufficient knowledge of risk factor information, yet this information is not being relied upon when making risk judgments.

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Meritorious Student Poster

B118

CANCER RISK ATTRIBUTIONS IN CANCER PREVENTION AND CONTROL: THEORY AND EMPIRICAL SUPPORT

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Cancer risk communication interventions are often based on the premise that promoting increased awareness of personal risks will motivate health behavior change. This review examines the theoretical background and empirical findings regarding the role of cancer risk attributions in motivating cancer prevention and control behaviors. Personal risk attributions are risk factors that a person believes are related to personal cancer risk. In the context of cancer survivorship, personal risk attributions are risk factors that the survivor believes contributed to the development of his or her disease. Here we examine three primary questions among cancer survivors and the general population: 1)To what extent do people formulate cancer risk attributions? 2) To what extent are individuals' cancer risk attributions accurate? 3)Do cancer risk attributions predict psychosocial and behavioral outcomes in cancer prevention and control? In 35 studies examining personal risk attributions for cancer, we found substantial variation in the frequency and types of attributions reported. In the context of cancer survivorship, most studies have investigated breast cancer attributions, although attributions for lung and gynecological cancers have also been investigated. Stress and genetics are the most common attributions; behavioral attributions such as smoking are less frequently mentioned. In the general population, personal risk attributions have been examined for colorectal and breast cancer; personal attributions to heredity and physical symptoms or physiology predominate. Our results suggest the lack of a consistent link between cancer risk attributions and psychosocial or behavioral outcomes, despite predictions to this effect from health and social psychological theory. We conclude by proposing methodological strategies to resolve discrepancies in this literature, and we identify opportunities to integrate further relevant research into randomized controlled risk communication interventions in cancer.

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B119

DISTRESS AND HEALTH INFORMATION INTERESTS AFTER BENIGN BREAST BIOPSY (BBB)

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The experience of BBB can be frightening and distressing even though cancer is absent. However, BBB could also serve as a "teachable moment" and increase interest in related health information. Though the literature has established BBB as stressful for many women, little is known about specific aspects of BBB associated with greater and less distress. Furthermore, no studies have assessed health information interests of women after BBB. METHODS: Women (n=36), mean age 47 years (SD=12), with a BBB within the last 3–12 months, were surveyed. Women rated the level of distress associated with various aspects of the BBB and indicated their interest in various types of health information and the format by which they would like this information communicated. RESULTS: All women reported that a BBB is stressful; 75% rated it as "somewhat" or "very" stressful. Specific aspects of the experience rated "very" stressful included: being informed that a biopsy was needed (47%), waiting for biopsy results (43%) and procedure (35%), waiting for the results of follow-up mammography (35%), and undergoing the actual biopsy (34%). Interestingly, while 62.8% reported being completely relieved at a benign result, 37.1% were only "a little" or "somewhat" relieved. Demographic and clinical variables were unrelated to ratings of the overall stressfulness of BBB and relief after a benign determination. Over 90% of the sample indicated interest in >1 type of health information. The majority of women were interested in genetic tests for cancer (67%), personal breast cancer risk (61%), and other cancer screening tests (58%). Other popular areas of interest included: information on hereditary cancers (44%) and cancer prevention (42%). Most women wanted to receive this information via pamphlet/brochure (53%) followed by a website (44%), CD (39%), or an individual meeting with a health professional (39%). CONCLUSION: Future research should test the benefits of psychoeducational interventions to minimize distress and address health information interests of women following BBB.

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B120

THE EFFECT OF DEPRESSION ON DISEASE PROGRESSION AND MORTALITY IN CANCER PATIENTS: A META-ANALYSIS

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Depression is the most common psychological problem affecting cancer patients. While there is a growing body of research linking depression to physiological mediators of cancer progression, evidence for the effect of depression on cancer mortality and progression is mixed. Researchers continue to investigate the impact of psychological intervention on physical outcomes of cancer before resolving whether depression affects these outcomes in the first place. The present meta-analysis synthesizes the body of work that has examined the effect of depression on cancer mortality and progression. Using two databases (PsycInfo and Medline), a search was performed to identify articles that examined the effect of depression on cancer mortality or progression. The references of the identified articles were then examined for other relevant articles. The inclusion criteria were met by 42 publications reporting on 41 studies and 14 publications reporting on 13 studies measuring progression. Using a random-effects model, odds ratios (OR), risk ratios (RR), and hazard ratios (HR) are presented as estimates of the combined overall effect of depression. There is some support for the effect of depression on mortality in cancer patients, (OR=1.281;CI, 1.077–1.523, p=.005; HR=1.095; 1.027,1.027–1.167, p=.006), but not on progression (OR=1.043; CI, .860–1.265, p=.668; HR=1.038; CI, .999–1.078, p=.053). Interestingly, the overall effect of depression on both progression and mortality is not significant in studies that included only breast cancer patients, though this cancer type is studies most often. There is a significant effect of depression on cancer mortality, though the magnitude is small. Difficulties in interpretation are discussed. This finding fuels future work to identify subgroups of patients for whom depression has a greater effect on physical outcomes in cancer.

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B121

PROSPECTIVE EXAMINATION OF PHYSICIAN RECOMMENDATION ON COLORECTAL CANCER SCREENING

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BACKGROUND: Numerous studies have concluded that physician recommendation is the most important determinant of colorectal cancer screening (CRCS); however, the majority of these studies are cross-sectional. PURPOSE: Prospectively examine the influence of physician recommendation on CRCS among participants in a behavioral intervention trial to increase CRCS. METHOD: Analyze preliminary study data from 753 participants overdue for CRCS (59% female; 52% never screened) who completed telephone surveys at baseline, 2 weeks and 6 months follow-up. Patients received either tailored, generic or no CRCS information prior to a physician visit for preventive care. We used chi-square and logistic regression to examine predictors of both physician recommendation and CRCS. Predictors were study group, physician type (regular, new), baseline age, sex, race, education, employment status, marital status, family history of CRC, prior CRCS, general health status, and intention (2 week). Physician recommendation (2 wk) was also a predictor when CRCS (6 mo) was the outcome. Two-way interactions were also explored. RESULTS: Most patients (86%) reported receiving a physician recommendation for CRCS at the study visit. Patients who were employed (AdjOR=1.73, 95%CI: 1.00–3.00), healthy (1.42; 1.11–1.85), or male with prior CRCS (2.97; 1.05–8.41) were more likely to report a physician recommendation. Few patients (33%) completed CRCS by 6 mo follow-up. Only prior CRCS (1.91, CI: 1.33–2.75) and intention (1.31; 1.06–1.60) were significant predictors of CRCS. Physician recommendation was associated with intention (r=.27, p<.001) but not CRCS. CONCLUSION: Physician recommendations are important for increasing CRCS but patient adherence may fall short of expectations based on cross-sectional results. Future research must examine other elements of patient-physician CRCS discussions to understand what improves patient adherence to CRCS recommendations.

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B122

GENDER DIFFERENCES IN SMOKING OUTCOME EXPECTANCIES AND MOTIVATION TO QUIT IN COLLEGE STUDENTS

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Stable increases in smoking among college students in the new millennium pose a significant public health issue. If left unchecked, previous declines in the overall rate of smoking in the U.S. will be reversed. Despite the need for more college smokers to consider quitting, little attention has been given to what motivates college smokers to quit. The purpose of this study was to examine the relationship between smoking outcome expectancies and motivation to quit smoking as well as gender differences in expectancies and motivation to quit. Undergraduate smokers (N=357, 47% male and 52% female, Age M=19) at a large Midwestern university completed the a 30 item adapted version of the Smoking Consequences Questionnaire and a single item measure of their motivation to quit smoking rated on a scale from 1–10. Multiple regression analysis indicated that in the entire sample Negative Affect Reduction ($p<.011$), Health Risk ($p<.001$), and Negative Social Impression ($p<.006$) were significantly associated with motivation to quit. Independent sample t tests indicated that male and female students did not differ in their motivation to quit smoking, $t(355)=1.9$, $p<.061$. Despite similar motivation to quit, males and females differed in which expectancies were related to motivation to quit. Multiple regression analysis to determine which combination of expectancies were most predictive of motivation to quit revealed that Health Risk was related to motivation to quit smoking for males ($p<.011$), whereas for females Health Risk ($p<.005$) and Negative Social Impression ($p<.008$) were predictive of motivation to quit. These results support previous findings that health risk expectancies may be powerful motivators for smoking cessation but suggest that interventions to motivate female college smokers may be more effective if they highlight the negative social impression associated with smoking.

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B123

CHANGES IN DIETARY STAGE-OF-CHANGE AND BMI: A PROSPECTIVE EVALUATION IN A SAMPLE OF MEN TREATED FOR LOCALIZED PROSTATE CANCER

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Objectives: Obesity increases risk of prostate cancer (PCa) progression after localized treatment, contributing to higher rates of biochemical failure, clinical disease progression and mortality. The current study evaluated movement in men's intention to make dietary modifications (i.e., movement along Stage-of-Change continuum; SoC) and change in Body Mass Index (BMI) over a 15 month period in a sample of 181 men treated for localized PCa.

Methods: SoC and BMI were assessed at baseline and follow-up. BMI was computed from self-reported height and weight. Based on movement in men's intention to change diet, participants were categorized into three groups (i.e., regression, no change, progression). Repeated-measures ANOVA was used to examine the effect of group on change in BMI. Demographic, medical, and health-behavior variables were controlled in all analyses.

Results: A significant group by time interaction was found such that change in BMI was predicted by movement along the SoC continuum (Wilks' $\Lambda=.95$, $F[2, 166]=4.66$, $p=.01$). Post-hoc analyses revealed that men in the no change group had significantly lower BMI at follow-up ($p<.05$) while those in the regression group exhibited a trend to gain weight ($p=.09$).

Conclusions: Given the prevalence of both obesity and localized PCa in older men, and the impact of obesity on PCa disease progression, weight management interventions may serve an important role in the post-treatment period, especially if tailored to patient's readiness for change.

Results suggest that men's intention to change dietary behavior has a significant impact on weight change after treatment. Further research is needed to assess whether weight loss reduces the risk of biochemical failure and subsequent disease progression.

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B124

WOMEN DIAGNOSED WITH COLORECTAL CANCER: CONTROL APPRAISALS MEDIATE THE RELATIONSHIP BETWEEN INITIAL REACTIONS TO CANCER AND PERITRAUMATIC DISTRESS

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Although colorectal cancer is the third most common cancer for women, little research has examined women's emotional reactions to the diagnosis. Using a PTSD conceptual framework and Stress and Coping theory, we examined whether primary appraisals (appraising cancer as a threat, harm or challenge) and secondary appraisals (appraising cancer as controllable or not) predicted peritraumatic distress (traumatic reactions at the time of diagnosis). Specifically, we hypothesized that secondary appraisals mediated the relationship between initial reactions and peritraumatic distress. As part of an ongoing longitudinal study, 48 women, newly diagnosed with colorectal cancer, completed questionnaires assessing primary appraisals (Stress Appraisal Measure: Threat, Harm and Challenge subscales), secondary appraisals (Illness Cognition Questionnaire: Helplessness and Acceptance subscales), and peritraumatic distress (Peritraumatic Distress Inventory). Using hierarchical regression analyses, all four steps of Baron & Kenny's meditational model were confirmed: 1) primary appraisals of threat ($\beta=.49$, $p<.001$) predicted peritraumatic distress, 2) primary appraisals of threat predicted both greater helplessness ($\beta=-.42$, $p<.01$) and less acceptance ($\beta=.45$, $p<.01$), 3) secondary appraisals of greater helplessness ($\beta=.59$, $p<.001$) and less acceptance ($\beta=-.27$, $p<.05$) predicted peritraumatic distress, and 4) in the final model, primary appraisals of threat were no longer statistically significant ($\beta=.13$, $p=.39$) once helplessness ($\beta=.56$, $p<.001$) and acceptance ($\beta=-.26$, $p<.05$) were entered, indicating a mediation effect. Findings indicate that women's perceptions of colorectal cancer, especially feelings of helplessness and lack of acceptance, are significantly related to greater peritraumatic distress when receiving a diagnosis. These results highlight the need for health care providers to be aware of the importance of providing support and information about colorectal cancer at this critical time.

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B125

DOES INDIVIDUALS' PERCEPTION OF PERSONAL RISK OF LUNG CANCER AFFECT THEIR ATTITUDES TOWARD PROTECTIVE HEALTH BEHAVIOR?

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Introduction: According to the Health Belief Model, individuals' perceived susceptibility of developing a disease can affect their attitudes and behaviors. Thus, it is anticipated that individuals with a high perceived risk of lung cancer are more likely to have positive attitudes toward protective health behaviors. The purpose of this study is to examine correlations between risk perceptions and attitudes toward protective health behaviors for lung cancer. Methods: Data from the National Cancer Institute's Health Information National Trends Survey were analyzed with the assistance of SUDAAN. The dataset was collected in 2005 with a nationally representative sample of 5,394 U.S. adults. One third of the participants were randomly selected to be asked the questions used in this analysis. Results: Among participants questioned about their attitudes towards lung cancer, 1,373(83.2%) agreed behavior can change the development of lung cancer and 1,416(84.3%) believed they can do something to lower their chances of getting lung cancer. Additionally, most(60.7%) perceived their risk of developing lung cancer as lower than that of the average person. Bivariate statistics showed respondents' risk perception of lung cancer was associated with their attitudes that lung cancer is most often caused by a person's lifestyle or behavior($p=0.02$) and there is not much you can do to lower your chances of getting lung cancer($p=0.04$). After controlling for socioeconomic factors and media use, however, these relationships were no longer significant(OR:1.28; 95%CI:0.59 to 2.77; OR:0.75; 95% CI:0.29 to 1.94; respectively). Conclusion: Most U.S. adults had positive attitudes toward protective health behaviors for and low risk perception of lung cancer. While bivariate statistics indicated that lung cancer risk perception was related to their attitudes, this relationship was not significant in multivariate models. Underlying associations should be explored. Other factors, such as media exposure, may need to be considered in the future.

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B126

AFFECTIVE ASSOCIATIONS AND COGNITIVE BELIEFS PREDICTORS OF CERVICAL CANCER SCREENING BEHAVIOR

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Many Americans do not comply with disease screening recommendations (National Center for Chronic Disease Prevention and Health Promotion, 2006). There are a variety of factors that might influence individuals' decisions to engage in disease screening, including cognitive beliefs (i.e., thoughts and information about the procedure) and affective associations (feelings associated with the screening procedure). The behavioral affective associations model (Kiviniemi, Voss-Humke, and Seifert, 2007) posits that affective associations are a strong and proximal predictor of behavior. The current study examined whether women's cervical cancer screening behaviors were predicted by cognitive beliefs about and affective associations with the behavior. Participants (N=259 women) completed a self-report questionnaire in which they reported their affective associations with pap smears, their beliefs about the utility of screening with pap smears, and their screening behaviors in the past year. Both cognitive beliefs and affective associations independently predicted engagement in cervical cancer screening; cognitive beliefs-behavior b=.687 ($p<.01$) and affective associations-behavior b=.387 ($p<.05$). The role of affective associations as a predictor of cervical cancer screening suggests the need to integrate affective associations in models of behavioral decision making used to understand screening behavior; such models typically do not include affective associations. In addition, efforts to encourage screening behavior might benefit from intervention strategies designed to influence affective associations with the behavior.

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B127

THE EFFECT OF HEALTH LOCUS OF CONTROL ON INTENTION TO BE SCREENED FOR COLORECTAL CANCER. KATRINA E. DAVIS, TERRY CONWAY, PHD, & TERRY A. CRONAN, PHD, DEPARTMENT OF PSYCHOLOGY, SAN DIEGO STATE UNIVERSITY, SAN DIEGO, CA

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Underrepresented ethnic groups and people of low socioeconomic status are less likely to be screened for colorectal cancer (CRC) than Caucasians and people of higher socioeconomic status. The Fecal Occult Blood Test (FOBT), which can be conducted at home and mailed to a lab, is the most common CRC screening method, but it remains an underused screening behavior. Research has shown that intention can be an immediate precursor to behavior, and perceived control can be a predictor of intention. The Multidimensional Health Locus of Control (MHLOC) measures three types of perceived control: internal control, control by powerful others, and chance control. The purpose of the present study was to determine how MHLOC was associated with intentions to be screened for CRC in an ethnically diverse, low-income population. Participants were 153 ethnically diverse adults from San Diego County, 50 years of age or older. Participants were administered a series of questionnaires. It was hypothesized that greater perceived internal control would be associated with greater intention to be screened for CRC, and no such relationship would be found for control by powerful others and chance control. Participants were divided into low, moderate, and high perceived control groups for each of the three control measures. As hypothesized for internal control, a significant univariate analysis of variance indicated that those with higher perceived internal control had higher intention to be screened for CRC using an FOBT ($F(2, 151)=4.91$, $p=.009$). FOBT screening intentions also varied by ethnicity, with Mexican Americans more likely than Caucasian Americans to have greater intention to complete FOBT screening ($F(2, 151)=3.05$, $p=.051$). These data provide evidence of the influence of health locus of control on intention to be screened for CRC.

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B128

CLARIFYING COMMON AND UNIQUE DIMENSIONS OF SPIRITUALITY AND FATALISM IN THREAT REPRESENTATIONS OF CANCER: IMPLICATIONS FOR CANCER PREVENTION

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African American men have the highest incidence and mortality rates for prostate and colorectal cancer compared to other ethnic groups in the United States. African American men's perspectives on cancer screening may provide important insights for addressing these health disparities. Guided by the Common Sense Model (CSM) of illness representations that posits that the individual as well as cultural values and beliefs play an active role in the response to and interpretation of health threat information and the Cultural Empowerment Model (CEM) which offers a framework for understanding the adaptive and maladaptive dimensions of culture, this study involves a two phased exploration (focus groups and interviews) into cultural factors among African American men that facilitate and impede cancer screening. The focus group findings and insights gleaned from the interviews (n=22) are summarized. African American men without a cancer diagnosis were asked to discuss spiritually based illness perceptions of colorectal and prostate cancer. Participant's illness representations related to getting colorectal and prostate cancer (e.g., spiritual and fatalistic perceptions of both causation and control and the emotional representations of the prospect of getting cancer) were explored. Participants described ways that God and prayer might influence illness perceptions of cancer. Fatalism that may emerge from a spiritual orientation was contrasted with a fatalistic outlook that cancer is an automatic death sentence. Linguistic Inquiry and Word Count analysis revealed that supernatural content varied across questions related to spiritual and fatalistic perceptions of both causation and control (ps $<.05$). In addition, there was overlap between spiritual and fatalistic perspectives that further refine the role of these factors in threat representations of cancer.

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B129

THE IMPACT OF HOPE AND COPING STRATEGIES ON BENEFIT FINDING IN BREAST CANCER SURVIVORS

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The breast cancer experience is a significant personal crisis that involves a series of stressors. Nevertheless, many breast cancer survivors report finding benefit from their cancer experience, resulting in a greater appreciation of life. The purpose of this study was to determine how trait hopefulness and the coping strategies of acceptance, active coping, planning, and positive reframing affect benefit finding following breast cancer diagnosis and treatment. Previous research has found that the identification of an individual's trait level of hope can have implications for selection of coping strategies and susceptibility to distress (Snyder, 2002). In breast cancer survivors, higher levels of hope have been found to predict perceived health and a sense of vigor (Sears, et al., 2003). Theoretically, hope has been suggested to be part of the pathway to benefit finding (Tedeschi & Calhoun, 1995), although this relationship is not always supported empirically (Bellizzi & Blank, 2006). Additionally, these coping strategies have been shown to be predictors of benefit finding. The present study was designed to investigate the impact of hope, as measured by the Trait Hope Scale (Snyder, 1991) and the coping strategies of acceptance, active coping, planning and positive reappraisal, subscales of the B-Cope (Carver, 1997), on benefit finding, as measured by the PTGI (Tedeschi & Calhoun, 1996). The sample consisted of 175 ethnically diverse breast cancer survivors averaging 5.66 years since diagnosis. Results of path analyses utilizing bootstrapping procedures indicated that positive reframing partially mediated the relationship between hope and greater reported benefit finding in breast cancer survivors ($\beta=0.444$, $p<.05$). Also, both hope and each of these four coping strategies predicted greater benefit finding, in individually tested models [$F(\text{hope})=9.8$, $p<.01$; $F(\text{acceptance})=13.22$, $p<.001$; $\text{Factive}=9.8$, $p<01$; $F(\text{planning})=4.76$; $p<.05$; $F(\text{positive reappraisal})=27.20$, $p<.001$). Results are discussed in terms of clinical and research implications.

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B130

DOES GIVING INFORMATION ABOUT HUMAN PAPILLOMAVIRUS MODIFY PERCEIVED RISK OF CERVICAL CANCER?

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There is a need to develop public education materials about the link between human papillomavirus (HPV) and cervical cancer. However, conveying the information that cervical cancer is caused by a sexually transmitted virus is likely to affect perceptions of cervical cancer. The objective of this study was to assess the effect of presenting information explaining the link between cervical cancer and HPV on perceived risk of cervical cancer. A repeated measures design was used, assessing perceived risk of cervical cancer before and after information about HPV. Data were collected during face-to-face interviews with a population representative sample of British women (n= 1045). Perceived risk was assessed using both absolute risk (I think that my chance of getting cervical cancer in the future is...) and comparative risk (compared to other women my age, I think that my chance of getting cervical cancer is...), with likert-style response options. Overall, presentation of HPV information did not have an affect on absolute ($F=0.004$, $p=.951$) or comparative risk ($F=0.75$, $p=.388$), but there was a significant age by information interaction for both risk measures ($F=3.46$, $p=.004$; $F=3.41$, $p=.005$). Perceived risk of cervical cancer increased in the youngest age group (age 18–25) and decreased in the oldest age group (age 65+), as a result of explaining the link between cervical cancer and a sexually transmitted virus. These findings have implications for public education materials.

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B131

HOW LONG DOES DEPRESSION AT CANCER DIAGNOSIS AFFECT A PATIENT'S HEALTH?

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Many breast cancer patients report depressive symptoms at diagnosis. Although depressive symptoms improve, it is unknown whether women fully recover into the survivorship years, as previous studies have been cross-sectional or only short-term. METHOD: Breast cancer patients were accrued following surgery and prior to adjuvant therapy (baseline) and then followed for 5 years. Measures of psychological and physical functioning (both patient and nurse-rated) were used. Baseline CES-D scores (11-item version) were used to classify patients as clinically depressed (scores > or equal to 10; n=45; DEP) or non-depressed (scores<10; n=182; NON-DEP). RESULTS: Using mixed model analyses, trajectories of physical and psychological functioning over 5 years for the groups were compared. For physical functioning (KPS and signs/symptoms of illness/treatment), the DEP group had poorer outcomes from baseline through 12 months ($ps<.01$). Over time, both groups improved in physical functioning in a similar pattern, although the improvement was non-significant ($ps>.12$). The psychological trajectories–depressive symptoms (CES-D), stress (IES), and quality of life (SF-36 mental and physical components)–were of similar form. Across outcomes, the DEP group had poorer functioning at baseline ($ps<.001$) and this difference was maintained through 24 months ($ps<.05$). The groups were equivalent thereafter ($ps>.39$). DISCUSSION: Significant depressive symptomatology at cancer diagnosis portends impaired functioning for years. For such individuals, physical symptoms remain significantly elevated through 12 months, and poorer quality of life and high levels of cancer-specific stress extend for another year. Only after 2 years do women depressed at diagnosis appear to attain a level of recovery similar to that of those not depressed at diagnosis. Thus, interventions are needed for patients vulnerable to slowed physical and psychological recovery from cancer.

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B132

PREDICTORS OF PSYCHOLOGICAL DISTRESS (PD) IN PATIENTS UNDERGOING ANDROGEN DEPRIVATION THERAPY (ADT) FOR PROSTATE CANCER (PC)

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Cancer patients often report experiencing fatigue and PD and some studies point to age-related differences in these negative side-effects. Few studies have examined these negative side-effects in men with PC receiving ADT, a form of cancer treatment that commonly results in fatigue and PD. Participants in the current study were 56 men with non-metastatic PC receiving ADT (M age=71 years, range 52–88) and an age-matched comparison group of 47 healthy men (M age=70, range 50–87). Fatigue disruptiveness was assessed with the Fatigue Symptom Inventory and PD with the Center for Epidemiologic Studies - Depression Scale. These data were used to test hypotheses that patients would report more PD than non-patients and that fatigue would mediate the relationship between group membership and distress. Contrary to predictions, patients and non-patients did not differ in terms of fatigue disruptiveness and PD ($ps>.05$). However, correlational analyses pointed to a different pattern of association between age and PD for patients vs. non-patients. Further examination of this trend, using hierarchical regression analyses, indicated a statistically significant ($p=.02$) interaction between patient status and age. Probing of this effect indicates that, in patients, age is negatively related to PD; in non-patients, age and PD are unrelated. We next examined whether fatigue disruptiveness may mediate the relationship between age and PD in patients. Results of the Sobel test for mediation effects indicate a trend towards mediation ($z=-1.76$, $p=.07$). Younger patients tend to report more fatigue disruptiveness, which predicts more PD; on the other hand, older patients tend to report less fatigue disruptiveness, which predicts less PD. These findings suggest that age is a salient factor to consider in the adjustment and well-being of PC patients receiving ADT. Interventions that address fatigue disruptiveness may be particularly beneficial to the psychological well-being of younger patients.

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B133

PSYCHOLOGICAL DETERMINANTS OF AGGRESSIVE CARE AT THE END OF LIFE IN PATIENTS WITH ADVANCED NON-SMALL-CELL LUNG CANCER

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Background: Over the last decade, medical care for individuals with terminal cancer has become increasingly aggressive, as evidenced by high usage of chemotherapy and brief lengths of stay in hospice among patients at the end of life (Earle et al., 2004). The goal of this study was to identify predictors of aggressive cancer care in a cohort of patients with newly diagnosed advanced non-small-cell lung cancer (NSCLC). Methods: Patients within eight weeks of diagnosis of stage IIIb (with effusions) or IV NSCLC completed baseline assessments of quality of life (FACT-L) and mood (HADS) and were followed prospectively until the time of death to assess chemotherapy usage, hospital admissions, and hospice utilization. Data from electronic medical records were collected to analyze these outcomes. Results: At the time of analysis, 40/46 (87%) of enrolled patients had died with a median length of follow-up of 29.3 months. Bivariate analyses revealed that patients who received chemotherapy within 14 days of death were more likely to have had high baseline anxiety ($p=.02$, Fisher's exact test) and depression scores ($p=.002$, Fisher's exact test), compared to those who did not have chemotherapy in the final two weeks of life. Also, patients with heightened baseline anxiety were less likely to be enrolled in hospice services than those without such anxiety symptoms ($p=.03$, Fisher's exact test). No other patient characteristics, mood symptoms, or quality of life indicators were significantly associated with the use of aggressive measures at the end of life, though these analyses were limited by the small sample size. Conclusions: The results from this study suggest that psychological factors, such as anxiety and depression, may play a role in the aggressiveness of care at the end of life among patients with advanced NSCLC. Further research is needed to confirm these findings and to develop targeted interventions for reducing distress as well as enhancing communication and decision-making at the end of life.

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B134

DOES BODY CHANGE DISTRESS DIFFER FOR BREAST AND GYNECOLOGIC CANCER SURVIVORS?

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Background: Few studies have compared body change distress resulting from the effects of cancer and its treatment and determined its correlation in women with breast and gynecologic cancers. Method: Data from 2 samples (N=440) were used. Women with breast cancer (n=139) were 4-year survivors originally recruited for a randomized clinical trial, who took part in a body image and sexuality sub-study. Survivors of gynecologic cancer (mean=4.17 years), including those with cervical (n=57), endometrial (n=147), ovarian (n=80), and vulvar (n=17) cancers, came from a multi-site survivorship study. Analysis of covariance compared body change distress [Impact of Treatment Scale (ITS); Frierson, Thiel & Andersen, 2006] scores for the two samples and regression analyses determined sociodemographic, disease/treatment, emotional distress (e.g., CES-D), and sexuality (e.g., Sexual Self Schema; Andersen & Cyranowski, 1994) correlates. Results: No significant differences were observed for ITS scores for breast vs. all gynecologic cancers combined (p=.36), nor breast vs. any of the four gynecologic cancer types (p=.27). However, disease/treatment and sociodemographic ITS correlates differed for breast vs. gynecologic cancers. In illustration, receipt of radiation treatment was associated with greater body change distress for breast cancer survivors ($p<0.01$) but not gynecologic cancer survivors (p=.63). Emotional distress and sexuality variables were similarly correlated to ITS scores across disease site. Conclusion: Body change distress resulting from the effects of cancer and its treatment does not differ as a function of breast or gynecologic cancer type but is differentially correlated with certain disease/treatment (e.g., extent of breast surgery and radiation treatment for breast survivors; extent of gynecologic surgery for gynecologic survivors) and sociodemographic (e.g., age, marital and occupational status for gynecologic survivors) variables.

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B135

PEER COUNSELING IMPROVES QUALITY OF LIFE FOR WOMEN WITH BREAST CANCER: A RANDOMIZED TRIAL

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In a community/research collaboration between WomenCARE in Santa Cruz and Stanford, we evaluated whether matching a woman newly diagnosed with breast cancer for 3 to 6 months after diagnosis with a trained (and supervised) volunteer who is herself a breast cancer survivor improves quality of life over the first year post-diagnosis. We trained 36 peer counselors (Navigators). In addition 104 newly diagnosed women were randomized (52 receiving a match with a Navigator). We found women receiving a Navigator significantly increased on marital satisfaction (p=.02), and breast-cancer-specific quality of life (p=.01) while those in the control group decreased. Women receiving a Navigator who were highly distressed at study entry also experienced a significantly greater reduction in anxiety (p=.03), distress (p=.04). However, those not matched with a Navigator who were low on Post-Traumatic Growth at baseline significantly increased to a greater extent than did those matched.

This first randomized clinical trial of an extensive peer counseling program demonstrates that being matched with a Peer Navigator appears to mitigate the distress newly diagnosed women often experience as they are undergoing treatment for breast cancer. It is also clear that not having a peer counselor may stimulate women to perhaps put more thought and energy into self-motivated growth post-diagnosis.

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B136

RELATIONSHIPS BETWEEN ATTRIBUTIONAL COMPLEXITY AND CAUSAL ATTRIBUTIONS ABOUT BREAST CANCER

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Individuals hold a number of beliefs about the causes of an illness such as breast cancer. These causal attributions may be related to factors such as media influences, cultural background, personal experiences, and individual differences. The goal of this study was to examine the relationship between one of these individual differences (attributional complexity) and causal attributions about breast cancer. "Attributional complexity" includes the notion that certain individuals look deeper into the causes of events and take more information into account, while others base their opinion on limited information or make judgments quite quickly (Fletcher, et al., 1986).

Participants in this study included 280 undergraduates (70% female; 30% male) at Washington State University (WSU); ages ranged from 18 to 36 years (M=19.8). Measures included the causal items (worded to reflect general perceptions of breast cancer) of the Illness Perception Questionnaire-Revised (IPQ-R; Moss-Morris et al., 2002) and the Attributional Complexity Scale (ACS; Fletcher et al., 1986). Scores on the ACS were positively correlated with endorsements of psychological causes of breast cancer ($r=.13$, $p<.05$). Specifically, beliefs that a person's emotional state and personality contributed to breast cancer onset were related to more complex attributional styles. Attributional complexity was also associated with beliefs that personal risk factors were causes of breast cancer ($r=.15$, $p<.05$). Specifically, stronger endorsements of aging, personal behaviors, and diet as causal factors for breast cancer were related to higher degrees of attributional complexity. There were no significant relationships between ACS scores and causal attributions of immunity or accident/chance. Overall, this study indicates that an individual's degree of attributional complexity may influence their causal attributions for breast cancer. Further research can elucidate the possible connection between attributional complexity, emotional responses, and helping behaviors toward individuals with breast cancer.

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B137

HOW ARE COPING AND ANXIETY RELATED TO MAMMOGRAM INTENTIONS AND PREVALENCE IN THE PAST YEAR?

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Objective: Coping, anxiety, and other psychosocial constructs are potentially related to health behaviors such as mammography screening as well as intentions. This study explored the relationships of coping and anxiety scales with intentions to have a mammogram in the next year and having a mammogram in the past year. Methods: Data were collected from women (n=899; ≥40 years, no personal history of breast cancer) who were recruited in clinic waiting rooms and randomized to intervention (i.e. received recommendations based on Gail risk computation) or control group. Principal component analysis was used on Carver's Brief COPE and items from Spielberger's Anxiety Scale. Regression was used to assess baseline mean scale score differences by race and age as well as the relationship between both coping and anxiety and mammogram intentions and behavior in the past year. Results: Roughly 45% of women were Black, mean age was 50.1 years, 64% had a mammogram in the past year, and 85% reported they would very likely have a mammogram in the next year. Brief COPE factored into two subscales (i.e. adaptive and maladaptive) and the anxiety items formed one scale. Whites had higher mean adaptive coping scores (i.e. better coping) than others ($p<0.01$) and women 50 years and older had higher adaptive coping than those ages 40–49 ($p<0.05$). No differences existed in mean maladaptive coping or anxiety scores by race or age. After adjustment for race and age, the mean adaptive coping score was higher for those with a mammogram in the past year compared to those without ($p<0.01$). Conversely, women who said having a mammogram in the next year was unlikely had a higher mean maladaptive score (i.e. more maladaptive coping) compared to those with intentions to have a mammogram in the next year ($p<0.01$). Mean anxiety scores did not differ by intentions or recent mammogram behavior. Conclusion: These findings suggest efforts to promote adaptive coping mechanisms may be a useful strategy to increase breast cancer screening.

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B138

SOCIAL INFLUENCE AND BLACK MEN'S PROSTATE CANCER SCREENING INTENTIONS: APPLICATION OF THE THEORY OF PLANNED BEHAVIOR

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Investigation of factors that influence the decision and intention to be screened for prostate cancer is critical as there is increased emphasis on informed screening decisions. Such study is especially important among Black men who, as a group, are at high risk for prostate cancer and have less participatory medical interactions. One salient factor may be social influence, which is represented by subjective norms in the Theory of Planned Behavior (TPB). This study examined norms and other TPB variables as predictors of intention to have a prostate-specific antigen (PSA) test and digital rectal exam (DRE). Participants were 210 Black men between 40–75 years recruited in NYC. TPB measures included PSA test attitudes (α=.78), DRE attitudes (α=.79), and single items assessing norms, perceived behavioral control (PBC) over PSA/DRE tests, and intention to have PSA/DRE tests. Past prostate cancer screening, physician recommendation to screen, and physician explanation of the pros and cons of PSA/DRE tests were also assessed. Separate multivariate regressions predicting PSA and DRE intention showed that when all TPB variables were in the model, only PBC (β=.34, p<.008) and norms (β=.30, p<.0002) were associated with PSA test intention. When covariates of marital status and physician recommendation and explanation were added, PBC (β=.24, p<.03), norms (β=.25, p<.002), and marital status (β=.60, p<.0004) remained significant. Among all TPB variables, DRE attitudes (β=.32, p<.04) and norms (β=.30, p<.0002) were associated with DRE intention. When covariates of age, health insurance status, physician recommendation, and job status were added to the model, only norms were associated with DRE intention (β=.25, p<.002). Findings suggest that the influence of important others is predictive of Black men's prostate cancer screening intentions, particularly for DRE, and might have implications for other preventive health behaviors.

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B139

VICARIOUS HYPOCRISY: BOLSTERING ATTITUDES TOWARDS THE REGULAR USE OF SUNSCREEN TO REDUCE DISSONANCE AFTER EXPOSURE TO A HYPOCRITICAL INGROUP MEMBER

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Our research uses the principles of cognitive dissonance theory to change sun protective attitudes and behavior. Three studies examined the hypothesis that exposure to a hypocritical group member would cause highly identified ingroup observers to experience vicarious dissonance. It was predicted that vicarious dissonance would motivate ingroup observers to restore the integrity of the ingroup by bolstering their attitudes and behavior toward the regular use of sunscreen. In Experiment 1, participants who moderately or highly identified with their university evaluated a recorded message on the importance of using sunscreen to reduce skin cancer. The speakers' identity was manipulated as an ingroup (same university) or as an outgroup member (rival university). Perceived hypocrisy was manipulated when the speaker admitted or did not admit previous failures to practice sun protective behaviors. An Observer Identity×Speaker Identity×Speaker Hypocrisy interaction on attitudes towards the regular use of sunscreen revealed that when exposed to a hypocritical ingroup member, observers who highly identified with the ingroup reported more favorable attitudes compared to ingroup observers exposed to an out-group hypocrite or to an in-group member who only advocated sunscreen use. Experiment 2 replicated and extended this finding by showing that vicarious hypocrisy induced more attitude bolstering when the observers shared multiple identities with the ingroup target compared to when only one identity was shared. In Experiment 3, an affirmation manipulation was used to effectively attenuate dissonance and the resulting attitude change, providing evidence that dissonance is driving the attitude change observed in Experiments 1 and 2.

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B140

PHYSICIANS' ATTITUDES AND PRACTICES REGARDING PROSTATE CANCER SCREENING

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Physician recommendations regarding screening influence men's PCa screening decisions. We examined primary care physician attitudes and practices in two academic settings in preparation for a patient-focused randomized trial concerning PCa screening education. Participants were internal medicine attendings (16.3%), residents (41.9%) and interns (39.8%). The overall response rate from both sites (GU and WHC) was 83%. The primary areas assessed were: 1) attitudes and knowledge about PCa screening; 2) factors influencing screening discussions; and 3) factors influencing screening practices. The mean age of physicians was 32 years (range 26–61) and 51% were women. There was a racial difference by site (70% White at GU versus 48.9% at WHC). All attendings correctly answered that it has not yet been demonstrated that PCa screening saves lives; however, more residents (83.7%) than interns (61.5%) responded correctly, X2 (98)=11.37, p<.02. Of factors that may influence discussions about screening, lack of time was endorsed "Sometimes" or "Almost Always" (74.5% to 84.8%) and competing priorities was endorsed "Sometimes" or "Almost Always" (94.1% to 100%). Regarding shared decision making preferences for screening, approximately 50% of physicians indicated that patients and physicians should share the decision while 30% stated that patients should make the final decision. Finally, concerning factors that may influence PCa screening practices for asymptomatic men, the majority indicated that family history "Often" or "Almost Always" (86.2% to 87%) and patient preferences "Often" to "Almost Always" (68.6% to 80.7%) are influential. Results from this survey demonstrated that there remains considerable variability about attitudes and practices regarding PCa screening. It is important to take physician attitudes and practices into account when conducting a patient-focused intervention in the primary care setting.

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B141

MEANING OF ILLNESS AND COMMUNICATION AS PREDICTORS OF ADJUSTMENT TO RECURRENT OVARIAN CANCER

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In the US, 75% of women with ovarian cancer (OC) are diagnosed with late stage disease with subsequent recurrences and repeated chemotherapy. Even so, many women with OC report positive adjustment to their illness. Given the average age at diagnosis is 64 and women may live an additional 5–10 years through recurrences, a developmental task of this age group is to find meaning and purpose in life which incorporates their disease. In addition, most women with OC are married and in established communication patterns with their partners. This project sought to understand the role of couple communication and meaning of the OC experience on adjustment. 60 partnered women from across the US participated in this cross-sectional study. Demographic data were collected along with self-report measures of activity level, adjustment (PAIS), communication (FPSC) and meaning (Constructed Meaning Scale). Mean age of participants was 59(SD=8.9)years. They were primarily Caucasian (97%), married (92%) vs. cohabitating, and in the relationship an average of 31.6(SD=12.9) years. Most (66%) were unemployed/retired/homemaker. Number of recurrences varied (45% had 1; 35% had 2; and 18% had 3 or more). 53% were receiving treatment. Age and activity level were the only background variables associated with adjustment: older age and greater activity were associated with positive adjustment. Stepwise linear regression was used to predict adjustment. Controlling for age and activity, meaning contributed to the variance in adjustment (R2 change=.124, F(1,55)=17.3, p<.001), while communication did not (R2 change=.007, F(1,54)=1.002, p=.321). In the final model, activity and meaning were significantly related to adjustment. Fewer activity limitations and positive meaning were associated with positive adjustment. These preliminary results suggest that while behavioral interventions targeted toward couple communication are relatively common, interventions such as cognitive reframing, targeted toward the task of finding meaning, could facilitate positive meaning and thereby improve adjustment to recurrent OC.

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B142

OUTCOME EXPECTATIONS, EXPECTANCY ACCESSIBILITY AND PHYSICAL ACTIVITY AMONG ENDOMETRIAL CANCER SURVIVORS

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Background: Constructs from social cognitive theory, such as Outcome Expectations (OE), have been positively associated with physical activity (PA) behavior in the general population, but have not been examined extensively among cancer survivors. OEs are usually measured by self-report. Expectancy Accessibility (EA) tasks measure the reaction time (RT) to endorse an OE. These RTs may contain additional information about the accessibility of the OE and may be less subject to response bias. Two individuals may give the same rating to an OE (e.g., improved health), but they may differ in their RT to make the endorsement. This study assessed OE about PA using both a rating sale and an EA reaction time task in a sample of sedentary endometrial cancer survivors.
Method: Endometrial cancer survivors (n=20) who were diagnosed stage I–IIIa, sedentary or low activity, and were at least 6 months post treatment participated in a pilot exercise study. OEs rating scales and EAs were assessed before and after a fitness assessment. Following the session, participants were given an individualized walking program and were asked to monitor PA using a log and an Actigraph for one week. Correlational analysis and multiple regression were conducted to examine associations between OEs, EAs and PA.
Results: Women reported a mean of 149.2 minutes of PA (SD=89.3). Self-reported PA matched Actigraph measures in 83.5% of reported bouts. There was no significant relationship between self-reported OEs and subsequent PA. However, there was a significant association between RTs to endorse positive outcomes (post-fitness assessment), and subsequent PA (p=.02).
Conclusions: In this small sample of endometrial cancer survivors, self-reported OEs were unrelated to subsequent PA. Post assessment RT measures were positively associated with PA. More investigation is needed to examine whether accessibility of endorsements remains significant in a larger sample.

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B143

HOPE FOR COPING WITH THE URGE TO SMOKE: A REAL-TIME STUDY

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Smoking is the leading cause of preventable death and disease in the United States. Urges and cravings to smoke are key factors in smoking and relapse. This is the first study to explore the potentially protective role of hope on smoking by examining how individuals cope with the urge to smoke in a laboratory-based setting. Participants (n=123; 61% male; mean age=30; mean # cigarettes/day=15) completed a baseline carbon monoxide (CO) test and measures of hope and nicotine dependence. Participants returned for a second session in a CO-verified, nicotine-deprived state and were challenged to go as long as possible without smoking in the presence of a burning cigarette. A computer program prompted participants to rate their urge to smoke every 90 seconds until they indicated the need to smoke. Time elapsed between lighting the cigarette and need to smoke constituted the primary dependent measure, latency to smoking. Mean, minimum, and maximum urge ratings throughout the procedure constituted the second set of dependent measures, urge severity. Stronger beliefs in the ability to find ways to deal with the urge to smoke (goal-specific hope, pathways) were linked with a more manageable experience of smoking urge evidenced by lower mean (r=−.25, p=.01), minimum (r=−.24, p=.01), and maximum (r=−.24, p=.01) urge. However, the relationship between hope and urge did not remain significant once nicotine dependence was accounted for. Higher hope was associated with lower nicotine dependence (r=−.27 to −.30, p=.00) and it is speculated that hope's protective effect might emerge during the uptake phase of smoking when addiction is taking shape, and/or when tobacco dependence is in remission. Interventions which focus on improving goal-direction for smoking cessation and relapse prevention, as well as increasing specific, goal-directed beliefs about finding ways to deal with the urge to smoke may reduce the dramatic morbidity and mortality associated with tobacco use.

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Citation Poster
B144

DIET CHANGE FOR CANCER PREVENTION: OUTCOMES OF THE ONLINE MENU CHOICES INTERVENTION

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Changing eating habits to incorporate more fruit and vegetables (F/V), recommended to reduce the risk of many chronic diseases and cancer, is challenging. This study evaluated the effectiveness of an online intervention for increasing or maintaining daily servings of F/V across the 12-month study duration. Generally healthy participants, aged 21–65, were recruited from five integrated healthcare delivery systems around the U.S.(CO, GA, WA, MN, MI), over-sampling for minority members in three states. Enrollment, consent and surveys were completed online. Participants were randomized, stratified by location and gender, to one of three intervention arms, untailored (1), tailored (2), and tailored with personalized email support utilizing motivational interviewing (3). Participants (n=2513, women=69%) completed 3, 6, and 12 month follow-up surveys. The completion rate was over 80% per survey. At baseline, >75% ate 4 or fewer servings per day, and only 22% of enrollees had not tried previously to eat more F/V. On average across the three arms, total servings of F/V increased by nearly two servings (p>.001), with increases observed at 3 months and then maintained. At 12 months,<30% of participants reported eating 4 or fewer servings. The tailored website with motivational interviewing outperformed the untailored condition (arm 1 vs arm 3, p=0.025) with no statistical differences between other conditions (arm 1 vs arm 2, p=0.177; arm 2 vs arm 3, p=0.370). This study supports the effectiveness of this online intervention in attracting participants and in improving and maintaining F/V intake over time across geographically diverse locations.

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B145

PREDICTION OF SMOKING OUTCOME FROM SUBTYPES WITHIN THE PRECONTEMPLATION STAGE OF CHANGE

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Tailored interventions based on psychosocial variables have been demonstrated to be effective in randomized clinical trials. One method for matching interventions to individuals is profile matching. Within the Precontemplation stage of change, cluster analysis based on the Pros and Cons (Decisional Balance Inventory) and the Situational Temptations Scale total score have produced four highly interpretable subgroups that have been replicated across samples both within and across three previous studies. However, only concurrent external validity has been demonstrated. This study investigated if cluster membership can predict long term (24 month) outcome. This secondary data analysis combined data from five different effectiveness trials: a random digit dial sample (N=1358), members of an HMO (N=207), parents (N=347), patients from an insurance provider (N=535), and employees (N=175). Smokers were all proactively recruited from a defined population and all received the same expert system intervention. Clustering within stage serves to control for stage effects. Smokers with available outcome data were assigned to one of four cluster profile groups using profile matching: Immotives (N=425), Progressing (N=787), Disengaged (N=427) and Low Severity (N=424). Cluster membership at baseline successfully predicted point prevalence smoking cessation outcome at 24 months: Low Severity, 24.5%; Progressing, 20.7%; Disengaged, 18.3%; and Immotive, 16.0%. Cluster membership was also related to Cigarettes per day, F(3, 2058)=76.65, and Time to First Cigarettes, F(3, 2058)=9.53. There were significant differences on use of the 10 Processes of Change by cluster, with the Progressing subgroup using each process the most and the Immotive subgroup the least.
These results demonstrate the longitudinal external validity of cluster membership. Tailored interventions based on subtypes within the Precontemplation stage have the potential to serve as a basis for tailoring effective smoking cessation interventions.

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B146

CORRELATES OF FRUIT AND VEGETABLE CONSUMPTION IN THE NATIONAL CANCER INSTITUTE'S FOOD ATTITUDES AND BEHAVIORS SURVEY

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Background: The National Cancer Institute's Food Attitudes and Behavior (FAB) Survey is currently being developed to assess fruit and vegetable intake (FVI), along with best potential predictors of FVI, both novel and established.
Method: Pilot data from FAB (N=626), a consumer opinion panel mail survey, included FVI (as measured by a 16-item screener) and both established (e.g., self-efficacy, social support) and novel (e.g., taste preferences, neophobia, vegetarianism) correlates of FVI. Factor analysis was used to determine distinct factors. Univariate regression analysis was then conducted with all variables, followed by hierarchical linear regression, entering blocks of predictors in the following order: sociodemographic variables (Model 1), established (Model 2) and novel (Model 3) psychosocial constructs.
Results: The majority of variables were significantly ($p<.05$) associated with FVI in univariate analyses (e.g., preference for sweet ($B=-0.12$) or sour ($B=0.11$) foods). Subsequent hierarchical regression found socio-demographic variables explained 3% of variance ($p<.05$) while barriers and self-efficacy for eating more fruits and vegetables explained 13% ($p<.05$) additional variance in FVI. Lastly, the novel construct "health food consciousness" explained 5% ($p<.05$) additional variance in FVI.
Conclusions: This study is unique in that it demonstrates significant univariate association between FVI and a variety of novel predictors. Higher level analyses show the "health food consciousness" construct in particular explaining a significant amount of variance in FVI. Findings also reinforce the utility of conventional correlates of FVI, with barriers and self-efficacy as particularly strong predictors in the hierarchical regression. Overall, the results indicate that novel psychosocial variables warrant further examination using methods such as mediation analysis.

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B147

THE ASSOCIATION BETWEEN SUBJECTIVE SOCIAL STATUS, OBJECTIVE SOCIO-ECONOMIC STATUS, PSYCHOSOCIAL AND BEHAVIORAL FACTORS AMONG LATINAS LIVING IN SAN DIEGO

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INTRODUCTION: Subjective social economical status (SSS) is associated with preventive health practices and health outcomes. However, few studies have examined the covariance between them. The goals of this study were to examine the association between: 1) SSS and objective socio-economic status (OSES) and 2) SSS and psychosocial and preventive behaviors related to diet and physical activity (PA). METHODS: Data were collected from a community sample of 281 Latino parents (33% overweight, 70% HS degree, 31% employed, 68% married) and their children (17% overweight) in grades K-2nd. Parent demographics (income, education and employment status), barriers and self-efficacy to healthy eating and PA and eating away from home were assessed. The MacArthur Scale of SSS was used to assess perceived social standing relative to their community, the US, Mexico and before immigrating to the US. RESULTS: The mean age of participants was 34 ($SD=7.7$). Approximately 77% of participants rented a house or apartment, 72% were born in Mexico and had lived in the US an average of 15.7 ($SD=12.6$) years. SSS relative to their community was related to years of education ($r=0.15$) and income ($r=0.12$). SSS relative to people in the US was related to employment status ($r=-0.12$), eating away from home ($r=0.15$), and barriers to physical activity ($r=-0.12$). Both SSS relative to people living in Mexico and SSS relative to people living in Mexico before immigrating to the US were related with barriers to physical activity (both $r=-0.14$). All significant at $p<0.05$. CONCLUSIONS: Consistent with previous research, SSS was associated with OSES. Also, SSS was related to psychosocial and behavioral factors related to healthy eating and PA. Further studies need to assess the variance explained by SSS in Latinos' health practices and examine how this contributes to the understanding of the Latino paradox.

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B148

COMPARISON OF RISK PERCEPTIONS AND WORRY ACROSS SIX COMMON CHRONIC DISEASES

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Theories of health behavior have traditionally emphasized the importance of both perceived risk and worry for understanding the health protective actions people engage in. Although much research has been conducted to date examining the importance of several of these variables in the context of many common chronic conditions, little is known about how individuals' perceptions vary comparatively across multiple diseases. This study set out to examine these perceptions across various conditions including heart disease, stroke, diabetes, and breast, ovarian and colorectal cancers. A total of 3066 participants involved in a larger study evaluating the impact of a family history tool completed baseline questionnaires that assessed risk perceptions and worry for the six aforementioned diseases. Analyses controlled for several potential confounders including age, family history, BMI and smoking status. Results are reported separately by gender. Among men, perceived risk of colorectal cancer was significantly higher than for heart disease, stroke, and diabetes. However, men worried significantly more about heart disease compared to the other conditions. Women perceived themselves to be at greatest risk for breast cancer, followed by ovarian and colorectal cancer. Perceived risk was lowest for heart disease among women. Women worried the most about breast cancer followed by heart disease, and were least worried about stroke, ovarian cancer, and colorectal cancer. Overall findings suggest that both men and women perceived their risks associated with various cancers to be the greatest compared to other diseases. Worry about heart disease was high across both genders, although women worried significantly more about breast cancer. The implications of study findings for public health communication efforts will be discussed.

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B149

THE IMPACT OF SPIROMETRY FEEDBACK ON MOTIVATION TO QUIT AMONG THOSE WITH AND WITHOUT LUNG IMPAIRMENT: THE GET PHIT! TRIAL

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Effective interventions are needed to increase smokers' motivation to quit and facilitate treatment uptake. It has been hypothesized that increasing perceived disease risk may enhance motivation for quitting smoking. Therefore, making smokers aware of their personal health risks could facilitate quitting, especially for those with evidence of disease. We evaluated the impact of a brief, health risk-based intervention on motivation, plans to quit, and perceived disease risk. Smokers (n=542) received a free health-risk screening and were randomized to either personalized feedback on their CO exposure, lung functioning, and smoking-related symptoms (experimental condition) or control intervention. Among smokers in the experimental condition (n=270, mean age=51, 54% female), 37% had measurable lung impairment by spirometry assessment. Based on the results of this test, smokers were either told they may have smoking-related lung impairment or could develop it in the future if they continue to smoke. Participants were surveyed immediately pre- and post-intervention to assess the impact of the intervention. After adjusting for baseline factors, impaired smokers reported greater perceived likelihood they would be diagnosed with a smoking related disease ($p<.01$), greater perceived likelihood of developing a lung disease ($p<.01$), and greater motivation to quit ($p<.01$) compared to unimpaired smokers. The proportion of smokers who said they planned to quit in the next month post-treatment was slightly, but not significantly, greater among those with impairment (64 vs. 57%). Both groups said they were 'very' likely to use the free cessation services provided as part of the intervention. Implications of these findings and the differential impact on motivation, attempts to quit, and treatment use at one month follow-up will be presented.

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B150

THE IMPACT OF A PRE-CANCER OR CURRENT MOOD DISORDER ON THE COGNITIVE FUNCTIONING OF POSTMENOPAUSAL WOMEN WHO RECEIVE ADJUVANT CHEMOTHERAPY TREATMENT FOR EARLY-STAGE BREAST CANCER

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BACKGROUND: Despite widespread concern about the phenomenon called "chemobrain", evidence linking adjuvant chemotherapy to cognitive dysfunction in women with breast cancer (BC) is inconclusive. Although psychological distress might explain BC-related cognitive dysfunction, prior studies show no link between depression or anxiety and cognitive function, but most studies used self-rated psychological measures. The aim of this study was to investigate whether a pre-cancer or current diagnosable mood disorder predicts cognitive dysfunction in postmenopausal women with BC. METHODS: Postmenopausal women (n=61) with newly diagnosed non-metastatic breast cancer (DCIS, I, II or IIIa) were administered a battery of neuropsychological tests post-surgery but before beginning adjuvant cancer therapy. Domains of cognitive function measured were motor, language, attention/concentration, visuospatial, verbal memory, and visual memory. Subjects were also administered the mood and anxiety modules from the SCID-I for DSM-IV following each neurospsychological evaluation. One-way ANOVA with post-hoc comparisons was used to compare 4 groups based on DSM diagnosis (dx): no dx, a mood dx, an anxiety dx, or both mood and anxiety dx. RESULTS: SCID-I data revealed that 44% of participants met criteria for a past and/or current mood (depressive) and/or anxiety disorder. Participants with both mood and anxiety dx scored significantly lower in the visual spatial domain than those with no dx ($p=.04$) and marginally lower than those with a mood dx ($p=.07$). CONCLUSIONS: BC patients who met criteria for past and/or current anxiety and/or mood disorders showed impaired performance in visual spatial function after breast surgery but before adjuvant chemotherapy or other treatment.

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B151

THE EFFECTS OF INTIMATE RELATIONSHIPS ON ADJUSTMENT IN BREAST CANCER SURVIVORS AND PEERS

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The purpose of this study was to determine the degree to which intimate relationships, including both positive and negative factors such as satisfaction and physical aggression, affect psychological and perceived physical well-being following breast cancer diagnosis and treatment. While a great deal of research focuses on the benefits associated with marriage and high levels of marital satisfaction in breast cancer survivors (e.g., Goodwin, Hunt, Key, & Samet, 1987; Northouse, Mood, Templin, Mellon, & George, 2000), recent research highlights the importance of considering how relationships can also exert negative effects following cancer diagnosis (e.g., Manne & Glassman, 2000). The current study examined the association between intimate relationships and adjustment following cancer in a sample drawn from a larger study incorporating 206 ethnically diverse breast cancer survivors (BCS) and 206 age- and ethnicity-matched control participants (CFC) who have never received a cancer diagnosis. Results indicate that breast cancer diagnosis does impact the current quality of an intimate relationship, affecting in turn investment in the relationship as well as perceived physical and psychological symptomatology.

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B152

SOCIAL SUPPORT MODERATES THE RELATIONSHIP BETWEEN DECLINES IN PHYSICAL WELL-BEING AND INCREASED MOOD DISTURBANCE IN PROSTATE CANCER (PC) PATIENTS

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Treatment for PC is associated with chronic side effects including urinary, bowel and sexual dysfunction that can compromise physical well-being. Declines in physical well-being have been shown to predict psychological distress in PC patients. In breast cancer (BC) populations, this has been associated with increased symptomatology and shorter disease-free intervals. While the quality of life benefits of social support for BC is well-documented, it is not well established in PC. This study examined the relationship between physical well-being, mood and social support in men treated for PC. Participants (N=205) received either surgery (47.6%) or radiation (45.9%) for localized PC, were ethnically diverse (59.6% ethnic minority) and had an average age of 65.3 years (SD=7.6) and yearly income of $51K (SD=$50K). Assessment included the Functional Assessment of Cancer Therapy (physical well-being), Profile of Mood States (mood disturbance) and ENRICHD Social Support Instrument (social support). Participants were assessed at baseline and 3 months post-baseline. Results indicated that changes in social support significantly moderated the relationship between changes in physical well-being and mood disturbance ($F=3.16$, $p<.05$) even after controlling for relevant demographic and health related variables. Post hoc analyses revealed that changes in physical well-being do not significantly predict mood disturbance for participants who reported an increase or no change in their social support. For participants who reported a decrease in their social support, declines in their physical well-being significantly predicted increased mood disturbance ($F=7.55$, $p<.01$). Results suggest that social support may buffer the effects of decrements in physical well-being on mood among PC patients. Future studies should investigate the extent to which psychosocial interventions aimed at improving social support may impact physical well-being and mood in PC patients.

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B153

POSTTRAUMATIC GROWTH FOR BREAST CANCER: A LONGITUDINAL INVESTIGATION

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A convenience sample of 59 women undergoing chemotherapy for breast cancer completed an initial comprehensive survey packet and 41 percent (N=24) participated in a follow-up survey two years later. The current study examined how coping during treatment and two years later related to posttraumatic growth (PTGI) and perceived stress (PSS). At Time 1 emotion-focused coping positively related to all six measures of physical and psychological distress during chemotherapy ($p<.05$). Furthermore, collectively using a particular combination of emotion-focused coping for chemotherapy (disengagement, denial, self-blame, and venting) accounted for 21% of the variance in frequency and intensity of symptoms ($p=.003$), with both venting and self-blame demonstrating significant effects; 16% of the variance in fatigue ($p=.010$), with self-blame demonstrating a significant effect; 21% of the variance in depression ($p=.002$), with self-blame demonstrating a significant effect; 16% of the variance in anxiety ($p=.010$), with both denial and self-blame demonstrating significant effects; and 12% of the variance in distressed mood ($p=.030$), with self-blame demonstrating a significant effect. Collectively using a combination of positive cognitive coping strategies for chemotherapy (religion, positive reframing, and acceptance) accounted for 13% of the variance in fatigue ($p=.012$), with both acceptance and religion demonstrating a significant effect; and 8% of the variance in distressed mood ($p=.053$), with only acceptance demonstrating a significant effect. Two years later, using religion at T1, using religion at T2, using positive reframing at T2, using instrumental support at T2, and using emotional support at T2, related to reporting more posttraumatic growth ($p<.05$). Collectively using the particular combination of positive cognitive coping strategies (religion, positive reframing, and acceptance) accounted for a large amount (46%) of the variance in posttraumatic growth ($p<.001$), with both positive reframing and religion demonstrating significant effects.

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B154

A CRITICAL FINDING: PERCEIVED CRITICISM AND OVERINVOLVEMENT AS A PREDICTOR OF TREATMENT DROPOUT

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Expressed Emotion (EE) is a term that is often used when assessing the emotional atmosphere of the home environment (Brown, Birley, & Wing, 1972). It is a broad construct that is composed of five main components: criticism, hostility, emotional over-involvement, warmth, and positive remarks. Some of these components, specifically the negative ones, have been found to be predictors of negative outcomes such as relapse in depressed samples (Hooley & Teasdale, 1989), poor treatment outcome in people with anxiety disorders (Chambless & Steketee, 1999), and divorce (Epstein & Baucom, 2002). This is part of a larger study involving a couples behavioral intervention program to examine improved interpersonal relations and how these improvements can result in sustained health behavior change, improved quality of life, and tangible health benefits for cardiac patients. The current study examined whether EE, specifically perceptions of partner's criticism and overprotection, predicted treatment dropout. It was proposed that participants who perceived their partners to be critical and overprotective would have a higher rate of treatment dropout than those who perceived their partners to be less critical or overprotective. Participants (N=65) completed the modified version of the Hooley and Teasdale Scale (Hooley, et al., 1989). A discriminant function analysis was computed to determine if EE accurately predicted treatment retention. Results were significant $\chi 2=5.17$, $p<.05$, Wilks' lambda=.92. Classification results showed that 61.5% of the original grouped cases were accurately classified, suggesting that EE was a significant predictor for distinguishing between treatment completion and dropout groups. Implications will be discussed.

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B155

THE EFFECT OF EMOTIONAL HEALTH STATUS ON MULTIPLE ILLNESS SELF-MANAGEMENT BEHAVIORS IN VETERANS WITH HYPERTENSION

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Effective hypertension management relies on the simultaneous performance of multiple health behaviors, yet most studies of hypertension self-management have separately considered influences on individual behaviors. We examined the effect of emotional health status on the total number of recommended hypertension self-management behaviors that patients perform. We used baseline data from 576 male, hypertensive veterans enrolled in the Veterans Study To Improve The Control of Hypertension (V-STITCH). Participants completed measures of 5 health behaviors (medication adherence, home blood pressure monitoring, exercise, smoking, and alcohol use) that correspond to hypertension guidelines (e.g., JNC 7), the Mental Component Score (MCS-12) from the Veterans' SF-12, and various covariates. On average, participants performed 3.4 (out of 5) behaviors (SD=1.1), with just 16% of patients performing all 5 behaviors. Almost all participants (95.3%) met alcohol recommendations, while less than half (45.1%) met exercise recommendations; the other 3 behaviors were each performed by more than half of the sample. The mean MCS-12 score was 51.9 (SD=12.4) out of a possible 100; 22% scored at or below the cut-off (42) indicating significant depressive symptoms. Adjusted logistic regression models revealed better emotional health to be related to higher likelihood of meeting exercise recommendations (OR=1.03, 95% CI=1.01, 1.05), but none of the other individual behaviors. Multiple linear regression revealed better emotional health to be associated with performance of a greater number of recommended behaviors (b=0.011, 95% CI=0.001, 0.020). Our results suggest that psychological distress may impede patients' ability to simultaneously perform multiple health behaviors important in hypertension self-management.

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B156

LIFESTYLE CHANGES AND CORONARY RISK FACTORS BY MARITAL STATUS IN THE MULTISITE CARDIAC LIFESTYLE INTERVENTION PROGRAM

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Research suggesting marriage is less beneficial for women than for men has important implications for married women diagnosed with coronary heart disease (CHD). This study examined changes in lifestyle, coronary risk factors, and perceived stress by gender and marital status in CHD patients enrolled in the Multisite Cardiac Lifestyle Intervention Program (MCLIP). Patients (all non-smokers; age M=60.55; 415 women, 61% married; 782 men, 88.6% married) were asked to make dietary changes (whole food plant-based diet;<10% fat, 15% protein, 75% complex carbohydrates), to engage in moderate exercise (3 hrs/wk), to practice stress management (1 hr/day), and to attend support-group sessions (1 hr/wk) for 3 months. Data were analyzed with 2 (gender)×2 (marital status)×2 (time period) ANOVAs for repeated measures. At baseline, married women perceived more stress than the remaining groups (married men or men and women living alone) and women reported more symptoms of depression than men, regardless of marital status (p's<.005). By the end of 3 months, regardless of marital status, both genders significantly improved their lifestyle [i.e., dietary fat (<10% kcal of fat), fiber (g/day), exercise, stress management, & overall program adherence; all p's<.001], coronary risk factors [Cook-Medley Hostility, BMI, systolic and diastolic blood pressure, total cholesterol, HDL-C , LDL-C, Total Cholesterol/HDL-C ratio, exercise capacity (METs), & HbA1c% (diabetics only); all p's<.05], and psychosocial factors [stress, depression, & quality of life (SF 36), p<.0001]. In conclusion, in spite of their greater levels of distress at baseline, married women were still able to make comprehensive lifestyle changes, and significantly improve their psychosocial and clinical coronary risk factor profile.

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B157

PHYSICAL ACTIVITY DVD IMPACTS RELAPSE PREVENTION AND OUTCOME EXPECTATIONS COMPARED TO CONTROL CONDITION

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This study assessed the impact of a minimal, low-cost patient education intervention compared to standard care. Consecutive cardiovascular clinic outpatients (N=528) consenting to participation were randomized to a physical activity DVD mailed to their home or to standard care. The DVD content focused on the processes of physical activity behavior change, including goal-setting, relapse prevention, and motivation enhancement strategies. At week 6 follow-up, participants who received the DVD reported a significantly greater increase from baseline in positive outcome expectations (perceived personal benefits of exercise) than those in standard care (p=0.01). A significant interaction was found between relapse prevention and intervention group, such that those low on relapse prevention behavior at baseline were significantly more likely to increase in this behavior by follow-up if in the intervention group rather than standard care (p=0.01). Change in physical activity behavior (IPAQ) from baseline to follow-up was not significantly different between the groups. Women reported a greater impact of the DVD on attitude about exercise than men (p=0.03). Higher rating of DVD impact on attitude was associated with increased physical activity change from baseline to follow-up (p=0.03). Qualitative data from write-in items suggested that the DVD was viewed as less helpful by some participants who were already quite physically active and that the DVD enhanced motivation and recognition of goal-setting and relapse prevention strategies for many. Results suggest that a minimal patient education intervention can significantly impact attitude toward physical activity. Further research is needed to identify the amount of intervention required to significantly impact exercise behavior.

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B158

BEHAVIORAL STRESS REDUCTION FOR IMPROVED BLOOD PRESSURE CONTROL IN AFRICAN–AMERICAN TEENAGERS: WHO BENEFITS?

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The purpose of this study was to examine the impact of health education (HE), breathing awareness meditation (BAM) and/or behavioral life skills training (LS) upon resting systolic blood pressure (SBP) and heart rate (HR) considering underlying anthropometric, behavioral lifestyle and psychosocial factors.
Design: Subjects were 151 African African (AA) ninth graders (mean age=15.1± 0.75 yrs) with high normal resting SBP (i.e., 75th–95th percentiles). Subjects were randomly assigned by school to either HE, BAM, LS or BAM+LS for three months. Sessions at school were conducted during health classes by teachers. BAM subjects participated in 10 min sessions at school and home each day. At pre- and post- intervention, resting SBP and HR were recorded over 20 minute supine rest periods. Potential anthropometric, behavioral and psychosocial factors included pre-intervention values and changes in: Body mass index (BMI), waist circumference, self-reported physical activity, anger expression, hostility, family functioning, personal stress, discrimination and neighborhood dysfunction. Classification and regression tree (CART) analysis was used to model which factors were associated with subjects who improved (i.e., decreased >3 mmHg for SBP and >3 bpm for HR).
Results: For resting SBP, greater likelihood of success was associated with high family cohesion (70%). Within that group, BAM participants had higher probability of success (65%). Among the BAM participants, all with BMI>27 were successful. Among those with low family cohesion, those with greater waist circumference (>38 inches) had higher likelihood of success (60%).
Implications: Findings suggest that AA adolescent behavioral stress reduction programs may benefit from tailoring based upon underlying psychosocial and anthropometric factors. Family functioning may play a particularly powerful role, especially with interventions practiced at home. Furthermore, behavioral stress reduction approaches may be particularly helpful in BP control among those with greater adiposity.

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B159

SUBMISSIVENESS AND INCREASED DIASTOLIC BLOOD PRESSURE AND CORTISOL LEVELS IN HEALTHY ADOLESCENT WOMEN

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Objective: To determine whether submissive behaviors are associated with risk factors for coronary heart disease in a cohort of healthy adolescent women.
Background: Research with animals has convincingly demonstrated that submissive behaviors in females contributes to the development of atherosclerosis and subsequent emergence of coronary heart disease (CHD). However, it remains unclear whether this association extends to humans and, if it does, what biological mechanisms underlie these associations.
Methods: One hundred and four healthy women between the ages of fifteen and twenty with no known or suspected major health problems participated. Submissiveness was assessed using Submissiveness Behaviors Scale (SBS), a 16-item self report scale with high internal consistency (α=.83) and good test-retest reliability (r=.77). Measurements of diurnal cortisol output were obtained by collecting 6 saliva samples a day over two consecutive days. Resting blood pressure was assessed in the laboratory using an automated device, according to practice guidelines outlined in JNC 7.
Results: Hierarchical regression analyses revealed significant positive relationships between submissive behavior and diastolic blood pressure, total daily cortisol output, and diurnal rhythm of cortisol. These effects persisted after controlling for age, ethnicity and body mass index. There were no associations between submissive behavior and systolic blood pressure or morning cortisol response.
Conclusions: In this sample of healthy young women without detectable signs of vascular dysfunction, submissive behavior is both associated with increased cortisol output and increased blood pressure, two risk factors for CHD. These findings extend animal research into human populations, and suggest that even in young women, submissiveness may have implications for CHD risk. Further investigation is necessary to determine the directionality and underlying mechanisms of the relationship between submissive behaviors and these early signs of CHD.

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B160

GENDER DIFFERENCES IN PHYSICAL ACTIVITY AFTER A CARDIAC EVENT

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Prior studies found different factors related to recovery outcomes for men and women after a cardiac event. Compared to men, women are less likely to ask for help and prefer to resume household activities to aid their recovery. Men are more likely to receive support from their spouses and prefer to resume work and regular exercise to aid their recovery. This study examined relationships among physical activities, social support for exercise, and recovery outcomes in male (n=50) and female (n=14) cardiac patients 6–12 months after a cardiac event. Recovery was measured by the SF-36 General Health subscale. Social support for exercise was measured by the Partner Interaction Questionnaire. Physical activity was measured by the Human Activity Profile. This instrument includes 94 activities, each requiring a known amount of average energy expenditure. The HAP generates an average activity score (AAS), the main functional outcome from this tool, and has established percentiles for comparison with healthy males and females of similar ages. The scale contains 4 subscales: self-care, household work, social, and independent exercise. Results indicated that women were significantly lower than men in AAS (t=2.05 p<.05). The AAS for men (M=67) placed them at the 37th percentile and the AAS for women (M=58) placed them in the 54th percentile. Women were significantly lower than men in social activities and independent exercises. No differences were found in self-care and household work activities. For men, the only variable associated with recovery was independent exercise (r=.36 p=.014). For women, household work (r=.49), social activities (r=.43), independent exercise (r=.55), and positive social support for exercise (r=.51) were significantly related to recovery. In sum, women were more active than men when you evaluated their AAS against similar age and gender counterparts. Engaging in an independent exercise program was the most important variable associated with men's recovery. For women, several variables were important for their recovery including household work, social activities, independent exercise program, and support for exercise.

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B161

THE ASSOCIATION BETWEEN DIETARY STAGE OF CHANGE, DECISIONAL BALANCE AND SELF-EFFICACY IN ADULTS WITH HYPERTENSION

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The transtheoretical model (TTM), a comprehensive framework of behavioral change that integrates core constructs from multiple models of change, posits that behavioral change is mediated by decisional balance (DB), self-efficacy (SE) and processes of change. Using data on adherence to the DASH diet for hypertensive adults (n=188) we examined the relationship between DB (the perceived importance of the pros and cons of behavioral change), SE (confidence in ability to change) and stages of change (SOC) using validated TTM measures modified to address diet adherence. In contrast to findings from prior studies, at no SOC did the cons outweigh the pros. Despite this, as expected, the number of pros and the balance between pros and cons (pros minus cons) increased (p<.05) with advancing stage, peaking in Action. Using t-tests with Bonferroni corrected p-values to compare DB across SOC, there was a significant increase in pros from Precontemplation to Preparation (p <.05), suggesting that increasing the level of pros is crucial in transitioning through the early stages of change. Cons were lower (p<.05) in the post-behavioral change stages of Action and Maintenance than in the pre-behavioral change stages of Precontemplation, Contemplation and Preparation. Using t-tests with Bonferroni corrected p-values, SE was found to be higher (p<.05) for post-behavioral change stages as compared to pre-behavioral change stages. These results suggest that while pros play a significant role in progressing toward behavioral change, cons and SE play a more significant role in making and maintaining the behavioral change. These results advocate that counseling, for those in early SOC, should focus on increasing the pros of behavioral change. However, for those in later SOC, the focus should shift to increasing self-efficacy and decreasing the cons associated with the behavioral change.

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B162

SHARED AND UNIQUE FEATURES OF OVERLAPPING NEGATIVE EMOTIONS AS PREDICTORS OF SLEEP QUALITY

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Given that poor sleep is associated with an increased risk of chronic diseases, including cardiovascular disease and diabetes, it is important to identify determinants of this emerging risk factor. Evidence suggests that negative emotions—i.e., depression, anxiety, and hostility/anger—are inversely associated with sleep quality. However, because few studies have simultaneously examined multiple emotional factors, it is not known which features of these overlapping negative emotions are most strongly related to sleep quality. Accordingly, we examined the shared and unique features of depression, anxiety, and hostility/anger as predictors of sleep quality. Participants were 229 young adults (76% female, 74% white, mean age=23.5 years) who completed the Beck Depression Inventory-II (BDI-II), Trait Anxiety subscale of the State-Trait Anxiety Inventory, Cook-Medley Hostility (Ho) Scale, Trait Anger subscale of the State-Trait Anger Expression Inventory, and Pittsburgh Sleep Quality Index (PSQI). Higher scores on the PSQI reflect poorer sleep quality. Separate regression analyses indicated that BDI-II (β=.48, $p<.05$), Trait Anxiety (β=.45, $p<.05$), Ho Scale (β=.17, $p<.05$), and Trait Anger (β=.18, $p<.05$) scores were predictors of PSQI score, even after adjustment for age, sex, race, body-mass index, smoking, and alcohol use. A single principal component combining the negative emotion measures (variance explained=56%) was also a predictor of PSQI score (β=.47, $p<.05$, $\Delta R2$=.21). After entering this factor score into the models, Trait Anxiety, Ho Scale, and Trait Anger scores were no longer associated with PSQI score (all ps>.20); however, BDI-II score remained a predictor (β=.26, $p<.05$, $\Delta R2$=.02). Our findings suggest that shared features of overlapping negative emotions may account for the previously observed associations between each individual emotion and poor sleep quality. The one exception appears to be depression; its unique features were independently related to sleep quality, suggesting that it may be a key emotional determinant of poor sleep.

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B163

RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND SELF-EFFICACY FOR PATIENTS WITH TYPE 2 DIABETES

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Evidence suggests that theoretically-based physical activity (PA) interventions can produce significant improvements in activity levels. One construct targeted in such interventions is self-efficacy (SE), or confidence in one's ability to successfully adopt a health behavior. The purpose of this investigation was to examine the relationship between PA and SE in a sample of patients with type 2 diabetes enrolled in a randomized PA trial. Participants (N=85; mean age=57; 73% Caucasian; 69% female) were recruited from a community-based diabetes center and received either an individually-tailored PA program or usual care. The one-month intervention was based on the Transtheoretical Model and Social Cognitive Theory and was tailored to individuals based on theoretical constructs, including participants' SE. PA was assessed by the 7-day Physical Activity Recall, and SE was measured by a validated instrument assessing confidence in one's ability to exercise in difficult situations (when tired, when the weather is bad, when in a bad mood, when there is limited time, and when on vacation). Baseline SE scores were associated with baseline PA levels, $F(1, 84)=134.2$, $p<0.01$, and accounted for 61% of the variance in baseline PA. Also, improvement in SE over the course of the intervention was predictive of increased weekly PA and accounted for 10% of the variance in PA changes between baseline and post-treatment, $F(1, 78)=8.3$, $p<0.01$. Finally, the tailored intervention produced significantly greater improvements in SE compared with the control condition, $p<0.05$. Results support the theoretical rationale for targeting SE to promote PA among patients with type 2 diabetes, as SE was associated with PA when examined both cross-sectionally and longitudinally. Further research is needed to better understand the most efficient means of targeting SE and examine other theoretical constructs impacting PA in this medical population.

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B164

SUCCESSFUL PEER MENTORING FOR PHYSICAL ACTIVITY: 12-MONTH RESULTS OF THE TEAM TRIAL

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This study examined outcomes of a peer volunteer intervention to promote physical activity (PA) among middle-aged and older adults. A community-based sample of 181 under-active men and women ages 50 and older were randomized to three arms: A year of PA telephone counseling delivered by volunteer Peer Mentors (Peer), PA counseling delivered by staff Health Educators (HE), or a nutrition telephone counseling control delivered by HE. Both Peer and HE staff received standardized training and supervision and kept detailed records of program delivery and session content. Participants completed the CHAMPS PA Questionnaire at baseline and 12 months. From baseline to 12 Months, both PA interventions significantly increased leisure time physical activity (LTPA) relative to the attention-control. HE and Peer PA participants increased moderate intensity LTPA by 100 minutes/week compared to attention-control (Group*Time effect $F=3.2$, $p=.01$). Similarly, both PA arms increased active days/week by 3 days compared to attention-control (Group*Time $F=5.8$, $p=.002$). There were no HE vs. Peer differences in PA at any time point (p values=.4). Peer and HE staff delivered equal intervention amounts, averaging 11 completed calls of 14 planned across the year ($p=.4$). Relative to HE staff, Peers more frequently discussed the benefits and pros and cons of PA, the role of past PA history, and the rewards of being more active with their participants (p values<.008). HE staff more frequently discussed self-efficacy ($p<.001$). These results demonstrate that peer mentors can be equally effective in producing PA change and can successfully maintain program fidelity across 12 months. The outcomes support the use of trained peer mentors as an alternative model of PA counseling for under-active adults in the community.

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B165

SUPPORTING AUTONOMY IN CLINICAL INTERVENTIONS: BEHAVIOR CHANGE ACROSS MULTIPLE DOMAINS

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Support of patient autonomy is one of the central tenets of biomedical ethics and is one of three goals of clinical medicine along with improving patient welfare and enhancing social justice. However, neither medical ethics, various national guidelines, nor the physician charter have relied on empirical validation to support their goals. Self-determination theory (SDT) provides theoretical and empirical means to determine if interventions that increase patient autonomy also result in positive health behavior change in multiple domains. A review of the literature was conducted to identify studies of patient autonomy for health behavior change. Four studies met the criteria of (1) being based on SDT (intended to increase autonomous self-regulation; ASR); (2) involving randomized-clinical trials; and (3) assessing ASR and health behavior at baseline and post-intervention. These studies assessed dental health, physical activity, diet, tobacco dependence, and medication usage outcomes. Across studies SDT interventions resulted in positive behavior change (Betas=.12 to .48, all $ps<.01$) and increased ASR for health behavior (Betas=.31 to .68, all $ps<.01$). Further, changes in ASR accounted for significant independent change variance in health behaviors (Betas=.12 to .25, all $ps<.05$). These results are consistent with ASR being in the causal path for health behavior change and support the unique and important role that ASR plays in patient health. Because of ASR's unique relation to SDT and medical ethics, SDT becomes a strong candidate for a theory of multiple health behavior change. Given the effectiveness of such interventions in changing behaviors and changing ASR—which uniquely predicts change in behavior—researchers, practitioners, public health policymakers, ethicists, insurers, and medical educators alike would do well to consider adopting SDT-based interventions, and including measures of ASR and autonomy support in research and clinical assessments.

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B166

SOCIAL DISTRESS AND INSULIN RESISTANCE IN ADOLESCENTS

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Insulin resistance, a hallmark of the metabolic syndrome, is associated with type 2 diabetes and heart disease. The link between distress and fasting insulin levels has been demonstrated in studies of relatively healthy adults. The purpose of this study was to examine whether social distress, measured by the Social Anxiety Scale-Adolescent version (SAS-A), is associated with insulin resistance, as indexed by fasting insulin and the homeostatic model assessment (HOMA), in adolescents with elevated blood pressure (BP), and thus at risk for the metabolic syndrome.

Adolescent boys (n=116) and girls (n=42), ages 15–17, with systolic and/or diastolic BP at or above the 90th percentile adjusted for gender, age, and height, participated in a screening of metabolic and psychosocial variables. Participants completed the SAS-A, and blood was drawn after an overnight fast. Fasting insulin and HOMA were examined. Regression analyses were conducted to determine the relationships between social distress and insulin as well as HOMA, controlling for gender, parent education, and waist circumference.

In separate analyses, 26.9–28.0% of the variance in fasting insulin and 18.0–21.8% of the variance in HOMA were explained by models that included dimensions of social distress and specified covariates (ps<0.001). Fear of negative evaluation accounted for 2.9% of the variance in fasting insulin, and 4.9% of the variance in HOMA, while social anxiety during novel situations explained 2.8% of the variance in HOMA after controlling for gender, parent education, and waist circumference (ps<0.05).

The results suggest that psychosocial parameters of distress are associated with insulin resistance in adolescents at risk for the metabolic syndrome. The impact of distress on fasting insulin levels is a potential mechanism by which psychosocial factors may influence the onset and progression of the metabolic syndrome in adolescents.

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B167

THE ROLE OF OPENNESS IN PSYCHOPHYSIOLOGICAL REACTIVITY TO STRESSFUL EVENTS

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Previous research has linked the personality factor Openness to Experience to a variety of health outcomes, including mortality (Heisel, et al., 2006; Jonassaint, et al., 2007). Openness is associated with intellectual curiosity, preference for variety, and attentiveness to inner feelings. Although the mechanisms are not fully understood, one possibility is that Openness moderates response to stressful life events. The purpose of this study was to examine the relationship between personality and subjective and objective ratings of psychophysiological reactivity to a laboratory stressor.

70 college students (50% male, 50% female; age 18–46) completed the Social Competence Interview (Ewart, et al., 2006), a well-validated laboratory stress task that involves discussion of a recent personal stressor. Blood pressure and heart rate were recorded throughout the experiment and participants completed measures of state mood (PANAS; Watson, et al., 1988) before and after the stressor. The Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992) was administered subsequent to the interview.

Openness was related to increases in positive affect (PA; r=.245, p=.041) and less systolic blood pressure change (SBP; r=−.240, p=.045). Of the Openness facets, Actions was associated with less SBP (r=−.421, p=.000) and HR (r=−.286, p=.016) reactivity. Values was associated with less SBP reactivity (r=−.274, p=.022), and Ideas correlated significantly with change in PA (r=.247, p=.039).

These results suggest that Openness, particularly the Actions and Values facets, is associated with decreased physiologic reactivity and increased positive affect in response to a stressor. These findings suggest that the ability to embrace novel situations and maintain flexibility in views and opinions may moderate the negative effects of stressful events.

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B168

DISPOSITIONAL ENERGY PREDICTS INTENTION-BEHAVIOR CONTINUITY IN TYPE 2 DIABETES

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Because of the apparent inconsistency with which people seem to enact intentions to perform health protective behaviors, there has been increasing interest among behavioral health researchers in moderators of the intention-behavior link. In this study we examined one such potential moderator: dispositional energy. To test the putative moderating effects of energy on intention-behavior consistency in a sample of motivated individuals, we recruited a sample of 78 adults who were newly diagnosed with Type 2 diabetes. Participants attended two sessions six months apart. At baseline, trait energy and intention strength for physical activity (PA) and dietary behavior were measured; the corresponding behaviors were measured again at a 6-month follow-up. Multiple regression analyses revealed that both energy (β =.399, p<.001) and intention strength (β=.299, p=.006) predicted significant unique variance in PA. The interaction showed a trend toward significance (β =.261, p=.066). Moderational analyses were conducted by forming high and low energy groups and testing the significance of the regression slope predicting behavior from intention for each group separately. As hypothesized, the predictive power of behavioral intention for PA was significant for those with high energy (β=.496, p=.020); however, it was not a significant predictor of behavior for those with low energy (β=.396, p=.072). Energy did not predict unique variance in diet scores (β=.094, p=.390); intentions did (β=.406, p=.001). However, further analyses revealed that the association between intentions and behavior was entirely accounted for by past behavior for both PA and diet. These findings suggest that dispositional energy—long recognized as a fundamental trait within standard personality taxonomies—is an important moderator of intention behavior relations for PA. In addition, and consistent with prior research, past behavior may account for a substantial amount of the association between intention and behavior for both PA and diet. Implications for theoretical accounts of health protective behavior are discussed.

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B169

A PERSON-FOCUSED ANALYSIS OF RESILIENCE RESOURCES AND COPING IN DIABETES PATIENTS

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This study investigated the resilience resources and coping profiles of diabetes patients. A total of 145 adults with type 1 and type 2 diabetes completed surveys of coping (COPE and Coping Styles), diabetes-related distress, personal resources (self-esteem, self-efficacy, self-mastery and optimism), and had their glycosylated hemoglobin (HbA1c) assessed. Resilience was defined by a factor score of the personal resources measures. All eight maladaptive coping subscales (e.g., denial, behavioral disengagement) were negatively associated with resilience. Of the eight adaptive coping subscales, only acceptance, emotional support, and pragmaticism were positively associated with resilience. We then identified patients in the upper, moderate and lower tertile of the resilience factor, and used multivariate analysis of variance to compare the coping profiles of the resilience groups. Coping profiles differed significantly (p<.001), with low resilience patients favoring maladaptive strategies much more than those with moderate or high resilience resources. Resilience groups varied in levels of diabetes-related distress, such that the high resilience group had the lowest distress, but the groups did not differ in HbA1c levels. In sum, these results identify maladaptive coping patterns as a potential intervention area to improve diabetes outcomes in those with low levels of personal resources.

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B170

COPING SKILLS TRAINING INTERVENTION FOR PARENTS OF CHILDREN WITH TYPE 1 DIABETES: 12 MONTH FOLLOW-UP

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Parents of children with type 1 diabetes (T1D) are at risk for psychosocial stress, yet few interventions have been developed to address their needs. The primary aim of this study was to determine the effect of Coping Skills Training (CST) conducted with parents of children with T1D on child's metabolic control, parental psychosocial adjustment (Issues in Coping with Diabetes-hard, upset, CES-D), and family interaction (Diabetes Responsibility and Conflict, FACES). Parents of children ages 1–11 (n=140, 93% mothers) were randomly assigned to either CST or diabetes education groups. The mean of age of the child with T1D was 7.97 years (±2.92), mean duration of diabetes was 3.14 (±2.72) years, and 58% were female. Eighty-four percent of the sample was White. Results of mixed-model repeated measures analyses controlling for age, gender, and treatment modality (pump vs. injection) indicated that parents in both groups reported improved coping with the stress of T1D [less hard ($p<.001$); less upsetting ($p<.001$)], less depressive symptoms ($p=.004$), and less parent responsibility for T1D management ($p<.001$) without an increase in family conflict around diabetes management ($p=.15$) over 12 months. CST parents demonstrated a trend for being less upset with coping with diabetes compared to education parents ($p=.08$). Other results indicate that parents of both groups reported decreased family cohesion over time ($p=.007$) and an increase in HbA1c of children ($p<.001$) in this well-controlled sample. Mean HbA1c at 12 months was still well below treatment goals recommended for this population. These findings are important as previous research indicates that parental distress increases over time, and that parental distress is associated with child psychosocial distress. In addition, findings indicate the delicate balance between family functioning, parental coping with stress of T1D, child responsibility for diabetes care, and metabolic control.

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B171

DOES ANXIOUS TEMPERAMENT FACILITATE DISEASE DETECTION? THE CASE OF TYPE 2 DIABETES MELLITUS

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Purpose: To examine the effect of temperamental anxiety on disease detection among individuals with Type 2 diabetes mellitus (T2DM). Research Design and Methods: A sample of 204 individuals newly diagnosed with T2DM completed the Behavioral Inhibition Scale (BIS; a validated measure of temperamental anxiety), and provided a blood sample for A1C analyses (an index of the average blood glucose for the past 120 days) as a measure of disease progression at the time of diagnosis. Hierarchical regression analyses were used to predict A1C levels from individual differences in BIS relative to competing personality and demographic variables. Results: Individual differences in temperamental anxiety were inversely related to A1C at diagnosis, and this association remained strong after controlling for other personality and demographic variables. Most importantly, temperamentally anxious individuals had low A1C levels at diagnosis in all age groups, in contrast to their non-anxious counterparts who showed increasing A1C at diagnosis as a function of decreasing age. Conclusions: Although older age is generally associated with superior detection of T2DM, temperamentally anxious individuals show uniformly strong disease detection across all age groups. High levels of temperamental anxiety may facilitate early detection and diagnosis of T2DM, particularly among younger individuals who are not subject to routine screening.

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B172

INCORPORATING VALUES AND PREFERENCES INTO CLINICAL CARE GUIDELINES DESIGNED FOR OLDER ADULTS LIVING WITH TYPE 2 DIABETES

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Background: Diabetes is a significant and growing chronic health problem in the United States. Adults aged 60 and above continue to comprise the largest proportion of persons with diabetes in the U.S. overall and in Pennsylvania as well. To improve the care for older adults with diabetes, the American Diabetes Association (ADA) and the American Geriatrics Society (AGS) have recommended individualized goal-setting in diabetes care. A crucial aspect in this goal-setting is considering individual values for care and preferences for how to achieve them. Although the ADA and the AGS urge clinicians to base their recommendations for managing diabetes on individuals' personal values and preferences, we know little about those values and preferences—what they are, what underlies them, and how they influence diabetes-related health outcomes. Methods: With this in mind, the study: (1) collected and analyzed focus group data on 45 ethnically diverse older adults living with diabetes in Central Pennsylvania regarding their values and preferences for diabetes care and (2) employed the Q-sort technique to prioritize those values and preferences. Results: Findings revealed that older adults express a variety of values and preferences for diabetes care that strongly impacted their treatment goals. For some older individuals, maintaining functional independence in activities of daily living and minimizing the financial, physical, and psychological burden of diabetes care took precedence over aggressive medical management. Others preferred intense medical management and long-term preventive care strategies. Conclusions: All in all, the adult's values and preferences for care provided an important context for identifying appropriate treatment goals and plans for diabetes care. Clinical care guidelines should recognize this context, prioritize the important risks to older adults with diabetes, and provide guidance for applying its recommendations based on that adult's personal values and preferences.

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B173

PROBLEMS WITH DIABETES ARE ASSOCIATED WITH BARRIERS TO EXERCISE IN OBESE, RURAL AFRICAN AMERICAN WOMEN

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Objective. To examine associations between factors that impact exercise in obese (ObW; BMI≥30) and non-obese (NObW) rural African American women with Type 2 diabetes (T2D).

Methods. A total of 160 women African American women with T2D were recruited from 2 rural community health centers. Eligible women completed a self-report exercise questionnaire and indicated their agreement with statements describing various barriers (i.e. competing priorities), enablers (i.e. social support), and benefits (i.e. improved T2D health) of exercise. Product moment correlations were used to examine associations between questions separately for ObW (n=80) and NObW (n=28). Correlations ≥0.50 are reported.

Results. For the ObW and NObW women, mean disease duration was 6.5 and 6.9 years, respectively. Average BMI was 39.3±6.8 (ObW) and 25.7±3.1 (NObW). More correlations (9 vs. 2) were observed for ObW compared to NObW. The strongest correlations were for questions about the positive impact of exercise on weight loss and diabetes-related health (0.83-ObW) and diabetes-related health and increased energy (0.80-ObW, 0.81-NObW). For ObW, other strong correlations included the association between exercise being too painful and rest being more important than exercise (0.78) and the positive impact of exercise on weight loss and increased energy (0.76). Additionally, in ObW, the impact of problems with T2D on exercise correlated strongly with rest being more important than exercise (0.66), feeling ashamed of the body when exercising (0.63), and pain related to exercise (0.65).

Conclusions. There were strong associations between the perceived benefits of exercise for ObW and NObW. For ObW only, robust relationships persisted between problems with diabetes and perceived barriers to exercise. Interventions designed to increase exercise behaviors among obese, rural African American with T2D should also incorporate an assessment of problems with diabetes, in general, in order to tailor behavioral support appropriately.

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B174

DIABETES INTEGRATION RELATES TO PSYCHOSOCIAL ADJUSTMENT AND DIABETES OUTCOMES IN ADOLESCENTS WITH TYPE 1 DIABETES

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Living with a chronic illness such as diabetes can impact an individual's sense of self and identity (Charmaz, 1994; Ford & Christmom, 2005), particularly when this illness disrupts life outcomes and activities (Devins et al., 1983). Viewing diabetes as integrated into one's life, on the other hand, could help buffer disruptions caused by the illness. This process may be particularly important to understand in adolescents, who are establishing a sense of identity (Anderson & Coyne, 1991). We examined whether, in adolescents diagnosed with type 1 diabetes for at least one year, viewing diabetes as an integrated part of life was associated with psychosocial and diabetes specific outcomes, and whether integration moderated the association between negative psychosocial adjustment and diabetes control. We asked adolescents (n=185, ages 10–14, 55% female) to describe diabetes integration by answering questions such as "My diabetes is just a normal part of my life" and "My diabetes feels like an interruption to my ongoing life" (reverse scored). Adolescents reporting higher diabetes integration reported better psychosocial adjustment, specifically lower anxiety (−.383) and less negative diabetes-related emotions (e.g., "My diabetes makes me upset'; r= −.512). Adolescents reporting higher diabetes integration also reported better diabetes outcomes, specifically better adherence (r=.221) and lower HbA1c (r= −.258). Furthermore, diabetes integration appeared to buffer the relationship between negative diabetes-related emotions and HbA1c; in adolescents who reported more integration, negative diabetes-related emotions were less related to HbA1c. Thus, viewing diabetes as integrated into one's life may have positive implications for both psychosocial and diabetes-specific outcomes, and serve as an additional resource in the face of negative illness-related emotions.

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B175

SELF-EFFICACY, PHYSICAL ACTIVITY AND COGNITION IN OLDER ADULTS

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Previous research has demonstrated beneficial effects of aerobic fitness and control beliefs on cognitive performance. We examined the independent contributions of self-efficacy, aerobic fitness, and physical activity on accuracy and speed responses to challenging and non-challenging cognitive tasks. The influence of performance on subsequent efficacy was also examined. Older adults (N=83; M age=66.84) completed a switching task paradigm with both single and dual trials at baseline of a randomized controlled exercise trial. Self-efficacy for performance accuracy was assessed prior to and following the cognitive task. Aerobic fitness was assessed using a maximal graded exercise test. Physical activity level was assessed by self-report. Hierarchical multiple regression analysis revealed physical activity and fitness together accounted for significant variance in response speed on single task trials with age accounting for additional variance in dual task response speed ($p<.05$). Self-efficacy for cognitive performance and age were significant predictors of response accuracy on single and dual tasks. In predicting post-task self-efficacy, only pre-task efficacy emerged a predictor for single task trials ($p<.05$). However, both pre-task efficacy and performance accuracy were significant independent predictors of post-performance efficacy for more challenging dual task trials ($p<.05$). These results are consistent with social cognitive perspective and suggest that self-efficacy is situation-specific, plays a pivotal role during challenging tasks, and is influenced by past performance experiences. Future research examining the nature of these relationships within a longitudinal design is warranted.

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B176

LONG-TERM OUTCOME EFFECTS OF BEHAVIOR THERAPY WITH PSYCHOSOMATIC IN-PATIENTS: A TWO YEARS FOLLOW-UP

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The long-term effects of behavior therapy treatment with psychsomatic in-patients are analyzed in a 2-years follow-up study.
The sample consisted of 229 in-patients especially with depression, anxiety disorders and eating disorders treated in the Psychosomatic Hospital Bad Pyrmont/Germany and two other hospitals. Our patients received behavior therapy treatment lasting 54 days on average.
At the beginning (T1), at the end of treatment (T2) and two years after discharge (T3) patients were personally interviewed. The effectiveness of therapy was measured by three questionnaires: the Psychosomatic Symptom Check-List (PSCL), the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI). The patients who were fit for work (N=132) and those unfit for work (N=94) were also analyzed separately.T-tests show that in all measures (PSCL, BDI and BAI) patients improved significantly ($p<$ 0,001) from the beginning (T1) to the end of treatment (T2). The differences from the beginning up to two years later also remained significant ($p<0,001$). Our results show that psychologically tested therapeutic effects are relatively stable up to two years. The results also suggest that patients fit for work show greater short-term improvements whereas patients unfit for work seem to need more time to obtain comparable improvements.

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B177

PREDICTING HEALTH-PROMOTING BEHAVIORS IN WOMEN WITH FIBROMYALGIA SYNDROME

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Fibromyalgia syndrome (FMS) is a poorly understood chronic condition characterized by widespread musculoskeletal pain and associated symptoms including fatigue and sleep disturbances that disproportionately affects women. Previous research indicates that health-promoting behaviors may contribute to a reduction of symptoms and improved perceptions of quality of life in individuals with chronic conditions. This descriptive correlational study sought to identify the health-promoting behaviors practiced by women with FMS and examine predictors of these behaviors in a sample of 199 women (mean age 53.2, 81% Anglo) participating in a larger intervention study. The women completed a battery of baseline survey instruments that included measures of socio-demographic variables, health-promoting behaviors (HPLPII), self-efficacy (SRAHP), social support (PRQ) and barriers (Barriers to Health Behaviors). Participants reported engaging in health-promoting behaviors to varying degrees: vigorous exercise three times a week (30%); daily relaxation (60%); eating a low-fat diet (57%); and getting enough sleep (30%). Using a three-step hierarchical regression analysis with socio-demographic factors, illness-related variables and attitudinal variables entered sequentially, age ($\beta=.18$, $p<.05$), self efficacy ($\beta=.50$, $p<.001$) and social support ($\beta=.33$, $p<.001$) explained 46% of the variance in the frequency of health-promoting behaviors. The overall model fit was significant, $F(9,174)=16.668$, $p<.001$, suggesting that the model fit the data well. Marital status was not predictive of the extent to which participants engaged in health-promoting behaviors despite the fact that married participants reported greater social support and fewer barriers to these behaviors. These results suggest that further research is needed to examine the mechanisms by which social support influences the extent to which women with FMS engage in health-promoting behaviors.

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B178

SMOKING CESSATION SELF-EFFICACY: PERSPECTIVES ON STRUCTURE AND FUNCTION

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Self-efficacy (SE) affects whether people successfully enact behaviors, and in general, is more accurate on a domain-specific level (Bandura, 1986). Smoking cessation SE, or confidence to abstain, is typically averaged across a range of situations (e.g., after a difficult day; with other smokers), and is typically used to predict general smoking behavior (e.g., Baer, Holt, & Lichtenstein, 1986). Here, we examined whether temptation in a specific situation would be best predicted by perceived efficacy for the same class of situations (e.g., experiencing temptation in social settings should be best predicted by perceived SE for not smoking in social settings). We used two different methods for classifying situational specificity: isolating clusters of conceptually similar items, and factor analyzing to identify empirically distinct factors. Participants were smokers (N=591) enrolled in an 8-week cessation program and encouraged to quit smoking at Week 4. Participants completed 16-item measures of SE (Week 4) and temptation to smoke for each situation included in the SE measure (Week 6). The conceptually derived SE subscales were negative affect, addiction, and socializing, whereas the empirically derived SE subscales were negative and positive affect (NA and PA). Controlling for all other SE items, conceptually-derived SE subscales (negative affect, addiction, and socializing) and empirically-derived SE subscales (PA and NA) both uniquely predicted later temptation to smoke in the matched situations (all ps<.0001). Moreover, in both cases, after controlling for the matched scales, non-specific SE items did not predict temptation. Consistent results across both methods of deriving subscales demonstrate the value of considering more specific SE substructure in understanding cessation experiences, and call for further exploration of the impact of SE structural differentiation on behavior change.

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B179

PREVALENCE AND PREDICTORS OF SUNBATHING AND SUN PROTECTION IN ADOLESCENTS

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Exposure to ultraviolet radiation (UVR) from the sun, particularly during childhood and adolescence, has been associated with an increased risk for skin cancer. Limiting sunbathing and increasing sun protection may decrease this risk. Research on adults suggests that attitudes towards a tan appearance, perceived risk for photoaging and skin cancer, and perceived peer norms for sun protection are associated with sunbathing and sun protection; few studies have examined similar factors in an adolescent sample. To address this issue, we examined predictors of sunbathing and sun protection in a sample of 116 female and 87 male adolescents who were 11 to 19 years old (M=14.79, SD=1.83). Participants completed a survey assessing sunbathing and sun protection behaviors and intentions, perceived risk for photoaging and skin cancer, perceived peer norms for sun protection and appearance-related reasons for tanning. Findings indicate that the prevalence of sunbathing is relatively high, while consistent sun protection is relatively low. Older girls reported more sunbathing behavior and intentions (ps<.01), while younger teens (ps<.05), girls (ps<.01), and those with lighter skin types (ps<.01) reported more sun protection behaviors and intentions. Hierarchical regression analyses that controlled for demographic variables were conducted to examine predictors of sunbathing and sun protection intentions. Significant predictors of sunbathing intent include more positive appearance motives (p=.001) and fewer negative appearance concerns in relation to being tan (p=.03). Predictors of sun protection intent include more negative appearance concerns (p<.001) and fewer positive appearance motives (p=.04) in relation to being tan, greater perceived risk of photoaging and skin cancer (p=.02), and greater perceived peer norms for sun protection (p<.001). These findings extend previous work conducted with adults and suggest several potential targets for the development of interventions to promote sun protection and discourage tanning among adolescents.

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B180

A RARE FAMILY: MIXED METHODS ANALYSIS OF AN ONLINE SUPPORT GROUP

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Background/Theoretical Framework: This IRB-approved qualitative study addresses how perception of genetic risk influences health decision-making in terms of : 1) how lay persons define concepts such as genetics and genetic risk, 2) how this knowledge is used in sexual/reproductive decision-making, 3) emerging evidence to support a theory of genetic health decision-making, and 4) specific psychosocial and environmental variables that affect this relationship.
Hypothesis: Analysis of e-mails posted to an online support group will uncover support for a theory of genetic health decision-making, and evidence of the group's constructed meanings and motives for specific decisions.
Method: Yahoo! groups were located using the term genetic disorders. Groups (>30 members) considered for inclusion were those who focused on a single disorder and who were english language, public access, and for non-health professionals. A genetic musculoskeletal disorder support group was selected for study; over 930 e-mails (July 1999–October 2006) were coded and analyzed for holistic content/themes. Themes were then quantitized and used in exploratory factor analysis.
Results: Key qualitative findings included high group levels of genetic health awareness/literacy; female gender and religion influencing reproductive decision-making; and a strong pro-reproduction group orientation, even among those with the disorder. However, factor analysis uncovered contradictory thematic linkages between positive attitudes towards inheriting/living with the disorder and reproductive decision-making.
Conclusion/Implications for Practice: Further research is needed to understand how participation in online groups affects sexual/reproductive decisions, particularly in females, and individuals from varying religious backgrounds and levels of genetic literacy. Mixed methods provide a more holistic picture of how genetic knowledge is used in sexual/reproductive decision-making.

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B181

VITALITY, DEPRESSIVE SYMPTOMS AND TOBACCO ABSTINENCE

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Research suggests that mental health is important to predicting smoking cessation. Much of this work focuses on depression and depressive symptoms; however, the findings are inconclusive. For example, Covey et al. (1990) found that depressed smokers had lower cessation success, while Hitsman et al. (2003) found no relation between depression and cessation. These mixed findings suggest that it may be useful to consider other mental health outcomes as predictors of smoking cessation.
Doran et al. (2006) found that low positive mood (vigor) inhibited cessation. We propose that subjective vitality—"a positive feeling of aliveness and energy" (Ryan & Frederick, 1997 p. 529)—may be associated with smoking cessation. Data for this study were collected in the context of a randomized clinical trial to examine the effect of an intervention that supported smokers' autonomy on health-behavior change. We proposed a moderated-mediational model in which the relation of increased autonomous self-regulation for smoking cessation (from baseline to 6 months) to increased vitality (from 6 to 18 months) is mediated by decreased cigarette use (from baseline to 6 months), while the relation of self-regulation to cigarette use is moderated by treatment condition. Additionally, we hypothesized that increased vitality relates positively to prolonged tobacco abstinence at 30 months.
The model was supported. Increased autonomous self-regulation related to increased vitality (β=.07) and this association was partially mediated by decreased cigarette use. Additionally, the relation of self-regulation to cigarette use was moderated by treatment condition (β=−.07), such that the inverse relation was stronger for those in the intervention, relative to community care. Finally, increased vitality related positively to prolonged abstinence at 30 months (b=.47). Importantly, change in depressive symptoms was unrelated to autonomous self-regulation, cigarette use, and prolonged abstinence, suggesting that positive indicators of mental health are useful in predicting successful smoking cessation.

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B182

COGNITIVE PREDICTORS UNDERLYING STUDENTS' DECISIONS TO ENGAGE IN RISK AND PROTECTIVE BEHAVIORS WHILE DRINKING

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Past research has implicated risk (e.g., pre-gaming, drinking games) and protective behaviors (e.g., setting limits, pacing one's drinks) students engage in when drinking as important predictors of drinking tendencies and related consequences (DeJong & DeRicco, 2007; Haines, et al., 2006; Martens et al., 2004), however, researchers have yet to examine the decision making processes underlying why students choose to engage in these behaviors. The present study examined theoretical models predicting risk and protective behaviors students engage in when drinking. Model 1 examined peer approval of the behavior, ease of engaging in the behavior, awareness of the behavior and perception that the behavior helps to avoid experiencing negative consequences as predictors of how much students like to engage in the protective behavior which in turn predicted how often students engaged in the protective behavior. Model 2 examined peer approval of the behavior, ease of not engaging in the behavior, the perception of how much fun the behavior adds to one's evening, and the perception of the degree to which engaging in the behavior leads to consequences as predictors of how much students like to engage in the risk behavior which in turn predicted how often students engaged in the risk behavior. In order to test the hypothesized models, a survey was administered to a random sample of college freshmen at a large, northeastern university to screen for a sample of drinkers (N=276). Students were assessed on use of risk and protective behaviors, drinking tendencies, and the aforementioned predictors of risk and protective behaviors (e.g., peer approval, ease of engaging, awareness, effectiveness in avoiding consequences, likeability). Each risk and protective factor (e.g., BAL awareness, drinking to get drunk) was analyzed using its respective conceptual path model. Analyses revealed good model fit for each risk and protective factor within their conceptual models.

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B183

HOW MANY SMOKERS IN A STATE TOBACCO QUITLINE HAVE MAJOR DEPRESSION DISORDER?

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INTRODUCTION Smokers with depression are known to be less likely to quit. However, most cessation programs do not systematically assess depression among their participants. The state tobacco quitlines, telephone-based cessation services in the US, collectively serve a large number of smokers, about 400,000/year, yet there is no report on how many callers have depression. This study is a first attempt to formally assess depression among a quitline's callers, using the Patient Health Questionnaire (PHQ-9). The PHQ-9 has been increasingly used as a diagnostic and severity measure of depression and can be administered by telephone.

METHOD This study intends to recruit 2000 smokers from the California Smokers' Helpline, a state quitline that serves about 40,000 smokers per year. In the first 2 weeks of recruitment, we have assessed 222 smokers for depression. The recruitment will be finished by the time of the conference.

RESULTS The study found approximately 22% of smokers would meet DSM-IV diagnostic criteria for Major Depressive Disorder (MDD). An additional 23% endorsed symptoms that would qualify as mild to moderate depression. Of all smokers, about 60% reported at least one depressive episode in the past. Of those with current MDD, only 61% had been diagnosed as depressed, 40% are taking medication, and 29% are in therapy for depression. Overall, only 50% of those with MDD are being treated either by medication or therapy for depression. Moreover, 30% of those with current MDD had significant social and occupational functioning impairment according to the Social Functioning Questionnaire (SFQ).

DISCUSSION About 1 in 5 smokers seeking help with the California Smokers' Helpline have current MDD. It is likely other state quitlines have similar high rates. It appears half of those with MDD are not being treated for depression. There is a great need to develop appropriate intervention protocols to address mood problems and help depressed smokers succeed in quitting.

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B184

RELATIONSHIPS AMONG PSYCHIATRIC COMORBIDITY AND HEADACHE CHARACTERISTICS

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Objectives: Psychiatric comorbidity is highly prevalent in headache patients. The current study examined relationships among psychiatric comorbidity and headache characteristics in a sample of headache specialty treatment center patients.

Participants and Procedures: 299 participants were recruited through headache specialty clinics in Ohio. Participants completed a pre-treatment survey and a month long daily diary which assessed headache frequency, severity, and disability. Participants were assessed following their initial treatment visit for psychiatric comorbidity. Dual diagnoses (dual, N=100, not dual, N=199) were given to patients who met criteria for both a depressive and an anxiety disorder.

Results: A series of binary logistic regression analyses examined relationships between psychiatric comorbidity and headache characteristics. In univariate analyses, headache disability, headache severity and headache frequency were all related to having a dual diagnosis (Wald X2=9.301, p=.002, OR=2.008; Wald X2=5.414, p=.020, OR=1.838; Wald X2=6.525, p=.011, OR=1.053). Disability predicted dual diagnosis above and beyond headache severity and frequency (Wald X2=3.995, p=.046, OR=2.917). We then ran a MANOVA to compare headache characteristics in those participants with and without a dual diagnosis. Participants with dual diagnoses had significantly more frequent (w/dual M=19.508; w/out dual M=16.409, p<.05), severe (w/dual M=2.189; w/out dual M=1.977, p<.05) and disabling (w/dual M=1.446; w/out dual M=1.119, p<.05) headaches. In order to control for the effects of race, we ran a MANCOVA, and found that in the presence of race, there was only a significant difference in headache frequency (w/dual M=19.107, w/out dual M=16.355, p<.05) and disability (w/dual M=1.379, w/out M=1.123, p<.05) between those with and without a dual diagnosis.

Implications: Physicians should take special care in the diagnosis and treatment of comorbid psychiatric disorders in headache patients as there is a correlation between dual diagnosis and headache characteristics, even in the presence of race.

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B185

PAIN CATASTROPHIZING ALTERS AFFECTIVE MODULATION OF PAIN

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Recent studies have demonstrated that emotional states affect both the subjective experience of pain and supraspinal modulation of nociceptive transmission. These studies have demonstrated not only that negative emotional states generally augment pain whereas positive emotional states attenuate pain but also that the viewing of emotionally charged pictures is a reliable method of eliciting emotions. Pain catastrophizing has also emerged as a robust predictor of heightened pain and pain-related functioning. The present study aimed to assess the extent to which catastrophizing may alter expected patterns of affective modulation of cold pressor pain. Sixty healthy undergraduate university students (n=45 females; n=15 males) completed the Pain Catastrophizing Scale (PCS) and the Marlowe-Crowne Social Desirability Scale prior to viewing 10 neutral and 10 positive pictures from the International Affective Picture System (IAPS). Order of presentation was counterbalanced to control for any potential order effects. After viewing each series of images, participants immersed their hand into circulating ice water and measures of pain threshold and tolerance were obtained. Analyses of ratings of valence (pleasantness) and arousal assessed after each picture using the Self Assessment Maniken (SAM) confirmed that emotions were elicited and that the ratings were not significantly related to social desirability. Two groups were then created (high and low catastrophizing) based on a tertiary split of the distribution of obtained PCS scores. A 2 (catastrophizing group)×2 (emotional condition) repeated measures ANOVA of pain tolerance ratings revealed a significant interaction, F(1,39)=4,00, p=0,05 suggesting that the impact of emotional picture viewing on pain differed across PCS groups. Contrary to established patterns of affective modulation, participants with elevated PCS scores had significantly lower tolerance times (i.e., heightened pain responding) in response to the positive emotional pictures (t(1,19)=2,06, p=0,03). The theoretical and methodological implications of these findings are reviewed.

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B186

ORAL PARAFUNCTIONAL BEHAVIORS AND PAIN IN HEADACHE PATIENTS AND NON-HEADACHE CONTROLS

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Individuals with headaches report symptoms similar to those reported by patients diagnosed with temporomandibular disorders (TMD). In TMD patients, parafunctional tooth contact is significantly more frequent and intense than non-TMD controls. This study tested the hypothesis that headache patients show more frequent and intense tooth contact than non-pain controls. Thirty-four individuals (20 with headaches, 14 without) participated. Experience sampling methods were used to collect data on pain, tooth contact, mood, and stress. Participants were paged approximately every two hours during the day; participants were not paged while they slept. Participants were instructed to complete a pre-printed, eight-item questionnaire each time they were paged. Data collection lasted one week for each participant. The start day for data collection was randomized for day of week. Results showed that headache patients reported significantly more facial pain than controls, $F(1,32)=11.51$, $p<.01$, partial $\eta 2=.265$). Headache patients also reported more frequent and intense tooth contact $F(1,32)=8.98$, $p<.01$, partial $\eta 2=.219$, greater emotional distress $F(1,32)=4.28$, $p<.05$, partial $\eta 2=.118$, and more stress $F(1,32)=4.41$, $p<.05$, partial $\eta 2=.121$. Tooth contact was present 56% of the time, compared to half that value for controls. Parafunctional tooth contact requires activation of the masticatory muscles, especially the temporalis and masseter muscles. Lengthy activation of these muscles may produce pain that is interpreted by patients as headache, and reduction of oral parafunctions may lead to alleviation of pain.

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B187

PREDICTING DAILY REPORTS OF LEISURE-TIME EXERCISE FROM PAIN AND FATIGUE IN OLDER ADULTS

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Despite an increased understanding of the motivational determinants of exercise, little is known about contextual variations that impact decisions regarding exercise behavior. Daily perceptions of pain and energy may enhance or detract from exercise engagement. The purpose of this study was to predict leisure-time exercise behavior (LTEQ) from pain, energy, tiredness, and activity (step counts). Our sample included 57 sedentary adults 50 years and older (M age=63 years, SD=8 years, 85% female). Participants completed daily surveys for one week that included the LTEQ and subjective measures of pain, energy, and tiredness. Step counts were also measured by a continuously worn activity pedometer. Results indicated 64% of the overall variability in LTEQ was within-person, an adequate amount to warrant a multi-level approach. Pain [$t(56.49)=2.88, p<0.01$] and energy [$t(54.63)=2.01, p<0.01$] were significant fixed effects at the between-person level, meaning individuals who experienced higher pain and energy, on average, also displayed greater exercise. Energy [$t(273.93)=2.06, p<0.05$] was a significant fixed effect at the within-person level, meaning on days when an individual experienced above average energy they also displayed above average exercise. Significant between-person differences in the daily relationship between tiredness and exercise [Wald $Z=3.17$, $p<0.01$] were also found. The overall model explained 72% of the variance in exercise. Results indicate that even after controlling for mean-level and daily fluctuations in activity (as measured by a pedometer), mean-level perceptions of pain and energy and daily fluctuations in energy predicted exercise. Perceptions of pain and energy appear to play a significant role in understanding the contextual circumstances that surround volitional exercise. Applied implications will focus on promotion strategies for sedentary older adults.

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B188

THOUGHT SUPPRESSION: ASSOCIATIONS WITH PAIN AND DEPRESSION IN WOMEN WITH FIBROMYALGIA

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Patients with fibromyalgia suffer from chronic widespread pain which can interfere with everyday functioning. Research suggests that avoidant coping strategies are maladaptive in patients experiencing chronic illness. Suppression of unwanted thoughts is a potentially maladaptive avoidant coping strategy that might exacerbate the experience of fibromyalgia symptoms such as pain. Baseline associations among thought suppression, pain (severity and interference with daily functioning) and depressive symptoms were explored in a sample of 43 women with fibromyalgia recruited for a trial of a meditation-based treatment.

Self-reports were collected using the White Bear Suppression Inventory (thought suppression), the West Haven-Yale Multidimensional Pain Inventory (pain severity and interference), and the Beck Depression Inventory. Scores on all four measures were normally distributed. Pearson bivariate correlations explored relationships among thought suppression, pain, and depressive symptoms.

Higher thought suppression was significantly and positively associated with more pain interference ($r=.337$; $p=.038$) and with more severe depressive symptoms ($r=.418$; $p=.007$). In turn, more pain interference was also associated with depressive symptoms ($r=.655$; $p<.001$). In contrast, pain severity was neither associated with thought suppression nor with depressive symptoms.

Though firm conclusions cannot be drawn from this small exploratory study, the findings suggest that thought suppression, pain interference and depressive symptoms are inter-related and may exacerbate each other. It is possible that thought suppression has a greater impact on cognitive (interference subscale) versus somatic (severity subscale) aspects of pain, which may also heighten the experience of depressive symptoms.

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B189

STRESS, AFFECT, AND PAIN IN POLIO-SURVIVORS

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Stress is associated with increased prevalence and intensity of pain. Stress also involves negative affective states, which in turn are associated with increased pain. Physical disabilities often entail a high degree of stress and negative affect related to the demands of disability, and pain as a primary or secondary condition of the disability. In the late 1980's, a "late effects" syndrome of poliomyelitis was found in polio survivors, who developed new symptoms of pain, fatigue and weakness years after acute illness. Change in function and its impact on independence and health in mid to later life has significant impact on well being for many of those experiencing late effects. This study examined the relationship of stress and pain in polio survivors; we expected associations between increases in perceived stress and both prevalence and severity of pain. Further, we sought to understand the extent to which the stress-pain association was accounted for by negative affect. Participants were 1,282 male and female polio survivors (Median age=63.54). Pain was assessed using two single-item indicators of pain prevalence and severity. Pain prevalence was assessed with a yes/no response and severity (1-slight to 5-extreme) to ongoing joint and muscle pain lasting more than three months. Perceived stress was assessed using the 10-item Perceived Stress Scale. Results confirmed our hypotheses; higher levels of perceived stress were associated with greater prevalence and severity of joint and muscular pain. These associations remained statistically significant after controlling for socio-demographic and disease-related controls. However, associations between stress and pain appeared to be accounted for by negative affect. Potential implications of this analysis include the importance of effective pain management for polio survivors also contending with the demands of disability, aging and change in function with respect to their well being and perceived stress.

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Friday
March 28, 2008

Symposium #10 9:00 AM–10:30 AM 3001

BEHAVIORAL MEDICINE INTERVENTIONS FOR PERSONS WITH CHRONIC AND LIFE-THREATENING DISEASE: A LOOK AT THE PAST AND INSPIRATION FOR THE FUTURE

Suzanne C. Lechner, PhD,[1] Neil Schneiderman, PhD,[1] Redford B. Williams, MD,[2] David Spiegel, MD[3] and Bonnie Spring, PhD[4]

[1]University of Miami, Miami, FL; [2]Duke University, Durham, NC; [3]Stanford University, Stanford, CA and [4]Northwestern University, Chicago, IL.

Summary: The theme of this year's annual meeting is "Celebrating the Past, Inspiring the Future". This symposium reflects upon the progress in testing the efficacy and effectiveness of psychological interventions in Behavioral Medicine/Health Psychology. By looking back on what has been accomplished, the presenters will comment on what we have learned and delineate ideas and goals for the future. The three speakers will address this theme based on the literature from different disease groups. Dr. Neil Schneiderman will present on HIV interventions. Dr. Redford Williams will comment on interventions in coronary heart disease and Dr. David Spiegel will cover cancer interventions. Dr. Bonnie Spring will serve as Discussant of this thought-provoking and inspiring symposium.

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Symposium #10A 3002

PSYCHOSOCIAL INTERVENTIONS AND HIV/AIDS

Neil Schneiderman, PhD, Erin Fekete, PhD, Frank Penedo, PhD, Gail Ironson, MD PhD and Michael Antoni, PhD

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Psychosocial intervention studies have focused on primary prevention of disease in those not yet infected with HIV and secondary prevention of disease transmission in those already infected. In addition, tertiary prevention, in the form of adherence training and cognitive behavioral stress-management (CBSM) studies have attempted to minimize suffering in HIV/AIDS patients and slow or arrest the disease process. Most prevention studies have targeted populations at risk for HIV including drug users, men who have sex with men and youth as well as adults at risk because of heterosexual behaviors. Significant intervention effects reported included increased condom use and reduction in unprotected sex, number of sexual partners and injection drug use or needle sharing. Several secondary prevention studies have successfully used regular medical visits to deliver brief interventions that have resulted in reported increases in safe-sex practice. Tertiary prevention studies on the effects of medication-adherence training in persons living with HIV/AIDS have had mixed results, with the best results being in helping to maintain adherence in patients who already have good adherence. Recently we studied men who were on highly active antiretroviral therapy (HAART), but were failing their medication regimen as evidenced by detectable viral load. These men were given either medication-adherence training alone or in conjunction with CBSM. Those receiving both had lower HIV viral load than those receiving only medication-adherence training when followed for up to one year post intervention. The difference in HIV viral load between conditions appeared to be due to decreased depressed affect and independent of medication adherence.

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Symposium #10B 3003

PSYCHOLOGICAL/BEHAVIORAL INTERVENTIONS FOR PERSONS WITH CORONARY HEART DISEASE (CHD): WHAT DO WE KNOW, WHAT CAN WE DO?

Redford Williams, MD

Psychiatry, Duke University Medical Center, Durham, NC.

Psychosocial factors like hostility/anger, depression, anxiety, social isolation and job stress increase the risk of developing CHD among healthy persons and confer a poorer prognosis in patients with CHD. It is important, therefore, to develop psychological and behavioral interventions to reduce these risk factors and hence prevent disease and improve prognosis once disease is present. Pharmacologic approaches—e.g., statins, aspirin and beta blockers—have been shown in large scale phase III trials to be effective for both primary and secondary prevention. Despite promising findings in some relatively small scale phase II trials, it remains to be determined whether similar benefits can be obtained using psychological/behavioral interventions, and one large multicenter trial—ENRICHD – failed to demonstrate a clinical benefit for "hard" endpoints. To develop and implement psychological/behavioral interventions that will be effective we need to draw upon an improved understanding of the mechanisms—biological, behavioral and genetic—that are proximally responsible for the association between psychosocial factors and disease development and prognosis. That is, in order to be effective, psychological/behavioral interventions must ameliorate the behavioral and biological characteristics – themselves the product of gene×environment interactions – that are directly involved in determining the pathogenesis and course of CHD. If hostility and depression, for example, harm health via accompanying changes in neuroendocrine, autonomic, inflammatory, hemostatic and/or metabolic functions, it will be important that we design psychological/behavioral interventions that reduce the expression of these mechanisms. Some psychological/behavioral interventions have been shown to reduce expression of some biobehavioral mechanisms, and genetic assessments can be helpful in identifying persons most at risk of expressing both psychosocial risk factors and the intervening pathogenic mechanisms. There is much work to be done, but there is reason for optimism.s reason for optimism.

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Symposium #10C 3004

BACK TO THE FUTURE: PSYCHOSOCIAL INTERVENTION RESEARCH WITH CANCER PATIENTS

David Spiegel, MD

Psychiatry & Behavioral Sciences, Stanford University School of Medicine, Stanford, CA.

Cancer is a stressor in many senses, involving existential concerns, treatment decisions, side effects of surgical and medical treatments, changes in social support and social roles, financial concerns, and the constant threat of recurrence. The ways in which people cope with these stressors, and their resources of emotional support, can have profound effects on the quality and potentially on the quantity of their survivorship. Considerable evidence has accumulated demonstrating that psychotherapeutic techniques such as group therapy can promote resilience and reduce distress, pain, and social isolation. Therapeutic domains include building new networks of social support, encouraging the expression of emotion related to the stress of illness, detoxifying fears of dying and death, restructuring life priorities, improving relationships with family and friends, and clarifying communication with physicians. In addition, specific stress management techniques such as training in self-hypnosis can effectively alter perception of pain and anxiety and facilitate medical procedures. There is need for dismantling and comparative approaches to better evaluate effective components of psychosocial intervention. Effects of intervention on specific brain regions and stress response systems, including endocrine, immune, and autonomic nervous systems has shown initial promise. Novel pathways include sympathetic catecholamines triggering beta 2 adrenergic receptors on breast and ovarian tumor cells which can trigger the production of VEGF, growth of blood vessels, and larger tumor volume. Possible relationships between improved quality of life and disease progression also merit further study. Therapeutic modulation of perception, emotion, cognition and social support is a critical element in managing the stress of cancer.

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Symposium #11 9:00 AM–10:30 AM 3005

BEYOND DEPRESSION: SYMPTOM DISTRESS AMONG PROSTATE CANCER PATIENTS

Laura J. Hanisch, PsyD

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Summary: Behavioral scientists have tended to focus on emotional distress to the neglect of symptom distress among cancer patients despite evidence that symptom distress is more prevalent and bothersome. It is unclear, however, whether and to what degree symptom distress reflects emotional distress or is a cause of emotional distress that is amenable to intervention. Delineation of these relationships is particularly important among men, who may be relatively more likely to endorse physical over emotional symptoms when reporting on their well-being. This symposium examines symptom distress among prostate cancer patients. Savard and colleagues draw on data from a longitudinal study of prostate cancer patients receiving androgen deprivation therapy, which has been posited to increase the risk of depression. Patterning of results across time suggests that symptom distress (pain, fatigue and insomnia), as well as stressful life events, rather than testosterone deficiency per se, contribute to the development of depression. In a study of a similar androgen deprived cohort, Hanisch and colleagues focus on the relationship between hot flashes, nocturia, sleep, and fatigue, demonstrating that although objectively defined hot flashes were common, fatigue levels were low. Results indicated that subjectively perceived hot flashes are related to poorer sleep efficiency, but not fatigue, suggesting these patients may have adapted to sleep disturbances. Diefenbach and Mohamed report on the relationship between pretreatment depression and posttreatment urinary and sexual functioning in a large group of prostate cancer patients over the year following diagnosis and treatment. Their results demonstrate that even when controlling for interim symptom reports, baseline depressive levels continue to predict 12-month symptom distress, suggesting that even moderate levels of depressive symptoms may put one at risk of treatment side-effects. Ann O'Mara, will offer commentary on these presentations and briefly outline NCI funding priorities for studies of symptom distress.

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Symposium #11A 3006

DEPRESSION AND ANDROGEN-DEPRIVATION THERAPY FOR ADVANCED PROSTATE CANCER

Josée Savard, PhD,[1,2] Sébastien Simard, Mps,[1,2] Séverine Hervouet, MPs,[1,2] Hans Ivers, MPs[1,2] and Dominique Rioux, MPs[2]

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The goal of this study was to assess the role of androgen-deprivation therapy (ADT) in the development of depression in men with advanced prostate cancer. A total of 29 patients about to begin long-term ADT for advanced prostate cancer were enrolled in this longitudinal study. The first psychological evaluation was conducted a few days following recruitment, which was followed by six additional evaluations conducted at 2-month intervals. At each time assessment, the mood and adjustment disorders sections of the Structured Clinical Interview for DSM-IV and the Hamilton Depression Rating Scale were administered and the participants had to complete a battery of self-report scales assessing depression and related variables. At baseline, 17.2% of the patients met the diagnostic criteria for a depressive disorder (including adjustment disorders). Only 3.5% of the patients developed a depressive disorder in the first two months. The proportion of depressive disorders and depression scores obtained on self-report scales were at their highest at 4- and 6-month assessments, although differences across time were not statistically significant. Overall, longitudinal regression models revealed that depression scores were best predicted by higher levels of pain, fatigue, insomnia and perceived impact of life events. This study revealed highest rates of depression 4 and 6 months after ADT initiation. Given that testosterone levels decrease dramatically right after the ADT has commenced, it suggests that testosterone deficiency per se has a limited role in the development of depression. Instead, it would appear that depression is more importantly related to psychosocial and psychophysiological factors such as pain, fatigue, insomnia and stressful life events, that may be associated with prostate cancer treatments and their sides effects in general.

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Symposium #11B 3007

PREDICTORS OF FATIGUE AMONG PROSTATE CANCER PATIENTS ON ANDROGEN DEPRIVATION THEAPY

Laura J. Hanisch, PsyD,[1] Steven C. Palmer, PhD,[1] Phillip R. Gehrman, PhD,[1] Nalaka S. Gooneratne, MD,[3] David J. Vaughn, MD[2] and James C. Coyne, PhD[1]

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Context: Prostate cancer (PC) patients undergoing androgen deprivation therapy (ADT) often report fatigue as a primary symptom complaint. Hot flashes related to ADT and nocturia related to PC are suspected of disrupting sleep, leading to fatigue. The role these symptoms play in the fatigue experienced by PC patients receiving ADT has not been adequately studied, making targeted interventions difficult to initiate.

Objective: To determine if nocturnal hot flashes and nocturia relate to fatigue among PC patients receiving ADT and if this relationship is mediated by sleep quality.

Study Design: Forty-seven men completed 24-h hot flash monitoring. Objectively measured hot flashes were determined by an increase in sternal skin conductance of ≥1.78 micro-mho in 45 s. Men reported the subjective occurrence of a hot flash by pressing event mark button, and reported nocturia and fatigue through daily diaries. Sleep efficiency (SE) was calculated using actigraphy.

Results: Across participants, nocturia was moderate (M=2.2), and nocturnal objective (M=1.3) or subjective (M=1.4) hot flashes were few. SE, the percentage of bed time spent sleeping, averaged at 75.4% (SD=12.3). Although SE was negatively related to subjective hot flashes, it was unrelated to objective hot flashes or nocturia. Ratings of next day fatigue were low and unrelated to hot flashes, nocturia, or sleep efficiency.

Conclusions: PC patients in our study report only mild levels of fatigue despite poor sleep efficiency. Although subjective hot flashes related to poorer sleep efficiency, objectively defined hot flashes and nocturia did not. Future research must resolve the discrepancy between results obtained with subjective versus objective measurement.

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Symposium #11C 3008

THE EFFECTS OF ELEVATED LEVELS OF DEPRESSION ON POST-TREATMENT URINARY AND SEXUAL FUNCTIONING AMONG PATIENTS WITH LOCALIZED PROSTATE CANCER

Michael A. Diefenbach, PhD and Nihal Mohamed, PhD

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

Background. Past research on functioning of patients treated for localized prostate cancer (PrCa) has focused on the relationship among cancer treatment, quality of life (QOL) and potential side-effects (e.g., urinary/sexual dysfunction, urinary/sexual bother, activity limitation due to urinary dysfunctions). Compared to other health conditions, the role of psychological factors such as depression, has not been examined as a predictor of side effects among PrCa patients. The present study fills this gap by examining the role of pretreatment depression as a predictor of treatment side effects among PrCa patients.
Method. Men (average age 65 years; SD=7.6; mainly married and Caucasian) diagnosed with localized PrCa (N=793) completed baseline (pretreatment), six months, and 12 months assessments. Patients had radiation therapy (53%), brachytherapy (37%), and prostatectomy (20%). Measurements included depression (CES-D), urinary dysfunction and bother, activity limitation due to urinary problems (American Urological Association symptom index), sexual dysfunction and sexual bother (Sexual Adjustment Questionnaire).
Results. Although patients generally had low scores on the CES-D (M=5.10, SD=4.37; scale range=0–26), results of hierarchical regression analyses showed that their baseline depression levels significantly predicted subsequent urinary dysfunction, urinary bother and related activity limitation, and sexual bother assessed at six month controlling for baseline function ($p<.05$). Importantly, these relationships remained largely significant when associations between baseline depression and treatment side effects at 12 months were examined controlling for sexual and urinary functioning at 6-months.
Conclusion. Our findings suggest that even modest levels of pretreatment depression in prostate cancer patients may be a risk factor for more severe side effects following treatment. Further research is needed to better understand these relationships and to explore possible interventions.

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Symposium #12 9:00 AM–10:30 AM 3009

HEALTH LITERACY AND CHRONIC ILLNESS: REVIEWS, VIEWS AND NEW IDEAS FOR RESEARCH AND INTERVENTIONS

Christian von Wagner, PhD[1] and Isaac M. Lipkus, PhD[2]

[1]Epidemiology and Public Health, UCL, London, United Kingdom and [2]Dunke University Medical Centre, Duke University, Durham, NC.

Summary: Following the results of the latest National Assessment of Adult Literacy (NAAL), it is estimated that over 75 million adults in the US have limited health literacy skills. This symposium will offer a review of the existing literature and explore examples of the role of health literacy in the context of HIV/AIDS and cancer.
Dr. Rima Rudd will set the foundation for this symposium by illustrating the discrepancy between literacy-related demands of health care and the skills that have been documented for large percentages of adults in the US and Europe. She will also introduce recent health literacy research explorations, some of which will be addressed in more detail in subsequent presentations. For example, Dr. Kirsten McCaffery will look in more detail at the issue of informed choice as an example of a setting in which literacy and numeracy skills (e.g. comprehension of quantitative information) are particularly relevant and will present strategies for facilitating understanding and decision making among adults with low health literacy. Professor Seth Kalichman will follow this presentation with an example of a skill-building intervention in the context of HIV/AIDS Treatment Adherence demonstrating a pictorial intervention can positively affect knowledge of key concepts such as AIDS knowledge, viral loads and CD4 counts. In the final presentation, Dr. Michael Wolf will review some of the assumptions underpinning the construct of health literacy and present a conceptual framework mapping specific cognitive traits to health literacy skills. In doing so, he will use case examples to revisit some of the skills outlined by previous presenters and propose new ways of designing materials and instructing patients with limited health literacy.
Dr. Isaac Lipkus will bring together major themes emerging from the session and lead a discussion on what these tell us about the application of health literacy to understanding and remediating disparities in the context of cancer (prevention, early detection and treatment) and HIV/AIDS.

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Symposium #12A 3010

HEALTH LITERACY RESEARCH: FINDINGS, GAPS, AND FUTURE DIRECTIONS

Rima E. Rudd, ScD

Society, Human Develop. and Health, Harvard School of Public Health, Boston, MA.

Literacy-related demands on adults in industrialized nations have increased dramatically across all sectors, including the health sector. This increase in demands is associated with the diffusion of communication technologies and with an increased expectation that individuals need to accept more responsibility for acquiring and using information related to many aspects of their lives. Unfortunately, in face of these increases in demands and expectations, findings from international assessments of adult literacy indicate that large percentages of adults in the US, Canada, and most European nations lack the literacy skills needed to navigate the intricacies of civic, economic, and health activities. The mismatch between demands and skills supports inequities and leads to untoward health outcomes. This presentation sets the foundation for the panel discussion with an overview of literacy and health literacy findings, evidence of links between literacy skills and health consequences, and current research explorations.

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Symposium #12B 3011

SUPPORTING INFORMED DECISION MAKING AMONG PATIENTS WITH LIMITED HEALTH LITERACY

Kirsten J. McCaffery, PhD[1] and Michael Wolf, MPH, PhD[2]

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Patients have the right to be fully informed about their healthcare and involved in decisions about their health. Informed health decision making also offers important benefits to both the patient and the provider, such as improved knowledge, more realistic expectations of outcomes, improved patient experience, reduced uncertainty, patient choices consistent with values and in some situations, better adherence to management. Although the move towards patient involvement in health decisions has gained considerable support it has failed to include patients with low health literacy, despite the well documented low levels of knowledge of disease and poor adherence to health advice among this group. Supporting informed patient choice is not straightforward. It requires comprehension of probabilistic information on outcomes, the ability to trade-off pros and cons of different options and to combine the likelihood of specific events with individual values and preferences. This demands reading, verbal and numeracy competencies to make sense of information and understand likely outcomes. It also requires social and psychological capabilities such as self-efficacy and personal empowerment to engage in and action decisions. This can impose a substantial cognitive and emotional burden on any patient, yet the potential benefits for patients with low health literacy and the ethical imperative of informed decision making make this challenge an important one. This paper will discuss the obstacles to informed decision making among patients with low health literacy in the context of cancer screening, prevention and treatment, and present strategies for facilitating understanding and decision making among this group. The findings are informed by research on the development of decision aids and health information for adults with low education and literacy carried out in Australia and the US. The findings will be considered alongside different theoretical frameworks drawn from the field of adult education and literacy development.

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Symposium #12C 3012

HEALTH LITERACY AND HIV/AID TREATMENT ADHERENCE: EMPIRICAL AND CONCEPTUAL FOUNDATIONS FOR INTERVENTION

Seth Kalichman, PhD

Psychology, University of Connecticut, Storrs, CT.

Health literacy consists of a constellation of skills that include the ability to use printed, written, and verbal information for following medical and health care directions and improving health, such as reading and comprehending prescription bottles and dosage instructions. Medical patients with poor health literacy experience poorer health outcomes and greater mortality. Among HIV patients, lower health literacy skills are closely related to adherence to combination antiretroviral therapies and health outcomes. Individuals who miss taking at least one antiretroviral medication dose in a two-day period have greater difficulty comprehending simple medical instructions. We developed a theory-based pictorial skills building intervention to improve treatment adherence for HIV positive persons with limited literacy skills. A test of concept study showed that patients significantly increased their AIDS-related knowledge from 57% correct on the AIDS Knowledge Test at baseline to 67% at 1-month, 71% at 2-month, and 79% correct at 3-month follow-up. In addition, significantly more participants indicated understanding the meaning of their viral load at the 1-month and 3-month follow-ups, and significantly more participants indicated understanding their CD4 counts at all three follow-ups. Results of analyses for number of medications missed in the previous three days assessed at follow-ups compared to rates of missed doses at baseline showed significant reduction in missed doses at the 2-month and 3-month follow-ups. There was also a significant reduction in the number of times medications were taken off schedule at the 2-month follow-up. Finally, reductions in non-adherence indexed by the combination of missed doses and off-schedule doses occurred at all three follow-up assessments relative to the baseline rates. These findings support a full-scale randomized trial that of the intervention that is currently underway.

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Symposium #12D 3013

A COGNITIVE-LEARNING SCIENCES APPROACH TO THE DESIGN OF HEALTH LITERACY INTERVENTIONS

Michael S. Wolf, MA MPH PhD

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The association between adult literacy skills and health outcomes may be well documented, but not entirely clear. As a result, many interventions have addressed health literacy by re-writing health materials at a simpler level or following other design principles to enhance reading comprehension, with variable success. To better understand the problem of limited health literacy, investigators have recently begun to question whether cognition function may be the actual causal factor that adversely affects health behaviors and outcomes for individuals with limited reading ability. Literature in the areas of reading comprehension and learning disabilities suggests that a significant relationship exists between specific cognitive abilities and the formation of literacy skills in early childhood. Similar to findings from health literacy research, poorer cognitive ability has also been linked to problems with medical understanding, worse self-care, poorer physical and mental health, and increased mortality risk. In this session, a conceptual framework mapping specific cognitive traits to health literacy skills will be offered. Case examples will be presented to demonstrate how a cognitive perspective can better inform the design of materials and instructional methods for patients with limited health literacy.

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Symposium #13 9:00 AM–10:30 AM 3014

IMPACT OF ANXIETY DISORDERS ON MEDICAL POPULATIONS

Daniel Cukor, PhD[1] and Rolf A. Peterson, PhD[2]

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Summary: Anxiety disorders are often overlooked in medical settings. This symposium will focus on the impact anxiety disorders have across a variety of medical populations. The first presenter will present novel data on anxiety's impact in End Stage Renal Disease. The presentation will focus on SCID diagnosed anxiety disorders and the impact of quality of life in comparison to depression as well as strategies for appropriate screening for anxiety in this population. The second presentation presents a secondary examination of whether cognitive behavioral therapy, supportive stress management or usual care interventions differed with respect to time to remission of anxiety or depression in post CABG surgery patients. The third presentation focuses on anxiety in an understudied medical population, burn victims. The presentation explores the role of premorbid anxiety disorders on the development of further psychological disturbance and medical variables. It further explores the impact of having a clinically significant anxiety reaction following the burn injury. The symposium creates a forum for the discussion of the assessment, treatment and sequellae of anxiety disorders in diverse medical populations.

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Symposium #13A 3015

ANXIETY DISORDERS IN END STAGE RENAL DISEASE

Daniel Cukor, PhD,[1] Jeremy Coplan, MD[1] and Clinton Brown, MD[2]

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In End Stage Renal Disease (ESRD), anxiety disorders are often perceived to represent symptoms of depression, rather than independent conditions, and have therefore been relatively understudied in this medical population. In order to determine the psychosocial impact of anxiety disorders on patients with ESRD, the current study sought to identify the rates of these disorders in this population, utilizing a structured clinical interview, and their relationship to perceptions of Quality of Life (QOL). As a secondary goal, the validity of the Hospital Anxiety and Depression Scale (HADS), a common screening tool for anxiety disorders, in patients with ESRD was explored. In a sample of 70 randomly selected hemodialysis patients from an urban metropolitan center, utilizing the Structured Clinical Interview for DSM-IV Axis I Diagnosis (SCID-I), 71% of the sample received a DSM-IV Axis I diagnosis, with 45.7% of affected subjects meeting criteria for an anxiety disorder. The presence of an anxiety disorder was associated with an overall lower quality of life both independent (68.3±11.0) of, and co-occurring with depressive affect (47.5±11.6). In addition, concordance between DSM-IV anxiety disorders and anxiety scores acquired by the HADS was not significant and, therefore, the utility of the HADS as an anxiety screening tool in ESRD patients is questioned. The finding that anxiety disorders negatively impact QOL in patients with ESRD underscores the importance of accurate diagnosis and effective treatment. Moreover, anxiety disorders were not merely manifestations of depression, but exerted both independent and synergistic effects on QOL in ESRD.

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Symposium #13B 3016

EFFECTS OF STRESS MANAGEMENT AND COGNITIVE BEHAVIOR THERAPY ON TIME TO REMISSION OF ANXIETY AND DEPRESSION AFTER CORONARY ARTERY BYPASS GRAFT SURGERY

Kenneth E. Freedland, PhD, Brian Steinmeyer, MS, Rebecca L. Reese, MA and Robert M. Carney, PhD

Psychiatry, Washington Univ. School of Medicine, St. Louis, MO.

In a recently completed, three-arm, 12 week, randomized clinical trial (n=123), both cognitive behavior therapy (CBT) and supportive stress management (SSM) were superior to usual care (UC) for anxiety and depression after coronary artery bypass graft (CABG) surgery. Neither active intervention was clearly superior to the other, although there were trends favoring CBT over SSM. This secondary analysis examines whether these interventions differed with respect to time to remission of anxiety or depression. Remission of depression was defined as a weekly Beck Depression Inventory (BDI) score<7, and remission of anxiety was defined as a weekly Beck Anxiety Inventory (BAI) score<7. In Cox proportional hazards regression models adjusting for baseline levels and use of antidepressants, baseline level of anxiety affected time to remission of anxiety (HR=0.95, p=.01), but there were no significant between-group differences in time to remission on the BDI (HR=1.27, p=.36) or BAI (HR=1.22, p=.53). However, Kaplan-Meier analyses suggested a modest but consistent trend toward faster remission of depression in CBT than SSM. In contrast, the rates of remission of anxiety were similar between groups during the first 6–7 weeks of treatment, but the remission rate plateaued in the SSM arm after that. This suggests that SSM may provide diminishing returns after 4–6 weeks of treatment, but that CBT continues to be beneficial over 12 weeks for patients with relatively persistent post-CABG depression and anxiety.

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Symposium #13C 3017

THE ROLE OF ANXIETY DISORDERS IN BURN INJURED PATIENTS

Judith Cukor, PhD, Jennifer Roberts, PhD, Gabrielle Chiaramonte, PhD and JoAnn Difede, PhD

Psychiatry, Weill Cornell Medical College, New York, NY.

Research in the area of burn injury has focused upon the prevalence of posttraumatic stress disorder (PTSD) and other anxiety disorders in the population following their trauma, however, the association of PTSD with medical variables and the role of pre-existing anxiety are still unclear. The data being presented is based upon clinical interview, self-report measures, and chart review of, to date, 70 patients on the inpatient burn unit of a busy metropolitan hospital. Initial analyses sought to investigate the role of a premorbid anxiety disorder on psychiatric and medical outcomes following the medical trauma. Analyses revealed that individuals with a current anxiety diagnosis whose onset predated the injury had significantly higher scores on the Profile of Mood State in the month following their injury. Mood on an average day was rated as significantly lower and pain on an average day rated as significantly higher in individuals with a current anxiety disorder that predated the injury. Notably, even individuals with a lifetime history of anxiety disorder without current symptomatology rated their pain on an average day as significantly higher than those without a lifetime history of anxiety. The role of injury-specific posttraumatic stress disorder (PTSD) on medical and psychiatric variables was also explored. T-tests revealed that individuals in the PTSD group were significantly more likely to have had 2 or more operations related to their burn injury than those without PTSD. In addition, there were a significantly greater percentage of individuals with PTSD who had sustained burns on their head as compared to the non-PTSD group. Notably, there were no significant differences between those with and without PTSD on total burn surface area (TBSA), a commonly used measure of severity of the injury. These results indicate that individuals with premorbid anxiety may experience more pain and greater mood symptoms in the hospital following burn injury. Furthermore, the results imply that number of operations may be more related to PTSD post-injury than other factors.

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Symposium #14 9:00 AM–10:30 AM 3018

IMPLEMENTATION, INTEGRATION AND SYSTEMS: LEARNING FROM THE PAST AND MOVING TO THE FUTURE IN BEHAVIORAL MEDICINE

Erica S. Breslau, PhD

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

Summary: Implementation research examines processes, barriers, facilitators and strategies for accelerating adoption of effective practices in clinical and community contexts thereby having a direct impact on the public health. Over the previous two decades there has been a proliferation in theoretical models and terms related to implementation science (e.g., knowledge transfer; systems theory). Presentations in this symposium will address implementation science from four perspectives. The first will provide a broad history of implementation research from the perspective of quality health care improvements. The second will examine our understanding of processes and outcomes that underlie contextual factors at the individual, organization, and environmental/system level. The third will explore practical application of systems thinking with the delivery of evidence-based knowledge approaches to promote healthy lifestyles in clinical and community practice settings. The fourth will suggest how to accelerate the pace to expand the implementation and sustainability of evidence-based practices into usual practice, and future directions will be considered. These presentations will synthesize current thinking across the overall health care system and will identify key issues to improve our delivery of system-wide implementation research into practice.

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Symposium #14A 3019

THE DEVELOPMENT OF IMPLEMENTATION SCIENCE WITHIN CLINICAL, HEALTH SERVICES AND QUALITY IMPROVEMENT RESEARCH

Brian Mittman, PhD

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Although the theoretical and empirical foundations and origins of implementation science are diverse, much of the recent growth in the field can be traced directly to two major themes of interest within the domains of health policy and practice. The first theme comprises interest in "translational roadblocks" within the health research-development-implementation pipeline (i.e., slow progression of science to practice). The second theme driving increased interest in implementation science derives from public and private pressure to close well-publicized gaps in the quality, safety, equity and efficiency of healthcare delivery. This presentation will review the origins and history of implementation science and will identify the major contributions quality improvement work has made. Key themes and lines of research within the field will be highlighted and the major sources of funding and research activity will be described. A review of the current state of the art in implementation science, the Veteran's Administration (VA's) Quality Enhancement Research Initiative (QUERI) will illustrate: (1) the manner in which healthcare quality improvement (QI) research has adapted theories, findings and research approaches from other subfields within implementation science (e.g., diffusion and dissemination in health behavior and health promotion research, technology transfer in substance use disorders research); and (2) the manner in which healthcare quality improvement research has contributed to further development of these theories, findings and research approaches for implementation science.

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Symposium #14B 3020

SYSTEMS THINKING FOR IMPLEMENTATION SCIENCE: HOW DO WE UNDERSTAND PROCESS AND OUTCOME?

Jennifer L. Terpstra, MPH,[1] Cameron D. Norman, PhD[2] and Allan Best, PhD[3]

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Recent advances in implementation science include increased recognition that: 1) dynamic models better describe the processes than previous linear models; 2) context critically affects both process and outcome; and 3) contextual factors and their relative influence can differ greatly across both research and implementation settings. This presentation will review three steps to enhance the understanding of implementation science. First, we will summarize 15 years of collaboration between the National Cancer Institutes (NCI) of the U.S. and Canada to develop systems frameworks for cancer control research and practice. Second, an innovative logic model will be described to position key concepts from the literature base in a manner that illustrates the relationship between inputs, activities and processes, outputs and outcomes related to health research and implementation science. The models' components are organized across three domains to reflect the different levels of activity in this area: individual factors, organizational factors and environmental/system determinants. Third, a synthesis of recent reviews that focus on systems factors related to implementation will be highlighted. The reviews identify a mix of people (e.g. beliefs, values and perceived needs, readiness for change), process (e.g. trialability, reinvention, leadership support, incentives, communications), and structure (e.g. network characteristics, technical capacity, information systems, dedicated time and resources) variables, consistent with the logic model, and extending the implementation component of the evolving cancer control framework.

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Symposium #14C 3021

PRACTICAL APPLICATIONS OF SYSTEMS THINKING: IMPLEMENTING LIFESTYLE INTERVENTIONS

Paul A. Estabrooks, PhD

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The implementation of behavioral interventions into typical community or clinical practice may be best achieved by integrating delivery system knowledge with evidence-based knowledge related to the functioning principles of the interventions themselves. The purpose of this presentation is to describe 3 case studies of systems-integration approaches to intervention development and sustained implementation in community and clinical settings. The case studies include system integrative approaches to promote healthy lifestyles through: (1) Cooperative Extension; (2) Area Agencies on Aging; and (3) health care clinics. The RE-AIM framework was used to document rate of adoption, implementation, and sustainability of the interventions. The results of the case studies indicate that rate of adoption was influenced by the commitment of organizational decision makers, but not the degree to which organizational decision makers participated in development. Sustained implementation was more likely when those who would ultimately deliver the program were intimately involved in the development process. Further, fidelity to the implementation procedure was weakened by program factors that were inconsistent with the organizational resources and structure. This led to adaptation of the intervention that could reduce effectiveness. Finally, although each of the three systems was distinct in structure and resources, the tenets described above were consistent across contexts. It was concluded that comprehensive systems approaches to the development and delivery of lifestyle interventions heighten the likelihood of sustained implementation in clinical and community settings.

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Symposium #14D 3022

FUTURE DIRECTIONS FOR IMPLEMENTATION RESEARCH IN BEHAVIORAL MEDICINE

Phyllis Panzano, PhD

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Recent publications and reviews of the literature pertaining to the adoption, implementation and diffusion of innovations in the health services sector and across a wide diversity of industrial and organizational domains serve as valuable reminders of the progress that has been made in implementation science. Yet, these reviews also highlight many critical gaps in knowledge which need to be addressed in order to accelerate the pace and expand the extent to which evidence-based healthcare innovations are successfully implemented in community and clinical settings. This presentation will highlight the gaps and build a case for future implementation research in behavioral medicine. The issues presented will be based on: 1) recent substantive and methodological reviews of the implementation and related literatures; 2) consideration of key theoretical implementation frameworks from the organizational behavior and healthcare literatures and empirical tests of those frameworks; and 3) analyses of implementation research agendas of public organizations and private foundations. In addition, the presentation will build on comments made by the other three panelists pertaining to historical developments in implementation research and the conceptual and applied value of synthesized frameworks. The discussion of issues, challenges and directions will be informed by examples from the Innovation Diffusion and Adoption Research Project (IDARP), a longitudinal study of the adoption and implementation of four evidence-based and promising behavioral innovations.

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Symposium #15 9:00 AM–10:30 AM 3023

INNOVATIVE METHODS FOR EXAMINING MEDIATORS IN RANDOMIZED CONTROLLED INTERVENTION TRIALS

Beth Lewis, PhD,[1] George D. Papandonatos, PhD,[2] Ester Cerin, PhD[3] and Bess H. Marcus, PhD[4]

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Summary: Researchers postulate that theory-based interventions influence behavior by changing theoretical constructs believed to be important for behavior change. These theoretical constructs are referred to as "mediators" because it is believed that the constructs mediate the relationship between the intervention and behavior change. A majority of studies have used the Baron and Kenny (1986) method to examine mediators; however, this method has been criticized for having low power. The purpose of this presentation is to provide an overview of various mediation models that can be used in intervention research. Various statistical approaches to mediation analyses will be described and the pros and cons of each method will be discussed. To demonstrate the use of various mediation models, the three presenters will apply various mediation statistical methods in randomized controlled trials examining physical activity behavior change. Specifically, Dr. Beth Lewis will present mediator data from the Jump Start study (n=150) and Healthy for Life (n=448), both randomized controlled print-based physical activity trials examining several potential mediators. Dr. Papandonatos will present multiple mediation models for Project STRIDE (n=239), a randomized clinical trial comparing print- and telephone-based interventions to a delayed-treatment control. Dr. Ester Cerin will compare the results of four methods of mediation analyses applied to a small-scale print- and telephone-based physical activity trial (n=52). The discussant, Dr. Bess Marcus, will provide her perspective and discuss ideas for future directions in mediation research.

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Symposium #15A 3024

HOW CONFIDENT ARE WE THAT SOCIAL SUPPORT MEDIATES CHANGES IN WALKING BEHAVIOR? WELL, IT DEPENDS...

Ester Cerin, PhD,[1] Lorian Taylor, MPH,[2] Eva Leslie, PhD[3] and Neville Owen, PhD[4]

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To enhance the effectiveness of physical activity interventions, it is important to identify the mechanisms (mediators) through which changes in physical activity occur. Exercise-related social support from family and friends is one of the hypothetical mechanisms of physical-activity change. Data from a randomized controlled trial (N=52) were used to examine the evidence of a mediating effect of social support on changes in walking. Inactive adults were randomized into either a print or a print-plus-telephone intervention. Walking and exercise-related social support were assessed at baseline, after the intervention and 4 weeks later. Four methods of mediation analysis were used to establish whether social support explained the effects of the intervention on initial behavior change and on maintenance of change. These were the Baron-Kenny method, the Freedman-Schatzkin method, MacKinnon's product-of-coefficients test based on the empirical distribution of estimates, and the bootstrap product-of-coefficients test. Sufficient evidence for a mediating effect of social support on initial changes in walking was provided by all approaches but the Baron-Kenny method. There was insufficient support for a mediating effect on maintenance of walking. The strength of evidence that a theoretical construct is a mediator of physical activity change depends in part on the power of the statistical approach to detect a mediating effect of a certain size. The choice of method is especially important when analyzing distal mediating effects, effects of small-to-moderate size, and data from small-scale trials

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Symposium #15B 3025

MEDIATORS IN RANDOMIZED INTERVENTION TRIALS: OVERVIEW OF STATISTICAL METHODS FOR EXAMINING MEDIATION AND TWO INTERVENTION TRIAL EXAMPLES

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Introduction: The examination of mediators (i.e., variables that mediate the relationship between the intervention and outcome) in randomized trials assists in determining which intervention components are important for behavior change. Researchers can use this information to improve future iterations of their interventions.

Purpose: The purpose of this presentation is to provide an overview of several statistical mediation methods and to demonstrate these statistical methods in two physical activity intervention trials.

Methods: Examples of statistical methods that will be discussed include the Baron & Kenny (1986), MacKinnon et al. (2002), Freedman & Schatzkin (1992), and Shrout & Bolger, 2002 (bootstrapping) methods. The two intervention examples will include the Jump Start study (n=150) and Healthy for Life (n=448) both of which were randomized physical activity trials based on Social Cognitive Theory and the Transtheoretical Model.

Results: In the Jump Start study, there was moderate support for behavioral processes and self-efficacy as mediators but no support for cognitive processes and decisional balance. For example, behavioral processes and self-efficacy did not meet all of the mediation criteria using the Baron & Kenny (1986) approach but did using the Freedman-Schatzkin (1992) approach (p=.010; p=.007 respectively). Regarding the Healthy for Life study, the six month data will be available October, 2007 and will therefore, be included in the presentation.

Discussion: Various mediation analysis techniques resulted in different findings. Other statistical methods for mediation analyses in the larger trial will be explored.

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Symposium #15C 3026

MEDIATORS OF PHYSICAL ACTIVITY BEHAVIOR CHANGE: A MULTIVARIATE APPROACH

George D. Papandonatos, PhD,[1] Melissa A. Napolitano, PhD,[2] Beth A. Lewis, PhD,[3] Jessika A. Whiteley, PhD,[4] David M. Williams, PhD,[1,5] Abby C. King, PhD,[6] Beth C. Bock, PhD,[1,5] Bernardine M. Pinto, PhD[1,5] and Bess H. Marcus, PhD[1,5]

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Using a multivariate extension of the Baron and Kenny (1986) mediation framework, we examined the simultaneous effect of psychosocial variables hypothesized to mediate the relationship between a motivationally-tailored physical activity intervention, and 6-month physical activity behavior in 239 healthy, under-active adults (mean age=47.5; 82% women). Subjects were randomly assigned to 1) Print-based feedback; 2) Phone-based feedback; or 3) Contact Control. All mediation steps were satisfied for both intervention arms. Confidence intervals were calculated via a first order Taylor expansion, as well as as bootstrapping techniques; the two methods showed very strong agreement in interval endpoints. In terms of effect size, a moderate indirect effect of Print (0.39, 95% CI=0.21, 0.57) was due to increases in behavioral processes (0.54, 95% CI=0.29, 0.80) being attenuated by decreases due to cognitive processes (−0.17, 95%CI=−0.31, −.03). A moderate indirect effect was observed for Phone (0.47, 95% CI= 0.28, 0.66), with increases due to behavioral processes (0.61, 95% CI=0.34, 0.87) attenuated by decreases due to cognitive processes (0.15, 95% CI= −0.27, −0.02); self-efficacy and decisional balance mediational paths did not attain statistical significance. These findings advance the knowledge of theoretical mediators using a multivariate approach; subsequent investigations are recommended to confirm findings and to test order effects among the mediators.

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Symposium #16 9:00 AM–10:30 AM 3027

INNOVATIVE, THEORY-BASED APPROACHES TO HEALTH INTERVENTIONS ACROSS VARIOUS COMMUNICATION CHANNELS

Kerry Evers, PhD,[1] Leanne M. Mauriello, PhD,[1] Jay Maddock, PhD[2] and Seth M. Noar, PhD[3]

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Summary: In the past decade the development and testing of health promotion and behavior change interventions have proliferated. Some of the challenges for the future include wider reach, broader dissemination channels, and continued attention focused on promoting science and evidence-based practices. This symposium includes overviews of three health interventions being distributed through distinct, communication channels. All three interventions utilize a theoretical framework as the centerpiece for content development and offer examples of successfully disseminating innovative, science-based health interventions. The first presentation will describe the use of theory in developing and implementing telephonic coaching protocols. In addition, the issue of intervention fidelity when translating from one channel to another will be discussed. The second presentation will provide an overview of two theory-based mass media health campaigns developed and delivered at the state-level. The final presentation will review the overarching use of theory in the development of healthy lifestyle and obesity prevention computer tailored interventions for student populations. The discussion will focus on innovative strategies for integrating theoretical models in the development of health interventions and for designing for dissemination from the start of development. The appeal and disadvantages of different communication channels in regards to implementation, and practicality will be considered, as well as recommendations for integration of health interventions across communication channels.

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Symposium #16A 3028

A TRANSTHEORETICAL MODEL-BASED APPROACH TO HEALTH COACHING USING COMPUTERIZED TAILORED INTERVENTIONS

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The World Health Organization (WHO) has estimated that by 2015, world deaths from lifestyle diseases will double unless major efforts are taken to change lifestyle behaviors (WHO, 2007). Computerized Tailored Interventions (CTIs) based on the Transtheoretical Model (TTM) have been shown to be effective for a variety of behaviors. Using assessment data from all of the constructs of the TTM, CTIs often use expert system technology to provide dynamically tailored, individualized feedback to participants. The programs rely on empirically derived decision rules and expert system logic to match intervention strategies to where individuals are in the process of change and facilitate forward stage movement. This theoretically driven, individualized approach has been successful for increasing stress management, exercise, and weight management in home and worksite based interventions delivered via print or the Internet in participants' homes or through their employers. We will outline how a TTM-based CTI can enhance the delivery and maximize the effectiveness of telephone coaching sessions, a common communication vehicle for health behavior change and disease management programs that is in high demand among many employers and health plans. The expert system technology that is central to CTIs can increase fidelity of the intervention by replacing traditional clinical decision-making on the part of the coach with evidence-based behavior change guidance. The coach is ushered through brief but reliable and valid assessments that are tailored to the individual participant. The expert system can then generate feedback based on empirical decision-making rules. An added advantage of the integration of CTIs into coaching calls is that the participant can interact with the intervention online between sessions to further facilitate progress. Brief descriptions of how CTIs are being translated to this communication channel for several different behavioral areas will be provided. Potential opportunities for further integration will be outlined.

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Symposium #16B 3029

USING SOCIAL MARKETING TO INCREASE PHYSICAL ACTIVITY AND IMPROVE NUTRITION IN HAWAII

Jay Maddock, PhD,[1] Alice Silbanuz, BA,[2] Lola Irvin, MEd[2] and Bill Reger-Nash, PhD[3]

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About half of the adult population in the US does not get adequate physical activity and almost 3 out of 4 adults do not eat enough fruits and vegetables. Mass media campaigns have tremendous promise for reaching large segments of the population to influence these behaviors. The Step It Up, Hawaii and Fruits and Vegetables, Good Choice marketing campaigns ran from April through August of 2007. Based on the Theory of Reasoned Action and extensive formative research, the campaigns are targeted at adults aged 35–55 who are either insufficiently active or consuming less than five servings of fruits and vegetables a day. The physical activity campaign was designed to counter the control belief that people do not have enough time to be physically active. The nutrition campaign was designed to address beliefs about the convenience and taste of fruits and vegetables. Extensive work was done to use both surface and deep structure tailoring to Hawaii's multiethnic population. The campaign encourages people to start with a 10-minute walk and work up to 30 minutes a day and in separate spots to eat one more fruit and one more vegetable each day. Each campaign features three television spots along with radio spots that encourage people to include these behaviors into their daily routine. Media relations events include a press conference with the Lieutenant Governor, a weekly column in the state's largest newspaper, mall advertisements, a school walking program, a partnership with a large statewide grocery store and several media appearances by the Director of Health and other campaign contributors and community walks. The campaign is evaluated by pre and post random digit dial telephone surveys (n=900 each) as well as process tracking of gross rating points and earned media. Full results of the campaign will be available in September 2007. This campaign is one of the only theory-based mass media programs designed to increase walking and improve nutrition at the state-level.

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Symposium #16C 3030

THE USE OF THEORY IN DEVELOPING INTERACTIVE INTERVENTIONS TO PROMOTE HEALTHY LIFESTYLES AMONG STUDENT POPULATIONS

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As the rates of obesity increase and the consequences become more severe,the successful promotion of healthy lifestyle behaviors to student populations becomes ever more important. Risk factors for chronic disease begin at youth, consequently prevention efforts must begin early. Interactive technologies are a promising means for disseminating health behavior change interventions. In addition, youthful users, enjoy the appeal and interactivity of such programs. Despite the benefits,to date there has been a lack of effective evidence-based, theory-grounded interactive interventions for youth in the areas of obesity prevention and healthy lifestyle promotion. This presentation will describe innovative, multiple behavior, theory-based, interactive interventions that are in development for student populations, ranging from elementary school to college populations. The focus of the presentation will be on describing how the Transtheoretical Model guides the development of each of these interventions,including the development of measures, the creation of tailored feedback messages,the selection of images, and the design of interactive components such as on-line workbooks, videos, and testimonials. The importance of carefully and thoroughly utilizing a theoretical framework throughout all aspects of intervention development will be highlighted. Quantitative data will be shared to exemplify the empirical evidence for applying the TTM to various healthy lifestyle behaviors across student populations and to show acceptability ratings for the NHLBI-funded high school and college interventions. Through these program examples audience members will learn about the advantages of using interactive technologies as a means of reaching youth for health promoting behavior change, and the importance of using theory to guide these endeavors.

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Symposium #17 9:00 AM–10:30 AM 3031

BENCH TO BEDSIDE: THE NEGLECTED LINK?

Michael Stefanek, PhD

Behavioral Research Center, American Cancer Society, Atlanta, GA.

Summary: There continues to be a need for basic research to move from "bench" to "bedside" in behavioral oncology. While growing needed attention is focused on moving research from bedside to "trenches", i.e., from efficacy to effectiveness trials, little attention has been paid to the 'back end" of this translational continuum. More specifically, is "basic" behavioral research neglected in our drive to make research accessible to cancer patients and the lay public? What "basic" research might provide fuel for efficacy trials in behavioral oncology? Are there particular areas of research that hold promise for productive movement from bench to bedside and then bedside to the "trenches" (effectiveness trials and application)? In essence, where do we find the "basic" behavioral research that will provide ongoing translational work that is theory-driven? What areas of research might provide most promise?

This presentation will provide thoughts on the above, and discuss the need to continue to engage with those involved in basic behavioral science research in order to keep a steady stream of potential "bedside" applications vibrant and evidence-based.

This presentation lays the groundwork for Dr. Jacobsens presentation on the "front-end" of this translational behavioral research flow, i.e., "bedside" to "trench".

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Symposium #17A 3032

MAPPING THE FUTURE: A "BIG PICTURE" VIEW FOR BEHAVIORAL ONCOLOGY

Michael Stefanek, PhD,[1] Paul Jacobsen, PhD[3] and Robert Croyle, PhD[2]

[1]Behavioral Research Center, American Cancer Society, Atlanta, GA; [2]National Cancer Institute, Division of Cancer Control and Population Sciences, Bethesda, MD and [3]Psychology and Interdisciplinary Oncology, Moffitt Cancer Center, Tampa, FL.

This symposium will focus on where behavioral oncology research needs to move to advance cancer control, integrate more significantly into biomedical science, and impact patients. Rather than focus on targeted areas of research needs (e.g., physical activity), the presentation will focus on fit into the "big picture" framework which will dominate this symposium.

Dr. Stefanek will address the continuing need for basic and translational science from the "behavioral bench" to the bedside. What areas of behavioral science have done this successfully? How do we maintain a "pipeline" from basic work that leads to efficacy trials? Where do we find the basic science that might provide a strong theoretical base for such trials? This "back end" focus (i.e., "behavioral bench to bedside") leads to Dr. Jacobsens presentation, which covers the "front end" (bench-bedside-"trench") of this translational work.

Dr. Jacobsen address the transition from efficacy to effectiveness. That is, how do we address the challenge of moving the information we have about psychosocial care of patients into evidence-based recommendations relevant to clinical practice. While research content areas will be used as examples (anxiety, depression), the focus will be on the needed process of moving what we know from the "bedside" to the "trenches".

Finally, Dr. Croyle will address barriers to acceptance of behavioral science by the biomedical scientific community and what behavioral science needs to do for such acceptance, other than bemoan our fate. He will also draw from his experience at the National Cancer Institute to address the opportunities and need for behavioral science to "think big" and engage in many of the predominantly biomedical 'big science" projects central to advancing cancer control, relevant to basic, translational, and applied research. In this 90 minute symposium,we will include ample time (20–30 minutes) for audience participation (questions and answers; discussion)

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Symposium #17B 3033

NEEDED BY BEHAVIORAL SCIENTISTS: BIG SCIENCE AND PROACTIVE OUTREACH

Robert Croyle, PhD

National Cancer Institute, Bethesda, MD.

Science is getting bigger and more transdisciplinary, and behavioral medicine should have a seat at the table. In order for this to happen,the behavioral medicine research community needs to increase its awareness of and familiarity with big biomedical science, including relevant infrastructures, databases, and processes. Although it is true that representatives of behavioral medicine disciplines often may not be invited by basic and clinical biomedical research scientists to plan or participate in big science projects,there are a number of ways to become more engaged in these endeavors. First, training programs need to include experiences and provide skills relevant to big team science. Second, models of effective participation by behavioral medicine researchers in large team science projects needto be disseminated. Third, instead of complaining, behavioral medicine researchers need to articulate their potential contributions in a relevant and engaging manner that addresses the interests of biomedical researchers. Fourth, psychology and other academic departments need toincentivize and reward participation in collaborative multidisciplinary research. Fifth, funders, leaders, and professional organizations need to create and facilitate pathways for communication and collaboration tohelp investigators overcome the many psychological and practical barriers against effective collaboration. The tremendous opportunities provided by big science will only grow inthe coming years, and behavioral medicine can play a central role by learning more about the culture of big science, big science projects,and proactive outreach to big science leaders and consortia.

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Symposium #17C 3034

PROGRESS AND CHALLENGES IN PROVIDING EVIDENCE-BASED PSYCHOLOGICAL CARE TO CANCER PATIENTS

Paul Jacobsen, PhD

Mofitt Cancer Center, Tampa, FL.

Improving cancer patients' access to psychological care remains a critical issue. Numerous studies show that many patients who could benefit from psychological care do not receive the help they need. Improving access, however, involves more than insuring that any form of care is made available. Psychological care that is ineffective may be worse than no care at all. Clinicians have an obligation to provide patients with psychological care that is likely to be beneficial for the type of problem they are experiencing. Systematic reviews and meta-analyses provide abundant information about the efficacy of psychological interventions in addressing physical and mental symptoms in adults with cancer. The challenge is to translate this wealth of information into evidence-based recommendations that are relevant to clinical practice. The use of research to guide practice is at the core of evidence-based medicine, a movement that seeks to integrate patient care with findings from the best available research. This presentation will illustrate how evidence from randomized controlled trials can be used to provide evidence-based psychological care for anxiety and depression, two of the most commons symptoms experienced by cancer patients. Important limitations in the current evidence base that pose challenges for efforts to provide evidence-based care will be identified. Chief among these is the dearth of studies conducted with patients experiencing clinically significant levels of symptomatology. In addition, the presentation will offer a reconsideration of how psychological intervention studies are conducted that is designed to increase their relevance for clinical practice. Recommendations in this regard include focusing on symptom clusters rather than individual symptoms, evaluating psychological interventions in combination with other treatment modalities, and evaluating the entire process through which patients receive a psychological intervention in clinical practice. Finally, ways to increase patient access to evidence-based psychological care will be discussed.

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Symposium #18 9:00 AM–10:30 AM 3035

SUSTAINING BEHAVIOR CHANGE IN HEALTH PROMOTION – DIABETES PREVENTION AND MANAGEMENT, AND WEIGHT LOSS

Edwin B. Fisher, PhD,[1] Robert W. Jeffery, PhD,[2] Pilvikki Absetz, PhD[3] and Brian Oldenburg, PhD[4]

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Summary: Behavioral medicine may err in emphasizing initiating behavior change more than sustaining it. Whether achieved through one or another effective intervention, what may matter most is ongoing follow up and support to sustain change. This symposium will examine maintenance of change in diabetes prevention and management and in weight loss, critical to diabetes as well as general health. Dr. Jeffery will discuss how difficulty in maintaining weight loss reflects: (a) insufficient support in the physical and social environment; (b) reduced novelty of weight loss activities; (c) fading of reinforcement from initial changes in weight, appearance, or medical risks; and (d) reduced influence of health professionals' feedback and general social feedback. He will also describe current evaluation of a maintenance intervention emphasizing ongoing monitoring and adjustment of behavioral treatment prescriptions. From the GOAL (GOod Aging in Lahti) diabetes prevention program in Finland, Dr. Absetz will document the importance of coping planning in exercise maintenance, as opposed to self efficacy and action planning in adoption of exercise. Focus groups emphasized the balance of pleasure seeking vs health seeking in maintenance, further supported in quantitative analyses of those able to maintain changes. From observations and case examples of the Robert Wood Johnson Foundation Diabetes Initiative, Dr. Fisher will discuss key features of ongoing follow up and support: personalized; providing choices among convenient and attractive alternatives; proactive in keeping people from falling out of care; nondirective in support style. As Discussant, Dr. Oldenburg will integrate the three presentations and add observations from his own research in Australia on telephone interventions for diabetes management and other key health behaviors.

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Symposium #18A 3036

ADOPTION AND MAINTENANCE OF LIFESTYLE CHANGE IN PREVENTING TYPE 2 DIABETES – DIFFERENT PREDICTORS, DIFFERENT STRATEGIES FOR SUSTAINED CHANGE?

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Theoretical models and explanatory factors for healthy behaviors are commonly regarded as universal. However, different health behaviors such as diet and physical activity might differ greatly in their underlying motivational processes. Likewise, the adoption and maintenance of a healthy lifestyle might require qualitatively different competencies and processes. Our aim is to highlight some of the key differences.

This study is part of the GOAL (Good Aging in Lahti region) Lifestyle implementation trial. Participants were 385 Finnish middle-aged adults at an increased risk for type 2 diabetes recruited from primary care centers. Prospective surveys were conducted at pre-intervention baseline, three months, and at one year, and focus group interviews at 18 months.

Structural equation modeling with latent difference score analysis showed that changes in self-efficacy and action planning enabled exercise adoption at three months. However, maintenance of exercise at one-year was predicted only by coping planning, not by self-efficacy, indicating qualitative differences between the two change phases. In general, the key predictors of social-cognitive health behavior models explained only a small amount of the variance. The focus group interviews indicated that maintaining lifestyle changes is a question of balancing health- and pleasure-needs.

Conclusion: Adoption and maintenance of healthy lifestyle represent two different stages of behavior change. However, even key cognitive predictors explain only a small proportion of variance in the behavior. Social-cognitive health behavior models need to include "non-health" related predictors such as pleasure-related needs as a central human drive for changing and maintaining lifestyle changes.

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Symposium #18B 3037

MAINTENANCE: THEORETICAL AND EMPIRICAL CONCEPTS

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Behavioral interventions for weight loss have received considerable attention over the last 25 to 30 years. They have improved steadily over that time and have recently been shown to be capable of producing clinically significant improvements in health. However, their Achilles heel is maintenance. Seemingly regardless of the content of treatment and degree of success in achieving weight loss, most people do not persist in the behaviors that are needed to maintain weight loss and after 6 months or so regain weight steadily until much of the medical and social benefits have been lost. A conceptualization of the problem will be articulated in this presentation that is based on three main premises. First, the natural physical and social environments of most people do not provide enough support to maintain successful weight control behaviors. Second, people are often successful in their weight loss efforts in the short term because the weight loss activities are novel and they are rewarded with changes in weight, in appearance, in medical risks and in social feedback. Third, they discontinue successful weight control behaviors when sources of positive feedback for weight control behaviors lose their potency. Weight loss behaviors lose their novelty over time, stable weight isn't as reinforcing as decreasing weight and positive social feedback lessens as weight stabilizes. Continued reminders and monitoring by health professionals lose their power for similar reasons.

The implications of the above conceptualization for behavioral treatment practice are several, including ongoing monitoring of the condition and adjustment of behavioral treatment prescriptions. Empirical support for these ideas will be reviewed and an experiment currently underway that is evaluating such a protocol will be described.

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Symposium #18C 3038

KEY FEATURES OF ONGOING FOLLOW UP AND SUPPORT IN THE ROBERT WOOD JOHNSON FOUNDATION DIABETES INITIATIVE

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The most important feature of diabetes may be that it's "for the rest of your life." Many with type 2 diabetes live 30 or 40+ years with the disease, yet little research explores how we can help people manage diseases over decades, not the 6 months to 2 years of much behavioral medicine research. The Diabetes Initiative of the Robert Wood Johnson Foundation demonstrates diabetes self management in the real world settings of primary care and community organizations serving diverse, disadvantaged groups in 14 sites around the US. The Initiative has identified key Resources and Supports for Self Management: individualized assessment, collaborative goal setting, help in learning skills (diabetes specific as well as problem solving, coping with negative emotions, temptation management, etc.), community resources, continuity of quality clinical care, and, perhaps most important, ongoing follow up and support. Among useful approaches to providing ongoing follow up and support identified in the 14 sites are: group medical visits, broad roles of community health workers, follow up of patients by teams of nurses and community health workers, linkages to community organizations, implementation of classes and programs in community settings (e.g., churches), and "drop-in" programs. Across these diverse approaches, key features of follow up and support include: (1) Available at times and through channels that are attractive and convenient for the recipient; (2) Provide choices among types of contact; (3) Proactive, reaching people to keep them from falling out of touch with care; (4) Nondirective in style of support given the focus of ongoing support more on using skills the individual already possesses than on learning new skills; and (5) Attentive to changes in circumstances (e.g., retirement, widowhood) or changes in clinical status requiring clinical care or revision of self management plans.

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Friday
March 28, 2008
1:30 PM–3:00 PM

Paper Session #18 1:30 PM–1:45 PM 3039

OBESITY IN POSTPARTUM WOMEN

Maureen Groer, PhD and Cecilia Jevitt, PhD

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Little is known about effects of obesity on postpartum health. The aim of the study was to examine relationships between overweight and obesity, as defined by BMI (body mass index), and biological, stress and health factors in postpartum mothers. The participants (N=200) were studied cross-sectionally between 4–6 weeks postpartum. A venipuncture was performed for biological analyses. Mothers completed a battery of demographic, stress, health and mood instruments. Immune parameters measured included flow cytometry of lymphocyte subsets, proliferation assays, stimulated whole blood cultures, serum levels of hormones and cytokines.

Twenty five percent were overweight, and 36% of the sample were obese (Class I: 20%, Class II: 9%, Class III: 7%. Obese mothers were younger and of lower socioeconomic status. They were more likely to smoke and had low levels of exercise. Obese mothers had longer labors and were more likely to have delivered by Caesarean section. Dysphoric moods such as anger, depression, and anxiety were higher in the obese mothers, as were scores on perceived and postpartum stress. Obese mothers reported more sicknesses for both themselves and their infants. Immune parameters differed for obese mothers. They had higher levels of Interleukin-6, TNF-alpha and C-reactive protein, and lower Interleukin-2 and Interferon-gamma. The T cell mitogen response was greater in obese participants. Serum prolactin was lower and fewer obese women were breastfeeding.

This analysis suggests that obesity is a health risk during the postpartum. The mechanism for that risk may be related to psychoneuroimmunological influences. The endocrine and immune differences that were observed are intriguing clues to possible mechanisms that could threaten maternal health. Mothers who were obese appeared to have a greater activated inflammatory state than normal weight mothers and a depression in cellular immune processes. These immune differences could contribute to risk for a number of illness such as diabetes, osteoporosis, depression, infection, and cardiovascular disease.

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Paper Session #18 1:45 PM–2:00 PM 3040

CHANGES IN PRE-PREGNANCY OVERWEIGHT AND PREGNANCY OUTCOMES

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Adverse pregnancy outcomes are associated with pre-pregnancy overweight and the frequency and severity of these outcomes are higher among the obese. To identify changes in these outcomes with shift to lower and higher BMI categories, we conducted a retrospective study of 5,974 pregnant women who had their first 2 pregnancies in Kansas City, MO, 1990-2004, using birth certificate records. Variables included change in overweight status (normal, overweight, obese), Age, Race/Ethnicity, Education, Medicaid, Marital, medical risk factors for small-for-gestational age (SGA)/large-for-gestational age (LGA), and Smoking. There were 1,035 pre-pregnant overweight women at the first pregnancy; 51% White, 78% 20–34 y, 42% Medicaid, and 42% single. Fifty-five percent did not change their pre-pregnancy BMI while 33% became obese and 12% became normal. There was a trend toward higher risk for hypertensive disorders during the second pregnancy among overweight women who became obese (OR=1.79, 95% CI 0.91, 3.50). However, the risk of preterm birth, SGA, and LGA were not significantly different among the 3 groups. In conclusion, the relationship between changing pre-pregnancy BMI and pregnancy outcomes is complex. In addition to encouraging a change towards normal pre-pregnancy BMI, environmental and health factors that adversely effect pregnancy outcomes will need to addressed.

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Paper Session #18 2:00 PM–2:15 PM 3041

POSITIVE DEVIANCE AND LOW-INCOME HISPANIC WOMEN'S POSTPARTUM WEIGHT LOSS SUCCESS

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Positive deviance (PD) is a method used successfully to develop interventions in international, low-resource settings. Positive deviants (PDs) are a small number of persons (often 4–6 in a setting) whose practices and beliefs enable them to thrive in a low resource environment while their peers do not. PDs' practices are the basis of customized interventions. We adapted PD to use with postpartum data from a sample of U.S. low-income Hispanic women. Our aim was to identify behaviors and beliefs of PDs, who succeeded postpartum in losing excessive weight gained during pregnancy, as a first step in developing customized postpartum weight-loss interventions. Participants were healthy Hispanic women (mean age 22 years) who had taken part in a descriptive study of postpartum weight. Available data covered body image, pros and cons of weight loss, Food Habits Questionnaire, Self-Care Inventory, and several psychosocial scales including the Self-Control Schedule. Using an algorithm, 7 women were identified as PDs who lost their pregnancy weight gain (retained weight=.3 kg) and 41 were peers who did not (retained weight 15 kg). In comparisons, a significance level of .10 was used because of the relatively small sample size. PDs consistently included most major food groups (e.g., vegetables) in their meals and were more likely to breastfeed. Between 3–6 months postpartum PDs practiced a number of behaviors that favored weight loss, eg., not skipping meals and eating at least 2 vegetables at meals. PDs were less likely to affirm the "cons" of weight loss, whereas their peers who retained weight more often affirmed a lack of efficacy to solve problems or modify their mood when sad or focused on troubling thoughts. Although not significant, PDs had mean depressive symptom scores in the normal range, while their peers fell in the at-risk range for depression. These findings provide several directions for customizing postpartum weight loss interventions for low-income Hispanic women. Findings also support the importance of promoting breastfeeding in the context of the obesity epidemic.

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Meritorious Student Paper
Paper Session #18 2:15 PM–2:30 PM 3042

IS CONCERN ABOUT POST-CESSATION WEIGHT GAIN A BARRIER TO SMOKING CESSATION AMONG PREGNANT WOMEN?

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Objectives: Women who quit smoking during pregnancy gain more weight than women who continue to smoke. Concern about weight gain is a barrier to smoking cessation in the general population, but whether attitudes about weight are associated with failure to stop smoking during pregnancy or to maintain abstinence postpartum is unknown.
Methods: Attitudes about weight were assessed in 412 pregnant smokers recruited from obstetric practices in Massachusetts for a smoking cessation intervention trial. Smoking cessation outcomes (7-day point-prevalence abstinence by self-report and by cotinine-validation) were assessed at end-of-pregnancy and 3 months postpartum. Bivariate and multivariable analyses assessed the relationship between attitudes about weight at baseline (i.e., early pregnancy) and smoking cessation.
Results: In bivariate analyses, a high level of concern about post-cessation weight gain was associated with older age ($p=.01$), smoking more cigarettes per day in early pregnancy ($p<.001$), not making a quit attempt in pregnancy ($p=.02$), being less likely to self-report tobacco abstinence at end-of-pregnancy ($p=.01$) and postpartum ($p=.02$), and having less cotinine-validated abstinence at 3 months postpartum ($p=.05$). In multivariable analyses that adjusted for baseline cigarettes per day, a low level of concern about post-cessation weight gain was associated with more self-reported abstinence at end-of-pregnancy (OR 1.77, 95% CI 1.01-3.09) and postpartum (OR 2.09, 95% CI 1.05–4.14), but not with cotinine-validated abstinence at end-of-pregnancy (OR 1.30, 95% CI 0.63–2.68) or postpartum (OR 2.18, 95% CI 0.93–5.10).
Conclusions: Women who are more concerned about post-cessation weight gain may be less likely to quit smoking during pregnancy or remain abstinent in the postpartum period. Health care providers should attend to concerns pregnant smokers have about their weight, as this may impact cessation success.

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Meritorious Student Paper
Paper Session #18 2:30 PM–2:45 PM 3043

EXPLORING HOW NEGATIVE MOOD CONTRIBUTES TO POSTPARTUM RELAPSE TO SMOKING

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Background: About one-third of smokers quit once learning they are pregnant, but many relapse within 6 months postpartum. Depression and stress are triggers for smoking relapse, yet little research has examined the impact of negative mood on smoking in the postpartum. The goals of this study are to examine the role of negative mood states in postpartum smoking relapse and describe symptom attributions and the context of relapse.
Method: This is a repeated measures, mixed methods observational study. We enrolled women, who quit smoking during pregnancy, at delivery at a major medical center in Boston, MA, and followed them for six months. The Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), and the Perceived Stress Scale (PSS) were administered at baseline, 2, 6, 12, and 24 weeks postpartum. We conducted in-depth interviews with relapsers.
Results: Participants were 65 women with a mean age of 28.8 years. Fifty-two percent of women were White, 20% Black, and 22% Hispanic. Fifty-one percent of women relapsed by six months postpartum; 80% of relapsers reported a history of depression. BDI, BAI, and PSS scores did not predict relapse, yet at 26 weeks there was a trend ($p<.10$) of 12-week BDI and PSS scores predicting 26-week relapse. Nearly every relapser attributed her relapse to negative mood; the most frequent negative emotions reported were stress, anger, and anxiety. Half of relapses occurred in social situations and half occurred when women were alone. Most participants articulated that smoking was a means by which to cope with or alleviate negative mood, and half reported having no one to help them stay quit.
Conclusion: Half of study participants relapsed to smoking within six months. While quantitative data were not predictive of relapse, women attributed relapse to negative mood states, suggesting that some women who do not meet criteria for a mood disorder, yet who struggle with depressive and anxiety symptoms, are at risk for relapse. Additional supports are needed to help these women maintain abstinence following delivery.

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Paper Session #18 2:45 PM–3:00 PM 3044

BABY BEEP: A RANDOMIZED CLINICAL TRIAL OF SMOKING CESSATION FOR LOW-INCOME RURAL PREGNANT WOMEN USING NURSE-DELIVERED SOCIAL SUPPORT

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In a 2×2 factorial design, this randomized controlled trial called Baby BEEP tested a nurse-delivered telephone social support intervention and a series of prenatal smoking cessation booklets mailed at weekly intervals to improve smoking cessation in low-income rural pregnant women (N=695). Participants randomized to one of the two social support groups (n=345) received weekly support calls throughout pregnancy plus they had 24-7 beeper access for additional support from their own research nurse. Monthly saliva cotinine samples were obtained throughout pregnancy and up to 6 weeks post-delivery from all women regardless of study group. The primary outcome of this intent to treat model was point prevalence abstinence as measured by a saliva cotinine value of less than 30 ng/ml in late pregnancy as well as point prevalence abstinence at 6-weeks post-delivery. Only 47 women were lost to follow-up making this trial distinct. Late pregnancy abstinence ranged from 17% to 22% among the four groups and between 11.4 to 13.5% for abstinence at 6-weeks post-delivery. This lack of significant differences may be due to the monthly saliva sample collections providing unintended social support in the control groups. Post-hoc analyses, capitalizing on the successful collection of serial cotinine samples, enabled us to describe the pattern of quitting during pregnancy with the intervention groups achieving abstinence in early to mid pregnancy that was sustained throughout the pregnancy. Additionally, if the woman was partnered with a nonsmoker post-delivery, she was significantly more likely to remain abstinent ($p=0.0001$). The results of this adequately powered trial, with an extremely low attrition rate, indicates that more powerful and comprehensive (i.e. also targeting her partner)

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Paper Session #19 1:30 PM–1:45 PM 3045

RELATIONSHIP OF COPING AND PERCEPTIONS OF CONTROL TO DEPRESSION IN LOW-INCOME TYPE 2 DIABETES PATIENTS

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People with low socioeconomic status are at increased risk for diabetes and depression. Few studies have evaluated the influence of stress, perceptions of control, and coping on depression in low-income type 2 diabetes patients. Based on theory, it was hypothesized that (1) stress, coping, and perceptions of control would explain significant variance in depression beyond demographic variables; (2) perceptions of control would mediate the relationship between stress and depression; and (3) coping would mediate the relationship between stress and depression. Participants included 143 patients diagnosed with type 2 diabetes (68% female;mean age=51) who were receiving health care at one of two free clinics in the southern United States. Patients completed written surveys in the waiting room or at home assessing current depression (Center for Epidemiologic Studies Depression Scale), coping in the past four months (Brief COPE), and perceptions of control (Pearlin Mastery Scale), and participated in a telephone interview assessing stressors experienced in the past four months (Crisis in Family Systems—Revised). Depression was negatively correlated with education ($r=-.17, p=.02$) and perceptions of control ($r=-.56, p<.001$) and positively correlated with number of negative stressors ($r=.44, p<.001$) and disengaging coping ($r=.54, p<.001$). Engaging coping was not correlated with depression ($r=-.06, p=.46$). Stress, disengaging coping, and perceptions of control each explained significant independent variance in depression when included in a hierarchical regression with education ($R2=.49; F(4,136)=35.08, p<.001$). Perceptions of control and disengaging coping each mediated the relationship between stress and depression (Sobel test: $z=-3.11$, $p=.002$; $z=-2.93, p=.003$, respectively). These findings suggest that for diabetes patients experiencing high stress, decreasing the use of disengaging coping and increasing perceptions of control may be associated with decreased symptoms of depression.

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Paper Session #19 1:45 PM–2:00 PM 3046

IDENTIFICATION OF DEPRESSION AND ANXIETY SYMPTOMS AMONG ADULTS WITH DIABETES

Elizabeth McDade-Montez, MA and David Watson, PhD

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Delineating and diagnosing depression and anxiety in the presence of a medical condition, such as diabetes, is complicated by the presence of overlapping symptoms that, therefore, are etiologically ambiguous. These overlapping symptoms include feelings of fatigue, concentration difficulties, restlessness, changes in appetite, irritability and autonomic arousal. The difficulty in understanding these overlapping symptoms has been proposed to lead to an underdiagnosis of depression and anxiety disorders among adults with diabetes, which is problematic given that such disorders are associated with poorer health outcomes. The goal of the current study is to test whether or not these overlapping symptoms are affected by the presence of diabetes by comparing structural models of these symptoms in adults with diabetes versus those free of major medical conditions. Participants include 226 adults with diabetes and 379 adults free of diabetes who completed a series of questionnaires assessing symptoms of depression, anxiety and health status. In addition, for adults with diabetes, the most recent hemoglobin A1c lab result was collected from patient medical records. Results indicate that overlapping symptoms were strongly related to mood for adults with and without diabetes. In conclusion, it is recommended that when these overlapping symptoms are present in adults with diabetes, depression and anxiety should be considered as possible contributors to their presence.

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Paper Session #19 2:00 PM–2:15 PM 3047

TEMPERAMENTAL ANXIETY FACILITATES DISEASE DETECTION BUT NOT SELF-MANAGEMENT IN TYPE 2 DIABETES

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Past research has demonstrated that higher dispositional anxiety is associated with less hyperglycemia (e.g., A1C levels) among individuals living with Type 2 diabetes (T2DM). This has been taken to suggest that anxiety facilitates self-management in diabetes by motivating adoption of health protective behaviors, however the mediational model has not been tested empirically. The objective of the present study was to examine the consequences of temperamental anxiety for early disease detection, self-management, and quality of life in T2DM. A sample of 204 individuals newly diagnosed with T2DM completed measures of temperamental anxiety and supplied demographic information at time of initial diagnosis (baseline). Participants completed measures of self-management behaviors (i.e., exercise/dietary behavior) and quality of life at baseline and 6-month follow-up; they also supplied a blood sample for A1C analysis at both time points. Regression analyses indicated that temperamental anxiety was associated with A1C at both baseline and at 6-month follow-up after controlling for demographic variables. However, the association between temperamental anxiety and A1C at follow-up was completely accounted for by the association between temperamental anxiety and baseline A1C. There was no evidence that temperamental anxiety motivated adoption of self-management behaviours; in fact, high levels of temperamental anxiety were associated with significant decreases in physical activity after diagnosis (i.e., activity avoidance), rather than increases. As predicted, anxious temperament was negatively associated with quality of life at follow-up. Results indicate that temperamental anxiety may facilitate initial disease detection but not self-management after diagnosis. Moreover, temperamental anxiety appears to generate poor quality of life among newly diagnosed T2DM patients over the first 6 months post-diagnosis, suggesting that anxiety in this population may benefit from screening and intervention.

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Citation Paper
Paper Session #19 2:15 PM–2:30 PM 3048

RELATION OF STRESS TO SELF-CARE AND METABOLIC CONTROL AMONG ADOLESCENTS WITH TYPE 1 DIABETES

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Metabolic control deteriorates over the course of adolescence for those with Type 1 diabetes. The hormonal changes associated with puberty account for part of this deterioration. However, adolescents with diabetes also practice worse self-care behavior than younger children and adults. The interpersonal challenges of adolescence may play a role in the decline in self-care as well as metabolic control. In this study, we examined the link of stressful life events to self-care behavior and metabolic control (measured by hba1c) among adolescents with diabetes over a 4-year period. Adolescents (n=132, 70 female, 62 male) were enrolled in the study when they were average age 12 and interviewed on an annual basis for the next four years. A greater number of stressful life events was associated with poorer self-care at each wave of assessment, with relations becoming stronger over time as adolescents grew older: $r=-.15$, $p=.10$ (year 1); $r=-.21$, $p<.05$ (year 2); $r=-.29$, $p<.001$ (year 3); $r=-.37$, $p<.001$ (year 4). Stressful life events also became increasingly related to poor metabolic control over time: no relations appeared during years 1 and 2, but stressful life events were associated with poor metabolic control during year 3 ($r=.18$, $p<.05$) and year 4 ($r=.23$, $p<.01$). Mediational analyses suggested that the decline in self-care accounted for part of the relation between stressful life events and metabolic control. When the nature of stressful life events was examined, all of these associations were stronger for interpersonal stressors than noninterpersonal stressors. In addition, the association of interpersonal stressors to poor diabetes outcomes was stronger for females than males, replicating other research that has shown women are affected more strongly than men by interpersonal life events.

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Meritorious Student Paper
Paper Session #19 2:30 PM–2:45 PM 3049

PARENTAL PERCEPTIONS OF ADOLESCENT EFFICACY FOR TYPE 1 DIABETES MANAGEMENT: THE ASSOCIATION OF TRAIT ANXIETY AND DEPRESSED AFFECT FOR MOTHERS AND FATHERS

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Parents of children with Type 1 diabetes form expectations of their child's efficacy to manage diabetes that may guide their involvement in the child's management and relate to their child's views of self-efficacy. Cognitive distortions characterized by high trait anxiety and depressed affect may contribute to parents' negative perceptions of adolescents' competencies even in the context of more objective measures. This study examined the extent to which parents' perceptions of teens' self efficacy (SEDM) reflect the illness-relevant aspects of adherence and metabolic control vs. their emotional status. Participants included 184 adolescents diagnosed with Type 1 diabetes for at least 1 year (93% Caucasian; child age M=12.52; 55% female), their mothers, and fathers (n=145). Participants individually completed questionnaires of adolescents' SEDM and diabetes adherence, and parents reported depressed affect and trait anxiety. Glycosolated hemoglobin (HbA1c) was obtained from medical records (M=8.30, SD=1.47). Mothers' and fathers' reports of adolescents' efficacy were correlated with both parents trait anxiety and mothers' depressed affect ($Rs<-.32$ and $-.26$, $ps<.01$), and with teens' HbA1c levels ($r=-.28$; $p<.01$). In regression analyses controlling for adolescent age, and teen reports of SEDM, mother's trait anxiety predicted her reports of child's SEDM independently of mother and child reports of adherence and HbA1c ($\beta=-.18$, $p<.05$) and her depressed mood was a marginal predictor ($\beta=-.12$, $p=.067$). Fathers' depression did not predict his views of the teens' SEDM in parallel analyses, but his trait anxiety was a predictor ($\beta=-.15$, $p<.05$).

Thus, mothers' and fathers' trait anxiety, and mothers' depressed affect, may bias perceptions of the adolescents' efficacy beyond both multiple sources of adherence reports and objective indices of adherence (HbA1c). Long term implications of parents' negative bias need further research.

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Paper Session #19 2:45 PM–3:00 PM 3050

PSYCHOSOCIAL FACTORS, SELF-CARE BEHAVIORS, AND METABOLIC CONTROL IN ADOLESCENTS WITH TYPE 1 DIABETES

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Adolescence is a difficult time for youth with Type 1 Diabetes (T1DM). Adolescents with T1DM are at risk for a number of psychosocial and adjustment issues that impact important health outcomes such as morbidity, quality of life, and longevity. This study examined the associations of adolescent depression and diabetes-related psychosocial distress with several measures of self-care behavior (regimen adherence, adolescent autonomy, and self-care ability/independence) and metabolic control (HbA1c) in 10–18 year old patients with T1DM (n=102). Socio-demographic differences were found on most measures, including both psychological and health variables. Results of hypothesis testing indicated that age was associated with certain self-care measures ($p<.001$), but not with HbA1c. Psychosocial maturity, however, was associated with certain self-care measures ($p<.01$), and also with HbA1c ($p<.05$). Adolescent depression and diabetes-related distress were associated with certain self-care variables ($p<.001$), but not with HbA1c, as previous research suggests. Therefore, it is still unclear whether self-care is a mediator of the relationship between psychological factors and HbA1c. Moderation analyses indicated that psychosocial maturity, but not age, was a significant moderator of the association of diabetes-related psychosocial distress with self-care ability/independence and HbA1c. This study highlights the complexity of the relationships among psychological factors, health behaviors, and health outcomes in this population. The findings also highlight the importance of considering psychological maturity rather than age when determining the degree of autonomy a young person should be given for diabetes self-management. Understanding risk factors for inadequate self-management leading to poor metabolic control will help to inform medical and psychological interventions and focus interventions on the most significant factors.

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Citation Paper
Paper Session #20 1:30 PM–1:45 PM 3051

PSYCHOPHYSIOLOGICAL PREDICTION OF SMOKING A CIGARETTE

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Emerging technologies can allow us to tailor feedback to an individual's biometrics and daily routines to match opportune moments for effective intervention. For example, biosensors facilitate detection and prediction of arousal associated with certain behavioral events (e.g., smoking a cigarette). This pilot project used biometric and behavioral data to detect the physiological antecedents of smoking. Smokers [N=12, mean age 32 (SD=10.4), mean education=15.8 years (SD=2.6), male (67%), White (89%), unmarried (78%), good/very good health], were assessed on smoking history, tobacco consumption, nicotine dependence, number of quit attempts, self-efficacy, decisional balance, and stage of change. Non-invasive armband sensors worn continuously for 7 days collected low-level physiological data (e.g., energy expenditure, heat flux, skin conductance, etc.). Participants pushed an "event button" on the armband each time they lit a cigarette. Discriminant Function Analysis (DFA) indicated that both physiologic and psychological predictors were able to predict a smoking event well above chance [64% (Wilks' λ=.991) and 69.4% (Wilks' λ=.976), respectively], and the combined physiologic and psychological predictors correctly predicted 68.9% of the smoking events (Wilks' λ=.964). An algorithm prototyping software tool was created to generate regression models based on each individual's biometric data. Accuracy in smoking prediction varied across participants from 21%–45%. The algorithms were inconsistent at predicting smoking across 60-second and 10-minute intervals; however, predictive ability increased by an average of 62% with a 15-minute window. The information gained from this research is a requisite step in the development of portable behavioral health interventions that will provide consumers with greater control over maintaining their own health.

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Paper Session #20 1:45 PM–2:00 PM 3052

GENERAL AND SMOKING CESSATION WEIGHT CONCERNS IN A PREDOMINATELY HISPANIC LIGHT SMOKING SAMPLE

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General and cessation related weight concerns are associated with smoking cessation, often inconsistently, in multiple populations; however, Hispanic weight concerns have been understudied. This study sought to examine the prevalence of general and cessation related weight concerns in a predominately Hispanic light smoking sample, as well as weight concern impact on smoking cessation. Participants were 238 light smoking students (82% Hispanic; 47% female) taking part in a brief intervention that included motivational enhancement, attending to costs of smoking and benefits of quitting, and the promotion of social support. Measures included tobacco use and cessation related and general weight concerns at baseline and tobacco use at the one month follow-up. Results indicated that 61% reported general weight concerns, and 42% reported cessation related weight concerns. Both the mean and median ranges of weight in which participants indicated relapse to smoking would occur were 8–10 lbs. General concern about weight (OR=3.3) and female gender (OR=1.9) predicted the presence of cessation related weight concerns; however, neither type of weight concern predicted cessation at the one month follow-up, while female gender was significantly predictive of cessation (OR=2.3). Results indicate that though a high prevalence of weight concerns, both general and cessation related, exist in a predominately Hispanic light smoking sample, they are not significantly related to cessation at follow-up. Possibly, participants' concerns were mitigated during the motivational enhancement intervention, or factors particular to culture or light smoking are moderating these relationships observed in other groups. Further research is warranted to continue examining the impact weight concern has on light smoking cessation.

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Paper Session #20 2:00 PM–2:15 PM 3053

ADDRESSING TOBACCO IDENTIFICATION AND TREATMENT IN HEALTH DELIVERY ORGANIZATIONS: A PILOT EXPERIENCE

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A systems approach to tobacco identification, documentation and treatment has been recommended so that treatment becomes part of the standard of care and responsibilities are shared by multiple individuals involved in the health care of a patient. However, standardizing and systematizing tobacco use identification and intervention has remained a challenge for health delivery organizations. Although successful approaches to systems work have been widely used in other chronic conditions (e.g. diabetes, heart disease, obesity), case studies in tobacco cessation systems change are relatively few.

Washington State's Tobacco Prevention and Control Program has prioritized a sustainable approach to tobacco use documentation and treatment. In 2006, Washington funded a small pilot with three health delivery organizations to learn more about how two theoretical models, the Chronic Care Model and the Model for Improvement, could be used to impact tobacco-related systems change in the field. All three health delivery organizations were familiar with the theoretical models through their participation in the Washington State Diabetes Collaborative. Accordingly, all three organizations had systems in place to identify and provide treatment to diabetic patients.

Results from the first year of the pilot demonstrate that the existence of one system within an organization (e.g. a system to intervene and provide treatment for diabetic patients) does not imply that the organization as a whole has adopted a systems mentality or has applied the learnings from systems change in one chronic condition to another. However, once champions within the organization are identified, small changes are possible in a short period of time.

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Paper Session #20 2:15 PM–2:30 PM 3054

THE EFFICACY OF SIBUTRAMINE TO PREVENT OR DECREASE POST CESSATION WEIGHT GAIN IN OVERWEIGHT AND OBESE SMOKERS

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Cigarette smoking and obesity are leading preventable causes of morbidity and mortality in the United States. One of the more common reasons smokers, especially women, give for continuing to smoke is that smoking cessation leads to weight gain. In fact, the average weight gain is estimated to be 5 kg for persons who are continuously abstinent. Further, former smokers who have quit smoking are significantly more likely than persons who had never smoked to become overweight and to remain overweight. Epidemiological data also indicate that one of the major barriers to cessation in overweight individuals is post-cessation weight gain. Given the strong association between obesity and adverse health outcomes, prevention of post cessation weight gain in obese smokers could have a major public health impact. **OBJECTIVES:** To determine the efficacy of sibutramine for the prevention of post-cessation weight gain and as an aid to stop smoking. **DESIGN:** A randomized, double-blind placebo controlled clinical trial with follow-up during treatment and week 52 (N=436). **TREATMENT:** Sibutramine titrated from 5 mg each day to 10 mg each day or a matching placebo for 12 weeks plus smoking cessation counseling. **RESULTS:** Generalized Estimating Equations (GEE) modeling (weight change by treatment group and time) demonstrated a significant interaction. During medication administration, the treatment group demonstrated greater weight change at month 1 (−0.13 kg, p=.05) and 2 (−0.37 kg, p=.004) as compared with controls (0.6 kg, 0.73 kg, respectively). At 12 month follow-up, no significant differences were noted. Cessation rates at 12 months were not significantly different. **CONCLUSIONS:** Sibutramine is efficacious in preventing post-cessation weight gain even at a sub-maximal dose. However, participants in the active group demonstrate a weight rebound at 1 year.

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Paper Session #20 2:30 PM–2:45 PM 3055

PROMOTING PHYSICAL ACTIVITY FOR MAINTAINING NON-SMOKING: A RANDOMIZED CONTROLLED TRIAL

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Individuals quitting smoking may be interested in changing additional risk behaviors to further improve their health. For smoking cessation, physical activity (PA) may help manage withdrawal symptoms, mood, stress, and weight; yet studies of PA as an aid for smoking cessation have been mixed. This study examined the impact of promoting PA after a smoking cessation intervention on maintenance of nonsmoking. All subjects (N=407, 61% male, age M=41) received a 12 week group-based smoking cessation intervention with bupropion and nicotine replacement and then were randomized to no further treatment, 40 week bupropion or placebo with medication management, or 40 week bupropion or placebo with medication management plus an 11-session extended intervention with 2 sessions focused on PA. The PA program included a Yamax pedometer, counseling to increase steps 10% every 2 weeks towards a 10,000 steps per day goal, and personalized reports graphing progress with individualized goals. Weekly minutes of moderate-to-vigorous PA (MVPA) were assessed with the International Physical Activity Questionnaire at baseline, week 12, and week 24 and analyzed using a log transformation. In a repeated mixed model analysis, participants receiving the PA program significantly increased their MVPA relative to subjects not receiving the PA program, $F(1,475)=3.95$, $p=.047$. Pedometer step counts also increased significantly, paired samples $t(23)=2.36$, $p=.027$. Controlling for treatment condition, changes in MVPA predicted sustained smoking abstinence at week 24, odds ratio=1.84, $p=.028$. Among subjects with sustained abstinence at week 24, increased MVPA was associated with increased vigor ($r=.23$, $p=.025$) and decreased perceived difficulty with staying smoke-free ($r=-.21$, $p=.038$). PA promotion as an adjunct to tobacco treatment appears feasible, increases MVPA levels, and helps to maintain nonsmoking, perhaps by improving mood and self-efficacy.

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Paper Session #20 2:45 PM–3:00 PM 3056

LEGACY'S EX: IMPLEMENTATION AND EVALUATION OF A SMOKING CESSATION CAMPAIGN

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"EX" is a comprehensive smoking cessation campaign recently piloted by American Legacy Foundation in four U.S. cities: Grand Rapids, Baltimore, San Antonio and Buffalo. The media component of the campaign consists of television advertising designed to drive smokers to cessation services (in Phase I) and to change knowledge, beliefs and attitudes related to successful quitting (in Phase II). Other key campaign components include EX branded telephone and Internet counseling, a free quit manual and, for some individuals, free nicotine replacement therapy. The EX campaign is based on the body of scientific evidence about effective cessation and social marketing strategies.

Evaluation of EX is taking place in each pilot site. A comprehensive evaluation, including a telephone survey of a large cross-sectional sample of the general population (n=1000) and a smaller longitudinal sample of smokers (n=212) is being conducted in Grand Rapids. Telephone surveys are also being used to collect cross-sectional data (n=500) from African American and Hispanic smokers in Baltimore and San Antonio, respectively. Call Volume and web traffic data are being collected at the point of service. Preliminary results show that more than 50% of smokers in two of the three primary evaluation sites cited above can accurately describe one of the Phase II advertisements, and that about two-thirds of smokers in these three sites agree that "EX has information that could be very helpful in my next quit attempt." Call volume and web traffic data appear to be linked with campaign activity.

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Citation Paper

Paper Session #21 1:30 PM–1:45 PM 3057

BELIEFS ABOUT THE HEALTH BENEFITS OF VITAMIN AND MINERAL SUPPLEMENTS VARY AMONG ETHNIC MINORITIES: RESULTS FROM THE SURE STUDY

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Recent NHANES data has shown that over half of U.S. adults take dietary supplements, including vitamin and minerals. Usage increases to almost 65% for adults over the age of 60 years. Supplements can provide essential dietary components and may lower the risks for chronic diseases, but if used in excess they can also have harmful side effects. Little is known about the beliefs older ethnic minorities have about the health benefits of dietary supplements.

Men and women aged 53 to 87 from Honolulu and Los Angeles (N=206) were recruited for year 1 of the Supplement Reporting Error Study (SURE). All participants were supplement users. The mean was 68± 8 yrs, about half (53%) were female, 12% were smokers, and 76% were non-Caucasian (16% Japanese, 27% Hispanic, 16% Black, and 18% Native Hawaiian). Reasons for starting a new supplement included: advice from a health professional (33%), read an article in newspaper (19%), and decided on their own (19%). Top three reasons for taking supplements were: because they are "good" for you (66%), to prevent disease (53%) or a health professional recommended it (53%). Some (22%) worry about forgetting to take their daily supplements, but, only 6% worried about side effects. A majority (70%) considered their supplement as important as their prescription medications, and there were significant differences by race/ethnicity. About 80% of Hawaiians, Latinos, and Japanese considered their supplements as important as medications, but fewer (60%) of Blacks and Whites thought so. Older adults have strong beliefs about the benefits of supplements. Ethnic differences in the importance placed on such benefits could be important to the adoption of healthy lifestyle practices, including the appropriate use of vitamins and other supplements, in these populations.

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Paper Session #21 1:45 PM–2:00 PM 3058

BREAST CANCER SURVIVORS DECREASE SUPPLEMENT USE ACROSS TIME

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Purpose: To identify the correlates of dietary supplement use among long-term breast cancer survivors as well as correlates of the change in supplement use over time.
Subjects and Methods: Participants were 1975 breast cancer survivors participating in the Women's Healthy Eating and Living (WHEL) Study, aged 28–74 years. Dietary supplement use was collected during 24-hour dietary recalls at baseline and the 6-year follow-up and categorized according to nutrient content. Demographic and health behavioral (physical activity, smoking) data were obtained from questionnaires. Associations between supplement use and participant behaviors and characteristics were examined using ANOVAs and Chi-square analyses.
Results: Most women were using at least one supplement per day, 86% at baseline and 71% at the follow-up. The most commonly used supplements included multivitamins (54%), calcium (49%), vitamins C (43%) and E (48%), and herbals(27%). Greater supplement use at baseline was associated with older age, higher education, greater daily fruit & vegetable servings, lower % of calories from fat, higher levels of physical activity, lower BMI, and higher optimism scores (all ps<.05). Change in supplement use over the six year period was associated with the same variables, as well as ethnicity (White women were more likely to increase use than non-White women).
Conclusion: Most breast cancer survivors are using supplements, but prevalence has decreased slightly over time. Survivors who are moderate/heavy users of supplements report healthier diets, more physical activity, and are more frequently older and highly educated.

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Paper Session #21 2:00 PM–2:15 PM 3059

MINDFULNESS-BASED STRESS REDUCTION DECREASES PSYCHOLOGICAL DISTRESS IN OLDER ADULTS

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Psychological distress in the elderly is associated with decreased use of preventative medical services, worse clinical outcomes, and increased health care utilization and costs. Mindfulness-Based Stress Reduction (MBSR) programs have been shown to enhance functional status and well-being and to reduce psychological distress in heterogeneous populations. There is little research on the effect of MBSR on psychological distress in older populations. We investigated the effects of an eight-week MBSR program on overall psychological distress and mood states in individuals more than 60 years old. Seventy-one adults older than 60 years (mean age 65.6+5.5 yrs; male 42.3%, female 57.7%) completed the Profile of Mood States Short Form (POMS-SF) immediately before and after participation in an 8-week MBSR program. The POMS-SF Total Mood Score (TMS), a measure of overall emotional distress, was calculated and results analyzed by paired sample t-test. TMSs declined significantly following MBSR (pre-TMS 23.5+/−18.6; post-TMS 10.0+/−14.8), $t(70)=8.24$, $p<0.001$). There were also highly significant improvements in all POMS-SF subscales (confusion, anxiety, anger, fatigue depression and vigor; all $p<0.001$). Prior to MBSR training, 32% of participants reported moderate or high levels of emotional distress; following the intervention, this decreased to 10%. Among participants who initially reported moderate or high levels of distress, the change in TMS was proportionally greater than in participants with low distress ($p<0.001$). MBSR was well tolerated, and retention within the eight-week program was higher among individuals older than 60 than among younger participants. These preliminary findings suggest that MBSR is well-tolerated and may reduce psychological distress in the elderly. Further prospective controlled trials are warranted to study the use of MBSR to support successful aging and to determine its effect on health maintenance, illness, health care utilization and costs.

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Paper Session #21 2:15 PM–2:30 PM 3060

RESTORATIVE YOGA FOR WOMEN WITH BREAST CANCER: FINDINGS FROM A RANDOMIZED PILOT STUDY

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PURPOSE: Restorative yoga (RY) is gentle and potentially beneficial for enhancing quality of life (QOL) and reducing distress/cancer-related symptoms. It was hypothesized that participation in RY would improve QOL, sleep, and positive affect (PA); and decrease fatigue, anxiety, depression, and negative affect (NA).
METHODS: Women (≥18 yrs) with breast cancer who had been treated within the past 2 years, were ≥2 months post-surgery, and able to attend RY classes were eligible. The intervention was 10 weekly 75-min RY classes (postures, breathing, relaxation). Women were randomized to RY or control (C). They completed at baseline and 10 weeks: QOL (FACT-B), fatigue (FACT-F), anxiety (STAI), depression (CES-D), sleep (PSQI), and affect (PANAS).
RESULTS: Our sample (n=44) had a mean age of 55.8; the majority (86%) were in treatment (chemotherapy and/or radiation). All disease stages were represented. The majority were white (89%), married/partnered (64%) with higher education (61%≥college degree). Demographic/clinical variables were comparable between groups. Mean RY classes was 5.7 (SD=3.4); 41% attended ≥8. Group differences adjusted for baseline were tested at 10 weeks (ANOVA); all scores [mean(SD)] shown are 10-week data for RY and C groups, respectively. Significant group differences were seen for FACT-B emotional well-being (EWB) [20.8(3.2) v 18.2(6.1); p<.01], depression [8.1 (8.9) v 17.8(16.9); p<.05], PA [38.2(6.8) v 31.8(10.8); p<.05], and NA [14.0 (3.9) v 19.9(9.8); p<.01]. No group differences were noted for total FACT, fatigue, anxiety, or sleep. Additional analyses found no significant impact for number of classes.
CONCLUSION: RY can improve psychosocial/emotional status of women with breast cancer. It is a promising intervention that warrants further exploration of its impact on emotional function.

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Paper Session #21 2:30 PM–2:45 PM 3061

EFFECTS OF A COMPLEMENTARY MEDICINE (CAM) INTERVENTION FOR REDUCING FATIGUE, DEPRESSION, & INFLAMMATORY BIOMARKERS IN BREAST CANCER SURVIVORS: A RANDOMIZED, CONTROLLED TRIAL

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Fatigue is a common complaint among cancer patients, often persisting for many years after treatment. This RCT examines the effects of a CAM intervention (hands-on-healing; HOH) vs. a placebo control (mock healing; MH) for treating fatigue, depression, & inflammatory biomarkers associated with cancer-related fatigue. Twenty-three fatigued breast cancer survivors received 8 sessions of either HOH or MH over 4 weeks. HOH was administered by professionals trained in HOH; MH was administered by scientists who mimicked HOH hand positions. The Multidimensional Fatigue Symptom Inventory (MFSI-sf), Center for Epidemiological Studies Depression Scale (CESD), and Profile of Mood States (POMS-sf) were administered. To assess expectation effects, participants rated which treatment they thought they were receiving. Levels of interleukin-1 receptor antagonist (IL1Ra) & soluble interleukin-6 receptor (sIL6R) were measured by ELISA. Relevant cancer treatment & disease characteristics were entered as covariates. Intent to treat analyses revealed significant group×time interactions for the CESD, MFSI-sf and POMS-sf total scores ($p<.05$ for all measures; partial etasq=.31, .21, and .20, respectively) such that the HOH group had significantly decreased depression, fatigue, & mood disturbance compared to MH. There were trends for interactions for IL1Ra ($p=.065$, partial etasq=.21) & sIL6R ($p=.085$, partial etasq=.19) such that the HOH group had pre-post intervention decreases compared to MH. Change scores for IL1Ra & MFSI were significantly correlated ($r=.44$, $p=.027$). There were no differences in expectation effects for the two groups (77% of HOH and 75% of MH participants guessed they were in HOH). Results from this ongoing study suggest that compared to placebo, hands-on-healing may be a promising intervention for reducing fatigue, depression, and fatigue-related inflammation in breast cancer survivors. Further investigation of biofield therapies for the treatment of cancer-related fatigue is warranted.

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Paper Session #21 2:45 PM–3:00 PM 3062

YOGA THERAPY FOR CHRONIC BACK PAIN

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Chronic back pain affects a large proportion of both the general population and of military veterans. Although numerous therapies exist for treating chronic back pain, they can be costly and tend to have limited effectiveness. Thus, demonstrating the efficacy and cost-effectiveness of additional treatment alternatives is important. The purpose of our study was to examine the benefits of a yoga intervention for VA patients. VA patients with chronic back pain were referred to a yoga program as part of clinical careby their primary care providers . Before starting yoga, a VA physician trained in yoga evaluated each patient to ensure they could participate safely. The research study had a pre-post study design that consisted of completing a short battery of questionnaires at baseline and again 10 weeks later. Questionnaires included measures of pain, depression (CESD-10), energy/fatigue, and health-related quality of life (SF-12). Paired t-tests were used to compare baseline scores to those at the 10-week follow-up for the single group, pre-post design. Correlations were used to examine whether yoga attendance and home practice were associated with better outcomes. Baseline and follow-up data were available for 33 participants. Participants were 21% female, 70% white, 52% married, 68% college graduates, 44% retired, and had a mean age of 55 years. Statistically significant improvements were found for pain depression, energy/fatigue, and the SF-12 Mental Health Scale ($p<.05$), with effect sizes ranging from 0.43 to 0.74. The number of yoga sessions attended and the frequency of home practice were associated with improved outcomes. The data suggest that a yoga intervention for VA patients with chronic back pain may be efficacious and can improve the health of these veterans. However, the limitations of a pre-post study design make conclusions tentative. A larger randomized, controlled trial of the yoga program is planned to answer these questions more definitively.

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Paper Session #22 1:30 PM–1:45 PM 3063

PSYCHOSOCIAL CONTRIBUTORS TO ANTIRETROVIRAL ADHERENCE: STABILITY AND CHANGE

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Adherence to anti-retroviral therapy (ART) is critical to HIV treatment success, yet many fail to achieve the >95% adherence necessary for viral suppression. This study examined the stability of psychosocial predictors of adherence.127 HIV+ adults (92% African–American, 51% female, mean age 44.5), enrolled in a longitudinal study of HIV progression and receiving ART, completed a structured interview assessing nonadherence and related psychosocial variables at baseline and at 6- and 12-month follow up. The Hardiness Scale (HS), Perceived Stress Scale (PSS), and a coping measure (Vignette Similarity Rating Method; VSRM) were also completed. Patients were classified as adherent if they took >95% of ART doses in the past week.

Adherence was stable from baseline to 6-month ($\chi^2=15.86$, $p<.01$) and 12-month ($\chi^2=8.31$, $p<.01$) follow-up. At each point, different psychosocial problems were associated with concurrent nonadherence: at baseline, depression ($t=2.13$, $p=.04$), psychiatric symptoms ($t=2.23$, $p=.03$), and interviewer-rated stress severity ($t=2.63$, $p=.01$); at 6 months, stress severity ($t=2.36$, $p=.02$) and hopelessness (VSRM) ($t=-1.88$, $p=.07$); and at 12 months social support ($t=-2.33$, $p=.02$), unsupportive social interactions ($t=2.073$, $p=.042$), alcohol use ($t=-2.86$, $p<.01$), stress severity ($t=1.875$, $p=.06$), and PSS scores ($t=1.863$, $p=.06$). Being adherent at follow-up was associated with baseline coping variables: higher scores for optimism ($t=2.86$, $p<.01$); adaptive coping (VSRM) ($t=-2.07$, $p=.042$); and the Commitment ($t=-2.51$, $p=.02$) and Control ($t=-2.15$, $p=.04$) subscales of the HS, which respectively assess a sense of purpose and a sense of autonomy.

Nonadherence in this sample was stable over time, but the associated acute psychosocial problems differed at each time point. The stability of adherence appears to be driven by more stable, trait-like coping patterns which govern responses to emerging challenges.

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Paper Session #22 1:45 PM–2:00 PM 3064

HIV ADHERENCE PILOT STUDY BASED ON THE IMB MODEL

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Introduction: Strict adherence to HIV medications has been shown to be critical to assure long-term disease control, yet there are few efficacious interventions that are possible in a clinic setting with limited resources. This pilot study was conducted in a public clinic in the Deep South, testing its feasibility in this setting and population.

Methods:This randomized controlled clinic-based pilot study tested a multidimensional intervention based on the Information-Motivation-Behavioral Skills (IMB) model to assist individuals to improve their medication adherence. Seventy-three individuals starting or restarting antiretroviral therapy (ART) were enrolled, and 56 randomized to usual care or usual care plus intervention. The intervention included HIV education, a peer video to enhance social motivation, motivational interviewing (MI), and attention to behavioral skills including communication with providers, and adherence-enhancing devices. The intervention started intensively with two face-to-face sessions, and continued with telephone calls on a tapering schedule. Dependent variables included 3-day adherence recall, 3–4 week adherence recall by visual analogue scale, medication refill rate, changes in IMB subscale scores, appointment attendance, and HIV-associated laboratory findings. Data collection was conducted using computer-assisted technology.

Results: Despite a 51% attrition rate, resulting mostly from loss to clinical care or prolonged gaps in care, at 24 weeks those in the experimental condition showed improvement in all outcomes compared to those in usual care only, though this was not statistically significant. Decrease in viral load was significantly greater in the experimental group ($p=.047$) for those who completed the study; effect sizes were small to moderate in all outcomes. Depressed individuals were less likely to complete the study.

Discussion: This intervention should be studied in a larger group with greater attention to retention in care and depression.

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Meritorious Student Paper
Paper Session #22 2:00 PM–2:15 PM 3065

VALIDATING TELEPHONE-BASED UNANNOUNCED PILL COUNTS FOR ASSESSING HIV TREATMENT ADHERENCE

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There are few practical and valid objective methods of measuring medication adherence. One promising approach to assessing medication adherence is the home-based unannounced pill count (Bangsberg 2001, 2003), where unannounced pill counts (UPC) are conducted monthly in the patient's home. The protocol for home-based UPC resolves limitations of office-based pill counts. UPC for antiretroviral (ARV) medications with HIV positive patients are highly correlated with adherence measured by electronic medication monitoring devices and UPC predicts changes in viral load. However, UPC is only feasible in areas where large concentrations of HIV positive persons reside in close proximity. The feasibility of home-based UPC in sprawling urban areas has not been demonstrated. We recently adapted Bangsberg's UPC protocol by using telephone assessment procedures. In a study of 77 people living with HIV/AIDS, we conducted monthly phone-based UPC over a 6 month period. Results of the UPC indicated an overall mean adherence of 86% (median=95%) pills taken. We found that 36% of participants had taken less than 85% of their ARV medications and 21% were less than 70% adherent. We conducted a standard home-based UPC visit with each participant and validated the UPC conducted by telephone. Validation visits demonstrated a strong concordance (ICC=.997; kappa coefficient for 90% adherence=.995) between the phone-based UPC and the home-based validation count. A cost analysis found that the limited error rate resulting from the phone-based UPC is tolerable given the cost savings of phone visits versus home visits. We are currently collecting blood specimens from participants to, for the first time, validate the phone-based UPC with HIV viral load as a biological marker of viral suppression. Although home-based UPC remains the best available method for objectively assessing medication adherence, it is often infeasible because of cost and logistic barriers. Phone-based UPC offers an economical and easily implemented objective assessment of medication adherence for research and clinical monitoring of patient adherence.

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Paper Session #22 2:15 PM–2:30 PM 3066

ASSESSMENT OF LONG-TERM EFFICACY OF AN INTERNET DELIVERED HIV RISK REDUCTION INTERVENTION FOR RURAL MSM

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Recent research indicates reduced HIV risk behaviors and improved cognitions surrounding HIV risk reduction behaviors among men who have sex with men (MSM) residing in rural areas completing an online intervention. However, the long-term efficacy of the intervention is unknown. The present study aims to determine whether the gains achieved following completion of the intervention were maintained at one- and nine-month follow-up time periods. Data were analyzed using repeated measures analyses. Results indicate that improvements in self-efficacy ($F(1, 68) = .23$), safety outcome expectancy ($F(1, 68) = .5$), and willingness to reduce HIV risk ($F(1, 68) = .49$) were maintained. Significant, but small, declines in knowledge were noted ($F(1, 68) = 4.68$). Long-term behavioral changes, reduced number of sex partners and increased frequency of condom use, were also maintained. However, reductions in anal sex acts were not sustained. There were no differences between one- and nine-month follow-up groups, indicating long-term maintenance of HIV risk reduction behaviors. These results highlight the effectual potential of Internet interventions targeting cognitive and behavioral changes in hard to reach populations.

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Paper Session #22 2:30 PM–2:45 PM 3067

TRANSLATING HIV INTERVENTIONS INTO PRACTICE: EXPERIENCES WITH DIFFUSION OF EFFECTIVE BEHAVIORAL INTERVENTIONS (DEBIS)

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BACKGROUND: Efficacious HIV prevention programs have been developed, but these programs have not been institutionalized. The ongoing diffusion effort by the Centers for Disease Control(CDC) provides an opportunity to study the translation of behavioral HIV/STI interventions. The present study documented implementation of Diffusion of Effective Behavioral Interventions (DEBIs) in 6 community-based agencies. Using the CDC's ADAPT model as a guide, we sought to better understand assessment, preparation, and implementation of DEBIs.

METHODS: Qualitative interviews were conducted with 6 Executive Directors and 9 staff members at 6 agencies conducting DEBIs. Descriptive and thematic analysis focused on elaborating constructs in the ADAPT model and identifying new constructs. Comparative analyses underway will examine subgroup similarities and differences within and across agencies, leading to preliminary models that present modifications to ADAPT.

RESULTS: Analyses indicate that in practice, assessment, preparation, and implementation phases are less encompassing than conceptualized in the ADAPT model. Practical considerations (e.g.,financial needs,time) appear to have a considerable influence on the activities engaged in by agencies as they implement the DEBIs. Support functions within the agency (e.g.,supervision) and with clients (e.g., rapport, trust) appear to have an impact on implementation of interventions. Not all agencies understood the core elements, thus influencing fidelity.

CONCLUSIONS: The present study provides initial data on how DEBIs proceed in practice and modifications to the ADAPT model will be suggested. Importantly, our data suggest that fidelity of programs may be compromised when agencies lack an understanding of core elements. Continued examination of translation from research to practice is necessary in order to facilitate the institutionalization of efficacious interventions.

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Paper Session #22 2:45 PM–3:00 PM 3068

THE DIFFUSION OF EFFECTIVE BEHAVIORAL INTERVENTIONS PROJECT: DEVELOPMENT, IMPLEMENTATION, AND LESSONS LEARNED

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Increased use and implementation of evidence-based HIV/STD prevention interventions can play an important role in reducing HIV/STD incidence. While such interventions possess substantial potential, their use by health departments, medical clinics and CBOs has been fairly limited. This paper will describe the development, implementation, and lessons learned of the Diffusion of Effective Behavioral Interventions (DEBI) project, a CDC-funded strategy to diffuse nineteen evidence-based, individual-, group- and community-level HIV/STD prevention interventions to health departments, clinics and community-based organizations (CBOs) nationwide. The paper will specifically provide: an overview of the rationale, description and theoretical foundation of the project; a summary of assessments conducted, among CDC-funded partners, to assess interests, needs and capacities relative to the project; a description of the types of diffusion products needed for the project, their purpose, approach employed to develop the products, and explanation of how they were used; a description of the project's health marketing strategy; a description of the project's training coordination functions and technical assistance/capacity building activities; an overview of fidelity, process and outcome evaluation components; and a description of future directions for DEBI. The CDC has diffused these 19 interventions to 3,719 agencies in the last 4.5 years. The intervention materials have been shared with prevention providers in 67 other countries. Project successes and challenges will be addressed, in order to inform future efforts to diffuse prevention interventions. Emerging diffusion and dissemination questions will be presented including: assessment of intervention complexity; challenges in replication research; external validity/generalizability paradigms; methodological challenges in dissemination of evidence-based interventions; policy diffusion research; a taxonomy of translation research domains; and potential study designs for effectiveness/translation research.

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Paper Session #23 1:30 PM–1:45 PM 3069

HOW SHOULD WE MEASURE BLOOD PRESSURE IN THE CLINICAL SETTING? BLOOD PRESSURE MEASUREMENT DISCREPANCIES IN PRIMARY CARE

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Despite the reliability of automated blood pressure (BP) measurement, manual measurement continues to be the primary means of assessment in clinical practice. We used data from 441 hypertensive adults to: a) examine whether there were discrepancies between BP measurements taken manually versus those taken with an automated BP machine on the same day, and b) estimate and quantify the potential sources of variation. Using Wilcoxon sign-rank tests to evaluate if the paired difference (manual BP-automated BP) had median zero, we found that manual BP measurements were lower than automated BP ($p < .0001$) for both systolic (148 vs. 138 mm Hg) and diastolic BP (80 vs. 77 mm Hg). We used McNemar's test to compare if zero-digit terminal digit preference (TDP), a common source of observer bias where measurements ending in zero occur at higher frequencies than other digits, was more common in manual vs. automated BP. TDP was more frequent in manual BP (50% of measurements) than in automated measurements (11%; $p < .001$). Wilcoxon rank-sum tests were then used to test the effect of TDP on measurement discrepancy by comparing relative bias (manual BP-automated BP/automated BP) for manual BP measurements between TDP vs. no TDP. The relative bias for manual BP measurements showing TDP was greater than measurements with no TDP (−7.1% vs. −5.0% for SBP; $p < .05$ and −4.0% vs. −2.5% for DBP; $p = .27$). While TDP accounts for a portion of the relative bias, significant differences remain even in scores not showing TDP. Possible explanations for the remaining discrepancy between manual and automated BP measurements include expectation bias, insufficient training and observer-participant interaction. The data suggest that the continued use of manual blood pressure could lead to misdiagnosis and inadequate care for individual patients in clinical settings and systematically underestimate blood pressure data in research settings.

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Paper Session #23 1:45 PM–2:00 PM 3070

DOMAIN-SPECIFIC MEASUREMENT OF ANGER EXPRESSION IMPROVES RELATIONSHIP TO AMBULATORY BLOOD PRESSURE

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Objective: Bongard and al'Absi (2003) proposed the use of domain specific anger expression as an improved method for measuring the expression of anger with stronger links to cardiovascular parameters. Their data, although supportive, tested these links only as related to blood pressure (BP) in a laboratory setting. We tested this proposal by relating their domain specific measure to ambulatory BP at home, work/school and during leisure.

Method: One hundred and forty-nine Singapore young adults responded to the original as well as a modified version of the State-Trait Anger Expression Inventory (STAXI) that measured anger expression (Anger In (AI), Anger Out (AO) and Anger Control (AC)) at home, school/work and leisure. They then underwent 24 h ambulatory blood pressure monitoring during which, at each measurement, they also responded to questions concerning their location as well as variables known to affect BP (e.g., posture, activity, smoking). Data were analyzed using multi-level random coefficients regression with repeated measures and covariates, performing 32 independent tests for each STAXI subscale for both the original STAXI and the domain-specific measure.

Results: Significant differences were found in mean reported anger expression in the three domains measured ($p<.001$). More importantly, fewer that 7% of the relationships between ambulatory BP and scores on the original STAXI reached statistical significance, a result attributable to chance. By comparison, for the domain specific STAXI 12.5% of tests for AI, 18.75% of tests for AO, and 31.25% tests for AC reached statistical significance.

Conclusion: These results provide strong evidence for the importance of going beyond general measures of anger expression to measurement that takes account of the specific context in which anger occurs.

Reference: Bongard, S. & al'Absi, M. (2003). Domain-specific anger expression assessment and blood pressure during rest and acute stress. Personality and Individual Differences, 34, 1383–1402.

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Citation Paper

Paper Session #23 2:00 PM–2:15 PM 3071

THE IMPACT OF PARENTAL STATUS ON AMBULATORY BLOOD PRESSURE

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Social relationships, particularly familial relationships, have been increasingly recognized as potential contributors to morbidity and mortality. Research suggests that care-giving may be associated with detrimental effects, while support provision is associated with health benefits. Currently little is known about the effect of parental status on health. Thus it is unclear whether the care-giving associated with parenting may impact the health of parents, and if so in what direction. Therefore, this study examined the impact of parental status and its interaction with gender, given mothers are typically dis-proportionally more responsible for everyday care of children, on cardiovascular functioning. We examined ambulatory blood pressure (ABP) over a 24-hour period among 204 healthy married males and females ages 20–68. Results revealed a significant effect of parental status on 24-hour ($p=.001$), daytime ($p=.002$), and nighttime ($p=.007$) SBP, such that those without children had significantly higher SBP than parents. Similarly, results revealed a significant effect of parental status on 24-hour ($p=.02$) and daytime ($p<.05$) DBP, such that those without children had significantly higher DBP than those with children. In addition, we found a significant interaction between parental status and gender for 24-hour ($p<.001$), daytime ($p=.003$), and nocturnal dipping of ($p=.02$) SBP. Similarly, we found a significant interaction between parental status and gender for 24-hour ($p<.001$), daytime ($p<.001$), and nighttime ($p<.005$) DBP. These interactions revealed the lowest SBP among women with children compared to all other groups. In contrast, women without children displayed the highest DBP and the lowest SBP nocturnal dipping compared to all other conditions. These effects are independent of the impact of length of marriage, age, BMI and phase of menstrual cycle, on ABP. Our findings suggest that parenthood, and especially motherhood, may be beneficial for cardiovascular health and that being childless may particularly put women at greater risk.

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Paper Session #23 2:15 PM–2:30 PM 3072

CAN PSYCHOLOGICAL FACTORS PREDICT BLOOD PRESSURE NON-DIPPING AT NIGHT?

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In healthy individuals blood pressure (BP) drops during sleep; lack of BP recovery at night is referred to as BP non-dipping and is predictive of cardiovascular complications. A drop of less than 10% SBP is a frequently used criterion for defining non-dipping; differing methods of defining non-dipping status largely identify the same patients (Dimsdale, von Kaenel, Profant et al., 2000). The arrival of ambulatory BP monitors has fuelled research on the non-dipping phenomenon. It is now considered confirmed that ethnicity, and blood pressure level are markers of non-dipping status. The literature on psychological markers of non-dipping is scant but suggests that anger/hostility and chronic stress may be pertinent contributors to non-dipping. We have investigated this phenomenon in a sample of drug-free hypertensives who underwent a clinical trial and supplied extensive demographic, psychological, and biological risk factor data after medication wash-out but prior to any treatment.

Sixty-two patients were available for analysis (n=23 non-dippers). Multiple t-tests suggested that non-dippers (defined as<10% nightly drop in systolic BP) drank less alcohol (3.9 vs 6.7 drinks/week), used more anger diffusion strategies, ruminated more, and sought more support when angered. Neither hostility nor perceived stress differentiated the groups. Given that many of these predictors are inter-correlated, the degree of independent predictive power needed to be determined. A step-wise discriminant function analysis revealed that significant predictors of non-dipping (chi-square=17.7, $p<.001$, Wilks-Lambda=.67) were alcohol consumption ($p=.013$), support-seeking after anger ($p=.027$), and anger diffusion ($p=.039$) allowing for a correct classification of dippers/non-dippers with 74.1% accuracy. These findings suggest that anger response styles may be worthy of further study for understanding psychological contributions to blood pressure non-dipping at night in hypertensive patients.

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Paper Session #23 2:30 PM–2:45 PM 3073

A RANDOMIZED PILOT STUDY OF TREATMENT OF HYPERTENSION: PSYCHOLOGICAL VERSUS DRUG TREATMENT

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Psychological treatment of hypertension can be effective when treatment is individually-tailored and initiated at clearly elevated levels of 24-hour blood pressure (BP) (Linden & Moseley, 2006) but its comparative efficacy with drug treatments is unknown. We are reporting the first controlled trial to compare the effect of two different psychological interventions (i.e., individualized behavioral therapy [IBT] and self-help stress management [SHSM]) with a first-line drug treatment (i.e., Hydrochlorothiazide [HCTZ]) using 24-hour BP as the primary endpoint. All patients to be included were washed out over a 1-month period if they had been on antihypertensive medication previously; this applied to 75% of patients. Those still meeting criteria (BP>135/85 mmHg) were randomized into the three treatments. Forty-two patients completed treatment and provided complete post-treatment data at 12 weeks post-randomization (N=13 SHBT, N=15 IBT, N=14 HCTZ). Pooled across treatment conditions, both 24-hr systolic (Mean change −5.5 mmHg; $t=3.19$, $p=.003$) and diastolic (Mean change −2.7 mmHg; $t=2.51$, $p=.016$) BP was reduced at post-treatment. Despite randomization the treatment groups were heterogeneous in initial BP levels and were therefore subjected to residualized change score analysis to determine differential treatment outcomes. Post-hoc tests revealed that the diuretic was strongly superior to self-help for SBP and DBP and that the IBT response magnitude fell in between these two extremes, not significantly differing from the other treatments. When SBP declined, so did DBP ($r=.93$). Given the small sample size, interpretations need to be made with caution. Among psychological variables, anger response styles changed only in the IBT condition. Treatment response for psychological treatment was more variable than in the drug treatment condition thus suggesting that the drug is more uniformly effective in reducing blood pressure than is psychological treatment. Urgently needed is information about patient characteristics that permit prediction who responds best to psychological interventions.

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Paper Session #23 2:45 PM–3:00 PM 3074

PATIENT'S PERCEPTION OF PROVIDER COMMUNICATION STYLES IS RELATED TO MEDICATION ADHERENCE AMONG HYPERTENSIVE AFRICAN AMERICAN

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Patient–physician relationship is a potential explanatory mechanism underlying racial disparities in health care. However, little is known about the effect of the patient–physician relationship on medication adherence and hypertension-related outcomes in black patients. In this cross-sectional study, generalized linear mixed models were used to evaluate the impact of patients' perceptions of provider communication styles on medication adherence among 201 hypertensive blacks patients receiving care from 34 providers in community health centers in the New York metropolitan area. The patient sample was predominately female, low-income, unemployed, had a high school education or less, and with a mean age of 58 yrs. The health care providers were predominately internists, female, black, possessed an MD/DO degree, and on average, has been providing care at their various clinics for 8 years. Fifty-three percent of the patients were non-adherent with their anti-hypertensive medications; and 48% perceived their provider to possess a non-collaborative communication style. In the unadjusted analyses, collaborative provider communication styles were associated with better medication adherence (β=.57, p=.01). When adjusting for patient-level variables (age, gender, SES, insurance, medical comorbidity) and provider-level variables (type of medical degree, exposure to cultural competency training, years at clinic) in the multivariate model the relationship between communication styles and medication adherence was no longer significant, albeit there was a positive trend at p=.07. Implications of this finding include systematically incorporating communication skills training into medical school curricula, as well as shifting to a relationship-centered model of care.

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Meritorious Student Paper
Paper Session #24 1:30 PM–1:45 PM 3075

PERCEIVED STRESS, AEROBIC EXERCISE, AND C-REACTIVE PROTEIN LEVELS IN OLDER ADULTS

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C-reactive protein (CRP), an inflammatory protein that predicts cardiovascular events, has been shown to decrease with aerobic exercise training. Associated change in psychological well-being has potential as an underlying mechanism to explain this effect, as those with elevated CRP levels often report high levels of depression and stress. This 10-mo randomized controlled trial examined the hypotheses that exercise training is associated with deceases in CRP, which can be explained by improved fitness and psychological well-being. Previously sedentary older adults (N=115, 69.7±5.4 y) were assessed for fitness, adiposity, serum CRP, perceived stress, affect, and loneliness at baseline and post-trial. Participants were randomized to either an aerobic exercise (AE), or stretching/flexibility (FLEX) group and met 3× wk/45 mins/session. MANOVA indicated that the AE condition experienced a reduction in CRP relative to FLEX, (p=0.08) but had significantly improved fitness (p<0.01) and reduced adiposity (p<0.01), and perceived stress (p=0.01). Both conditions demonstrated improvements in affect and loneliness (p< 0.05). Changes in perceived stress were the only psychosocial factor associated with CRP change (p<0.05) in correlational analyses. Subsequent regression analyses used age, medications, gender and changes in fitness, adiposity, and perceived stress as predictors of CRP change across the trial. The overall model accounted for 13% of the variance in CRP change with reductions in perceived stress (β=0.18, p= 0.07), gender (β=0.24, p<0.05) and aspirin taking (β=−0.35, p<0.05) emerging as the only independent predictor variables. These findings suggest that reductions in perceived stress may underlie exercise-induced decreases in CRP levels in older adults.

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Paper Session #24 1:45 PM–2:00 PM 3076

SOCIOECONOMIC STATUS AND INTERLEUKIN-6 REACTIVITY IN OLDER ADULTS

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Little is known about the influence of socioeconomic status (SES) on acute stress-activated inflammatory responses in older adulthood when inflammation may pose the greatest risk for chronic diseases such as cardiovascular disease and type-2 diabetes. The current study examined associations among objective and subjective SES and IL-6 in older adults.

Twenty-five healthy men and women 50 and older (age M=61.1, SD=9.78; range, 51 to 84 years) participated as part of a larger study of older adults' physiological responses to cognitive tasks. Participants reported negative affect (NA), depressive symptoms, objective SES measures (education and income), and perceived SES. For the stress protocol, participants provided a baseline blood sample for IL-6 following a 30-minute relaxation period, and then engaged in a 25-minute memory task, followed by a 20-minute recovery at the end of which was a second blood draw.

In contrast to the delayed increases in acute stress-activated IL-6 observed in younger adults, older adults demonstrated significant changes in plasma IL-6 from baseline at 20-minutes post memory task (p=.005). Further, objective measures of SES did not relate to baseline or changes in IL-6, but participants who self-reported lower SES standing in their community had greater IL-6 response to the stressor (r=−.46, p=.02). Although individuals lower in subjective SES reported higher baseline NA (r=−.45, p =.02), NA could not explain the SES and IL-6 association as negative affect was not related to plasma IL-6 change. Depression was also unrelated to subjective SES and to IL-6 levels at baseline and in response to the stressor.

These findings suggest that older adults may be particularly vulnerable to acute stress-related inflammatory activation, with relatively rapid increases in IL-6 reflecting poorer regulation and synthesis of inflammatory mediators. Importantly, perceived SES standing may play a unique role in these acute stress-activated inflammatory responses, providing a potential mechanism linking subjective SES to health.

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Paper Session #24 2:00 PM–2:15 PM 3077

THE ASSOCIATION OF SOCIAL SUPPORT WITH INFLAMMATORY MARKERS IN ANXIOUS AND NON-ANXIOUS HEALTHY ADULTS

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Anxiety may be associated with increased risk for coronary heart disease (CHD) via hypothalamic-pituitary adrenal (HPA) axis effects on inflammation. Trait anxiety and specific anxiety disorders are associated with increases in inflammatory proteins that predict CHD, including interleukin-6 (IL-6) and C-reactive protein (CRP). Social support protects against CHD mortality in depressed individuals, but the effect of social support on IL-6 and CRP in anxious individuals is not known. Fifty-six healthy adults (27 clinically anxious; 29 non-anxious) fasted and abstained from alcohol, smoking, caffeine, nonprescription medication and exercise before participation. Morning levels of salivary cortisol and serum IL-6 were assessed with high sensitivity ELISA, and high sensitivity serum CRP was measured with immunonephelometry. Participants completed the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983) and the Social Support Questionnaire-6 (Sarason et al. 1990). Analyses were conducted controlling for age, sex and depression. Anxious participants had significantly higher levels of IL-6, F(1,52)=4.16, p=.047, and significantly lower levels of cortisol, F(1,56)=6.05, p=.02. Cortisol did not appear to mediate the relationship between anxiety and IL-6. There were no significant differences between groups in CRP or social support. Satisfaction with network support was not significantly associated with biological variables in either group, and there was no association between network support and biological variables in anxious participants. However, larger social networks were associated with lower IL-6 in non-anxious participants (r=−.57, p<.01). The present findings represent a novel demonstration that anxiety is associated with IL-6 independent of depression. Socially supportive interventions may be most beneficial if targeted at CHD patients who do not currently fulfill the criteria for clinical anxiety.

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Paper Session #24 2:15 PM–2:30 PM 3078

CARDIOVASCULAR REACTIVITY AND RECOVERY PREDICT ANTIGEN-STIMULATED IL-6 PRODUCTION IN PERSONS WITH HIV

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Recent work suggests that stress can enhance production of proinflammatory cytokines, notably Interleukin-6 (IL-6), which has been linked to a range of diseases, including cardiovascular disease. Dysregulation of the pro and anti-inflammatory balance has been implicated in immune activation and HIV pathogenesis. Thus, understanding the connections among stress, cardiovascular (CV) reactivity, and IL-6 production in persons with HIV are of great interest. Participants were 79 HIV+ adults (92% African–American, 51% female, mean age 44.5) from a longitudinal study of HIV progression. At baseline and 12 months, participants completed two emotion-induction tasks (Anger Recall and Role Play), each preceded and followed by rest, while heart rate (HR) and systolic/diastolic blood pressure (SBP, DBP) were monitored at 90-second intervals. In vitro production of IL-6 was measured in response to the antigens phytohemagglutinin (PHA), Candida, and the HIV core protein p24. The relations of baseline HR and BP reactivity/recovery to 12-month IL-6 production were examined with multiple regression analyses. After adjustment for age, CV medications, and methadone use, greater HR reactivity (R^2=.139, β=.356, p=.003), poorer HR recovery (R^2=.231, β=.467, p=.001), greater SBP reactivity (R^2=.073, β=.233, p =.048), and poorer SBP recovery (R^2=.070, β=.231, p=.055) during the Role Play task at baseline predicted greater IL-6 production to the p24 antigen at 12 months. Poorer SBP recovery at baseline during the Anger Recall task was also associated with greater IL-6 production at 12 months (R^2=.081, β=.278, p=.034). Greater HR reactivity (R^2=.075, β =.249, p=.038) and poorer HR recovery (R^2=.071, β=.238, p=.045) during the Role Play task at baseline predicted greater IL-6 production to PHA at 12 months. These findings suggest that exagerated CV responses to stress may contribute to HIV progression via overproduction of IL-6 and associated immune activation.

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Paper Session #24 2:30 PM–2:45 PM 3079

PSYCHOSOCIAL DISTRESS, METABOLIC AND INFLAMMATORY ABNORMALITIES IN FIRST-DEGREE RELATIVES OF DIABETIC SUBJECTS

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We examined whether first-degree relatives of diabetic subjects differed in insulin resistance (IR), inflammatory biomarkers and psychosocial distress from controls subjects with a negative family history of diabetes and whether these risk factors clustered more strongly in 1st-degree relatives. First-degree relatives of diabetic subjects are at greater risk for diabetes and exhibit metabolic dysregulations before they develop overt diabetes. It is not well established if 1st-degree relatives also evidence abnormalities in inflammatory biomarkers and psychosocial distress associated with an increased risk of diabetes. We hypothesized that, relative to controls, first-degree relatives would show greater IR, C-reactive protein (CRP), interleukin (IL)-6, and greater psychosocial distress (e.g., hostility, anger, depression, social support). Subjects were 66 non-diabetic adults (57% women, mean age=33) with 25% of sample reporting a first-degree family member with diabetes. Fasting bloods were used to assess inflammatory biomarkers and IR was derived by the Homeostatic Model Assessment (HOMA). Psychosocial distress was assessed via standardized paper-and-pencil scales. Family history was not associated with gender or ethnicity. Controlling for age, ethnicity and gender, 1st degree relatives showed higher hostility(p=.04) and higher insulin (p=.03) but this latter association was mediated in part by body mass index. In 1st degree relatives, depression was associated with insulin (partial r=.64, p=.07) and HOMA-IR (r=.62, p=.07) and anger with elevated CRP (partial r=.66, p=.07). Thus, relative to controls, 1st degree relatives of diabetic subjects show elevations in psychosocial and biological risk factors that more strongly cluster together, thus further enhancing the risk of developing diabetes beyond that associated with family history alone. These modifiable risk factors may serve as targets of interventions aimed at risk reduction.

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Paper Session #24 2:45 PM–3:00 PM 3080

RELATIONSHIPS AMONG DEPRESSION, HEART FAILURE, AND EXERCISE-INDUCED PRO-INFLAMMATORY CYTOKINES

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Depression is associated with worse prognosis in heart failure (HF) patients. Though the mechanisms are unclear, dysregulation of pro-inflammatory cytokines such as interleukin 6 (IL-6) may partially explain this association. Optimally treated HF patients (n=33; NYHA Class II–IV) and non-HF controls (n=33) maintained a moderate intensity on a stationary bicycle. They also completed a Beck Depression Inventory-II (BDI-II) to evaluate their depressive symptoms. Those with BDI-II scores ≥10 were considered depressed for analyses. Blood was drawn prior to, immediately following, and 10 and 30 minutes post-exercise; levels of serum IL-6 were determined by ELISA. A repeated measures, within/between groups mixed design revealed a significant 3-way interaction (p=.003) among IL-6 (intra-individual, across the four time points), HF status (patient vs. control), and depression status (depressed vs. non-depressed). Examination of profile plots revealed that IL-6 levels of depressed vs. non-depressed non-HF controls were elevated across all time points but only immediately following exercise for depressed vs. non-depressed HF patients. Further, all 2-way interactions and main effects were significant but should be interpreted with caution in context of the higher level interactions. Notably, mean IL-6 levels were elevated across all time points for depressed vs. non-depressed individuals (p=.006) and controls vs. HF patients (p=.041). Thus, HF was associated with lower levels of IL-6 compared to controls, an unexpected finding likely attributable to the fact that the HF patients were optimally treated with medications designed in part to decrease inflammation that may otherwise contribute to disease progression. Such medications may also explain why the relationship between depression and IL-6 differed according to HF status in this sample. If left untreated, inflammation associated with depression may increase incidence of inflammatory disorders in non-HF individuals and worsen prognosis in HF patients.

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Paper Session #25 1:30 PM–1:45 PM 3081

PREDICTORS OF CHANGE IN DIET AND PHYSICAL ACTIVITY DURING THE WEIGHT LOSS PHASE OF THE WEIGHT LOSS MAINTENANCE TRIAL

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The key components of most weight loss programs are dietary and physical activity improvements. However, few studies have identified behavioral and motivational variables that predict adherence to dietary and physical activity advice during weight loss. The Weight Loss Maintenance Trial (WLM) is a multi-center, NHLBI-funded trial. Phase I was a 6-month behavioral weight loss program for overweight individuals with hypertension and dyslipidemia. Participants who lost >4 kg (successful weight losers) were offered randomization into Phase II; a comparison of two weight maintenance interventions to usual care. Multiple regression analyses were used to determine whether entry measures of physical activity, calories consumed, percentage of fat, servings of fruits and vegetables, quality of life, perceived stress, and social support for eating and exercise habits were associated with changes in dietary intake and physical activity from entry to the end of Phase I in successful weight losers. In Phase I, 1143 of 1600 participants lost ≥4 kg (67% AA men, 56% AA women, 77% Caucasian men, 71% Caucasian women). A reduction in total calorie intake was associated with the following entry variables: consuming higher fat (p≤.000) and more fruits and vegetables (p≤.000), more family discouragement for making dietary changes (p≤.009), and lower perceived mental health (p≤.025). Reduction in total fat intake was associated with eating more calories (p≤.033) and reporting more prior attempts at weight loss (p≤.000). Increased fruit and vegetable intake was associated with consuming more total fat (p≤.000), higher perceived stress ratings (p≤.042), and reporting more prior weight loss attempts (p≤.039). None of the entry measures predicted changes in physical activity. Despite range restrictions of studying only successful weight losers, preliminary results suggest that entry dietary patterns, prior weight loss experience and perceptions of well-being predicted dietary changes associated with weight loss.

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Citation Paper
Paper Session #25 1:45 PM–2:00 PM 3082

WHAT DISTINGUISHES LONG-TERM WEIGHT LOSS MAINTAINERS FROM THE TREATMENT-SEEKING OBESE? ANALYSIS OF ENVIRONMENTAL, BEHAVIORAL, AND PSYCHOSOCIAL VARIABLES

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The major problem in obesity treatment is failure to maintain long-term weight loss. To develop more effective interventions, it is important to learn about the variables that distinguish long-term successful weight losers (SWL) from treatment-seeking obese (TSO). The purpose of this study was to provide a comprehensive understanding of the role of psychosocial (e.g., quality of life, depressive symptoms), environmental (food and exercise equipment in the home), and behavioral variables (diet, exercise, self-weighing, TV viewing, breakfast eating) in distinguishing SWL from TSO. SWL (n=181) had lost 29.8±15.0 kg and kept the weight off for 13.7±9.6 years. TSO (n=162) had a history of dieting and BMI □ 25 kg/m^2. A total of 46 variables known to be associated with weight control were examined. Bayesian Model Averaging (BMA) was used to summarize across multiple models the probability of a variable distinguishing SWL from TSO. After controlling for demographic covariates, BMA findings showed that the strongest and most consistent variables that discriminated SWL from TSO (posterior probabilities >95%; in order of estimated effect size) were more dietary restraint (OR=1.7), less disinhibition (OR=0.7), more high intensity physical activity (OR=1.5), less encouragement from family to eat healthy (OR=0.8), less fat intake (OR=0.4), greater perceived health (OR=2.6), fewer TVs in the home (OR=0.5), and less restaurant eating (OR=0.8). Surprisingly, variables that did not distinguish these two groups (in both univariate or multivariate analyses) included breakfast eating, fruit and vegetables in the home, social support, calories expended in low and moderate intensity physical activity, and recreational equipment in the home. Thus, efforts to teach treatment seeking obese to be more like SWL should focus on increasing conscious control over eating, engaging in high intensity physical activity, lowering fat intake, having fewer TVs in the home, and improving perceived health.

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Citation Paper
Paper Session #25 2:00 PM–2:15 PM 3083

PREDICTORS OF WEIGHT LOSS MAINTENANCE IN THE WEIGHT LOSS MAINTENANCE TRIAL

Laura P. Svetkey, MD,[1] Victor J. Stevens, PhD,[2] Phillip J. Brantley, PhD,[3] Lawrence J. Appel, MD,[4] Jack F. Hollis, PhD,[2] Catherine M. Loria, PhD,[5] William M. Vollmer, PhD,[2] Christina M. Gullion, PhD[2] and Kristine Funk, MHS[2]

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The Weight Loss Maintenance Trial (WLM) recruited 1685 overweight and obese adults (BMI 25–45 kg/m^2) to participate in a 6-month group behavioral weight loss intervention (Phase I). Those who lost at least 4 kg [n=1032 (61%), 38% African American, 63% female, mean age 56, mean weight loss=8.5 kg] were then randomly assigned in Phase II to: 1) monthly Personal Contact (PC) by telephone (9/yr) and in-person (3/yr); 2) Interactive Technology (IT) with unlimited access to an intervention website; or 3) a Self-Directed (SD) comparison group. Weight and other data were collected at 6 month intervals for 30 months following randomization. Final Phase II weight was measured in 93%. PC participants completed an average of 90% of monthly contacts; IT participants logged onto the website an average of once a week. At 30 months, PC participants weighed significantly less than SD (mean difference=−1.75 kg, p=0.0002) but IT participants did not (mean difference=−0.50 kg, p=0.20). At 30 months, 39% of SD, 42% of IT, and 45% of PC participants maintained weight loss of at least 4 kg; 66%, 71%, and 78%, respectively, were at or below Phase I entry weight. Preliminary analyses suggest that, after adjusting for race and gender, predictors of sustained weight loss (independent of treatment group) include Phase I weight loss, encouragement from friends, increased physical activity in Phase I, and improved dietary pattern over 3 years. An improved understanding of factors associated with successful weight maintenance will aid in designing public health programs aimed at reducing obesity.

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Meritorious Student Paper
Paper Session #25 2:15 PM–2:30 PM 3084

THE IMPACT OF RATE OF INITIAL WEIGHT LOSS ON LONG-TERM SUCCESS

Lisa M. Nackers, BA, Rachel Andre, MS, Kathryn M. Ross, BS, Nathan L. Ewigman, BA, Vanessa A. Milsom, MS, Ninoska DeBraganza, MSESS, Allison L. Onkala, BS and Michael G. Perri, PhD

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Controversy exists regarding rate of initial weight loss and long-term success in weight management. Some theorists contend that a rapid rate of initial loss may result in poorer long-term success and that a slow, gradual decrease may lead to a superior long-term outcome and better maintenance of lost weight. We examined this question in the context of a randomized trial of lifestyle treatment in which participants were encouraged to reduce their intake so as to achieve a weight loss of 1 to 2 lb/wk, provided that energy intake exceeded 1000 kcal/day. We classified participants based on their rate of weight loss during the first month of treatment as "FAST" (>1.5 lb/wk, n=55), "MODERATE" (0.5 to 1.5 lb/wk, n=96) and "SLOW" (<0.5 lb/wk, n=79) losers. These groups were drawn from a sample of middle-aged (mean=59.1 yr) obese women (mean BMI=36.8) who participated in a 6-month lifestyle intervention that was followed by 1 year of extended care. The three groups did not differ at baseline with respect to age, weight, BMI, fitness, nutritional intake, or physical activity patterns (all ps>.10). The FAST, MODERATE, and SLOW groups each differed significantly from each other with regard to net mean weight changes at 6 months (−13.9, −9.6, and −5.9 kg, respectively, ps<.01) and at 18 months (−11.5, −7.8, and −4.8 kg, respectively, ps<.05). However, no significant differences in weight regain between 6 and 18 months were found among groups (2.5, 1.8, 1.1 kg, respectively). Odds ratios indicated the FAST group was 2.2 times more likely to achieve a 10% weight loss at 18 months than the MODERATE group (84.6% vs. 61.7%) and 5.6 times more likely than the SLOW group (84.6% vs. 34.9%). Within the context of lifestyle treatment, these results suggest that there were both short- and long-term advantages to a fast rate of initial weight loss and that those who lost weight quickly were not more susceptible to relapse. These findings suggest that a high rate of initial weight loss is associated with long-term success in weight management.

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Paper Session #25 2:30 PM–2:45 PM 3085

SUCCESSFUL LONG-TERM WEIGHT LOSS MAINTENANCE AFTER BARIATRIC SURGERY – CAN SIMILAR WEIGHT LOSSES BE ACHIEVED AND MAINTAINED THROUGH NON-SURGICAL METHODS?

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Bariatric surgery is currently the most effective weight loss method in severely obese individuals. The National Weight Control Registry (NWCR) provides a unique resource for comparing highly successful weight loss maintainers who initially lost weight via bariatric surgery or non-surgical means. This study examined whether NWCR participants who were equally successful in achieving a substantial weight loss through either bariatric surgery or non-surgical methods differed in weight and weight maintenance behaviors over time. Methods: Each bariatric surgery participant (n=107) was matched with two non-surgical participants (n=214) on gender, current weight and maximum weight loss and compared prospectively over 1 year. Results: Participants reported losing 57±20.3 kg and keeping it off for nearly 6 years (57±63.4 months). Weight maintenance duration did not differ between groups. Minimal weight regain occurred in surgery (2.0±0.1 kg, p<0.05) and non-surgical (2.0±1.7 kg, p<0.005) participants although amount of weight regain amount did not vary by group. Surgery participants reported deriving more calories from fat (M=35% vs 26%, p<0.001) and less calories from carbohydrates (M=45% vs 53%, p<0.0001), and eating fast food on more days (M=1.9 vs. 0.7, p<0.001) and breakfast on less days (M=5.7 vs. 6.2, p<.05) of the week. Additionally, surgery participants reported less physical activity (M kcal/wk=1856 vs 2804, p<0.005), deriving less pleasure from exercise (p<0.05) and perceiving adherence to exercise and diet regimens to be less important (p<0.001). Conclusion: Although marked differences in behaviors were shown between the groups, significant differences in weight regain were not observed. These findings suggest that individuals who lose substantial weight via non-surgical methods can achieve weight loss maintenance comparable to that observed after bariatric surgery with more intensive behavioral efforts.

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Paper Session #25 2:45 PM–3:00 PM 3086

HOW WEIGHT SELF-EFFICACY IMPACTS DIETARY ADHERENCE IN A WEIGHT LOSS PROGRAM

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The standard behavioral weight loss program provides daily calorie and fat gram goals. While adherence to dietary goals is essential for weight loss, many participants demonstrate declining adherence over time. Self-efficacy has been reported to be associated with adherence across various behavior domains. The purpose of our study was to examine the relationship between eating-related self-efficacy and dietary adherence among participants in the PREFER Trial, a behavioral weight loss program that included a 12-month intervention followed by a 6-month, no-contact maintenance phase. The study design included 4 groups: 2 levels of treatment preference (yes/no) and two diets (standard/lacto-ovo-vegetarian). For this paper, analyses were conducted treating the intervention assignment as background/contextual variables. At baseline, 6, 12, and 18 months we administered the Weight Efficacy Lifestyle (WEL) questionnaire, a 20-item scale that measures self-efficacy for resisting eating; we also had participants complete a 3-Day Food Record to measure dietary intake. Adherence was defined as the number of reported calories or fat grams consumed/daily goal×100%. We examined the total WEL score and the five sub-scale scores- negative emotions, availability, social pressure, physical discomfort, and positive activities as correlates of adherence. The sample (N=176) was mostly female (87%), Caucasian (70%), with a mean age of 44±9 years and a mean weight of 95.5±14.8 kg. Using linear mixed modeling methods, we found the total WEL score and three of the sub-scale scores (negative emotions, availability and social pressure) were negatively related to calorie goal adherence, ps<.02. Similarly, the total WEL and the same three sub-scales, plus the positive activities sub-scale, were negatively related to adherence to the fat gram goal over the course of the study; ps<.01. These findings suggest that targeting one's self-efficacy for resisting foods in varying situations could improve adherence to the dietary goals in a weight loss program.

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Friday
March 28, 2008
3:00 PM–5:00 PM

Poster Session C C001

NAVIGATING THE MAZE OF TRAINING OPPORTUNITIES IN INTEGRATED PRIMARY HEALTH CARE: NOMENCLATURE, ACCREDITATION, AND TRAINING MODELS

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With the growing acceptance of the utility of Integrated Primary and Health Care (PHC) models of service delivery, a crucial need to systematically identify and categorize types of training opportunities has emerged. Both faculty and trainees report considerable difficulty locating training in PHC settings and systems. The complexity of the task of identifying models and training foci is increased by the multiple existing PHC models and associated nomenclature (e.g., Integrated, Collaborative, Co-located). In an effort to begin to address this need, we used electronic survey methodology to poll training sites including those affiliated with professional association membership rosters. We also searched the Association of Psychology Postdoctoral and Internship Centers (APPIC) website. Survey questions expanded upon a core of APPIC search criteria with additional questions identifying clinical responsibilities, therapeutic approaches, behavioral medicine specializations (e.g., pain, transplant), types of reimbursement systems, experiential training and supervision strategies, research opportunities, time committed to training tasks, and program evaluation and development opportunities. In the survey sample (n=27), most (93%) offer a PHC rotation. Opportunities are spread across pre- and post-doctoral training, or are offered as a specialization within PhD/PsyD programs. A majority of surveyed sites offer training in cognitive behavioral and behavioral techniques. However, 59% do not hold current APA accreditation. The APPIC website search yielded 91 sites with self-identified major PHC rotations. Although nearly all are APA accredited and the majority (58%) are VAMC affiliated, none identify the PHC model of care employed. Lower than desirable rates of accreditation, varied training models, and inconsistently applied nomenclature contribute to the globally unstandardized nature of training opportunities in PHC, and signal a need for honing training methodology for this important subspecialty.

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C002

UNIQUE REM REBOUND AND DAYTIME HYPERAROUSAL FOLLOWING SLEEP RESTRICTION IN FIBROMYALGIA PATIENTS

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Nighttime sleep difficulty may reflect "hyperarousal" in patients with fibromyalgia (FM). Previously we reported a unique REM rebound following sleep restriction compared with rheumatoid arthritis (RA) patients and healthy controls (NC). We sought to confirm this in a larger sample and examine daytime sleepiness following sleep restriction.

18 FM, 13 RA, and 12 NCs slept in the lab for 4 nights of standard sleep recordings: Night 1=lab adaptation (8 hours time-in-bed (TIB)), Night 2=baseline (8 hours TIB), Night 3=sleep restriction (4 hours TIB), and Night 4=recovery (8 hours TIB). Next day sleepiness was measured subjectively (VAS) and objectively (MSLT; Multiple Latency Sleep Test). Mean VAS and MSLT scores across the 4 assessments were analyzed. There were no differences between groups on Nights 2 and 3 in total sleep time (TST) or REM %. On Night 4 there was no significant group difference in TST. However, on Night 4, FM patients had a significantly greater REM % (FM=25%, RA=18%, NC=17%). In post-hoc comparisons of REM %, FM patients differed significantly from RA and NC ($p<.01$). Finally, for FM patients, Night 4 REM % was significantly elevated relative to their own Night 2 values ($p<.001$). As expected, sleep restriction to 4 hours led to greater subjective as well as objective sleepiness during the next day for all groups ($p<.05$). Yet, the FM group was significantly less sleepy than both RA and NC on the MSLT after the 4-hour sleep restriction night (FM: M=10 mins, SD=5.3; RA: M 8.3, SD=2.9; HC: M=5.6, SD=2.8; $p<.05$). RA and NC did not differ from one another on objective sleepiness following sleep restriction.

FM patients (but not RA or NC) displayed REM rebound and report more sleepiness after 1 night sleep restriction though sleep latency increased. These results suggest that FM patients have an underlying REM pressure which leads to REM rebound following sleep restriction. This finding is consistent with daytime hyperarousal as reflected in their reduced sleepiness after sleep restriction.

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C003

PHYSICAL EXERCISE AND SELF-ESTEEM AMONG METASTATIC BREAST CANCER (MBC) PATIENTS

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Women with MBC suffer debilitating acute and chronic side-effects from cancer and its treatments, causing deterioration in multiple domains of self-esteem. Physical exercise is a behavioral intervention with demonstrated potential for improving self-esteem among women with breast cancer during and after adjuvant treatment, but the feasibility and effectiveness of exercise for boosting self-esteem in the palliative care setting are not established. The purpose of this Phase I pilot study was to evaluate the feasibility and effectiveness of a tailored and supervised exercise program for increasing self-esteem among women with MBC. A convenience sample of women with MBC (N=12; mean age=53; disease-free interval 0–10 yrs) participated in a low-moderate intensity, 8-week exercise intervention (3 times/week) including flexibility, core stability, aerobic, and resistance training, without adverse events. Patients were evaluated using the Rosenberg Self-Esteem Scale and the Physical Self-Perceptions Profile at baseline, week 4, and week 8. Simple change scores and paired t-test analyses show improvements from baseline to week 4 in global-esteem (CS=1.11; SE=1.01; $t1,8=-1.10$; $p=0.30$), physical-esteem (CS=3.22; SE=1.08; $t1,8=-2.99$; $p=0.02$), conditioning-esteem (CS=2.89; SE=1.37; $t1,8=-2.11$; $p=0.07$), body-esteem (CS=0.78; SE=1.05; $t1,8=-0.74$; $p=0.48$), strength-esteem (CS=1.00; SE=0.58; $t1,8=-1.73$; $p=0.12$), and sport-esteem (CS=2.67; SE=1.58; $t1,8=-1.69$; $p=0.13$). Improvements persisted from baseline to week 8 in global-esteem (CS=1.00; SE=0.93; $t1,7=-1.08$; $p=0.32$), physical-esteem (CS=3.13; SE=0.77; $t1,7=-4.08$; $p=0.01$), conditioning-esteem (CS=2.29; SE=1.38 $t1,6=-1.66$; $p=0.15$), body-esteem (CS=1.13; SE=1.11; $t1,7=-1.01$; $p=0.34$), strength-esteem (CS=1.00; SE=0.60; $t1,7=-1.67$; $p=0.14$), and sport-esteem (CS=1.00; SE=0.60; $t1,7=-1.67$; $p=0.14$). Additional research is needed to examine the effectiveness of exercise for improving self-esteem in women with MBC.

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C004

THE RELATIONSHIP BETWEEN INSOMNIA AND DEPRESSION IN PROSTATE CANCER PATIENTS RECEIVING ANDROGEN-DEPRIVATION THERAPY

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The goal of this study was to assess to what extent depression represents a risk factor for insomnia as opposed to insomnia being a risk factor for depression in men with prostate cancer. Twenty-nine patients about to begin long-term ADT for advanced prostate cancer participated in this longitudinal study. The study comprised 7 evaluations conducted at 2-month intervals. At each time assessment, the participants completed the Structured Interview for DSM-IV (SCID), the Hamilton Depression Rating Scale (HDRS), the depression subscale of the Hospital Anxiety and Depression Scale (HADS-D), the Beck Depression Inventory (BDI) and the Insomnia Severity Index (ISI). Patients with a score of 8 or greater on the ISI at one time point had a significantly increased risk of having clinical depression at the subsequent evaluation (SCID: OR=5.94; HADS-D: OR=4.83; BDI: OR=21.3; HDRS: OR=3.60). Moreover, patients with clinical depression at one time point were more likely to have clinical levels of insomnia at the subsequent assessment (SCID: OR=10.83; HADS-D: OR=9.28; BDI: OR=19.96; HDRS: OR=7.45), with odds ratios of an even greater magnitude. Results of structural equation models revealed modest but significant paths between the ISI score obtained at one point and: (a) the sum of major depressive symptoms assessed with the SCID ($B=0.18$), (b) BDI scores ($B=0.13$, $p<.10$), and (c) HDRS scores ($B=0.22$) obtained at the previous evaluation. Only one path between depressive symptoms assessed at one point and the ISI score obtained at the previous evaluation was significant ($B=0.20$). Results of this study suggest that, although the relationship between insomnia and depression are bidirectional, depression is a more important risk factor for insomnia than insomnia is a risk factor for depression in men treated for prostate cancer with ADT.

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C005

PREDICTORS OF SLEEP IMPROVEMENTS OBTAINED WITH COGNITIVE-BEHAVIORAL THERAPY FOR INSOMNIA COMORBID WITH BREAST CANCER

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Our randomized controlled study supported the efficacy of cognitive-behavioral therapy (CBT) for chronic insomnia comorbid with breast cancer. Secondary analyses investigated the predicting role of dysfunctional beliefs about sleep, adherence to behavioral strategies and non-specific factors (i.e., psychological distress, treatment expectancies and credibility, and therapeutic alliance). Fifty-seven women with insomnia comorbid with breast cancer received CBT. The participants were assessed at pre- and post-treatment, and at 6-month follow-up. Sleep changes were assessed using polysomnography (PSG), a daily sleep diary and the Insomnia Severity Index. Self-reported questionnaires were used to assess most of the independent variables. At post-treatment, higher levels of treatment expectancies was the most consistent predictor of subjective sleep improvements (e.g., ISI score; $\beta=-.52$, $p<.01$), while PSG-assessed sleep improvements were best predicted by reduced erroneous causal attributions of insomnia (e.g., wake after sleep onset; $\beta=.42$, $p<.05$) and a greater avoidance of day napping (e.g., total sleep time; $\beta=.41$, $p<.01$). At follow-up, subjectively-assessed sleep improvements were mostly predicted by a greater adherence to behavioral strategies (e.g., arising from bed within 30 minutes following a nocturnal awaking; ISI score; $\beta=-.32$, $p<.05$), while none of the predictors was significantly associated with PSG-assessed sleep improvements. In sum, the factors that are believed to be specific to CBT for insomnia appear to be particularly influential in explaining objective sleep improvements at post-treatment and subjective sleep improvements at follow-up, whereas a so-called placebo effect appear to explain perceived sleep improvements at post-treatment.

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C006

COGNITIVE-BEHAVIORAL THERAPY COMBINED WITH HYPNOSIS REDUCES NEGATIVE AFFECT AND IMPROVES POSITIVE AFFECT IN BREAST CANCER RADIOTHERAPY PATIENTS

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Background: Breast cancer radiotherapy has been related to negative affect. However, few empirical studies have tested psychological interventions to reduce negative affect, and none has explicitly examined intervention effects on positive affect in these patients. The present study was designed to investigate the effect of an intervention combining Cognitive-Behavioral Therapy and Hypnosis (CBTH) on positive and negative affect during breast cancer radiotherapy.

Methods: 40 female breast cancer radiotherapy patients participated in the current study: 20 randomly assigned to the CBTH group, and 20 randomly assigned to the Standard Care Control group (C). The CBTH intervention involved: 1) a 15-minute hypnosis session with suggestions for decreased negative affect, increased positive affect, and reduced radiotherapy-side effects; 2) a CBT training session on identifying and disputing negative beliefs and replacing them with more helpful alternatives; and 3) provision of a hypnosis CD, a CBTH workbook; and 4) twice weekly meetings with a psychologist during radiotherapy to review thought record worksheets. C participants did not meet with a study psychologist. All participants completed questionnaires assessing demographics, positive and negative affect, neuroticism, and trait anxiety.

Results: Groups did not differ on any demographic, medical history, or trait variables ($p>.2$). Relative to the C group, the CBTH group had: lower levels of negative affect; higher levels of positive affect; and increased frequency of days where positive affect was greater than negative affect (all $p<.05$ and all effect sizes$>.4$).

Conclusions: The results of this randomized study support the efficacy of a CBTH intervention in reducing negative affect and increasing positive affect in breast cancer radiotherapy patients.

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C007

THE IMPACT OF OPTIMISM ON EMOTIONAL ADJUSTMENT AND PERCEPTIONS OF PERSONAL CARE IN BREAST CANCER SURVIVORS OVER A FOUR MONTH TREATMENT PERIOD

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One construct of interest for understanding psychosocial adjustment of women with breast cancer is optimism (Scheier, Carver & Bridges, 2001). We examined the relationship between the personality dimension of optimism and emotional well-being at the time of surgery and at 4 months follow up. It was hypothesized that dispositional optimism would predict higher levels of adjustment, less depression and anxiety after surgery and at 4 months. It was expected that optimism would also predict withdrawal from daily activities among women treated with adjuvant therapy. Participants were 61 Portuguese early stage breast cancer survivors. All women were treated with surgery, lumpectomies (54.1%) or mastectomies (46%). Ages ranged from 23 to 73 (M=49.48, SD=11.07). Dispositional optimism and emotional state were evaluated at baseline, when women planned surgery, and depression and anxiety were measured 1 month post surgery (at planning consult for treatment). At the 4 month visit for adjuvant treatment, depression, anxiety, and illness-related disruption were measured again. Optimism was assessed by the Life Orientation Test - Revised (Scheier, Carver & Bridges, 1994), emotional state by the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983) and illness-related disruption by the Sickness Impact Profile (Bergner et al., 1981). All hypotheses were supported. Optimism was associated with depression ($r=-.30$, $p<.01$) and anxiety ($r=-.31$, $p<.05$) at 1 month following surgery. Optimism was also correlated with depression ($r=-.68$, $p<.01$), anxiety ($r=-.34$, $p<.05$), and disruption in personal care ($r=-.61$, $p<.01$) at 4 month follow up. More optimistic women showed less depression and anxiety after surgery and at treatment visit. Lower optimism was associated with higher levels of disruption in personal care at 4 months. Findings are discussed in terms of interventions to improve quality of life in breast cancer survivors.

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C008

DIFFERENTIAL RELATIONS OF FATIGUE WITH PSYCHOLOGICAL VARIABLES IN PATIENTS WITH BREAST CANCER AND THEIR SPOUSES

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Fatigue is highly prevalent in patients with cancer and is one of its most debilitating symptoms. Furthermore, previous research has found that fatigue is significantly higher in partners of breast cancer patients than in partners of women without cancer. In the present cross-sectional study, we examined psychological correlates of fatigue and found differences in those relationships in patients with breast cancer compared to their partners. In 39 couples, fatigue was measured by the 15-item Fatigue Scale of the Profile of Mood States. In patients with breast cancer, fatigue was significantly and strongly correlated with the Impact of Illness Scale, a 9-item measure of the degree to which illness is perceived to restrict psychosocial functioning ($r=.640$; $p<.01$). For partners, however, the correlation of fatigue and impact was small ($r=.275$) and nonsignficant. Conversely, for partners, the intrusive ideation subscale of the IES was significantly correlated with fatigue ($r=.387$, $p<.05$), while it was not for patients ($r=.179$, n.s.). As for depression, measured with the CES-D, the correlation with fatigue was significant for both patients ($r=.615$, $p<.01$) and their partners ($r=.530$, $p<.01$). Significant moderate correlations for both patients ($r=.439$, $p<.01$) and partners ($r=.433$, $p<.01$) were also found between fatigue and depressive rumination, measured with the rumination subscale of the Response Styles Questionnaire. Only a small, nonsignificant correlation was found for avoidance for both the patients ($r=.241$) and partners ($r=.292$). These findings suggest that fatigue is related to mood and cognitions in patients and partners, sometimes to different degrees, and with physical functioning in patients. Although fatigue is recognized as a problematic symptom in patients, its impact on spouses has yet to be recognized. The findings from the present study suggest the need to pay attention to this symptom in partners of cancer patients.

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C009

USE OF A RADIOLUCENT MAMMOGRAPHY CUSHION AMONG AFRICAN AMERICAN WOMEN

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African American (AA) women are diagnosed with later stage and more aggressive breast cancers; therefore, it is imperative that AA women obtain routine screening mammography (MM). The role of discomfort in MM utilization among AA women is crucial to routine mammogram use. This study evaluated the impact of a radiolucent breast plate cushion on MM discomfort satisfaction. A double-blind randomized trial was conducted in three MM facilities with 304 AA female patients, aged >40. Eligible women were randomized to one of two conditions, enhanced mammography (EM) in which a radiolucent cushion was used (N=150) or routine mammography (RM) in which no cushion was used (N=154). Women were interviewed before and after a routine screening mammogram. Anticipated discomfort and experienced discomfort were assessed through a visual analog scale (VAS) and an 11-point Likert scale. The VAS used was a 0–100 mm horizontal line where 0=No discomfort and 100=Discomfort as bad as it can be; the Likert scale was a 0–10 rating scale with endpoint anchors similar to the VAS. When evaluated separately, a significant difference was found between treatment groups using the VAS (0–100 mm) rating scale with EM participants reporting less discomfort ($p<0.05$); the difference between treatment groups was not significant when using the 0–10 rating scale ($p=0.196$). A simultaneous global test of both discomfort endpoints was utilized, the result of which was not statistically significant ($p=0.0958$); therefore, there is insufficient statistical evidence to support that use of the radiolucent cushion resulted in significantly lower discomfort ratings. There was statistical evidence that use of a radiolucent cushion does reduce the breast plate coldness associated with MM. Future study of breast plate cushions to promote repeat mammography among at risk populations is warranted as use of such a tool may be beneficial.

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C010

PROCESS AND PROXY RATING OF POSTTRAUMATIC GROWTH IN PATIENTS WITH HEPATOBILIARY CARCINOMA

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Background: Research in the area of PTG is burgeoning however, a paucity of research has been conducted regarding the process of posttraumatic growth (PTG) and whether cognitive and behavioral changes occur as part of the process of PTG. The aims of the present study were to: (1) understand when PTG occurs after a diagnosis of cancer; (2) investigate whether PTG is observable by others; and (3) determine if PTG is associated with psychological and health outcomes in people diagnosed with hepatobiliary carcinoma (HBC).

Methods: A total of 178 patients diagnosed with HBC were recruited for the prospective study. The Posttraumatic Growth Inventory (PTGI), Functional Assessment of Cancer Therapy-Hepatobiliary, and the Center for Epidemiological Studies-Depression scale was administered at the time of diagnosis and then every, 3-, 6-, 9-, and 12-months or until death. A subset of caregivers (N=45) were also administered the PTGI to rate the patients' PTG.

Results: The patient and caregiver PTGI scores had a high level of internal consistency (alpha=0.96). Repeated measures ANOVA did not find significant differences over time between the mean PTGI total score at diagnosis, 3-, and 6-months follow-up [$F(2,46)=1.6$), $p=0.22$]. Using one-way random intra-class correlations, the patient and caregiver had a high level of agreement on the PTGI total score (ICC=0.70, $p=0.001$) and subscales at diagnosis (ICC=0.41–0.67, $p=0.02$–0.001). No association was found between PTG and quality of life, depressive symptoms, or survival.

Conclusions: A lower mean PTGI score was reported by patients diagnosed with HBC when compared to patients with other cancer types and the general population. The findings of this study suggest PTG occurs early after diagnosis and is relatively stable over time. PTG also appears to be observable by others suggesting PTG manifests itself behaviorally in patients.

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C011

EXERCISE PREFERENCES IN ON- AND OFF-RADIATION TREATMENT BREAST CANCER SURVIVORS

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Introduction: Designing optimal exercise interventions for breast cancer survivors is predicated on understanding exercise preferences during different time points in the cancer experience. This study examines exercise programming and counseling preferences of both on- and off-radiation treatment breast cancer survivors.

Methods: Participants were 39 post-radiation treatment breast cancer survivors within three years of treatment and 24 on-radiation treatment breast cancer survivors. Participants were interviewed during their scheduled appointments at Leo W. Jenkins Cancer Center in Greenville, North Carolina.

Results: There were no significant differences between on- and off-treatment participants' activity levels (49 minutes vs. 84 minutes of moderate-to-strenuous activity per week; $p=.237$). Chi-square analyses showed that both on- and off-treatment participants were interested in exercise counseling (90% vs. 83%; $p=.458$), indicated a preference to receive counseling later in the cancer experience (70% vs. 61%; $p=.506$), preferred to be counseled by an exercise specialist affiliated with the cancer center (71% vs. 84%; $p=.208$) and indicated a desire to exercise at a cancer or community-based facility (68% vs. 63%; $p=.631$). Some differences were that on-treatment participants were more likely to prefer group counseling (67% vs. 39%; $p=.030$) and to exercise with others (92% vs. 69%; $p=.038$) compared to off-treatment survivors. A number of other specific exercise preferences were also explored.

Conclusions: These findings outline a number of exercise preferences in on and off-radiation treatment breast cancer survivors that may be useful for researchers and practitioners for designing optimal exercise interventions. In particular, group approaches may be especially important for on-treatment breast cancer survivors.

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C012

CANCER-RELATED FATIGUE INTERFERENCE WITH WALKING, EXERCISE AND LEISURE ACTIVITIES AMONG 753 PATIENTS DURING CHEMOTHERAPY

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Cancer-related fatigue (CRF) is known to impair quality of life and is hypothesized to interfere with patients' abilities to walk, exercise and engage in leisure activities. The purpose of this study is to describe the interference of CRF with walking, exercise and leisure activities. 753 patients (mean age=57; n=483 female) with mixed cancer diagnoses were assessed on CRF and its interference with walking, exercise and leisure activities 7 days after their first 2 chemotherapy infusion cycles as part of a large nationwide clinical trial conducted by the University of Rochester Cancer Center Community Clinical Oncology Program. CRF and interference was assessed using questions from the Multidimensional Assessment of Fatigue instrument anchored with a 10-point Likert Scale (1="Not at all" to 10="A great deal"). 553 of these 753 patients reported CRF at cycle 1 (mean=5.99; SD=0.10) and cycle 2 (mean=5.73; SD=0.09). In these 553 patients, CRF interfered with walking in 426 patients (mean=4.44; SD=0.12; n=118 severe >7), exercise in 241 patients (mean=4.28; SD=0.17; n=99 severe >7) and leisure activities in 401 patients (mean=4.30; SD=0.13; n=118 severe >7) during cycle 1. CRF interfered with walking in 426 patients (mean=4.60; SD=0.12; n=120 severe >7), exercise in 258 patients (mean=4.13; SD=0.18; n=89 severe >7) and leisure activities in 419 patients (mean=4.50; SD=0.12; n=132 severe >7) during cycle 2. CRF was significantly correlated with walking, exercise and leisure activity interference at both cycle 1 and cycle 2 (all $p<0.01$). Men reported significantly less CRF interference with walking at cycle 1 ($t=-2.22$;$p<0.05$) compared to women, but not at cycle 2. There were no significant differences reported in CRF interference with walking, exercise or leisure activities based on diagnosis, age or race. CRF interferes with cancer patients' abilities to walk, exercise and participate in leisure activities while receiving chemotherapy.

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C013

READINESS OF SMOKERS TO RECEIVE COUNSELING FOR SMOKING CESSATION IN A PHARMACY SETTING

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Brief smoking cessation counseling by health care professionals is an effective approach to help smokers quit. Pharmacists are an under-utilized resource in this regard. We surveyed 100 pharmacy clients who smoke and their interest in receiving smoking counseling from a pharmacist.

Interviews were conducted as clients exited a pharmacy adjacent to an HMO. 37% of participants were male (mean age=42.7); 56% were Hispanic; 92% white, 8% Native American; 38% had at least 12 years education (22% had<12 years); and 62% had< $20,000 annual household income.

Average smoking rate=16.5 cigarettes/day. Over half (60%) reported at least one 24-hour quit attempt in the past year. 48% had high nicotine dependence (FTQ). Stage of change for quitting smoking was distributed as follows: 22% Precontemplation, 50% Contemplation, and 28% Preparation. Most participants (70%) had never used medication during any previous quit attempt. Only 20% had used nicotine replacement and 3% had tried Zyban (3%).

While 83% reported their doctor had asked about their smoking and 57% recalled having been advised to quit by their doctor, no participants had ever been asked about their smoking, advised to quit, or offered help with quitting by a pharmacist. However, 84% of participants thought that it would be a good idea for pharmacists to speak with their customers about quitting smoking.

Participants were asked whether they would use various intervention systems if recommended by the pharmacist. One-fifth (21%) said they would be likely to use a computer at the pharmacy, 25% a pharmacist-recommended website, and 34% would use a telephone quitline.

Pharmacists' expertise in drug therapy, their accessibility to the public, and their presence at the point-of-purchase of nicotine replacement products and other cessation-related medications, make them particularly suitable advocates for smoking cessation. Pharmacy clients appear in need of and interested in counseling by their pharmacist.

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C014

TOBACCO CESSATION IN PUBLIC HEALTH DENTAL CLINICS: SHORT-TERM OUTCOMES FOR WOMEN

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Lung cancer is the leading cause of cancer death among U.S. women. Although tobacco use among men is declining, use among women is growing. Additionally, smoking rates have declined among high-SES groups, yet have remained stagnant among low-SES groups. Studies have also shown that low-SES women have greater difficulty quitting smoking. The purpose of this study is to determine whether a tobacco cessation program delivered via public health dentists is effective for low-SES women.

Public health clinics in Mississippi, New York, and Oregon (n=14) were randomized to a Delayed Control or Intervention Condition. Dentists in the intervention group provided brief counseling based on the Clinical Practice Guideline: Treating Tobacco Use and Dependence and free nicotine replacement. Point prevalence of tobacco use in the past seven days was assessed at six weeks.

Subjects were 1,572 patients (900 females, 609 males, and 63 missing) at or below the federal poverty level. Roughly 20% reported being Hispanic/Latino; 40% African American; 38% White; 12% Other. Approximately 55% were female (mean age=40).

At six weeks, intervention subjects quit at a higher rate than control subjects (11.5% vs. 5.1%, $p<.001$). Among females in the intervention group 9.9% reported no tobacco use in the past week versus 4.0% in the control group ($p<.001$) while 13.8% of males in the intervention group reported no tobacco use for the past week versus 6.7% in the control group ($p<.01$). There was no significant difference between genders with respect to quit rate.

Results indicate that a low contact cessation intervention delivered via dentists may help female patients quit smoking. Though the intervention was the same for all participants, females reported lower quit rates. Research has shown that women face unique barriers to quitting (e.g., fear of weight gain, lack of social support). Low-SES women may have added obstacles such as single motherhood and environmental stressors. Further research on the needs of low-SES female smokers is warranted.

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C015

SHARED DECISION MAKING BY PRIMARY CARE PHYSICIANS: A QUALITATIVE ANALYSIS

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Background: The trend to increase patient involvement in health care includes an emphasis on provider-patient 'shared' decision making. Shared decision making can take at least two forms: informal, in which providers discuss care options and encourage patients' active engagement in the development of the care plan; and formal, in which pre-developed and tested decision making tools (DMT) are used to aid providers in instructing patients on their care-related options. The extent to which formal or informal means of shared decision making occurs in primary care is not well understood. Purpose: To assess the type and quality of decisions in primary care visits, as part of a larger study on adult immunization.

Methods: Patient-provider encounters were recorded and transcribed. Transcriptions were coded using a modified Davis Observation Coding, a UCD-derived protocol that characterizes the nature or content of interaction between patient and provider as well as time spent in each category. Analysis of the transcripts were reviewed to identify formal and informal shared decision making.

Results: 45 adults 25–73 years old (average 47) were recruited in 4 ambulatory care health centers, including 29 females; 66% were 'white non-Hispanic'. Providers' elicitation of patient health beliefs took only 2% of the visit, with 20% on planning treatment. No formal use of shared decision making was found, despite ten conditions or discussions where DMTs would have been useful. Informal shared decision involving 16 patients took the form of discussions where the patient preference was included in the decision.

Conclusions: In this context, shared decision making was not widely used in formulating care plans and when it did occur it was of the informal variety. No DMTs were used to facilitate patient involvement. Education of both providers and patients regarding the availability of these tools may improve their use, with an expected increase in patient satisfaction and quality of care.

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C016

THE EFFECT OF DEPRESSION AND OBESITY ON BREAST AND CERVICAL CANCER SCREENING

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Obesity and depression are highly prevalent and commonly co-occurring risk factors for comorbid disease and death. Contributors to the increased morbidity and mortality associated with each condition may include lower receipt of preventive services such as mammograms and Pap tests. Preventive service use may be lower among women with obesity and/or depression in part because of competing clinical demands, societal discrimination, and stigma and poor self-image. In this study we examined the independent and combined associations between obesity and depression and receipt of cervical and breast cancer screening in a sample of 3097 women aged 40 and above enrolled in a prepaid health plan. Innovations in our study included use of automated records of preventive service use, and common access to primary care, mammography, pap tests and population-based reminders for preventive services among all study participants. Results show that 87% of women who were neither obese nor depressed (defined as BMI<30, PHQ-9 depression score<10) received a pap test within a three-year window around study entry, versus only 76% of women who were either depressed, obese or both (who did not differ). Among the 2291 women over 50 enrolled in the study, 80% of women who were neither obese nor depressed received a screening mammogram in the two year window around study entry, versus 76% of the obese, non-depressed women, 61% of the depressed, non-obese women, and 64% of the obese, depressed women. Depression and obesity are strongly related to lower rates of cancer screening among middle aged women. The increasing prevalence of obesity and depression underscores the need for outreach interventions to promote the receipt of recommended preventive services in these high risk groups.

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C017

PERCEIVED STRESS AND DEPRESSION AS PREDICTORS OF BIOLOGICAL READINESS FOR CHEMOTHERAPY

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A large body of research indicates that stress, variously defined, impacts negatively immune functioning and ability to resist disease progression. The purpose of the following study is to assess the effects of stress and depression on biological indices of readiness to receive chemotherapy, such as immune functioning. Thirty-seven women (M=55.17, SD=11.61, range 34–78 years) diagnosed with early stage breast cancer (Stage 0/I/II) completed a battery of self-report measures including the Beck Depression Inventory-II and the Perceived Stress Scale shortly after contact with the attending hematologist/oncologist. General blood count indices (WBC count, lymphocyte %, HCT %) were obtained immediately prior to each of four anticipated cycles of chemotherapy; these counts are part of medical assessment indicating appropriateness to treat (too high or too low levels can lead to postponement of treatment and/or medical intervention). Only analyses of those blood draws preceding the first chemotherapy session (approximately concurrent with the psychological assessment), and the fourth chemotherapy session (approximately 12 weeks after psychological assessment) are presented here. Perceived stress predicted LYM% at initial chemotherapy visit, ($r=-.43$, $p<.05$; the higher the stress, the lower the percentage lymphocytes). Depression predicted LYM % at the fourth chemotherapy visit ($r=.58$, $p<.005$; higher depression was associated with higher percentage of lymphocytes). PSS predicted at a trend level of significance WBC count at the first chemotherapy visit ($r=.36$, $p=.06$) and HCT % at the fourth chemotherapy visit ($r=.33$, $p=.07$). These results suggest that psychological status near the initiation of chemotherapy may contribute to biological readiness for chemotherapy over subsequent treatment sessions. These results require replication, as they are based on a small sample and include only those women whose blood count data indicated sufficient resources to receive chemotherapy.

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C018

PSYCHOSOCIAL CHARACTERISTICS AND SYMPTOMATOLOGY OF PATIENTS PRESENTING TO THE HOSPITAL WITH NON-CARDIAC VERSUS CARDIAC CHEST PAIN

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One hundred one patients were admitted to a large urban hospital with chest pain for rule out of acute myocardial infraction (AMI). Eighty-nine percent of the patients were African American and 55% female. Patients were interviewed regarding barriers to seeking cardiac care, severity of physical symptoms, and psychosocial measures. Medical records were examined for diagnoses and symptoms. Patients were categorized into 2 groups: 1) chest pain with a cardiac diagnosis (CCP; 61%) and 2) chest pain not cardiovascular in origin (NCCP; 39%). Results: NCCP were younger (52 yrs vs. 59 yrs; p=.004); female (69%; p=.02), smokers (53%; p=.02), not married or partnered (87% vs. 69%, p=.05); and had poorer self-rated health (p=.02. NCCP also had a significantly greater number of somatic complaints (i.e., sleep problems; p=.003) and cognitive health complaints (i.e., concerns about health and everyday functioning; p=.008) as measured by the Health Complaints in CHD instrument. The Center for Epidemiologic Studies Depression scale (CES-D) was used to measure depressive symptomatology. NCCP had slightly greater depression scores as compared to CCP(Mean CES-D score 25 vs.19; p=.06), and a higher incidence of psychiatric diagnoses (38% vs. 17%; p=.03. There were no statistically significant differences between groups regarding diagnosis of diabetes, hypertension, past heart problems, number of nights spent in the hospital one year post-interview, and no differences in history of alcohol and drug use. Conclusion: Demographics, somatic and cognitive health complaints may help to risk stratify patients presenting to the hospital with chest pain. A larger study is warranted to determine whether our data applies to a more general population than the urban, African American population in this study. (Funded by NIH R03 AG023230-01A2)

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C019

WAITING FOR A NEW HEART: EARLY EXPERIENCE FROM A PROSPECTIVE MULTI-SITE STUDY OF PSYCHOSOCIAL AND BEHAVIORAL PREDICTORS OF PRE-TRANSPLANT OUTCOMES

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This presentation introduces a new prospective multi-site study examining psychosocial (e.g. depression) and behavioral (e.g. exercise) predictors of pre-transplantation outcomes among patients listed for heart transplantation (HTX). While these variables predict mortality and morbidity in cardiac patients with varying diagnoses, it is not known whether they contribute to outcomes among adult HTX candidates. All German-speaking HTX-centers have been invited to participate in this study by Eurotransplant. Newly listed adult HTX candidates completed standardized assessments anger, depression, social isolation, stress, diet, and exercise at time of listing. Changes in wait list status, such as HTX, death, delisting for various reasons, together with medical data will be provided by Eurotransplant at 6 months intervals for 2 years since listing. Analyses of baseline data (n=318; 53+11 years; 18% female) reveal a high level of stress (45 of 50 HTX-related stressors) and prevalence of clinical depression in 39% of the sample. Patients with ischemic heart failure reported significantly more negative emotions (e.g. anger) than those with dilated cardiomyopathy. Disease severity (e.g. LVEF, VO_2max) was unrelated to negative emotions. Depression was significantly associated with lack of social support (p<.001). Only 35% of depressed patients received counseling. To conclude, psychosocial stress is present in a considerable number of newly listed HTX candidates, especially among those with ischemic heart failure. Future analyses of psychosocial, behavioral, and medical characteristics at time of listing and their impact on 2 year waitlist outcomes will help to identify modifiable attributes relevant to survival while waiting for a new heart.

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C020

MENTAL STRESS REACTIVITY AND RECOVERY PATTERNS IN HEALTHY ADULTS VERSUS HEART FAILURE PATIENTS

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Background: Mental stress-induced blood pressure (BP) reactivity and recovery are potential risk factors for hypertension and coronary artery disease. This study examined mental stress response patterns in comparison samples comprised of healthy adults versus patients with heart failure (HF).
Method: A total of 87 participants—including 41 with a diagnosis of HF (NYHA II–IV, LVEF<40%)—completed a standardized mental stress protocol involving baseline assessment, reactivity testing to a mental arithmetic and speech task, and a recovery phase. BP levels were assessed throughout the protocol with an automated blood pressure monitor. Outcome measures consisted of baseline-adjusted residualized change scores for BP reactivity and recovery. Questionnaire measures included the Beck Depression Inventory (BDI) and Cook-Medley Hostility Questionnaire (CMHQ).
Results: In comparison to controls, HF patients were older (58.2[14] versus 52.8[11.6], respectively, p=.01) and reported more depressive symptoms (BDI means=11.1[7.6] versus 5.8[8.3], respectively, p=.002). After adjusting for covariates, mean blood pressure levels were lower in HF patients compared to controls in all protocol phases (all p's<.01), but the two groups exhibited a similar magnitude of reactivity and recovery changes. Additionally, CMHQ scores but not depressive symptoms were reliable predictors of impaired systolic (r=−.41) and diastolic (r=−.49) BP recovery, p's<.05, among HF patients. No psychological relationships with mental stress were present among healthy controls.
Conclusions: Mental stress-induced BP patterns among HF patients appear to differ from those seen in healthy adults. Because rates of stress and mental disorders are known to be higher in HF populations, the observed psychosocial associations with mental stress are perhaps particularly important. The findings suggest that the study of mental stress in HF populations has promise as an area of future study.

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Citation Poster
C021

ADOPTION AND IMPLEMENTATION OF A PHYSICAL ACTIVITY AND LOW FAT DIET INTERVENTION IN COMMUNITY HEALTH CENTERS

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Community health centers (CHCs) are ideal settings to counsel high risk underserved groups. The HHER Lifestyle Program tested the effects of a clinic-based standard care intervention [stage-matched primary care provider (PCP) counseling and nurse goal setting for physical activity (PA) and low fat eating] vs. an enhanced intervention (standard care plus 1 yr of phone counseling) on CVD risk in African American women. Recruitment and the standard care intervention are complete. Two CHCs, 9 clinics, and all PCPs and nurses within them were targeted. Adoption was defined as completing the CD-ROM training. Delivery of PCP counseling was reported via weekly clinic faxes. PCPs and nurses were also requested to audio record every participant encounter. A total of 266 participants were recruited (51±11 yrs, 70% household income<$30K, 87% BMI≥25). Of the 30 PCPs invited to participate, 17 (57%) adopted. Of the 28 nurses invited to participate, 16 (57%) adopted. The CD-ROM training was evaluated positively by both groups (ratings averaged 4.1/5.0). A total of 66% of participants received PCP counseling as documented by clinic faxes (62%) or recorded study encounters (39%). A total of 58% of participants received nurse goal setting as documented by recorded study encounters (48%) or completed goal sheets (55%). No differences in delivery of counseling or goal setting were found based on practice type or provider gender. More family and internal medicine than OB/GYN PCPs recorded participant encounters (p<.0001). More internal medicine and OB/GYN than family medicine nurses recorded encounters (p<.01). Duration of counseling and goal setting was 4.5±4.5 and 7.2±3.8 mins, respectively. The majority of goals selected were stage-appropriate (94% of diet and 80% of PA goals). Overall, a sizeable percentage of PCPs and nurses completed training, rated it favorably, and delivered the intervention, suggesting the potential for broader dissemination. Many PCPs and nurses, however, were not willing to record study encounters.

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C022

THE RELATIONSHIP OF SELF-EFFICACY TO PHYSICAL ACTIVITY AND EXERCISE AFTER PERCUTANEOUS CORONARY INTERVENTION

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A low percentage of cardiac patients after percutaneous coronary intervention (PCI) enter formal cardiac rehabilitation programs. There is a need to determine whether higher self-efficacy ratings in this population are related to increased physical activity and exercise after PCI in order to develop targeted interventions. The purpose of this pilot project was to describe the relationships between self-efficacy and physical activity levels and exercise during the first 3 months after PCI. Measures were collected at baseline (prior to hospital discharge), and through follow-up phone calls and mailings at 3 weeks, 6 weeks, and 3 months. The sample consisted of 56 subjects.

Self-efficacy was measured by the Barnason Efficacy Expectations Scale. The Modified 7-Day Activity Tool, administered only at baseline, was used to calculate baseline values for average kcals/kg/day and average daily minutes spent in sleeping, light, moderate, hard or very hard activity. At each follow-up time point, a mailed self-report 3-Day Activity/Exercise Diary was used to collect physical activity data (minutes spent in sleeping, light, moderate, hard, and very hard categories, and kcals/kg/day), and exercise data (type of exercise and duration).

Self-efficacy ratings remained stable over the 3 month period. Physical activity levels and minutes in exercise both increased over the 3 months. Significant correlations between self-efficacy and physical activity levels were found at baseline ($r=.36$, $p<.01$) 6 weeks ($r=.30$, $p<.01$), and 3 months ($r=.23$, $p<.05$). Significant correlations between self-efficacy and minutes spent in planned exercise were found at 6 weeks ($r=.42$, $p<.01$), and 3 months ($r=.38$, $p<.01$). These pilot results suggest developing and testing interventions to increase and maintain self-efficacy expectations during the vulnerable early 3 month recovery period for cardiac patients after PCI.

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C023

STRUCTURAL SOCIAL SUPPORT AND CARDIAC REHABILITATION ATTENDANCE: A META-ANALYSIS

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Structural social support has been clearly linked to health outcomes in those with coronary heart disease (CHD). There are several behavioral pathways that may partly explain this relationship e.g. physical activity and dietary intake. It is also possible that participation in cardiac rehabilitation (CR) is more likely in those with greater structural social support.

We searched several electronic databases (e.g. Medline) for published studies that reported an association between a measure of structural social support and cardiac rehabilitation attendance in patients with diagnosed CHD.

Eight studies were identified which incorporated 5,780 CHD patients. Greater structural social support was associated with higher odds of attending cardiac rehabilitation. Using a fixed effects model the pooled odds ratio of CR attendance was 1.76 (95% CI 1.51–2.07) for those with higher levels of structural social support. There was no evidence of heterogeneity of effects or publication bias in the analysis.

Associations between structural social support and CHD outcomes may be partly explained by CR attendance. Future work should aim to improve on the measurement of structural social support and CR attendance. Developing strategies to increase the participation of the socially isolated in cardiac rehabilitation could provide a useful avenue for research and practice.

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C024

EDUCATIONAL ATTAINMENT DIFFERENCES IN BLOOD PRESSURE BY AGE IN AFRICAN AMERICANS

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There is a long standing interest in the association of formal education to chronic disease outcomes. Recent international evidence suggests that higher levels of education are related to lower systolic and diastolic blood pressures with individuals with less than 6 years of formal education baring the greatest risk. Few studies have explored the influence of education on blood pressure as a function of age. Using data collected as part of the Carolina African–American Twin Study of Aging (CAATSA), we explored the relationship of formal education to systolic and diastolic blood pressures in 385 individuals. The sample consisted of one member from each of 285 twin pairs and 110 surviving members of non-intact twin pairs, with a mean age=50.7 years (sd.=15.0) and thirty-nine percent of the sample was male. The results indicated that there was as significant effect of education (<= 12 years compared to >12 years) on systolic blood pressure for older subjects (>=50 years) but not for younger (<50 years) subjects. In the older age group, those in the lower education group had significantly higher systolic blood pressure levels compared to those with higher education. The same pattern of effects was found for Pulse Pressure but Education did not exert an effect on diastolic blood pressure. There was also a significant difference in hypertensive status as a function of education level (chisq $p<.05$) but not when participants were divided into age groups. The results suggest that education has protective and cumulative effects that are observed in later life. These results lead to additional questions about the mechanism by which education exerts its effects on blood pressure and rates of hypertension as well as the need for additional research.

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Citation Poster

C025

C-REACTIVE PROTEIN AND HEART RATE VARIABILITY FOLLOWING MYOCARDIAL INFARCTION

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Heart rate variability (HRV) is widely recognized as an important index of autonomic nervous system control that is useful as a prognostic indicator of risk. Reduced 24-hour HRV, which is thought to reflect attenuated parasympathetic drive, predicts mortality in patients with coronary artery disease. Recent evidence indicates that abnormally low HRV may be linked to exaggerated inflammatory responses, which may be especially important following an acute myocardial infarction (MI). In the present study, we evaluated whether reduced HRV, estimated from the standard deviation of all normal R-R intervals over 24 hours (SDNN), was associated with inflammatory responses to acute MI. Between April 2004 and December 2006, 156 patients were evaluated during hospitalization for acute MI. Early in this hospitalization (2+1 days post-MI), plasma was collected for evaluation of C-reactive protein (CRP) and Holter monitoring was initiated. CRP was related to infarct size ($r=0.21$, $p=0.008$), left-ventricular ejection fraction ($r=-0.25$, $p=0.001$), and body mass index ($r=0.20$, $p=0.012$). CRP was also related to HRV ($r=-0.22$, $p<0.005$), and this association was independent of the other predictors of CRP. These findings are consistent with the possibility that the parasympathetic nervous system may regulate the inflammatory response to acute MI. Prior research showing an association between psychological distress and blunted HRV raises the possibility that psychosocial factors may moderate the inflammatory response to MI through altered parasympathetic nervous system activity.

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C026

PROMOTING PHYSICAL ACTIVITY (PA) IN LOW INCOME AFRICAN AMERICANS: 6 MONTH RESULTS FROM PROJECT LAPS

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Low income and African American individuals are at increased risk for inactivity and related chronic illnesses. Pilot data indicated that mailed, stage-matched interventions produced short term increases in PA among a predominantly African American low income sample; however, gains deteriorated by 6 months. The authors called for future research with additional contacts to further reinforce the intervention over the follow-up period. Thus, the current RCT tested the efficacy of an enhanced home-based PA intervention among this risk group. The sample (N=214) was recruited from primary care clinic waiting rooms and comprised of low income African American females with high rates of chronic diseases. The intervention group received the stage matched print intervention along with 5 newsletters and 2 telephone contacts using MI techniques. The attention control group received similar contacts on low sodium diet. Overall, 41% progressed in PA stage of change from baseline to 6 months, whereas 29% maintained and 30% regressed. Trends in the means suggest that both groups reported increases in PA from baseline to 6 months, but there were no significant group differences. In addition, results indicated no significant changes in self efficacy and decisional balance from baseline to 6 months for either group. As current efforts have been minimally successful, future researchers should further examine the PA intervention needs and preferences of low income African Americans. While 90% of this sample reported preferring to receive PA information in the mail, as opposed to telephone or Internet, the current intervention was developed and tested among mostly Caucasians and may not be appropriate for use among African Americans due to cultural differences regarding PA. Future researchers should consider using qualitative methods to develop culturally sensitive PA print materials for low income African Americans.

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C027

ASSOCIATION OF PHOBIC ANXIETY WITH SUDDEN CARDIAC DEATH AMONG WOMEN WITH CORONARY ARTERY DISEASE

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Phobic anxiety has been associated with increased risk of sudden cardiac death (SCD) and mortality in population-based studies. Reduced heart rate variability (HRV) has been proposed as one potential mechanism involved in this risk. We prospectively examined the relationship between phobic anxiety, as measured by the Crown-Crisp phobic anxiety scale, and risk in 947 coronary artery disease (CAD) patients undergoing cardiac catheterization. We also evaluated whether HRV, measured under resting conditions, acts as a mediator of the association between phobic anxiety and mortality. Phobic anxiety was associated with increased risk of cardiac mortality (hazard ratio [HR], 1.27, 95% CI, 1.02 to 1.59) but not with increased risk of SCD (HR, 1.19; 95% CI, 0.81 to 1.75) in multivariate adjusted models. There was a significant interaction between gender and phobic anxiety in the prediction of SCD (p=0.035) and a marginally significant interaction between gender and phobic anxiety in the prediction of cardiac mortality (p=0.054), with phobic anxiety predicting increased risk of SCD (adjusted HR, 1.94; 95% CI, 1.13 to 3.35) and cardiac mortality (adjusted HR, 1.53; 95% CI, 1.14 to 2.05) in the female patients, but not in the male patients (adjusted HR for cardiac mortality, 1.01; 95% CI, 0.69 to 1.46; adjusted HR for SCD, 0.82; 95% CI, 0.47 to 1.45). Reduced HRV did not alter the hazard ratio associated with phobic anxiety among the women. Phobic anxiety is associated with increased risk in female, but not in male CAD patients. Reduced HRV does not mediate the association of phobic anxiety cardiac mortality.

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C028

A LIFESTYLE PROGRAM TO PREVENT TYPE 2 DIABETES

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Clinical trials show that lifestyle programs can significantly prevent the onset of type 2 diabetes in at-risk adults. Questions remain regarding how to implement these programs into current health care systems. This pilot study examined the effects of a 6-month lifestyle program implemented in primary care by nurse practitioners (NP) to at-risk adults on clinical (weight change, waist circumference, BP, glucose, HOMA, lipids) and behavioral (diet, exercise, self-efficacy) outcomes.

NP practices (n=4) were randomized to standard care (1 NP and 1 nutrition session) or the lifestyle program (standard care and 6 NP sessions). Attendance was high (98%) and attrition low (12%) in this diverse, obese, low-income sample [n=58; 91%F; 52%W; mean age 48.9(17.9);mean BMI 38.8(8.2); 47%≤$39,999]. Thirty-two percent reported elevated depressive symptoms.

Intent-to-treat mixed-model repeated measures analyses controlling for practice site and age indicated significant improvement in both groups for waist circumference (p=.03), diet behavior (p=.01), exercise behavior (p=.01), and self-efficacy (p=.01). Lifestyle participants demonstrated trends for decreased waist circumference (p=.19) and weight change (p=.04) as well as increased exercise (p=.07) compared to control group participants. Twenty-five percent of lifestyle participants met treatment goals of 5% weight loss compared to 11% of standard care participants. Glucose, HOMA, and lipids increased significantly in both groups over time (p<.02), but participants with ≥5% weight loss demonstrated trends for a decrease in glucose (p=.26) and lipids (p=.09) compared to those who did not have 5% weight loss.

A lifestyle program implemented in primary care has the potential to be successful for select participants. Many adults at-risk for type 2 diabetes may require a more intensive program.

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C029

INCREASING MOTIVATION AMONG RURAL, LOW-INCOME AND UNINSURED PERSONS WITH DIABETES: A PILOT STUDY

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Type 2 diabetes doubles the risk of mortality, triples the risk of heart disease in males, and is the sixth leading cause of death. Low-income rural residents with diabetes face unique and multifaceted obstacles for achieving medical regimen adherence. This pilot study aims to investigate the acceptability and feasibility of a brief intervention designed to increase motivation for health behavior change among low-income, uninsured persons with diabetes receiving health care at a no cost primary health care facility in rural Wyoming. We enrolled five patients receiving care for diabetes at a no cost primary health care clinic in a 1-hour motivational interviewing (MI) intervention. Participants also received four follow-up phone calls, at one-week intervals, to problem-solve or reinforce the health behavior change strategies identified in the previous 1-hour session. Analyses were completed using single-subject design techniques. Graphic displays of dependent variables indicated improvement in exercise and nutrition compared to baseline assessment among participants. These results suggest brief motivational interviewing techniques are acceptable and feasible for no cost primary care clinics located in rural areas. Further, patient reports indicate high likeability of intervention procedures. Future projects aim to implement a large-scale randomized-controlled trial of the intervention procedures.

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C030

BURDEN OF DIABETES IN OLDER MALES RECEIVING HOME BASED PRIMARY MEDICAL CARE

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Home-based health care has emerged as a viable option for many chronically ill and functionally impaired older adults who have difficulty attending outpatient appointments, yet desire to maintain independent living. This study evaluated the characteristics of older men receiving Home Based Primary Care (HBPC) through a VAMC. We sought to examine the associations of diabetes with functional presentation at program intake and fall status and medical outreach at 3 and 6 month follow-ups. Data were obtained from structured intakes and review of electronic medical records. Structured assessment content included medical history (ICD-9 codes and prescribed medications), residential status, SF-36 Physical Function Scale, Barthel Index ADL items and a 2-item Depression Screen. Prospectively obtained medical outreach information was number and type of falls, ER visits and inpatient admissions at 3 and 6 month follow-ups. Participants were 107 males enrolled in a regional VAMC HBPC program. Consistent with the region, 77% of participants were Caucasian and 23% African American. Years of education ranged from 3–14 (M=10.26, SD=2.76). A substantial number lived alone (38.5%) with the remaining living with spouse, other family or in other non-solitary residential settings. Participants were predominantly older (M age=74.29, SD=11.04)and 43% had diabetes. Those with diabetes did not differ from those without in age, solitary living status, ADL, physical function scores, MMSE or depression screen outcome. Participants with diabetes had more comorbid health conditions (M=8.8 vs. 6.3, $p<.001$), were more likely to have diagnoses of CHF($p<.05$) and kidney disease($p<.01$) and to be prescribed antidepressants ($p<.05$) relative to those without diabetes. Diabetics were more likely to present to the ER ($p<.01$) but did not have greater incidence of falls or inpatient admissions. Notably, 31% of participants had a reported fall within 3 months. Findings highlight the high prevalence and burden of diabetes in this high-risk, older population.

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C031

MOTIVATIONAL INTERVIEWING TRAINING FOR HEALTHCARE PROFESSIONALS FROM THE INDIAN HEALTH SERVICE

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Motivational interviewing (MI) has demonstrated success in improving health behavior in clinical populations and MI training workshops are now more readily available to healthcare professionals (HCPs). In this investigation, the standard introductory training in MI was adapted to address a variety of unhealthful behaviors that are typically encountered in a Native American population. Two groups of HCPs from a southwestern region of the Indian Health Service completed participation in one of two 2-day MI training workshops that were conducted by two experienced trainers 6 months apart (Group 1, n=28; Group 2, n=23). The format and the content of the workshops were standardized for consistency. The HCPs had no previous MI training and they were given a series of pre and post questionnaires to evaluate the teaching process and the impact on learning. An analysis of the data identified a trend towards improvement in both groups after participation in the training workshops. Participants increased their perceived proficiency in MI from a mean score of 3.5 to 7.2 (Group 1) and 3.7 to 8.2 (Group 2) on a 0–10 scale and scored a mean score of 9.1 (Group 1) and 7.9 (Group 2) out of 10 in a knowledge test. The participants gave a mean rating of 8.9 (Group 1) and 8.0 (Group 2) on a 0–10 scale for the extent to which the training helped the learner meet predetermined workshop objectives. These findings suggest that it is feasible to standardize a MI training workshop to suit the needs of HCPs from the Indian Health Service.

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C032

WEIGHT CYCLING AMONG NON-DIABETICS, PRE-DIABETICS, AND DIABETICS IN AN OBESE TREATMENT SEEKING POPULATION

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Background: There is limited and equivocal research exploring the relationships among weight cycling and physical and psychosocial parameters in pre-diabetic and diabetic patients undergoing weight loss treatment. We examined these relationships. **Method:** We conducted a retrospective chart review of 211 consecutive patients undergoing an intensive 4-week, residential weight loss program. A series of one-way ANOVAs compared baseline psychosocial and physical characteristics of diabetic, pre-diabetic, and non-diabetic patients. Repeated measures ANOVAs (3×2) were used for treatment outcomes comparisons. **Results:** Mean BMI was 41.2 (±10.55) kg/m^2, mean age was 52.3 (±15.46) years. Sixty-four percent were female. Mean weight loss was 6.06 (±3.42) kg. Mean length of stay was 27.4 (±1.30) days. The sample consisted of 69.7% non-diabetic, 10.4% pre-diabetic, and 19.9% diabetic patients. Mean prevalence of lifetime weight cycling (self-reported intentional loss of at least 4.54 kg) was 9.5 (±14.11) times. Pre-diabetics were significantly more likely to weight cycle than were non-diabetics and diabetics (p's<.01). There were no significant differences between pre-diabetics and the other two groups on age, gender, pre-BMI, binge eating, alcohol consumption, depression, anxiety, rate of weight loss, or total weight loss. A significant interaction (group×time) was observed for plasma glucose with pre-diabetics post-weight loss fasting glucose (M=101.2±14.19 ml/dl), approaching that of non-diabetics (M=93.4±10.59 ml/dl; $p<.05$). **Discussion:** The combined finding of higher frequency weight cycling, coupled with reductions in blood sugar in the pre-diabetic group approaching that of non-diabetics following weight loss suggests that for pre-diabetics weight cycling may be protective in terms of halting or slowing the progression from pre-diabetes to diabetes. Further research is warranted.

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C033

FEASIBILITY OF A PHYSICAL ACTIVITY AND MOOD MANAGEMENT INTERVENTION FOR DEPRESSED PATIENTS IN PRIMARY CARE

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The high prevalence of major depression necessitates the development of interventions that can be administered through primary care physicians' offices. Any such treatment would ideally be multimodal. A single group prospective design tested the feasibility of a 12 week intervention combining medication, behavioral counseling and physical activity (PA). A convenience sample of 36 adults, aged 25–65 years, with mild to moderate major depression and willingness to take antidepressant medication were recruited through local primary care clinics. A Research Nurse Practitioner (RNP) prescribed Lexapro® (escitalopram oxalate). The intervention aimed to teach participants behavior change skills that could be applied to increasing their activity levels and decreasing depressive symptoms. Participants received a pedometer and printed materials, weekly emails addressing behavioral skills to increase their step count to 10,000 steps a day, and brief weekly counseling from the RNP. Participants' depressive symptoms, quality of life and PA attitudes were surveyed at baseline, 6 and 12 weeks. Satisfaction with the intervention components was assessed at 12 weeks. 23 participants remained in the study, 30% completed all counseling sessions and 60% responded to half the emails and completed the worksheets. At week 12, participants reduced their depressive symptom scores (by 6.4; $p<.001$), improved their quality of life scores (by 12.9; $p<.001$) and employed more PA change processes (6.7; $p<.001$). Over 80% thought the pedometer helped them become more active and this improved their mood. Over 70% thought the calls and print materials helped improve their mood. Those who completed more counseling were more likely ($r=-.46$; $p<.05$) to reduce their depressive symptoms. The majority of participants thought the intervention provided new information and helped them set realistic goals. This pilot study demonstrates the feasibility and acceptability of a multi component intervention to reduce depressive symptoms in a sample of mild-to-moderately depressed outpatients.

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C034

RELATIONSHIPS BETWEEN BINGE EATING AND BODY CHECKING IN A COGNITIVE BEHAVIORAL INTERVENTION FOR BARIATRIC SURGERY CANDIDATES

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Research on behavioral and psychosocial factors among bariatric candidates has increased with the rates of obesity and bariatric surgery (Wadden, 2001). Although most studies have focused on factors related to eating pathology, such as binge eating and body dissatisfaction, inconsistent findings have demonstrated the complexity of these relationships. Binge eating, for example, has been linked to less favorable outcomes in some studies, and the reported prevalence rates range from 10–50% in bariatric samples (Sarwer, Wadden, & Fabricatore, 2005). Recently, the role of body checking, which involves repetitive behaviors of weight and shape, has been linked to the body dissatisfaction and eating behavior of bariatric patients (Reas, White, & Grilo, 2006).

This study examined binge eating and body checking in the context of an intervention designed to prepare patients for behavioral changes pre and post surgery. The intervention was a four session group, focused on self-monitoring, stimulus control, eating and body cognitions, social support, and self-care. Participants were 21 pre-surgical bariatric patients (18 female, 3 male), with a mean BMI of 53.25 kg/m^2 (SD=13.01) and a mean age of 49.57 years (SD=12.34). Participants completed self-report measures pre and post group: Binge Eating Scale (BES; Gormally, Black, Daston, & Rardin, 1982) and Body Checking Questionnaire (BCQ; Reas, Whisenhunt, Netemyer, & Williamson, 2002).

A significant decrease in weight (t=2.89, p=.028) and binge eating (t=3.24, p=.005) was found pre to post group, although this change was not found for body checking (t=0.52, p=0.62). These changes are likely clinically meaningful, in that the group lost an average of 10.71 pounds and went from 18.29 (moderate) to 11.71 (minimal) binge eating scores. Once the group was divided into high and low pre group binge eating, using a cutoff score of 18 for moderate to severe binge eating, significant differences were found for several variables, including pre group body checking. Implications of these findings and future directions will be discussed.

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C035

PREDICTORS OF PEDIATRIC OTOLARYNGOLOGISTS' ADHERENCE TO ETS EXPOSURE GUIDELINES: A CALL TO ENHANCE RESIDENTS' TOBACCO INTERVENTION CURRICULUM

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Children's exposure to environmental tobacco smoke (ETS) is a significant public health problem, which has been linked to several pediatric disease processes. Physician guidelines have been developed by the American Academy of Pediatrics to address ETS exposure—particularly among specialists whose patients frequently present with tobacco-related illnesses. We surveyed 115 pediatric otolaryngologists to assess their adherence to the guidelines, tobacco intervention training, current actions with ETS-exposed patients, perceived barriers to tobacco intervention, and attitudes. Descriptive analysis revealed low levels of training and poor overall adherence: 49.6% had not received any training in tobacco intervention while 58.3% did not know guidelines existed. With respect to guideline adherence, only 42.6% reported always asking about ETS exposure when evaluating patients with known ETS-related diseases. When patients exposed to parental ETS were seen, 46.1% of the respondents always advised parents to create a smoke free home, while only 35.7% gave parents cessation advice. Logistic regression analyses revealed that greater tobacco intervention knowledge and fewer perceived barriers predicted greater adherence to the guidelines across dependent measures (Overall model p=.001; with respect to advising parents about smoking cessation, unique effect=1.8 for tobacco intervention knowledge and 1.7 for fewer barriers). Our study results demonstrate a need for improved tobacco intervention education among pediatric otolaryngologists and provide specific targets for curriculum enhancement.

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C036

PSYCHOTHERAPY IN THE VETERANS HEALTH ADMINISTRATION: MISSED OPPORTUNITIES?

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Objective: Despite the importance of psychotherapy as a treatment modality, research on the quality of mental health care has largely focused on pharmacotherapy, with little information available on the use and quality of psychotherapy practices, especially within integrated medical care settings. Informed by the dose-response effect, we assessed use of psychotherapy in the Veterans Health Administration (VHA).

Methods: We identified 410,923 patients with newly diagnosed depression, anxiety, or post-traumatic stress disorder from VHA databases. Psychotherapy encounters were identified by Current Procedural Terminology codes for the 12 months following patients' initial diagnosis. Quality of psychotherapy was based on number of psychotherapy sessions received within the follow-up period and time (in days) between diagnosis and treatment.

Results: Of the cohort, 22% received at least one session of psychotherapy; 7.9% received four or more sessions; 4.2% received eight or more sessions; and 2.4% received 13 or more sessions. Delays between initial mental health diagnosis and initiation of care averaged 57 days. Patient variables including age, marital status, income, travel distance, psychiatric diagnosis, and medical-illness burden were significantly related to receipt of psychotherapy. Namely, younger veterans with high medical illness burden who lived close to a VA facility had high odds of receiving psychotherapy. Patients with PTSD were almost three times more likely to receive care.

Conclusion: Treatment delays and general under-use of psychotherapy services are potential missed opportunities for higher-quality psychotherapeutic care in integrated healthcare settings. Despite these potential "missed opportunities", our data reflect several facets of mental health care that appear to have been positively affected by VHA initiatives, namely the use and general adequacy of group therapies and the improved care processes for veterans with depression and PTSD.

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C037

STORIES TO COMMUNICATE RISKS ABOUT TOBACCO: AN EXPLORATORY FACTOR ANALYSIS OF A SCALE TO MEASURE TRANSPORTATION INTO A STORY

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Introduction: Narratives, or stories, are a basic mode of human interaction and a promising tool for behavioral interventions. In narrative communication, transportation is defined as intellectual and emotional engagement. Increased narrative transportation is associated with stronger motivation to action. Although transportation was developed and evaluated for written stories, it has not been fully validated for use with multimedia stories.

Methods: Based on work by Green, we adapted and evaluated a five-question Video Transportation Scale (VTS) measured on a 7-point Likert scale. The scale included questions related to emotional and intellection engagement and attentional focus. We randomized 163 hospitalized patients to an attention control or a DVD-delivered story-based intervention (Stories) designed to encourage smoking cessation. We conducted an exploratory factor analysis, assessed concurrent validity and then assessed predictive validity.

Results: Factor analysis yielded a two factor solution relating to "engagement" (eigenvalue 1.9) and "distraction" (eigenvalue 1.4). Three questions loaded onto the engagement factor (mean score 5.9 (SD 1) range 1.3–7) and two questions loaded onto the distraction factor (mean 3.2 (SD 1.9) range 1–7) (factor loadings >0.75 and >0.80 respectively). Stories patients had a higher score for engagement than control (6.2, SD =1 vs 5.5, SD=1.5; p=0.01), but were not different on distraction. At 2-week follow-up, there was a trend towards higher self-reported cessation in Stories with engagement score above the median versus those below (62% vs. 37%, p=0.09), but no association of engagement with cessation was found in control.

Conclusion: Although we found concurrent validity for the three-question engagement factor and a trend toward prediction of smoking in the intervention group, distraction in this study was likely more related to the external hospital environment than the characteristics of the intervention. (Supported by NIH grant 1U01HL79171)

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C038

RANDOMIZED TRIAL OF A STAGE-BASED INTERVENTION FOR DEPRESSION IN PRIMARY CARE

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There is a lack of interventions for individuals who are not willing to seek help for depression or follow through with treatment recommendations. The purpose of this study was to determine whether a population-based intervention matched to stage of change for using effective methods to prevent or reduce depression can improve depression outcomes in primary care. A randomized controlled trial assessed the effectiveness of the intervention, consisting of three computer-generated reports and a print workbook mailed to the home, in two primary care samples recruited from health care organizations in Eastern Massachusetts and Chicago: 1) patients at risk for or experiencing depression but not involved in or planning treatment (n=513); and 2) patients newly prescribed antidepressant medication (n=389). The study design included an examination of whether the intervention effect was moderated by primary care sample, baseline use of effective methods to prevent or reduce depression, and baseline level of depression. The intervention group was significantly more likely than control to experience reliable and clinically significant improvement in depression (OR= 1.65). This intervention effect was moderated by baseline use of effective methods to prevent or reduce depression and by level of depression, but not by primary care sample. The largest intervention effects were found among patients not using effective methods to prevent or reduce depression at baseline (OR=2.33), and among patients experiencing major depression at baseline (OR =5.17). The intervention increased medication adherence and decreased the onset of major depression in some subgroups. The stage-based program has the potential to fill a gap in services and improve depression outcomes among untreated primary care patients at risk for or experiencing depression and among patients newly prescribed antidepressant prescription.

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C039

ASSOCIATION BETWEEN DEPRESSION AND PERCEIVED BARRIERS TO CARE AMONG PATIENTS WITH HEPATITIS C

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Individuals with hepatitis C(HCV) may face barriers to accessing healthcare services. We examined perceived barriers that may complicate HCV care and determined if socioeconomic(SES) factors or depression were associated with barriers. Methods: 98 HCV patients in 2 liver clinics completed instruments. The Barriers to Care Scale (BACS) is a 12-item scale with 4 subscales (Distance, Medical/Psychological Supports, Community Stigma, Personal Resources). Items were rated from 1 (No problem) to 4 (Major Problem) indicating the extent to which barriers were problematic in accessing care. The CES-D was used to measure depression.

Results: Patients were male(56%), Caucasian(82%), married(51%), and 46 yrs old. SES factors: Working full/part-time(75%);Income of<40K(54%); Uninsured(9%); and Traveled >30 mins. to clinic(61%). Greatest single barriers were lack of personal resources(M =2.4), lack of HCV knowledge in the community(M=2.4), stigmatization(M=2.0), long distances to a HCV clinic(M=1.95), and lack of trained HCV providers(M=1.94). Associations between BACS and SES were found:1)Distance was a barrier for the unemployed; 2) Community stigma was greater for women than men; and 3) Personal resources were a barrier for unmarried, unemployed, uninsured, and low income patients. Four separate hierarchical regressions were conducted with SES factors entered in Step 1 and Depression scores entered in Step 2. Outcome variables were each of the 4 BACS subscales. After controlling for SES factors, depression accounted for additional variance in Distance(p=.027), Medical/Psych. Supports(p=.016), Community Stigma(p=.016), and Personal Resources(p=.001). Conclusion: Patients perceive many barriers to accessing HCV care. While SES factors may contribute to these perceptions, depression emerged as a strong predictor after controlling for SES. Depression may have a negative impact on perceptions and accessing HCV care, and should be explored further to optimize healthcare utilization.

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C040

QUALITY OF LIFE IN HYPERHIDROSIS: COULD COGNITIVE-BEHAVIORAL THERAPY HELP?

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Primary hyperhidrosis (HH) is characterized by an exaggerated sweat response to emotional and/or sensory stimuli not accounted for by a medical illness. The symptoms manifest themselves as bilateral, symmetric sweating of the hands, feet, underarms, and/or face. To date, research on quality of life has not been conducted by psychologists or in an American sample. Little is known empirically about the relationship between HH and psychological conditions, namely social anxiety. Aims of the present study were to ameliorate these research gaps and explore applying psychological interventions to decrease the distress and impairment associated with HH. Participants included 223 individuals diagnosed with HH at Mayo Clinic in the last five years. They were sent a survey of self-report questionnaires targeting demographic information, HH symptom presentation, quality of life (Illness Intrusiveness Scale, Devins, 1981), and anxiety (Anxiety Sensitivity Scale-III, Taylor, et al., in press; Social Phobia Inventory, Connor, et al., 2000; portions of the ADIS-IV, Brown, et al., 1994). Overall, results indicated a moderate to severe impact on quality of life, a finding consistent with previous international research (e.g., Cina & Clase, 1999). Among the HH subtypes, individuals with cranial sweating experienced the most impairment, while those endorsing social anxiety had more significant impairments compared to their non-socially anxious counterparts. Despite these findings, psychological interventions were rarely used. Limitations and future directions will be discussed, particularly focusing on applying cognitive-behavioral therapy (CBT) to improve quality of life and reduce psychological distress within HH. More specifically, the notion of utilizing CBT techniques for social anxiety is proposed (egs., cognitive restructuring surrounding the perceived catastrophe of sweating, exposure to the feared outcome/consequences). Group therapy, as used with social anxiety (eg., Heimberg & Becker, 2002) could be particularly effective given the extreme social-evaluative concerns and opportunity for normalization and exposure.

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C041

COPING AND HEALTH AMONG LUNG TRANSPLANT CANDIDATES AND THEIR PRIMARY CAREGIVERS

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Lung transplant candidates frequently experience functional limitations leading them to depend on caregivers to assist in activities of daily living. Few studies have examined psychological functioning and quality of life among caregivers of lung transplant candidates. This study was designed to evaluate coping and health among lung transplant candidates (N=22; mean age=52.4 yrs.; 68% female; 82% White; 18% Black) and their primary caregivers (N=22; mean age=46.7; 81% female; 81% White; 19% Black). All participants completed baseline and 6-month follow-up assessments of coping (nonreligious coping, religious and spiritual coping), psychological functioning (stress, depression, anxiety), and quality of life (Medical Outcomes Study-SF-36). Results indicated no differences between patients and caregivers in nonreligious coping or in religious and spiritual coping either at baseline or at follow-up. However, at baseline patients reported higher levels of depression (p=.003) and anxiety (p=.022) than caregivers, and worse physical quality of life than caregivers (p <.001). Overall, levels of self-rated stress and perceived mental health did not differ between caregivers and patients. At 6-month follow-up, patients continued to report higher levels of depression (p=.019) and anxiety (p=.004) than caregivers, and worse physical quality of life (p<.001). Patients and caregivers indicated no changes in nonreligious coping, psychological functioning, or quality of life between baseline and 6-month follow-up. However, intrinsic religiosity (i.e., belief in a higher power) was reduced significantly in both patients and caregivers (p=.03). Although coping resources among lung transplant candidates appear to be similar to those of their caregivers, candidates generally had poorer psychological functioning and quality of life.

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C042

INTIMATE INTERPERSONAL FUNCTIONING IN ADULT PATIENTS WITH SICKLE CELL DISEASE

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It is well documented that there is a general and growing trend of individuals remaining single longer into the lifespan. Little is known about the number of patients with Sickle Cell Disease (SCD) who are involved in intimate interpersonal relationships, if those relationships last, and indications of their quality. In a sample of eighty-eight adult patients, mean age 35.40+−11.45, with SCD (43.2% male), we evaluated the interpersonal functioning of patients with SCD. The majority of patients were unmarried (42; 47.7%) while 1/3 were married (26). Only one percent of patients (1) was widowed, twelve percent were divorced (11), and two percent (2) were living with a significant other. Of the subjects who were unmarried, only 1/3 (29) were involved in an intimate relationship. The average duration of combined married and other intimate relationships was 75.24+−101.13 months (greater than 6 years) with an average relationship quality rated a 9.87+−15.88 on a 10-point scale. It appears that when they are involved in intimate relationships, patients with SCD form them in sustainable fashion that they rate a very high quality. Research efforts must begin to include intimate interpersonal functioning in the formulation of general functioning for patients with SCD.

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C043

COMMUNICATION ABOUT PHYSICAL ACTIVITY IN AN URBAN UNDERSERVED CLINICAL POPULATION

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Introduction: The 5A (Ask, Advise, Agree, Assist, Arrange) guidelines, used to promote patient behavior change in primary care, can be applied to physical activity. Our goal was to describe how the 5As occur when clinicians discuss physical activity with underserved patient populations.

Methods: Audiorecorded office visits followed by patient surveys on randomly selected days at two urban community health centers with 12 participating primary care clinicians. We used descriptive statistics and qualitative analysis of transcriptions of audiorecorded data to describe use of the 5As.

Results: Patient participants were 71% female, 51% African American, 47% at or below federal poverty level, and 66% had high school diploma or partial high school education. Most participants were either overweight (22%) or obese (53%), and most (78%) were not achieving recommended levels of physical activity. Discussion of physical activity occurred in 19 visits, consisting mostly of Ask (n=16, 84%) and Advise (n=10, 53%) statements. Physicians, nurse practitioners, and physician assistants each used a mean of two As per visit. Clinicians initiated 84% of physical activity discussions and tended to dominate the conversations; patients initiated discussions in 3 (16%) visits. In the 19 visits with physical activity discussions, specific activity levels (i.e., the recommended type, intensity, frequency, and/or duration) were discussed in just five (26%) visits.

Discussion: Clinicians infrequently discuss specific activity levels according to recommended guidelines. Interventions are needed to evaluate who best should provide the 5As, and better integrate clinicians' efforts with other personnel to address patient challenges or barriers and use of accessible community resources for physical activity.

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C044

A PILOT COMMUNICATION INTERVENTION FOR PHYSICAL ACTIVITY IN AN UNDERSERVED POPULATION: PROCESS EVALUATION

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Introduction: We conducted a feasibility two-arm RCT to evaluate the effect of a primary care-based intervention, linked to a community program, on physical activity at two months (intervention group) compared to usual care (control group). The process evaluation goals were to distinguish between components of the intervention of varying effectiveness and investigate contextual factors that may have altered the outcomes of the intervention.

Methods: Analysis of surveys and interviews with 12 participants, researchers' and community program personnel's observations (field notes). We integrated these data with our primary outcome measure, the 7-day Physical Activity Recall (PAR) interview at two months.

Results: The majority of participants were female (n=10, 83%) and African–American (n=7, 58%). Mean age was 42.6 years; all (n=12) had Medicaid insurance. Minutes per week of physical activity increased by 122 in the intervention and 58 in the control group. Effective components were a linkage between individual/primary care and group/community-based elements, an explicit referral process, and shared use of a written guided plan; problematic components were delay or difficulty accessing the community program. Contextual factors that altered the results negatively were competing psychosocial stressors/time demands and positively, family/social support.

Discussion: Favorable preliminary results were likely due to a combination of individual/medically-oriented and group/community-based components of the intervention. Next steps are to improve collaboration process between the research team and community program personnel to test this effect on patient physical activity outcomes.

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C045

EFFECTS OF EARLY-TREATMENT CHANGES IN ATTITUDES TOWARD SELF-MANAGEMENT OF PAIN ON TREATMENT OUTCOMES

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Changes in willingness to adopt a self-management approach to pain management represent potential therapeutic mechanisms by which treatments achieve improvements. Early-treatment changes in these attitudes should have greater impact on outcomes than late-treatment changes. In the present study, we hypothesized that attitude change defined by reduction of precontemplation and increase in action attitudes would moderate effects of two cognitive behavioral therapy (CBT) treatments: individually "tailored" CBT (TCBT) and standard CBT (SCBT). Patients with chronic pain (N=58) were assigned to receive TCBT or SCBT in 10 sessions, completing questionnaires at 4 timepoints: pretreatment, 4-weeks, 6-weeks, and posttreatment. Residualized change scores were computed for pre- posttreatment (early) and 6-weeks to postreatment (late). Outcomes were degree of achievement of individualized primary and secondary goals (G1 and G2, respectively). Results of hierarchical regressions revealed no significant treatment by attitude change interactions, although TCBT patients achieved significantly higher levels of G1 than SCBT patients ($F=4.6$; $p<.04$). Early-treatment decreases in precontemplation and increases in action attitudes predicted G1 and G2 accomplishment irrespective of treatment type (betas: −.29 to .32; $p<.05$). Late-treatment changes in precontemplation and action attitudes did not significantly predict goal accomplishment. Analyses examining effects of both early and late treatment changes in pain severity, interference, and depressed mood on goals were also nonsignificant. Results suggest that attitudinal changes toward adopting a self-management stance occurring early but not late in treatment predict favorable outcomes, perhaps because early treatment changes in mechanisms allow maximum time to exert effects on outcomes. The effects appeared specific to these putative process factors in that simple improvements in pain symptoms during treatment did not affect goal accomplishment.

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C046

PAIN-SPECIFIC CONSTRUCTS BUT NOT PERSONALITY ARE ASSOCIATED WITH MUSCLE PAIN INTENSITY

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The perception of pain is a complex process, with considerable variability between individuals. Despite its prevalence and cost to individuals and society, relatively little is known about why some are more likely to develop painful, debilitating conditions, yet others remain relatively insensitive to pain. According to the biopsychosocial model, individual differences in pain sensitivity can be partially explained by a number of psychological variables. Several different models have been proposed, ranging from pain-related constructs to stable personality traits. However, few known studies examined the constructs simultaneously, particularly using a controlled pain stimulus. The purpose of the current study was to examine the influences of pain-specific constructs (pain catastrophizing [PC], fear of pain [FP], and dispositional traits (neuroticism [N], extraversion [E], somatosensory amplification [SSA]) on experimentally-induced muscle pain in healthy individuals.

69 healthy adults (age 24.5+/−6.1 yrs, 35F) participated. Muscle pain was induced via infusion of a sterile acidic phosphate buffer solution (5.2pH) into the anterior tibialis muscle for 15 min at 40 ml/hr (2 tsp). Verbal pain ratings (Borg CR-10) were recorded for the primary (infusion) and referred (ankle) pain sites every 30–60 sec. Mean peak pain was rated as 3.03 and 1.18 at the infusion (range=0.5–10) and referred sites (range=0–9), respectively. All psychological constructs were within expected population-based norms. No dispositional characteristics (N, E, or SSA) were significantly associated with pain ratings (r=0.05–0.20, p>0.11), however PC (r=0.52, p=0.0) and FP (r=0.31, p=0.01) were positively associated with peak infusion site pain. The only significant difference between genders was peak pain at the referred site (p=.004). These results suggest that the sensory-discriminative component of pain perception is not influenced by baseline personality traits, but may be associated with catastrophizing and fear of pain. Implications for pain treatment are discussed.

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C047

THE ASSOCIATION OF LATERALITY OF CHRONIC PAIN WITH DEPRESSION, ANXIETY AND GENDER

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Purpose: Following earlier studies demonstrating left lateralization of somatoform disorders and the role of the right hemisphere in processing negative emotions, the objective of this study was to demonstrate that patients referred for neural blockade of left-sided (L) chronic pain were more depressed, anxious and exhibited more pain-related behaviors than those with right-sided (R) chronic pain.

Method: Across multiple visits, male (N=235)and female (N=307) patients presenting for neural blockade treatment of chronic pain were separated into L, R or bilateral (B) pain groups. Demographic data, medical history, perceived pain intensity and responses to the Brief Pain Inventory and Hospital Anxiety and Depression Scale were obtained.

Results: At baseline, there were no significant differences in frequency of L vs. R pain (X^2=.140; p=.709), pain intensity at worst, least, range of pain from worst to least, and average (p's>.254), duration (p=.995) or anxiety (p=.142). However, patients with L-sided pain reported significantly, or nearly, higher levels of depression (p=.007) and interference with mood (p=.020) than R-sided pain patients. There were differing patterns of significant correlations (p<.05) between patients with L vs. R-sided pain among pain scores, anxiety, and depression.

Separating patients by gender revealed no difference in frequency of L vs. R pain (p's >.611). Males, not females, with L-sided pain had significantly higher scores for least pain (p=.070), interference with general activity (p=.061), mood (p=.009), sleep (p =.030), and depression (p=.004) than males with R-sided pain.

Discussion and Conclusion: Although no differences were found between L and R sidedness or pain intensity, L-sided pain patients had more depression, anxiety and sleep disturbance than R-sided patients. These observations suggest that L-sided more then R-sided pain patients may require psychotherapeutic or psychopharmacologic intervention in addition to neural blockade.

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C048

PAIN EXPRESSION PREDICTS PHYSICAL MORE CONSISTENTLY THAN PSYCHOLOGICAL DISABILITY IN PATIENTS WITH SHOULDER PAIN

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There have been a considerable number of studies of pain-related facial expression, but few have examined its relation to pain related disability either contemporaneously or prospectively. In the present study, we examined these issues. One hundred twenty-nine patients suffering from pain affecting a shoulder underwent active and passive range of motion tests to the shoulder. Video recordings of their facial expressions during these tests were made. Patients also completed the Shoulder Pain and Disability Index (SPADI), a validated self-report measure developed specifically for this population and the Sickness Impact Profile (SIP) at the time of testing and at three- and six-month follow up intervals. Pain-related facial actions were measured using Facial Action Coding System criteria and an overall index of pain expression showing high internal consistency was constructed. Pain expression was correlated with SPADI pain and disability indices and the SIP physical disability index at study entry and at three and six month follow-up intervals. Pain expression was uncorrelated with the SIP psychosocial disability index at study entry and at the three month follow up, although it was significantly correlated with psychosocial disability at a weak level (r=.22, p<.05) at the six month follow up. The results suggest that facial pain expression may be a greater marker of physical than of psychosocial components of disability and that it may have prospective predictive value. This may give pause to advocates of the view that pain expression reflects primarily affective or operant aspects of pain.

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C049

AGE DIFFERENCES IN ADLS IN PATIENTS WITH SICKLE CELL DISEASE (SCD)

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We evaluated the frequency of musculoskeletal complaints and activities of daily living (ADLs) in fifty men (22) and women (28), mean age 38.93 (13.51) with Sickle Cell Disease (SCD) as a function of their age. Using median split, we divided patients into "younger" (<=35) and "older" (>35) age groups. We then compared the age groups, based on the hypothesis that older patients may report greater difficulties with ADL's empirically reported as common obstacles among this patient population.

Younger patients were much more likely to report significant difficulties with arm movements (p=.007), hand movements (p=.007), leg movements (p =.006), and foot movements (p=.04) without assistance compared to their older disease counterparts. There were also trends towards significance for younger patients reporting more difficulties walking as compared to their older disease counterparts. There were no reported differences between age groups in their abilities to dress, bathe, eat, drink, climb stairs, and attend doctor's appointments without assistance. There further were no self-reported differences in perceived level of functionality. We conclude that patients with SCD who live to be older than 35 years of age may differ in a number of ways that may contribute to less severe disease and few problems with ADLs as they age.

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C050

WORKSTYLE PREDICTS PAIN AND WORK OUTCOMES IN SURGICAL AND NON SURGICAL MANAGEMENT OF HAND PAIN

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Previous research suggests that individuals with high workstyle may have increased risk of exacerbation and maintenance of work-related upper extremity symptoms. Workstyle is a construct that characterizes the physiological, cognitive, and behavioral response to a high demand work task. This study seeks to explore the prognostic value of a workstyle measure in patients receiving surgical and non surgical treatment for a number of hand/arm disorders.

Patients receiving surgical and non-surgical related treatments for hand and arm disorders were followed for six months from their initial evaluation and characterized by high (N=26) and low (N=15) workstyle. Demographic data, work status, and workstyle were measured at baseline prior to surgery or non surgical care while pain and work status were evaluated prior to treatment and at six months.

Results indicate that while all patients reported less pain at follow-up those with higher workstyle scores were more likely to be on restricted work ($\chi 2=4.87$: $p<.05$) and experience higher levels of pain at six months ($F=8.38$, $df=1$, $p<0.01$). Regression analyses indicated that workstyle was associated with pain (Linear Regression: R2adj=.355, $p<.01$) and work status (Logistic Regression: OR: 1.15, CI 95%=1.003–1.329), at six months, accounting for treatment type, age, job, diagnosis, and pain at baseline.

These results have implications for managing patients with upper extremity problems. It is suggested that those individuals with high scores on the workstyle measure may require interventions targeted at the various elements of high risk workstyle (e.g., behavioral, physiological, and psychological arousal). The findings indicate that despite surgical and non surgical intervention of arm/hand pain, elevated levels of workstyle are related to poorer outcome. Future directions should focus on intervening on workstyle in conjunction with traditional treatments.

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C051

A NOVEL EXPOSURE-BASED, EMOTIONAL AND RELATIONAL TREATMENT FOR FIBROMYALGIA

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Unresolved trauma and post-traumatic stress trigger or exacerbate symptoms in many people who have fibromyalgia (FM). Current cognitive-behavioral treatments for FM (e.g. coping skills, relaxation training, exercise) attempt to reduce or avoid emotional arousal, but they have limited success with patients that have substantial emotional and interpersonal problems. Emotional exposure-based therapies, which are effective for PTSD, have not been tested for FM despite evidence that written emotional disclosure can improve FM symptoms. We have developed and tested a novel 10–12 session emotional exposure-based treatment protocol for people with FM who also report chronic unresolved stress.

This protocol incorporates three components: a) rapidly assessing avoided stimuli (e.g., traumatic memories and emotions, interpersonal behaviors, external stimuli); b) developing and implementing a hierarchy of exposure-based techniques; and c) using the therapeutic relationship to provide corrective emotional experiences of avoided interpersonal behaviors. We tested this protocol on 10 women (80% Caucasian/20% African American; Age M=56) with highly symptomatic, long-standing, and generally refractory FM. Assessments of pain, disability, distress, and trauma symptoms were conducted at baseline, post-treatment, and 3-month follow-up.

All 10 patients completed the protocol. Results show statistically significant improvement on a number of measures, and the effect sizes were moderate to large: global distress (ES =.76), pain and disability (ES's=.42 & .86), and trauma-related psychological functioning (ES=.63). Examination of the individual patients revealed 50% showed improvement on all 4 measures and 80% improved on at least 2 measures. Treatment with these patients was able to target several unresolved and avoided experiences and relational styles.

An exposure-based therapy focusing on reversing emotional avoidance provides an additional approach to treat the pain and dysfunction of FM, particularly for patients with trauma histories and relational difficulties.

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C052

DETERMINANTS OF NEGATIVE AFFECT IN NURSES DURING THE WORKING DAY: THE ROLE OF DEMAND, REWARD, CONTROL AND DESIRE FOR MORE CONTROL

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Background: Karasek's Demand Control (DC, Karasek, 1979) and Siegrist's Effort Reward Imbalance model (ERI, Siegrist, 1996) dominate theorising on work-related stress. The central constructs in these models are Demand (Effort in ERI), Control, Reward and in the ERI, overcommittment an important aspect of which is desire for control. Using computerised ecological momentary assessment the power of these constructs to predict negative affect was studied in nurses over 3 working days. This enabled us to test if models that have been used primarily to explain differences in stress between individuals also explain variations in stress related emotion within individuals in this highly stressed group.

Methods: Sixty seven nurses in a British hospital completed computerised diaries measuring Demand, Control, Desire for More Control and Reward and 5 scales (stress, angry, sad, frustrated, nervous) summed to measure negative affect (NA). Nurses averaged 19.9 diary entries. Data were analysed using multilevel modelling (MlwiN).

Results: NA was independently and positively associated with demand and desire for more control and negatively with control and reward. Demand and control interacted so that high demand and low control was associated with the greatest NA. Control and desire for more control also interacted. When desire for control was low actual control was unrelated to NA but when desire for control was high, control related positively to NA.

Discussion: In working nurses negative affect assessed frequently across 3 shifts related predictably to the core constructs of Karasek's and Siegrist's models. In addition demand and control interacted as predicted. Nurses experienced neagative emotions when demand was high and control low and when they desired more control and had little. This data suggests that both these models explain variations in NA within an individual and interventions that reduce demand and increase control and reward might reduce distress and associated inefficiency, absenteeism and illness.

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C053

A REAL-TIME ASSESSMENT OF WORK STRESS IN PHYSICIANS AND NURSES

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Objective: This study adapted ecological momentary assessment methods to: 1) describe work stress among hospital providers; 2) examine differences in work stress between nurses and physicians, and 3) to study relationships between work stress and work activity patterns.

Method: A total of 185 physicians and 119 nurses (206 women, 98 men) working on medicine or pediatric wards of four teaching hospitals participated. Participants carried handheld computers that randomly prompted users for information concerning current work activities, patient load, and work stress characteristics over their workday.

Results: Participants completed more than 9500 random interval surveys during the study. Approximately 85% of all surveys were completed in full (73.3%) or partially (11.6%). Overall emotional stress scores reported by physicians were nearly 50% higher (26.9[19.0]) than those of nurses (18.1[14.9], $p<.001$). Diurnal variations in work stress were present but different for both clinician groups. Physicians were especially vulnerable to work stress during night-time work periods. Poor sleep was reported in nearly 1/5th of all days sampled, and work stress levels were 30–50% higher after even a single night of poor sleep. Higher work stress and lower sleep quality were also associated with poorer memory performance.

Conclusions: The findings indicate that physicians and nurses often experience moderate to high work stress, and that these experience are especially common among sleep deprived clinicians. The findings provide results that can be used to assist ongoing hospital work reform efforts.

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C054

DISTRESS, COPING, AND CIRCADIAN DISRUPTION IN NEWLY DIAGNOSED BREAST CANCER PATIENTS

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Cancer patients show circadian disruption that increases as disease progresses. Disrupted endocrine and activity rhythms predict early metastatic cancer mortality. Effects of psychological versus biological factors on rhythms are unknown, as are potential links between endocrine and sleep disruption, and relevance of disruption in early stage cancer. We investigated effects of distress and coping on endocrine and activity rhythms in 45 breast cancer patients.

Between diagnosis and surgical treatment four days data collection were completed including daily reports on intrusive thoughts (IES intrusion scale) avoidant coping (Brief COPE avoidance subscales), 12 saliva samples (waking, +30 minutes, 16:00 hours, bedtime), and actigraphy recordings. Mean distress and coping scores were calculated. Cortisol EIA assay results were examined for outliers and log-transformed prior to calculation of the diurnal slope. Actigraphy yielded the activity rhythm (autocorrelation coefficient), activity while in bed (dichotomy index), and total sleep time. Hierarchal regression analyses adjusted for relevant demographic and medical variables. Distress and avoidant coping were independently related to activity rhythm disruption (partial r=−.433 and −.355, p=.008 and .034, respectively). Avoidance was associated with more activity while in bed (partial r=−.432, p=.006). Circadian rhythm measures, diurnal cortisol slope and autocorrelation, were significantly associated in the predicted direction (Spearman r=−.613, p<.001). High autocorrelation was related to higher waking, and lower bedtime cortisol (Spearman r=.320 and −.459, p=.044 and .003, respectively). Diurnal cortisol rhythmicity was related to longer nightly sleep time (partial r=−.350, p=.037).

Interventions that attend to distress and enhance effective coping may impact biobehavioral pathways with relevance to disease resistance.

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C055

SMOKING AND IMMUNITY AMONG LUNG CANCER PATIENTS

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Lung cancer mortality exceeds that of any other tumor type. Smoking is a primary risk factor for lung cancer and may hasten tumor growth by impairing immunological defenses. Among non-cancer samples, smoking alters lymphocyte counts and cytokine production, though effects have not been examined in lung cancer patients. We explored lifetime tobacco use and immune measures in lung cancer patients with the hypothesis that smoking would be associated with suppression of immunity.

Lung cancer patients (n=62) provided demographic and smoking information (pack years, or years×packs/day). Blood samples allowed assessment of lymphocyte counts (NK cells, cytotoxic T and T helper cells). Cytokines were assayed after lymphocyte stimulation with phytohemagglutinin. Cancer stage was obtained from medical charts. Patients were divided into early (stage 1) and late stage (2–4) prior to analyses due to expected differences in effects of tumor progression on immune variables.

Mean (and SD) pack years were 58.75 (39.51). Two-way Analyses of Variance showed no group differences in age, gender, or smoking behavior between early and late stage patients. Among early stage patients, Spearman rank correlations showed higher pack years were associated with lower total lymphocyte (r=−.39, p=.07) and cytotoxic T-lymphocyte counts (r=−.48, p=.03). Among late stage patients, higher pack years were related to higher pro-inflammatory cytokine levels: interleukin-6 (r=.43, p=.02) and interleukin-10 (r=.45, p=.01); and higher tumor necrosis factor-alpha (r=.38, p=.04).

Results suggest that smoking may be related to decrements in lymphocyte counts in early stage lung cancer patients, and to increases in inflammatory mediators among later stage lung cancer patients. These effects could potentially impair disease resistance. These results highlight the need for research to examine the possible biological relevance of smoking cessation programs for people diagnosed with lung cancer.

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Citation Poster

C056

COPING AND LUNG CANCER: ASSOCIATIONS WITH PHYSIOLOGICAL STRESS MARKERS AND QUALITY OF LIFE

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Lung cancer patients often experience a loss of functional quality of life (QOL) related to rapid disease progression. Shapiro identified two dimensions of coping responses to such losses: positive versus negative and assertive versus yielding. Research suggests positive yielding (acceptance) and positive assertive (active) coping strategies may promote better cancer QOL. We investigated potential endocrine and immune pathways by which coping may be related to functional QOL.

Non-small cell lung cancer patients (n=56) provided reports of coping and functional QOL (physical functioning, functional well-being scales, FACT-L), and samples for assay of overnight urinary catecholamines, diurnal salivary cortisol, and pro-inflammatory cytokines. Bivariate correlations identified relevant medical and demographic control variables. Hierarchal regressions explored relationships between coping, biological indicators, and QOL and tested for biological mediators using strategies outlined by Baron and Kenny, Holmbeck, and Sobel.

Engaging in more active coping was significantly associated with better functional well-being and lower endocrine activation. Acceptance predicted lower proinflammatory cytokines. Cortisol elevation was related to poor functional well-being. The effect of active coping on functional well-being was reduced (beta .389 versus .297) and lost significance when cortisol was entered, suggesting the potential for a biological mediating pathway. However, Sobel's test indicated the indirect effect of active coping on functional well-being through cortisol was non-significant.

Results demonstrate interrelationships between coping, endocrine and immune function and quality of life. The cross-sectional design precludes directional conclusions, though results suggest future longitudinal research should examine endocrine and immune pathways by which coping with lung cancer might affect disease outcomes.

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C057

BIOLOGICAL CORRELATES OF SOCIAL SUPPORT IN GYNECOLOGIC CANCER PATIENTS

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Research suggests that social relationships may influence cancer progression. One explanation for this may be that social support impacts physiologic stress response mechanisms. We investigated biological correlates of social support among women with gynecologic cancer with the hypothesis that higher support would be associated with lower cancer-relevant physiological measures of chronic stress: circadian disruption and allostatic load.

Women within five years of diagnosis of ovarian (n=21) or endometrial (n=24) cancer provided reports of current supportive social relationships. The Duke-UNC Functional Social Support Questionnaire was used to obtain appraisals of personal relationships in which important life matters can be shared (confidant support), and assessments of support and caring received (affective support). We assessed diurnal salivary cortisol rhythms over two days at waking, 45 minutes after waking (+45), 1600 and 2100 hours. Diurnal slope was calculated by regressing log-transformed cortisol on collection time, excluding the +45 samples. An allostatic load summary score was calculated using 10 indices (serum cortisol, DHEA, urinary catecholamines, glycosylated hemoglobin, cholesterol, blood pressure and waist circumference). Relevant medical and demographic variables were adjusted in analyses. Hierarchal regressions examined social support variables as predictors of circadian disruption and allostatic load.

Social support was associated with more rhythmic diurnal cortisol profiles (confidant support, partial r=.30, p<.05; affective support, partial r=.31, p<.05), but not with allostatic load.

Supportive social relationships were associated with stronger diurnal cortisol rhythms. Further research is warranted, as physiology related to the tumor may differentially affect allostatic load indices. Results suggest the potential for social relationships to impact biological pathways relevant to gynecologic cancer outcomes.

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C058

UNDETECTED HEALTH PROBLEMS AND SURVEILLANCE NEEDS IN LONG-TERM CANCER SURVIVORS

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Late effects of high dose chemotherapy and hematopoietic cell transplantation include elevated rates of self-reported health complications compared to controls. To examine whether objective indicators of cardiovascular and musculoskeletal health are elevated in survivors relative to population norms we conducted onsite testing of male and female (N=25 each), 5–20 year survivors (M=12.04, SD=4.0), age 18–50 (M=39.9, SD=9.6) without known comorbidities. Testing included bone mineral density (BMD) and body fat percent (BFP), body mass index (BMI), grip strength, treadmill testing for VO_2max, and lipid panel. Patient-reported outcomes included the Short Form 36 (SF36). Survivors were compared to a normative cohort (N=571) from the National Health and Nutrition Examination Survey (NHANES) matched for age, gender and race. Confirming that survivors were high functioning, 84% had T scores above 50 on the physical function scale of the SF36 (M=53.7, SD=4.6). In contrast, objective tests revealed substantial health risks: 46% had triglycerides above 150, 30% had total cholesterol above 240, 42% had age and gender adjusted VO_2max scores in the 'poor' or 'very poor' range, 30% had grip strength T scores >1 SD below age adjusted norms, and 30% had spine BMD T scores below −1.0. Although 50% had 'healthy' range BMIs, using NIH and WHO age and gender adjusted cutoffs, 21% were overweight and 65% were 'obese' in BFP. Relative to the NHANES cohort, survivors had lower BMI (P=.004) and higher total cholesterol (P=.02). While women had lower risk of elevated lipids in the NHANES cohort (P <.01), women survivors had equivalent risk of elevated lipids. In this younger, long-term survivor cohort selected for lack of comorbidities, undetected cardiovascular and musculoskeletal risks exceeded those seen in population-based, matched adults. Women may be more vulnerable to unpredicted cardiovascular risks. Surveillance guidelines for survivors need to mandate routine testing at younger than usual ages for these health problems, and clinical trials need to target these complications.

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C059

GLUCOSE AS A PROGNOSTIC FACTOR IN OVARIAN CARCINOMA

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Ovarian carcinoma is the deadliest of the gynecological cancers and the fifth leading cause of cancer mortality in women, with a five-year relative survival rate of 45% in the United States. Although prognosis at the time of diagnosis has been shown to vary according to standard clinical variables such as disease stage, mounting evidence indicates that patient glucose levels may also have prognostic value. It is also known that cancer cells rely on glucose to reduce their own oxidative stress. Despite these findings, the relationship between glucose and recurrence or survival has not been examined in patients with ovarian carcinoma. Data was obtained from medical records for 60 ovarian cancer patients, and Cox proportional hazards regression models were used to estimate the hazard ratio (HR) for time to recurrence (disease free interval-DFI) and survival time in relation to pre-surgical non-fasting plasma glucose level and other standard clinical variables at the time of diagnosis. Mean follow-up time was 2.4 years after surgery. Higher glucose levels were associated with shorter DFI (HR, 1.017; 95% CI, 1.000 to 1.034; p=.05) and survival time (HR, 1.014; 95% CI, 1.004 to 1.024; p =.007), adjusting for stage of disease and circadian effect on glucose metabolism. Risk of death from disease was 2.65 times higher for patients with an abnormal glucose level (140 mg/dL) vs. those at the low end of the normal range (70 mg/dL). Age, tumor grade, CA125, and optimal/suboptimal debulking status were not associated with DFI or survival time (all p values >.13). These findings provide new support for the prognostic value of glucose in this disease and suggest potential applications for behavioral medicine in the comprehensive treatment of ovarian carcinoma.

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C060

PRIDE FOLLOWING AN ACUTE STRESSOR IS ASSOCIATED WITH HEALTHIER PHYSIOLOGY

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Recent research suggests that when people are under conditions of self-evaluative threat, self-conscious emotions of shame and pride may differentially predict cortisol and cardiovascular responses. Additionally, responding to challenging personal circumstances by finding benefits has been associated with a healthier daytime slope of cortisol. We sought to examine in metastatic breast cancer patients (N=73) whether shame or pride (State Shame and Guilt Scale: SSGS) during post-recovery following a Trier Social Stress Task (TSST) was associated with relatively independent indices of daytime cortisol (waking level, waking rise, and slope), cortisol response to 3 challenges (TSST, corticotropin releasing factor infusion (CRF), and dexamethasone), and high-frequency heart-rate variability (lnHF). We found that higher pride was significantly associated with a steeper daytime cortisol slope (r=−.32, p=.006), and greater cortisol response to CRF (r=.40, p=.002) in zero-order Spearman correlations. In exploratory stepwise-forward regressions with either pride or shame as dependent variables and cortisol and lnHF measures as independent variables, greater pride was significantly associated with greater cortisol response to CRF in the first step (Adjusted R2=0.14, p=.005), steeper cortisol slope in the second step (Adjusted R2=0.22, p=.001), and greater lnHF area under the curve in response to TSST in the third step (Adjusted R2=0.27, p=.001) indicating that each added predictive power. Shame was not significantly associated with any measures. Shame and pride were not collinear with depression status nor were other measures of positive affect redundant with pride. Self-evaluative pride in one's ability to cope with a stressor appears to be importantly linked with healthier physiological function in women with metastatic breast cancer.

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C061

METABOLIC SYNDROME RISK FACTORS IN ADOLESCENTS

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The metabolic syndrome is present in youth and tracks from childhood to young adulthood. The purpose of this study is to examine the prevalence of risk factors contributing to the metabolic syndrome and its common clusters in adolescents with elevated blood pressure (BP) (n=240) (systolic BP and/or diastolic BP≥the 90th percentile adjusted for gender, age, and height) and normal BP (n=102). Boys (n=252) and girls (n=90), ages 15–17, participated in a screening during which metabolic syndrome risk factors were assessed using the National Cholesterol Education Program clinical criteria for adults: large waist circumference (WC), hypertriglyceridemia (TG), low high-density lipoprotein cholesterol (HDL), elevated BP, and high fasting glucose. The prevalence of metabolic syndrome (i.e., at least 3 of the 5 criteria) was 18.75% in elevated BP and 4.9% in normal BP adolescents (p<.001) and was similar for boys (13.9%) and girls (16.7%, p>.05). As expected, those with metabolic syndrome had a higher prevalence of low HDL (98%), large WC (92%), elevated BP (88%) and TG (52%) than those who did not meet criteria (all ps<.001). No one had high fasting glucose. The rates below are for those with metabolic syndrome (percentages are not mutually exclusive). The combination of TG and low HDL, with or without other criteria, was found in 50% of cases. In addition, 38% of cases had elevated BP, TG and low HDL, with or without large WC. Elevated BP, large WC, and low HDL, the most common diagnostic cluster, was found in 48% of cases. Another 30% of cases had TG in addition to this cluster.

The findings show that the aggregation of risk factors known to be pathogenic in adults is apparent in youth. The co-occurrence of TG and low HDL in adults with elevated BP is associated with increased risk for cardiovascular disease (CVD). Similarly, the cluster of low HDL, obesity, and elevated BP predicts coronary artery calcification in young adults. Interventions designed to modify these risk factors are warranted to lessen the likelihood of future CVD in high risk youth.

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C062

THE EFFECTS OF DEPRESSION AND SLEEP ON BLOOD PRESSURE REACTIVITY

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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 was designed to investigate whether depression was related to the vascular response during two stress tasks. Furthermore, we sought to determine whether disturbed sleep mediated or moderated this relationship. Participants were 21 (15 females. 6 males) depressed and 31 never-depressed (14 females, 18 males) undergraduate students (mean age= 19.75 years; 86.5% Caucasian). Depression was diagnosed using the Structured Clinical Interview for Diagnosis (SCID) and previous night's sleep was measured using a wrist-worn actigraph device. Following an acclamation period, blood pressure was measured approximately every 2 minutes during a 10-minute rest period, a 4-minute forehead cold-pressor task, and a 6-minute speech task. Task order was counterbalanced. Multilevel modeling was used to evaluate the independent contribution of sleep quality and depression to systolic blood pressure (SBP) and diastolic blood pressure (DBP) during the experimental tasks. All analyses included the following covariates: task order, gender, BMI, medications, and history of depressive symptoms. Blood pressure was significantly elevated during the speech task, compared to baseline ($p<.001$). Additionally, diastolic blood pressure was marginally elevated during the cold-pressor task, compared to baseline ($p=.057$). Although depression was not related to blood pressure, sleep efficiency significantly predicted systolic blood pressure during the speech task and diastolic blood pressure during the cold-pressor task ($p<.05$). SBP inversely covaried with sleep efficiency during the speech task ($p<.05$) and DBP inversely covaried with sleep efficiency during the cold pressor task ($p<.05$). Therefore, poor sleep efficiency may contribute to higher blood pressure in depressed and nondepressed individuals.

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C063

DISTURBED SLEEP IS ASSOCIATED WITH PSYCHOSOCIAL CARDIOVASCULAR RISK FACTORS AND FIBRINOGEN IN HISPANIC POST-MYOCARDIAL INFARCTION PATIENTS WITH METABOLIC SYNDROME

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Disturbed sleep has been increasingly linked to elevated inflammatory and hemostatic markers predictive of cardiovascular morbidity and mortality. Sleep disturbances are also associated with depression and other psychosocial constructs found to be independent risk factors for cardiovascular disease (CVD). This study examined the associations between disturbed sleep, psychosocial factors (depressed affect, hostility, perceived social support), and physiological markers of inflammation and coagulation (C-reactive protein (CRP), interleukin-6 (IL-6), fibrinogen) in 118 Hispanic post-myocardial infarction (MI) patients diagnosed with metabolic syndrome (MS) using NCEP-ATP III criteria. Mean age was 53 years (SD=8.3) and mean time between MI and assessment was 63.6 days (SD=34.1). Measures included the Beck Depression Inventory (BDI), the Hamilton Rating Scale for Depression (HamD), the Cook-Medley Hostility Scale (CM), and the Perceived Social Support Scale (PSSS). Disturbed sleep was measured using DSM-IV Depression Interview and Structured Hamilton sleep disturbance ratings comprised of self-report items assessing insomnia and restless sleep. Results showed that all psychosocial measures—higher BDI ($b=.043$, $p<.01$), HamD ($b=.066$, $p<.01$), and CM scores ($b=.025$, $p<.01$), and lower PSSS scores ($b=-.268$, $p<.01$)—were significantly correlated with higher sleep disturbance ratings, but not with any of the physiological measures. However, high sleep disturbance ratings were significantly associated with increased plasma fibrinogen levels independent of each psychosocial factor (all p's<.05). Disturbed sleep was not associated with CRP or IL-6 levels. All findings were adjusted for age, sex, education, and traditional CVD risk factors including body mass index, total cholesterol, history of diabetes, and current smoking. These findings suggest that disturbed sleep may play a significant role in the previously observed associations between particular psychosocial factors and CVD.

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Citation Poster

C064

EFFECTS OF DEPRESSIVE & ANXIOUS SYMPTOMS ON NOREPINEPHRINE AND PLATELET P-SELECTIN RESPONSES TO ACUTE PSYCHOLOGICAL STRESS AMONG ELDERLY CAREGIVERS

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Background: Caring for a spouse with dementia is associated with increased psychological distress, impaired immunity, and heightened cardiovascular disease (CVD) risk. Sympathetic and platelet hyperactivity to acute psychological stress may constitute an important pathway linking stress, negative affect & CVD. Objectives: 1. Evaluate associations between depressive (DEP) and anxious (ANX) symptoms with increased norepinephrine (NE) and P-selectin (PSEL) responses to an acute psychological stress task, 2.

Establish whether these associations are augmented among elderly spousal caregivers (CG) compared to non-caregivers (NC). Methods: DEP and ANX symptoms were assessed among 39 CG & 31 NC. Plasma NE levels and % platelet PSEL expression were assayed at rest, immediately following a laboratory speech test (reactivity), and after 14 minutes of recovery.

Results: Among CG, but not NC, increased symptoms of DEP and ANX were associated with delayed NE recovery (DEP: $\beta=.46$, $p=.008$; ANX: $\beta=.36$, $p=.03$), increased PSEL reactivity (DEP: $\beta=.70$, $p<.001$; ANX: $\beta=.526$, $p=.002$), and delayed PSEL recovery (DEP: $\beta=.37$, $p=.04$; ANX: $\beta=.30$, $p=.09$), while controlling for age, gender, aspirin use, antidepressant use, and preexisting CVD. Delayed NE recovery was also associated with increased PSEL reactivity ($r=.42$) and delayed PSEL recovery ($r=.37$; all p's<.05) among CG but not NC. Discussion: Among chronically stressed CG, increased levels of DEP and ANX symptoms are associated with prolonged sympathetic activation and pronounced platelet activation.

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C065

LOWER CARDIAC RESPONSE TO ISOPROTERENOL IN INDIVIDUALS WITH HIGHER LEVELS OF FATIGUE

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Fatigue is common complaint, characterized by a lessened capacity for work and by feelings of weariness and sleepiness. It is a non-specific symptom with poorly understood mechanisms reported in many medical conditions. We have previously reported in healthy individuals that complaints of fatigue are associated with lower stroke index (SI) and cardiac index (CI). In this study we examined the relationships of fatigue and cardiac responses to bolus injections of isoproterenol (ISO).

Thirty-eight subjects completed the Multidimensional Fatigue Symptom Inventory (MFSI) and ISO infusions. Cardiac function was determined by electro- and impedance cardiography during the administration of 5 doses of ISO to determine the chronotropic dose that increases heart rate 25 beats/minute (CD25).

The data were analyzed in 2 phases. First, repeated measures ANOVAs were performed to determine the response pattern. Then, to determine the relationship between fatigue with the response to ISO, the response slope of HR, SI, and CI was regressed on the physical, emotional, and mental fatigue subscales of the MFSI after controlling for gender, race, age, BMI, and screening mean arterial pressure. We similarly examined the CD25 response.

ISO led to increases in HR, SI and CI in a dose dependent pattern (p's<.001). Blood pressure did not change significantly. For SI ($\Delta R^2=.386$, $p=.026$; $\beta=-.596$, $p=.023$) and CI ($\Delta R^2=.372$, $p=.026$; $\beta=-.544$, $p=.038$) physical fatigue was a significant predictor of response to ISO; higher physical fatigue predicted a smaller SI or CI response to ISO. No fatigue measure was related to HR. Interestingly, emotional fatigue was a significant predictor of beta receptor sensitivity as determined by the CD25 ($\Delta R^2=.297$, $p=.026$; $\beta=-.796$, $p=.044$).

In this study we showed that fatigue, particularly physical fatigue, was associated with lower SI and CI response to ISO. We further found that higher levels of emotional fatigue were associated with lower beta-receptor sensitivity. These findings suggest that lower cardiac function might be related to increased fatigue symptoms.

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C066

MINORITY STRESS AND AUTONOMIC REACTIVITY IN YOUNG GAY MEN

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Minority stress occurs when individuals are exposed to stressors based upon their membership in a stigmatized ethnic or sexual minority group. This experimental study investigated the effects of minority stress on autonomic arousal in young gay men. Past research has linked perceived racism and racist stimuli to blood pressure increases in ethnic minorities. Further, anger inhibition has been linked to elevated blood pressure in ethnic minorities and concealment of gay identity predicts negative longer-term health outcomes in gay men. Therefore, we hypothesized that exposure to gay-related stimuli would produce greater blood pressure and heart rate increases relative to general stress and neutral stimuli and that those with the greatest prior affective and behavioral inhibition and least community support would have the highest reactivity. Gay men between the ages of 18 and 24 (n=40) were exposed to antigay (prejudice events), general stress (Tsunami), and neutral film clips in counterbalanced order. Blood pressure and heart rate were recorded during a general baseline, and prior to and after each film clip. One-way ANOVAs revealed that, as predicted, blood pressure and heart rate reactivity were significantly higher for the antigay clip, relative to the general stress and neutral clips ($p<.05$). Surprisingly, degree of being "out," gay community involvement and Anger-In were not significantly associated with autonomic reactions to the antigay film clip (p's $>.05$) as has been found in previous minority stress research using racist stimuli. These findings support theories linking minority stress to longer-term health outcomes via autonomic channels, but they did not confirm expected associations between inhibition and autonomic reactivity in this sexual minority population.

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C067

A NON-LINEAR ROLE OF RELIGIOSITY IN CARDIOVASCULAR REACTIVITY TO PERSONALLY-RELEVANT STRESS?: THE MODERATING ROLE OF EDUCATIONAL ATTAINMENT

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Objective. Recent research suggests that a linear approach to studying religion as a stress-buffer may be limited. The objectives of the present study were to determine whether a more non-linear assessment of religiosity (low vs. moderate vs. high) moderated by educational attainment was associated with cardiovascular responses to laboratory social stressors. Method. Participants were 58 healthy Black males, aged 23 to 47. The procedure included a number of psychosocial surveys and a reactivity protocol involving the following experimental tasks and associated recovery periods: an active speech task and an anger recall task. Measures of systolic and diastolic blood pressure (DBP) and heart rate (HR) were obtained continuously using an Ohmeda Finapres monitor. Systolic blood pressure variability (BPV) was computed to index sympathetic outflow during speech preparation.

Results. At low education, high (vs. low) levels of subjective religiosity were linked with higher DBP ($p<.05$) during anger recall and final recovery, and lower HR ($p<.08$) across the two recovery periods, while high and low (vs. moderate) levels of religious attendance predicted higher BPV ($p<.05$) during speech preparation. Notably, higher and moderate (vs. lower) levels of subjective religiosity were associated higher John Henryism (JHAC; active coping style) scores ($p<.05$). At low education, high (vs. low and moderate) levels of religious attendance were each linked with flatter HR ($p<.007$) across all tasks. Conclusions. High levels of religiosity among persons with low levels of education are linked with elevated vascular reactivity and reduced recovery to stress. Since religiosity tracks positively with JHAC scores, highly (vs. moderately) religious persons who engage in high effort coping in the context of inadequate educational resources may be at risk.

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C068

PSYCHONEUROENDOCRINE AND PSYCHOSOCIAL VARIABLES RELATED TO GENDER: ASSOCIATION BETWEEN INTERNALIZING BEHAVIOR PROBLEMS, DISTRESS AND SALIVARY CORTISOL LEVELS IN GIRLS WITH TYPE-1 DIABETES

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In this study emotional and neurobiological responses to psychosocial stressors, family functioning were investigated in children with chronic illness. Our examination was carried out with type-1 diabetic children (n=81) and healthy controls (Tanner stage≥2). Self-reported questionnaires gathered information about adolescence depression (CDI), trait and state anxiety (STAI) and family functioning (FACES IV). To detect psychosocial influences on neuroendocrine system—a good indicator of distress—children's salivary cortisol was measured at one hour after awakening, five and ten hours later.

Salivary cortisol showed the expected diurnal rhythm, decreasing level of cortisol concentration were detected in both study groups. By comparison, diabetic adolescents and healthy controls were similar according to cortisol activity and psychosocial parameters. Interestingly gender differences were found in neuroendocrine markers and psychosocial distress as well. Girls' morning cortisol levels were higher than boys' (3.6 (2.5–5.4 nM/l) vs. 2.9 (2.2–4.1 nM/l); $p=.018$). Elevated cortisol levels were associated with girls' depression ($r=-.332$, $p=-.015$), negative correlation was measured between cortisol reactivity and girls' self-perceived family cohesion ($r=.326$, $p=-.033$), satisfaction with family life ($r=-.421$, $p=-.005$) but not in diabetic and healthy boys. Girls' better self-reported communication among family members were also connected with increased cortisol ($r=-.350$, $p=-.021$). Adolescents with higher cortisol reported more trait anxiety symptoms ($r=.279$, $p=-.037$).

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C069

EFFECTS OF DEHYDRATION ON COGNITION IN OLDER ADULTS

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While much is known about cognitive effects of moderate to severe dehydration, less is known about mild dehydration. Studies in young soldiers & endurance trained athletes whose hydration status was experimentally manipulated suggest mild dehydration affects attention/short term memory and psychomotor speed. Pilot work in our lab demonstrated similar findings using naturally occurring hydration levels in community dwelling older adults. The present study attempted to replicate these findings and expand them to the cognitive domain of working memory.

The sample consisted of 24 post-menopausal women and 17 men ages 50–78 (M=60.3, SD=7.8) who participated as part of a larger study of stress and cognition and had hydration data available. Participants were eligible if they had no immune or endocrine-relevant health conditions; were non-smokers; did not engage in more than moderate alcohol use or exercise; had a BMI<30; reported no needle or blood phobias; and were not using psychotropic medication.

Total body water was assessed using bioelectrical impedance. Percent total body water by weight (%TBW/WT) was used to control for body mass. Learning and memory was assessed using the Auditory Verbal Learning Test (AVLT) Learning Over Trials, Immediate Recall, and Delayed Recall variables. Working memory was assessed with the Auditory Consonant Trigrams.

Age was not significantly related to either %TBW/WT or the neuropsychological variables. As expected %TBW/WT was related to both memory and working memory ability. Better hydration was related to better performance in learning ($r=.28$, $p=.08$), immediate recall ($r=.42$, $p=.008$), and delayed recall ($r=.33$, $p=.04$). In addition, better hydration was related to better working memory ($r=.35$, $p=.03$).

Findings are consistent with prior studies, emphasizing the importance of considering hydration status when interpreting cognitive performance in older adults. Future studies should manipulate fluid intake over 1 to 2 weeks to determine whether hydration enhancement leads to improvements in cognitive performance.

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C070

RELATIONSHIP BETWEEN BLOOD PRESSURE, HYDRATION AND COGNITION IN OLDER ADULTS

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Research has shown that hydration status can significantly influence cognitive performance such that low total body water is related to poorer cognitive performance, especially among the elderly. Elevated blood pressure (i.e., hypertension) in the elderly has also been found to be related to poorer cognitive performance. Interestingly, research conducted on college students has shown that hydration status is negatively related to resting and stress-induced changes in blood pressure. Therefore, the goal of this study was to assess the relationship between hydration status and blood pressure during rest and cognitive performance testing in elderly adults. The sample consisted of 41 healthy men and post-menopausal women ages 50–78 (M=60.3, SD=7.8) who participated as part of a larger study of stress and cognition. Participants were non-smokers; did not engage in more than moderate alcohol use or exercise; and had a BMI<30.

Percent total body water by weight (%TBW/WT) was assessed using bioelectrical impedance. Learning and memory was assessed using the Auditory Verbal Learning Test (AVLT) Learning Over Trials (LOT), Immediate Recall (IR), and Delayed Recall (DR) variables. Working memory was assessed with the Auditory Consonant Trigrams (ACT). Systolic (SBP) and diastolic (DBP) blood pressure were measured with an automated blood pressure monitor. Mean arterial pressure (MAP) was computed from the values of SBP and DBP.

Results revealed that %TBW/WT was negatively related to baseline MAP ($r=-.365$, $p=.026$) and marginally related to SBP ($r=-.308$, $p=.053$). Results also revealed that baseline blood pressure was negatively related to the ACT scores [SBP ($r=-.334$, $p=.043$); DBP ($r=-.343$,$p=.037$); MAP ($r=-.359$, $p=.037$)] and that baseline DBP was negatively related to LOT ($r=-.327$,$p=.045$) and IR ($r=-.397$, $p=.014$). Correlational analysis between AVLT task performance and BP revealed that greater absolute levels of DBP were related to poorer performance on LOT ($r=-.356$, $p=.026$), IR ($r=-.379$, $p=.017$) and DR ($r=-.353$, $p=.03$). Interestingly, %TBW/WT was not related to BP levels during any of the cognitive tasks.

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C071

NEUROPSYCHOLOGICAL EFFECTS OF EXERCISE FOR AGING WOMEN: ROLE OF STEROID HORMONE BIOMARKERS

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Research has examined neuropsychological effects of exercise in aging adults (Heyn, 2004); however, exploration of intervening biological variables has been limited (Kramer et al., 2006). Analyses of corticosteroid measures have shown that change in cortisol predicts cognitive deficits in the elderly (Lupien, 1994), and significant differences in cortisol have been found between caregiver and non-caregiver populations (Davis et al., 2004). Levels of estradiol in post-menopausal women have been shown to both increase and decrease risk for cognitive impairment (Lee, 2006; Powledge, 1997). This study aimed to examine the relationship between pre-exercise salivary estradiol and cortisol levels, and changes in cognitive function with exercise in aging women. Eight community-residing Caucasian women (four caregivers and four senior dependents; 45–89 yo), were evaluated before and after four weeks of low-impact exercise. Tests (and alternate forms) included: Digit Span, Stroop, COWA, Color Trails, Letter Digit Substitution Task, Fuld, Clock Drawing, GDS, and QOL. Consistent with prior research (Etnier et al., 1997; Nimon & Anderson-Hanley, 2007), executive function improved significantly from pre- to post-intervention (Trails B and LDST, $p<.05$). Lower levels of pre-exercise cortisol correlated with greater improvements in executive function and attention, while higher levels correlated with greater improvements on a verbal fluency task. Low levels of pre-exercise estradiol correlated with greater improvements on tasks of attention and verbal fluency, while higher levels correlated with greater improvements in executive function. Additional research is needed to clarify the complex relationships between biomarkers and neuropsychological effects of exercise. The ability to understand and predict effects of baseline biomarker levels on the effectiveness of an exercise program may facilitate the design of interventions for the maintenance or improvement of women's health.

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C072

VITAL EXHAUSTION, SLEEP DISTURBANCES, AND INFLAMMATORY BIOMEDIATORS IN CHRONIC FATIGUE SYNDROME

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Prominent symptoms of Chronic Fatigue Syndrome (CFS) are severe fatigue, vital exhaustion, and nonrestorative sleep characterized by frequent sleep interruptions. Although CFS studies have been unable to consistently link biomediators with the magnitude of reported symptom expression, proinflammatory factors have been related to sleep dysregulation and fatigue exacerbation in non-CFS cohorts. The present study examined whether CFS patients who report heightened vital exhaustion and sleep disturbances (Group A) display a different pattern of pro- (IL-6) and anti-inflammatory (IL-10, cortisol) biomediator levels than CFS subjects with more moderate exhaustion levels and more normal sleep quality (Groups B & C). Fifty-four CFS patients (41 women; 13 men) completed surveys to index fatigue, vitality, and sleep (Multidimensional Fatigue Symptom Inventory, Maastricht Vital Exhaustion Questionnaire, and Pittsburgh Sleep Quality Index), and morning blood was drawn following a 30 min rest period. Vital exhaustion and sleep disturbance frequency scores were used in a hierarchical cluster analysis to discriminate Group A (n=13) from Group B (n=22) and Group C (n=19) subjects. Values are means±SE. Group comparisons indicated no difference in age, body mass, physical fitness, or fatigue duration, but all groups significantly differed in reported chronic fatigue (A=61.5±3.4; B=47.8±2.6; C=38.6±2.8), vital exhaustion (A=33.2±1.2; B=28.4±1.0; C=21.1±1.0), and sleep disturbance frequency (A=19.2±0.8; B=13.6±0.6; C=8.4±0.7; disturbances/wk). Further analyses indicated that Group A displayed significantly greater serum IL-6 than the other groups, which did not differ (A=3.8±0.5; B=2.3±0.3; C=1.9±0.4); no group differences were observed for serum IL-10 or cortisol. These findings suggest that more severe CFS symptoms may be linked with a more elevated proinflammatory expression. This study supports the use of CFS subgrouping methods to examine sleep-inflammatory linkages in CFS pathophysiology.

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C073

NICOTINE ACUTELY INHIBITS PHYSIOLOGICAL SEXUAL AROUSAL IN NONSMOKING WOMEN

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Background: Chronic cigarette smoking is a worldwide health concern and introduces a wide range of pathogenic consequences, including impairments in sexual functioning. Research suggests that long-term tobacco use is a risk factor for introducing sexual dysfunction in men. However, results of data investigating this relationship in women are limited and mixed. To our knowledge, no studies have investigated the acute effects of tobacco and/or nicotine on physiological sexual response in women.

Methods: Twenty-five women (mean age: 20 years) each with less than 100 direct exposures to tobacco products completed 2 counterbalanced conditions in which they were randomized to received either nicotine gum (6 mg) or placebo gum, both administered double-blind, approximately 20 min prior to viewing an erotic film. Both physiological (changes in vaginal pulse amplitude via vaginal photoplethysmography) and subjective (continuous self-report sexual responses to erotic stimuli were examined, as well as changes in mood.

Results: Nicotine significantly reduced genital responses to the erotic films, corresponding to a 30% attenuation in physiological sexual arousal. Nicotine had no significant effect on continuous self-report ratings of sexual arousal, or on mood. Post hoc analyses indicated that lower physiological arousal was not an epiphenomenon of nicotine-induced adverse effects.

Conclusion: Acute nicotine intake significantly attenuates physiological sexual arousal in young healthy nonsmoking women. To our knowledge, this study is the first to examine: (a) nicotine's acute effects on human sexual arousal using isolated nicotine; and (b) the effects of nicotine on physiological and subjective sexual response in women. That nicotine intake significantly impairs sexual function acutely in nonsmokers could be used as a convincing public health claim to assist in the prevention or cessation of cigarette smoking in adolescents and adults.

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C074

NEURAL CORRELATES OF TAILORED SMOKING CESSATION MESSAGES: AN FMRI STUDY

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Tailoring message interventions to address people's specific needs and interests have been developed for a wide range of health-related behaviors and assessed in a variety of settings. Evaluative research has demonstrated that tailored interventions are typically more effective in inducing health behavior changes than generic, one-size-fits-all, interventions. A construct found to mediate the impact of tailored messages on behavior change is perceived self-relevance of the messages. In basic cognitive research, perceived self-relevance and related cognitive processes have been associated with neural activity in the prefrontal cortex and precuneus/posterior cingulate regions of the brain. In the present research, a mixed blocked and event-related design using functional magnetic resonance imaging (fMRI) was used to contrast neural activity among smokers exposed to both high-tailored and low-tailored smoking cessation messages. During the scans, smokers listened to recorded audio clips of high-tailored and low-tailored smoking cessation messages, while the messages were also shown on the screen. In contrast to low-tailored smoking cessation messages, high-tailored smoking cessation messages activated rostral medial prefrontal cortex and precuneus/posterior cingulate, in both the blocked and event-related trials. The findings suggest that processing of high-tailored messages could involve self-referential processing, including retrieving autobiographic episodic memories, evaluating self traits and aspirations, and relating the intervention messages to self. These findings are relevant to our understanding of the cognitive mechanisms underlying tailored message processing and may point to new directions for testing response to health communications programming.

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C075

REFINEMENT OF FETAL MCG FOR USE IN CLINICAL SETTINGS

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Quantitative measures that capture neuromaturation in the surviving preterm neonate are lacking. The majority of our knowledge detailing fetal growth and development is taken from the study of animal models that approximate the human particular points in time. Fetal magnetocardiography (fMCG) is a novel tool undergoing transition from the laboratory to the clinical environment that is capable of assessing both FHR and rhythm, providing important diagnostic information previously unobtainable. Preliminary research indicates that fMCG may be used as a non-invasive tool for monitoring intrauterine fetal development, as it provides information regarding the development and stability of the Autonomic Nervous System (ANS) as the fetus matures and/or undergoes physiologic stressors. The specific aims are to: (a) apply biomagnetic sensing and signal processing methods for acquisition of fMCG in the maturing low-risk fetal population in a clinical environment with/without using a lightly shielded room; and,(b) evaluate the feasibility of capturing the fetal heart rate of the same fetus from 24 weeks postmenstrual age (PMA) until delivery using a prospective, longitudinal repeated measures, time series design, as indicated by obtaining reliable RR-series in >50% of fetuses in the age group from 24 to 28 weeks PMA, >65% in the age group from 28 to 32 weeks PMA, >80% in the age group from 32 to 36 weeks PMA, >95% in the age group from 36 to 40 weeks PMA. Spectral and nonlinear time series techniques will be used to capture and examinethe changing sympathovagal balance to provide preliminary data regarding ANS maturation in the human fetusdeveloping in-utero. It is anticipated that the use of this advanced technology will translate well to clinicalpractice by providing the healthcare provider with an enhanced ability to better evaluate neurophysiologicindicators of stability or instability of the healthy fetus.

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C076

LACK OF EVIDENCE FOR A MENSTRUAL CYCLE EFFECT ON PAIN SENSITIVITY IN HEALTHY WOMEN

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Previous studies that have examined menstrual cycle effects on pain sensitivity have yielded mixed results. Most studies have had relatively small sample sizes (<30), used only one pain modality, a between-subjects design, or self-report to verify menstrual cycle phase. The purpose of this study was to examine a menstrual cycle influence on pain sensitivity to three different pain modalities (differing in the sensory qualities) and to address these methodological limitations. Forty-five medically healthy women (18–44 years) were tested for voluntary threshold and tolerance to tourniquet ischemic, forearm thermal heat, and hand cold pressor pain, randomizing order. Participants were not taking any medications, including oral contraceptives. Each woman was tested at three points in her menstrual cycle: early follicular (days 2–5), late follicular (days 7–11) and luteal phases (7–12 days after the LH surge), with order of phase randomized. Serum estradiol and progesterone levels were used to confirm ovulation and menstrual cycle phase. Repeated measures analysis of variance indicated that for none of the pain tests was there any evidence for an association of cycle phase with pain sensitivity (Fs (2, 88)=0.10–1.76, ps>.10). The absence of a menstrual cycle effect is strengthened by the use of a within-subjects design, a sample size powered to detect effects, and the hormonal confirmation of cycle phase. Since previous literature reviews on menstrual cycle and pain sensitivity have shown inconsistent results using imprecise methodology, the results of the current study suggest that cycle-related effects on experimental pain sensitivity in healthy women may be less robust than generally believed. However, studies using similar rigorous methods in a variety of female patient populations are indicated.

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C077

BEHAVIORAL CORRELATES AND DIURNAL CHANGE IN SALIVARY ALPHA-AMYLASE AND SALIVARY CORTISOL IN MOTHERS OF HOSPITALIZED PRETERM INFANTS

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Salivary cortisol and α-amylase are useful biomarkers of stress. Cortisol and α-amylase levels normally vary significantly and in opposite directions in a diurnal pattern. Chronic stress and depression are associated with less change or a more "flattened" pattern of variation in cortisol over the day; less is known about α-amylase response to chronic stress. We conducted a pilot study to (1) describe variability in levels of cortisol and α-amylase in a group of mothers of hospitalized preterm (< 37 weeks gestation) infants, and (2) identify maternal and infant factors related to changes in cortisol and α-amylase levels between waking and afternoon maternal saliva samples. We found that 7/17 women had reversed or no change in cortisol levels while 5/17 women had reversed or no change in α-amylase levels. Significant relationships ($p<0.05$) among factors related to less change differed for cortisol and α-amylase. Less change in α-amylase was related to increased maternal age while more change (healthier response) was related to higher gestational age and higher maternal self-compassion (Self-Compassion Scale score). More change in cortisol levels was associated with higher quality of life (Satisfaction with Life score) and social support (Duke Functional Social Support Scale score). Higher perceived stress and depression scores were related to less change, but were not statistically significant in this small sample. Identifying important factors related to abnormal neurohormonal responses may help predict greater risk for poorer health outcomes, and suggest directions for interventional research. A prospective study with a larger sample is required to more fully describe factors related to abnormal neurohormonal responses among mothers of preterm infants.

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C078

EARLY-LIFE FAMILY ENVIRONMENT AND INFLAMMATORY CYTOKINE PRODUCTION IN ADULTHOOD

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Research shows that children raised in low SES environments have increased vulnerability to cardiovascular diseases later in life. However, little is known about the mechanisms underlying these associations. We thus investigated how childhood family dynamics relate to early-life and current SES, as well as the associations between these factors and production of the inflammatory cytokine IL-6, which at higher levels contributes to the etiology of many chronic diseases of adulthood. As part of an ongoing project we have assessed 42 healthy adults ages 25 to 40. They fall into one of four different SES backgrounds: (L-L) low SES in early-life, low SES currently; (L-H) low SES in early-life, high SES currently; (H-L) high SES in early-life, low SES currently; and (H-H) high SES in early-life, high SES currently. Standardized questionnaires were used to measure warmth, indifference, and harshness in the family of origin. Production of inflammatory cytokines was quantified by incubating peripheral blood mononuclear cells with flagellin for 24 hours, and then using ELISA to measure IL-6 concentrations.

Preliminary analyses of the sample indicate that L/L participants perceive less parental warmth, more indifference, and more harshness in their family of origin than H/H (p's$<.002$) and L/H (p's from .001–.086). The L/L participants also exhibited greater flagellin-stimulated IL-6 production than did any of the other SES groups: L/H ($p=.087$), H/L ($p=.043$) and H/H ($p=.028$), and there were suggestions that a lack of parental nurturance and family harshness were responsible for these effects. These findings indicate that people raised in low SES households display pronounced inflammatory cytokine responses in middle age, particularly if they continue to have low social standing as adults. If sustained over time, such responses could place them at risk for adverse medical outcomes. These findings also suggest that family of origin dynamics may contribute to adulthood disparities in cytokine regulation.

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C079

EFFECT OF PRENATAL MATERNAL DEPRESSION AND STRESS ON INFANT BIRTH COMPLICATIONS

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Recent studies have suggested that elevated levels of maternal depression and stress experienced during pregnancy may be risk factors for infant birth complications; yet few studies have examined this relationship longitudinally. The current study examined whether prenatal maternal depression and stress (salivary cortisol) were associated with several infant birth outcomes, including the infant's gestational age (weeks), weight (grams), and head circumference (cm) at birth, controlling for maternal age and prenatal weight gain. Our sample consisted of 104 low-income women receiving prenatal services at a public sector hospital (average age=25±5 years; average weight gain during pregnancy=31±12 lbs; 82% Spanish speaking). Prenatal measures included depression (CES-D) and salivary cortisol, a stress hormone that was collected from participants at two different times during the day (morning and evening). Hierarchical regression analyses indicated that: 1) women who gained less weight during pregnancy and those with higher prenatal depressive symptoms were associated with giving birth to infants of lower gestational age ($p<.05$); and 2) women with higher prenatal depressive symptoms were associated with giving birth to infants with a smaller head circumference ($p=.05$). Salivary cortisol was not significantly associated with any infant birth outcomes. These findings indicate that women who experience high depressive symptoms during pregnancy may be at risk for giving birth to developmentally smaller babies. Future studies are needed to examine potential mechanisms for this relationship as well as to evaluate potential prenatal interventions that focus on reducing depressive symptoms during pregnancy.

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C080

PREDICTORS OF PHYSICAL ACTIVITY GOAL ATTAINMENT IN WOMEN WITH FIBROMYALGIA

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Fibromyalgia syndome is characterized by widespread pain and fatigue. While research has shown that exercise is an effective treatment for fibromyalgia, many women with this condition struggle to remain physically active.

Women diagnosed with fibromyalgia participated in a lifestyle change program designed to present information and guide women in assessing behaviors, resources, barriers, and strategies to build self-efficacy for health promoting behaviors. Goal setting was an integral part of the program. Eighty three women with fibromyalgia set physical activity goals at the end of eight weeks of classes. They had an average of 15 years of education, were 52 years old, and had been diagnosed approximately 9 years earlier.

Goal attainment scaling (GAS) was used to assess progress six weeks later. Standard linear regression was performed to determine the joint influence of 7 predictors on GAS scores. Predictors included age, educational level, years diagnosed, as well as Fibromyalgia Impact Questionnaire Scores, Center for Epidemiologic Studies Depression Scores, Self-Rated Abilities for Health Practices: Physical Activity Scores, and Barriers to Health Promoting Activities for Disabled Persons Scores, assessed at the end of classes when the goals were set.

Six weeks later, 57% of the women had reached or exceeded their goal. The 7 predictors accounted for 23% of the variance in GAS scores ($F=2.79$, $p<.05$). End of class CESD scores were the strongest predictor of GAS scores (beta=−.45), followed by Barriers scores (beta=−.39). None of the other predictors added significant unique variance to the prediction of GAS scores.

Depressive symptoms and perceived barriers can play a key role in initial attainment of health promoting outcomes and should be carefully considered when designing interventions for women with fibromyalgia.

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C081

SYMPTOMS AND PHYSICAL ACTIVITY IN MULTIPLE SCLEROSIS: MODERATOR AND MEDIATOR VARIABLES

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Symptoms have been associated with reduced levels of physical activity (PA) in individuals with multiple sclerosis (MS). Few researchers have examined moderators and mediators of that relationship. This study examined disability as a moderator and self-efficacy as a mediator of the relationship between symptoms and PA in 261 individuals with MS. Participants completed measures of symptoms, disability, self-efficacy, and PA and then wore an accelerometer for 7 days. The data were analyzed using covariance modeling in AMOS 7.0. The initial structural model included a direct relationship between symptoms and PA and was tested in the entire sample. The model provided a good fit (RMSEA=.00, CFI=1.0) and indicated that individuals reporting worse symptoms had lower PA (γ=−.48). To test disability as a moderator, the sample was split into individuals with symptom-based disability (n=179) and individuals with mobility-based disability (n=81). Within the sample of individuals with symptom-based disability, those reporting worse symptoms had lower PA (γ=−.38); there was no relationship in the sample with mobility-based disability (γ=.00). Using the sample of individuals with symptom-based disability, we tested MS-specific and exercise self-efficacy as mediators of the relationship between symptoms and PA. The model provided a good fit (RMSEA=.02, CFI=1.00) and indicated that individuals reporting worse symptoms had lower self-efficacy for functioning (γ=−.64) and controlling MS (γ=−.63); those reporting lower self efficacy for functioning and controlling MS had lower exercise self-efficacy (β=.19 and β=.37 respectively); and those with lower exercise self-efficacy had lower PA (β=.37). Importantly, there was a direct relationship between symptoms and PA (γ=−.24). Our findings indicate that the relationship between symptoms and PA is moderated by disability and partially mediated by self-efficacy in persons with MS.

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C082

EFFECT OF ACUTE CYCLING EXERCISE ON ANXIETY AND MOOD AMONG INDIVIDUALS WITH MULTIPLE SCLEROSIS

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There is a long history of research indicating that single or acute bouts of exercise are useful for reducing anxiety and improving mood in the general population of adults without chronic disease conditions. By comparison, few studies have examined the effect of acute bouts of exercise on anxiety and mood in populations with chronic disease conditions. The affective benefits associated with acute exercise might prevent or alleviate chronic mood disturbances such as anxiety and depressive disorders that are commonly associated with chronic disease conditions. The present study examined the effect of an acute bout of exercise on state anxiety (SA) and mood responses in high trait anxious (HTA, n=8) and low trait anxious (LTA, n=17) women with relapsing-remitting MS. Participants initially completed an incremental exercise test on a cycle ergometer to measure peak aerobic capacity. On a separate occasion, participants completed 20 minutes of cycle ergometry at 60% of peak aerobic capacity. SA and mood measures were completed immediately before and then again 5, 20, and 60 min after exercise. A significant Group×Time interaction on SA scores [P=0.03, eta2=0.34] indicated a large reduction in SA 5, 20, and 60 minutes (ds=−1.06, −1.05, −1.12, respectively) after exercise in the HTA group; SA scores were relatively unchanged in the LTA group. Another significant Group×Time interaction on mood scores [P=0.02, eta2=0.38] indicated a large improvement in mood 5, 20, and 60 minutes after exercise in the HTA group (ds=0.86, 1.24, 1.05, respectively); there were small improvements in mood 20 and 60 minutes post-exercise in the LTA group (ds=0.28, 0.24). The results suggest that moderate intensity exercise can reduce anxiety and improve mood in women with MS and the magnitude of these changes are larger among individuals reporting higher levels of trait anxiety.

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C083

DISCREPANCIES IN PERCEPTIONS ABOUT MOOD IN COUPLES COPING WITH OSTEOARTHRITIS

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The emotional experiences of married couples coping with osteoarthritis (OA) may be important to adjustment in both spouses. Understanding one's partner's moods may facilitate support in the context of illness management. In this study, we explored perceptions about mood in couples in which one partner had OA and examined whether discrepancies in partner ratings about mood were associated with adjustment and perceptions of support. We assessed arthritis disability in individuals with OA and sociodemographic, marital, and adjustment variables in both spouses via mailed questionnaires. Participants included 100 couples recruited through a variety of community settings (mean age=65, mean years married=33, mean years with OA=11). In follow-up in-person interview sessions, momentary mood ratings were assessed by asking each participant to report how they were feeling at the present moment and how they believed their spouse was feeling (16 emotions on a scale from 0–10). Couple mood discrepancy scores reflected the absolute difference between self and partner mood ratings. Couples varied in their mood discrepancy scores (range 0–6.5) and greater discrepancies about husband mood were found in couples in which the wife had OA (t=2.22, p=.03). In regression modeling, couple discrepancies about wives' moods predicted greater depression in wives (B=0.06, SE=0.03, β=.21, p=.03) when education, years married, gender of spouse with OA, and patient pain were controlled. Further, couple discrepancies about wives' moods predicted lower perceived support from husbands (B=−0.15, SE=0.07, β=−.23, p=.03) when years married, age, and patient pain were controlled. Couple discrepancies about husband mood did not predict husband depression or support. These preliminary results suggest that congruent perceptions about women's emotional states may be adaptive in the context of coping with OA.

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C084

LATENT VARIABLE STRUCTURAL EQUATION MODELING OF DEMOGRAPHIC AND PSYCHOSOCIAL VARIABLES PREDICTIVE OF ILLNESS-RELATED PRESENTEEISM AND ABSENTEEISM

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Presenteeism is a relatively new construct relating to illness-related work performance decrements. This construct supplements absenteeism data in assessing loss of work productivity due to chronic illnesses. The present investigation extends previous studies to examine Presenteeism due to chronic illnesses, in relation to the effects to psychosocial and activity variables of depression, health locus of control, positive and negative affectivity, job stress, physical activity, body mass index and demographics. Participants included 525 staff employees (mean age=48.33, 70% female) who volunteered to complete electronic questionnaires. Latent variable structural equation modeling (M+) was used to examine the contribution of Health Locus of Control Scales, Positive and Negative Affectivity, CES-Depression, demographics, activity/exercise, and job stress variables to predicting absenteeism and presenteeism as assessed by the Stanford Presenteeism Scale.

The best fit model of psychosocial and illness variables for predicting presenteeism (CFI=.986) was similar to that for predicting absenteeism. Depression was the strongest predictor of both presenteeism and absenteeism. The latent variables relating to job and life satisfaction, number of chronic illnesses reported, positive and negative emotionality, were strongly predictive of presenteeism, and significantly but to a lesser extent, predictive of absenteeism. Presenteeism and absenteeism are related, but separate underlying constructs describing health and illness behavior.

This study replicates some previously found relationships between work loss and psychosocial variables and extends the study of presenteeism using structural equation modeling methods. The present model demonstrates that a combination of variables including psychosocial, exercise/activity, job satisfaction, and number of illnesses reporeted predict illness-related work loss, particularly presenteeism.

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C085

ADAPTATION TO EARLY KNEE OSTEOARTHRITIS: THE ROLE OF RISK, RESILIENCE, AND DISEASE SEVERITY ON PAIN AND PHYSICAL FUNCTIONING

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Arthritis is currently the main cause of disability in this country. Specifically, knee osteoarthritis (KOA), is associated with significant mobility impairment and disability progression. Although radiographic joint changes are usually used to diagnose osteoarthritis and can contribute to how much pain and functional ability one has, these assessments do not predict the level of OA symptoms. Psychosocial factors have been shown to predict future pain and disability over and above disease or injury markers; however, these factors have rarely been studied in the prediction of progression of pain and disability for KOA patients, directly or in comparison to the impact of disease status. Structural equation modeling was used to analyze data from a sample of 275 men and women with early KOA. This study examined psychological risk and resilience factors compared with a more objective indicator of disease severity (knee x-rays). Findings resulted in models that offered a fair to good fit of the data, suggesting that psychological risk and resilience are both important in the prediction of pain and physical functioning over and above disease severity. Resilience was shown to predict enhanced physical functioning and reduced pain, whereas risk was related to increased pain. Resilience's effect on pain was mediated through a common target in interventions, arthritis self-efficacy. In addition, results suggested that higher self-efficacy may reduce levels of pain as well as both subjective and objective physical functioning. Results of this study provide an integrative model of adjustment to early KOA and may be important to the prevention of disability in this population.

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Citation Poster

C086

IMPLICIT AND EXPLICIT EMOTIONAL REACTIONS TO INFORMATION ABOUT HUMAN PAPILLOMAVIRUS: A SYSTEMATIC APPROACH TO ASSESSING THE IMPACT OF HEALTH RELATED MATERIALS

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Breakthroughs in human papillomavirus research are set to transform cervical cancer prevention, but may not be received entirely positively by the general public. Qualitative research suggests people are disturbed by the link between sexually transmitted infection (STI) and cervical cancer, and negative attitudes towards STIs could reduce attendance at cervical screening and stigmatize cervical cancer. However, qualitative methodologies can over-estimate the scale of negative reactions. We therefore developed a systematic, multi-dimensional, quantitative method of evaluating responses to HPV information. Participants (n=97) were randomized to receive either information on HPV or one of two forms of control information (breast cancer or recycling information) in a laboratory context. Subjective ratings of the information were made after exposure. Emotional, attitudinal and behavioral reactions were assessed before and after exposure using the STAI, an Implicit Association Task (IAT), and ratings of intentions to participate in screening. HPV information increased knowledge of HPV (p=.0001) and was rated as more interesting (p=.02) and encouraging (p=.02) than information about breast cancer. It also increased willingness to participate in screening (p=.03) more than control information. In line with qualitative results, HPV information was judged to be more frightening (p=.0001), but there was no evidence that it produced more anxiety than control information (p=.20). The IAT did not show stronger negative attitudes to cancer terms in response to HPV information; in fact a more positive effect was observed than after breast cancer information (p=.03). These results are encouraging in relation to wider public engagement with HPV.

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C087

ANCHORING THE MEASUREMENT OF ANGER EXPRESSION AND ANGER EXPERIENCE TO THE INTERPERSONAL CONTEXT

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Anger and its expression have been shown to be correlated with cardiovascular disease. However, reports of inconsistent findings likely relate to the measurement of these constructs. Specifically, item sets assessing anger and its expression may not be sufficiently unidimensional, and that may be responsible for anger variables that appear to be proxies for general negative affectivity. In addition, the degree to which items assessing anger are anchored to specific interpersonal contexts may influence the observed relation between anger and cardiovascular disease. We used item response theory (IRT) to construct the Anger Vignette Scales (AVS). The AVS assesses individual differences in the propensity to experience and express anger. For Study 1, 18 vignettes were written to elicit some amount of anger and depict specific interpersonal situations. For each vignette, 352 undergraduate participants (130 men and 214 women identified their gender) rated, (a) how much anger they would feel (1=a little and 4=a lot), and (b) the likelihood they would express their anger (1=not very likely and 4=very likely). Confirmatory factor analysis showed that both the anger experience and anger expression scales are unidimensional. IRT analyses facilitated the selection of a 9-vignette set with sufficiently high measurement precision for both scales. For Study 2, 585 undergraduate students (180 men and 394 women identified their gender) completed the 9-vignette AVS, along with scales of anger-out (AO), anger-in (AI), trait anger (TANG), trait anxiety (TANX), depression (CES-D), and social desirability (SD). Anger Expression correlated positively with Anger Experience, AO and TANG, negatively with AI, and was unrelated to SD, TANX, and CES-D. Anger Experience correlated positively with all anger measures while showing smaller correlations with SD, TANX, and CES-D than the AI. We conclude that our brief AVS shows sufficiently high measurement precision and allows researchers to distinguish anger, and its expression from other sources of negative affectivity.

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C088

HISTORY OF ABUSE AND PSYCHOLOGICAL DISTRESS SYMPTOMS AMONG FEMALE SEX WORKERS IN TWO MEXICO-U.S. BORDER CITIES

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Objective: This study explored history of emotional, physical, and sexual abuse as correlates of psychological distress symptoms among female sex workers (FSWs) in Tijuana and Ciudad (Cd.) Juarez, Mexico.
Design: Baseline psychosocial assessments were administered to FSWs 18 years and older who had recently engaged in unprotected sex with clients in an ongoing behavioral intervention trial of a safer sex intervention for FSWs in Tijuana and Cd. Juarez. We hypothesized that having a history of emotional, physical, or sexual abuse would be associated with more psychological distress symptoms of depression and somatization. We further hypothesized that social support would moderate the relationships between history of abuse and psychological distress. We conducted nonparametric correlations and a series of hierarchical regression analyses to test the hypotheses.
Results: Mean age and mean duration engaged in sex work were 33.4 years and 5.8 years, respectively. Of the 916 FSWs, 78% reported ever having experiences emotional abuse, 74% reported physical abuse, and 44% reported having been sexually abused. Regression analyses revealed that all forms of abuse predicted higher levels of depressive symptoms, and physical and sexual abuse were significantly associated with higher levels of somatic symptoms. History of sexual abuse was the strongest predictor of both depressive and somatic symptoms out of the three abuse items. Social support was also significantly associated with fewer symptoms of psychological distress; however, its role as a moderator of the relationship between history of abuse and psychological distress was not supported.
Conclusions: Histories of abuse and violence, especially sexual abuse, are a serious problem among FSWs and may lead to higher levels of psychological distress. Future research should consider how these factors may influence revictimization, drug use, and HIV risk among FSWs.

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C089

UNDERSTANDING MEANINGS OF ALCOHOL USE IN COLLEGE POPULATIONS

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Purpose: To develop insight into meanings of alcohol use in college students to provide effective tools for future prevention efforts targeting college alcohol abuse.
Methods: We used focus group and individual interviews to develop meanings of alcohol use. Analysis of transcripts elicited 16 meanings that were then used to assess what drinking means to college students who have consumed alcohol or are susceptible to alcohol consumption. In a large urban university, 208 students completed an in-class survey that measured lifetime alcohol use and meanings of alcohol use. Items were then rank ordered according to salience (rate of endorsement) and relevance (strength of relationship to lifetime drinking). A factor analysis was used to determine if factors of alcohol use similar to those demonstrated in studies of adolescent smoking exist. A regression analysis was then performed to determine the individual factors' abilities to predict lifetime alcohol use.
Results: Salient meanings (those that students endorsed as important meanings of alcohol use) differed from relevant meanings (those that were most highly correlated with alcohol use). Rank ordering of salient and relevant meanings differed significantly (Spearman coefficient=−.15) between the two sets of data. When a factor analysis of the meanings was performed, three factors emerged, explaining 76.48% of the variance. These factors were labeled personal, social and functional meanings of alcohol use. Both social and functional factors had statistically significant relationships with lifetime alcohol use, while personal meanings did not. 22.5% of the variance in alcohol use was explained by meanings.
Conclusions: Previous studies have shown that meanings of eating behaviors and smoking are strong predictors of dietary habits and smoking habits in adolescents, respectively. The present findings suggest meanings are also determinants of alcohol use in college students and could potentially offer novel approaches to interventions related to the prevention of college alcohol use.

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C090

COGNITIVE-BEHAVIOR THERAPY IN CHRONIC FATIGUE SYNDROME: IS IMPROVEMENT RELATED TO INCREASED PHYSICAL ACTIVITY?

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In this multiple case study of cognitive-behavioral treatment (CBT) for chronic fatigue syndrome (CFS), self-report and behavioral outcomes were compared. Eleven relatively high functioning participants with CFS received 6–32 sessions of outpatient graded-activity oriented CBT. Self-report outcomes included measures of fatigue impact, physical function, depression, anxiety, and global change. Behavioral measures included actigraphy and the six-minute walking test. For the group, effect sizes were moderate for fatigue impact, small for physical functioning, anxiety, and depression, and near zero for the six-minute walking test and actigraphy. Global change ratings were "very much improved" (n=2), "much improved" (n=3), "improved" (n=5), and "no change" (n=2). Of those subjects reporting global improvement, clinically significant actigraphy increases (n=3) and decreases (n=4) were found as well as no significant changes (n=2). Visual inspection of the post-treatment actigraphy records suggested that the absence of consistent increases in actigraphy for improved subjects was due to some extent to less than full compliance with walking assignments. These findings suggest that the nature of clinical improvement in CBT interventions for high functioning CFS patients may be more ambiguous than that postulated by the cognitive-behavioral model.

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C091

COLLEGE STUDENTS MAY SEEK ADVERSE CONSEQUENCES OF ALCOHOL

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Self-reported measures of problems attributed to alcohol are typically used to evaluate the impact that drinking has on an individual, a group, or a community. We examined psycho-social and behavioral factors that could predict college students' scores on these measures. We hypothesized that some problems may be perceived by students as socially desirable and viewed as positive rather than negative outcomes. A model predicting scores on the Brief Young Adult Alcohol Consequences Questionnaire was tested among 374 college students. The main hypothesis was that, beyond alcohol consumption quantity and frequency, normative beliefs and perceived benefits of alcohol would positively predict alcohol-related consequences: The more students perceived a norm of heavy drinking among friends, the more they would attribute benefits to alcohol and endorse alcohol-related consequences, independently of their drinking. The norm was expected to vary by gender, age and race, accounting at least partially for their effects on drinking behaviors and problems. The model tested with structural equation modeling fit the data well. Perception of a heavy drinking norm predicted the number of consequences reported directly, and indirectly by affecting heavy drinking, frequent drinking and perceived benefits of alcohol. Removing the direct paths from perceived norm and benefits to problems decreased the model's fit below acceptable levels, bringing additional support to the main hypothesis. Normative beliefs varied by gender, race and somewhat age. Lastly, the model's fit was examined for 5 types of problems and variations in the results were noted. The findings suggest that, for some college students, alcohol-related problems (particularly mild symptoms, control loss and impact on school work) may be valued and socially normative. Students may seek risks associated with frequent or heavy drinking and not see them as problematic; students may provide biased reports in response to normative beliefs.

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C092

PREDICTORS OF TREATMENT RETENTION IN DUAL DIAGNOSIS INTERVENTIONS FOR DEPRESSED AND SUBSTANCE DEPENDENT VETERANS

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High attrition from addiction treatments is a problem across settings, intervention types, and substances, and attrition appears even higher among those with comorbidity. Treatment retention is critical given the well-documented relationship between time in treatment and reductions in substance use. Research has broadly categorized retention predictors into treatment, demographic, and motivational characteristics. We evaluate predictors in a sample with concomitant depressive and substance disorders (N=207) participating in a randomized clinical trial. Participants (92% male, mean 48 years of age) were randomized to one of two psychotherapy interventions: Integrated Cognitive Behavioral Therapy or Twelve Step Facilitation. Both interventions were delivered in group format, with twice weekly sessions for 12 weeks followed by once weekly sessions for 12 weeks. Thus, treatment characteristics were the same in terms of length of treatment, format, and setting, but differed in content. Attendance did not differ in the two interventions (M=18.6 sessions for both). Some demographic characteristics predicted attendance. Men attended more sessions than women (M=19 and 12, respectively), and older participants attended more sessions, averaging 21 sessions for those older than 50 years of age compared to 16 sessions for those under 50. For motivational characteristics, we examined intake levels of depression and health problems. Beck Depression Inventory scores did not predict attendance. Consistent with our prior research showing reduced substance use for patients with recent health problems, participants with an acute health problem prior to treatment entry attended more sessions (M=24 sessions with acute health event versus 20 sessions without). In summary, patient demographics and recent health events were associated with treatment retention. Focus on physical health motivations may improve treatment retention.

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C093

BARRIERS TO DEPRESSION CARE: DO DEPRESSION TREATMENT OPTIONS ACTIVATE DIFFERENT DEGREES OF STIGMA?

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Depression is prevalent, with lifetime estimates exceeding 16%. Nonetheless, 40% of depressed persons fail to seek care (Kessler et al., 2003). Moreover, treatment that is provided is often inadequate, and most treated persons seek care from general medical as opposed to specialty mental health settings. Stigma is an important depression treatment barrier (e.g., Sirey et al., 2001), which has potential to influence depression treatment choices. At present, little is known about whether particular depression treatment options activate stigma to different degrees. This study used a vignette-based, between-subjects design to test whether stigma differs with depression treatment options. Undergraduate participants (n=220) read one of two vignettes describing a depressed person seeking (1) general medical antidepressant treatment or (2) mental health clinic psychotherapy. Participants then completed measures of stigma based on the hypothetical vignettes. Non-vignette dependent measures assessed participants' depressive symptoms, attitudes about depression treatment options, and treatment preferences. Results of a 2×2 ANOVA suggested that participants attached similar degrees of stigma to the two treatment options. A significant Gender×Treatment interaction ($F(2,216)=4.38, p<.05$) was observed. This small but statistically significant finding suggested that, relative to women, men reported that they would be likely to maintain greater social distance from the vignette character seeking specialty mental health care. Regarding treatment preferences, 19% of the total sample and 19% of significantly depressed participants reported that they would avoid depression care of any kind if needed. Finally, participants indicated a preference for psychotherapy over medication ($t(219)=6.15, p<.001$), even though embarrassment related to specialty mental health care was greater than that associated with general medical depression care ($t(216)=2.70, p=.007$). Implications of these results for depression care delivery in specialty vs. general medical settings are discussed.

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C094

BRIEF HEALTH FOCUSED MOTIVATIONAL INTERVENTION FOR ALCOHOL DEPENDENT VETERANS

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Brief motivational interventions have been developed for delivery in healthcare settings based on the premise that physical health problems provide a window of opportunity when individuals are receptive to reducing alcohol use. However, only a minority of patients entering addiction treatment have recently been seen in these settings. We developed and tested a brief health motivational intervention (HMI) delivered as an adjunct to standard outpatient alcohol and drug treatment. The HMI includes motivational techniques and personalized health feedback on biomarkers (liver enzymes, mean corpuscular volume), sleep quality, memory, depression, and anxiety symptoms at treatment entry and once monthly for the next three months. This on-going randomized clinical trial includes 3 conditions: 1) HMI, 2) a time and content equivalent health education (HE) condition that includes monthly didactic presentation of health information related to alcohol, and 3) a treatment as usual control group with no added intervention. The HMI and HE are delivered individually and last 30–35 minutes per session. Fifty-three veterans gave informed consent and were randomized to condition. Participants were predominantly male (92.5%) and averaged 49 years of age. All participants met criteria for alcohol dependence, and 42% also met criteria for stimulant dependence and 34% for cannabis dependence. Most health feedback measures improved from treatment entry to 4 months (liver enzymes $p=.005$, mean corpuscular volume $p<.001$, depression $p<.001$, anxiety $p=.02$). Preliminary findings indicate that percentage days abstinent improved for all three groups with significant group differences at 4 months after treatment entry ($p=.04$; HMI =98% days abstinent, HE=88%, and control=75%). Findings suggest that a brief health focused motivational intervention delivered as an adjunct to addiction treatment holds promise for incrementally improving outcomes for alcohol dependent adults.

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C095

THE RELATIONSHIP BETWEEN RISKY ALCOHOL USE AND SEXUAL ASSAULT

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Research has found that students who engage in risky alcohol use are at an increased risk for being a victim of sexual assault (Rothman & Silverman, 2007). This study examined the relationship between risky alcohol use and sexual assault in a sample of predominantly Hispanic (73%) college students. Participants in this study completed the Alcohol Use Disorders Identification Test (AUDIT), a measure of alcohol consumption and drinking related problems, and four items assessing sexual assault prior to participating in an alcohol risk-reduction program designed for moderate to heavy drinkers. Overall, 33% of students (men and women) reported experiencing at least one form of sexual assault within the last year. Moreover, a significant positive correlation between AUDIT scores and sexual assault ($r=.19$, $p.<.01$) suggested that as alcohol consumption increases, risk of sexual assault also increases. Among those reporting at least one form of sexual assault, 74% were assaulted by a known perpetrator (e.g., friend, ex-boyfriend/girlfriend, ex-spouse). These findings may contribute to the content of alcohol risk reduction programs by adding insight to the effects of alcohol use and the need to expand discussion of risky situations and sexual assault in the context of alcohol. The results also suggest that the rule of drinking in familiar places with familiar people may not always add safety to the drinking experience—at least not regarding risk of sexual assault.

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C096

STIGMA AND DEPRESSION TREATMENT: THE RELATIONSHIP BETWEEN DEPRESSION TREATMENT OPTIONS AND CONTROL-LABILITY BELIEFS

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Perceived stigma, or the degree to which a person expects devaluation or discrimination due to being different, incomplete or less desirable (Link et al., 1989; Link et al., 2001) can be a barrier to depression treatment (Sirey et al., 2001). Stigma varies with how much control a person is believed to have over the cause of their depression. Controllability beliefs are stereotypes associated with negative emotional reactions toward persons with mental illness (Corrigan et al., 2003). Research demonstrates that depression care seeking increases with decreasing beliefs that one is responsible for the illness (Halter, 2004). Most treated persons seek care from general medical as opposed to specialty mental health settings (Van Voorhees et al., 2003), yet little is known about how different treatment venues relate to controllability beliefs. This study used a vignette-based, between subjects design to test whether controllability beliefs differ with depression treatment options. Undergraduate participants (n=220) read one of two vignettes describing a depressed person seeking (1) general medical antidepressant treatment or (2) mental health clinic psychotherapy. The vignettes did not describe the cause of depression. Participants then completed measures assessing their affective responses toward the character and beliefs about whether the vignette character was responsible for his/her depression. A one-way ANOVA revealed that participants attributed more personal responsibility to the vignette character seeking psychotherapy in specialty mental health care than the character seeking medication in a medical clinic ($F(1,218)=4.38, p<.05$). In addition, participants reported feeling more pity for the vignette character seeking medication than the character seeking psychotherapy ($F(1,218)=8.12, p=.005$). Finally, participants' feelings of anger and fear regarding the vignette character were not impacted by treatment option. Implications of these findings for depression care seeking are outlined and future directions are discussed.

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C097

ROLE MODEL'S INFLUENCE ON PRE-ADOLESCENTS' ALCOHOL USE

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Background: Previous studies have found that parental and peer influences predict adolescent alcohol use. However, little research has been conducted to examine whom pre-adolescents consider their role models and whether perceived role model's drinking or role model's attitudes toward pre-adolescent drinking are associated with pre-adolescent alcohol use.

Objectives: (1) Examine the alcohol use prevalence in a pre-adolescent sample. (2) Determine the perceived role models for this age group. (3) Determine whether role models' alcohol use, role models' discouragement of pre- adolescent drinking, and parental monitoring are associated with pre-adolescents' alcohol use.

Methods: From June 2004 to March 2007, 390 high-risk pre-adolescents (8–13 years old) and their parent were recruited in San Diego County. Interview data from pre-adolescents were analyzed with multivariate logistic regression.

Results: Twenty-six percent of pre-adolescents reported ever drinking alcohol. Seventy-four percent had role model (25% parents, 23% friends, 52% others). Nineteen percent of the role models drank alcohol. Role model's drinking doubled pre-adolescents' odds of alcohol use (adjusted odds ratio [AOR]=2.03, 95% CI=1.05–3.92, adjusted for the child's age, role model's discouragement of drinking, and parental monitoring). Role model's discouragement of drinking (AOR=0.60, 95% CI= 0.36–0.99) and parental monitoring of what the pre-adolescent is doing (AOR=0.55, 95% CI=0.34–0.90) were protective.

Conclusions: These results are consistent with Learning Theory. Given the health hazards of early alcohol use, adults who spend time with pre-adolescents should actively discourage pre-adolescents' drinking, whether or not the adults drink alcohol. Future studies of pre-adolescents' drinking behavior should include their role models.

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C098

PSYCHOSOCIAL PREDICTORS OF BREASTFEEDING IN LOW-INCOME MINORITY WOMEN

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An extensive literature identifies breastfeeding as an important predictor of numerous material and infant health outcomes. Yet despite the clear physical and psychological health benefits, the prevalence of breastfeeding falls below the target goals set by the US Department of Health and Human Services (DHHS), particularly among low-income women. Only approximately 31% of WIC mothers initiate breastfeeding and 16% continue after five months (CDC National Immunization Survey, 2004). The current analyses evaluated psychosocial factors relating to breastfeeding in very low income new mothers (N=109; 79% Hispanic, 5% African American, 12% Caucasian; mean age=26.5). Women were interviewed at birth and 5 months postpartum. Independent samples t tests assessed group differences in variables measured at the birth interview, including expectations of father's postpartum support, adherence to traditional gender roles, ego resilience, and expectations of infant's future resiliency, between mothers who reported breastfeeding versus exclusively bottle feeding at 5 months postpartum. At 5 months postpartum, 43% of the women always or occasionally breastfed their infants, and 57% exclusively bottle fed. Compared to mothers who exclusively bottle fed, mothers who breastfed had higher expectations at birth of future father support, more traditional conceptions of gender roles, greater self-reported ego resilience, and more positive expectations at birth for their infant's future resiliency (all p's $\leq$.05). While there were no differences between the two groups in education, marital status, or self-identification as Hispanic, mothers born in Mexico were somewhat more likely to breastfeed than those born in the US (p=.06). Results highlight potential targets for interventions to increase breastfeeding in this high risk population, including maternal resiliency, father's support, and culturally-based values regarding male and female roles within the family.

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C099

DOES POLITICAL IDEOLOGY AND FEMINIST IDENTIFICATION RELATE TO WOMEN'S ATTITUDES AND EXPERIENCE OF THEIR MENSTRUAL CYCLES?

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Various psychological and social factors have been shown in the literature to contribute to the reporting of menstrual symptoms. Research also has found that the more women believe in the phenomenon of menstrual distress and the more they identify themselves in the traditional female gender role, the more likely they are to view their cycle negatively and report more symptoms. Political ideology and feminist beliefs have not been investigated as a possible factor in the reporting of symptoms although studies have shown that conservatism is related to women who are more likely to identify with traditional female gender roles. Undergraduate females at the University of San Diego who are not currently taking oral contraceptives or any medications that may alter mood were given a series of questionnaires at two time points. These include a Health and Demographic Questionnaire, the Stereotypic Beliefs about Menstruation Questionnaire (SBAM), the Bem Sex Role Inventory (BSRI), the Menstrual Attitudes Questionnaire (MAQ), a Premenstrual and Menstrual Symptom Checklist, the Beck Depression Inventory (BDI), the Liberal Feminist Attitudes and Ideology Scale (LFAIS), and the Liberalism and Conservatism Scale. The results show that political ideology and feminist perspective relate to attitudes toward the menstrual cycles but not reporting of symptoms. This data suggests that conservative females who do not identify themselves as a feminist or as supporting the feminist movement see their cycles in a more negative light.
Feminists however, were more likely to view their cycle as a natural event and without negative stigma. No significant relationships were found between these variables and the reporting of menstrual symptoms. Therefore, one's political ideals and feminist leanings may relate to their perceptions of the menstrual cycle but do not translate to any physical or mental symptoms. These data are limited because of the homogenous sample used as well as the low levels of symptoms reported as a whole in this sample.

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C100

DOES USE OF THE THEORY OF GENDER AND POWER HELP TO IDENTIFY PREDICTORS OF CONDOM USE AMONG MIDDLE EASTERN AND/OR ARAB CANADIANS IN RELATIONSHIPS?

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Background. The study explored associations between factors derived from the application of the Theory of Gender and Power (TGP) as they relate to HIV-risk behaviour among Middle Eastern/Arab Canadians. This area deserves increased attention, as the proportion of HIV incident cases among Canadian women—due to heterosexual transmission—is increasing.
Methods. A web-based survey was administered to self-identified Middle Eastern/Arab Canadians aged 18–35 years, who were living in Canada, heterosexual, and in a relationship of at least 21 days. Multivariate regression analyses were used to assess factors associated with condom-use risk. Analyses were stratified by gender
Results. The study sample consisted of 157 participants, with a mean age of 22.7 years, more female participants (65.4%), and females were more likely to have an older partner and to be virgins than males. Less than a third (27.5%) of sexually active participants in this sample reported using condoms every time they had sex and participants reported a mean of 4.3 lifetime sexual partners. Factors associated with condom-use risk varied greatly between genders. Among females, being controlled by their partners, having negative attitudes towards condoms, and having low self efficacy towards practicing safer sex were predictive of condom-use risk. Among males, not believing they could get their partners to use condoms, rarely attending religious services, and not being worried about getting HIV were predictive of condom-use risk.
Conclusions. The application of the TGP to this sample was moderately successful in predicting condom-use risk among males. However, it was not as successful in predicting condom-use risk among females. Many factors associated with HIV risk have been identified in this study that could be used to create interventions designed to increase equality within Middle Eastern/Arab Canadian relationships. However, issues are discussed that still need to be addressed in future research.

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C101

PERSONALITY DISORDERS, MAJOR PSYCHOPATHOLOGY AND SEXUAL RISK IN HIV+ MSM

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Engagement in risky sexual behavior by HIV seropositive persons raises multiple health issues. Numerous putative predictors of sexual risk behaviors have been proposed, and there is consistent evidence that psychopathology is a contributor to sexual risk behavior. In contrast, less attention has been placed on sexual risk behaviors in HIV+ persons with personality disorders (PD). Rates of PD are higher in HIV infected cohorts than in comparable community samples. The present study examines an ethnically diverse sample of 120 behaviorally identified men who have sex with men (MSM), all of whom are HIV+. Sexual risk behaviors were indexed using the TCU Risk Behavior Inventory which assesses unprotected risky sexual acts for the 6 month and 30 day period prior to the assessment. The sample was stratified on the basis of major psychopathology and PD (no current psychiatric diagnosis, Axis I disorder only, PD only, comorbid Axis I and PD). Results reveal that men who had comorbid Axis I and PD and those with only an Axis I disorder were more likely to engage in risky unprotected sexual behavior in the past 30 days than those with no psychiatric diagnosis or those with only a PD ($\chi 2(6)=14.0$, p=.03). Sample size considerations limited the ability to break these findings down further by specific diagnosis. No relationship between PD, major psychopathology and sexual risk was found for any of the 6 month variables or for number of partners. The index of sexual risk employed in the present study was relatively crude and did not permit for examination of critical risk-related issues such as partner serostatus. However, these preliminary findings suggest that the presence of Axis I psychopathology as well as comorbid PD and Axis I psychopathology may result in greater risk-taking. Further work employing more detailed measures of sexual risk, and examining specific PDs and Axis I diagnoses is needed to better identify target groups for risk reduction intervention.

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C102

THE COMBINED EFFECT OF GENDER AND SEXUAL IDENTITY ON SEXUAL RISK

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Research on sexual self-concept and risk often focuses on gay/bi men or heterosexuals, ignoring lesbian/bi women. When comparisons are made between groups they are often limited to either gender or sexual identity overlooking the combined effects of these two factors.

Using time-space sampling in New York City clubs/bars, 400 club-going drug-using young adults were recruited for a longitudinal study of drug use, sex behavior, and other health issues. At each assessment, participants completed a computer survey which included measures of demographics, sex behavior, and several sexuality scales. These analyses examine the relationship between gender and sexual identity on sexual self-concept and risk using baseline data of 244 single participants.

Of 244 single participants, 78 were gay/bi men, 53 were straight men, 54 were lesbian/bi women and 59 were straight women. The effects of gender and sexual identity on percentage of recent unprotected anal/vaginal sex acts, sexual self-concept (satisfaction, anxiety, esteem), sensation seeking and compulsivity were tested using 2×2 ANOVAs . There were no significant effects for sexual self-concept. Significant interaction effects were found for sexual sensation seeking, compulsivity, and percent unprotected sex. For both sexual sensation seeking and compulsivity, straight men scored highest and straight women lowest. Straight men had the highest percent of unprotected sex (39%) followed by lesbian/bi women (38%), and straight women (33%). Gay/bi men had the lowest percentage (23%).

While no gender or sexual identity differences were found for sexual self-concept, differences were found for problematic sexual behaviors. Much work regarding risky sex and sexual compulsivity focuses on gay/bi men, yet in our sample straight men were highest on sexual sensation seeking and compulsivity, and unprotected sex, followed closely by lesbian/bi women, while gay/bi men engaged in the lowest percent of unprotected sex. Safe sex promotions need to target heterosexuals and lesbian/bi women.

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C103

PATTERNS AND CORRELATES OF SEXUAL ACTIVITY AND CONDOM USE BEHAVIOR IN PERSONS 50-PLUS YEARS OF AGE LIVING WITH HIV/AIDS

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Objectives: This study aimed to identify psychosocial, physiologic, and behavioral correlates of sexual activity and condom use behavior in an urban sample of 290 HIV-infected adults 50-plus years of age.

Methods: Participants (M_{age}=57.1 years; 67% male; 30% Caucasian) were enrolled in a three-arm, randomized clinical trial evaluating a coping improvement group intervention for HIV-infected older adults. At pre-intervention, participants completed a demographic battery, an HIV knowledge questionnaire, and a series of psychosocial measures. Participants also reported recent alcohol/drug use and sexual behaviors.

Results: Overall, 38% of participants were sexually active in the past three months; 33% of sexually active individuals had at least one occasion of anal or vaginal intercourse that was not condom protected. Rates of sexual activity and condom use behavior differed between gay/bisexual men, heterosexual men, and heterosexual women. In the past three months, 72% of older heterosexual men had been sexually active compared to only 36% of gay/bisexual men and 21% of women. However, among sexually active persons, only 27% of older heterosexual men reported inconsistent condom use compared to 37% of gay/bisexual men and 35% of heterosexual women. Multiple logistic regression analyses revealed that, in general, sexually active persons were younger, had greater perceived physical wellbeing and cognitive functioning, and were more frequent users of drugs and/or alcohol. Having less knowledge about HIV was associated with a greater likelihood of having engaged in unprotected sex. However, profiles of both the sexually active persons and those who used condoms irregularly differed by gender and sexual orientation.

Implications: As the number of middle-aged and older adults living with HIV/AIDS in the United States continues to increase, age-appropriate and culturally-contextualized secondary risk-reduction interventions that account for the heterogeneity within this population are urgently needed.

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C104

CRYSTAL METHAMPHETAMINE USE AND HIV/STI RISK BEHAVIOR AMONG MASSACHUSETTS MSM: IMPLICATIONS FOR INTERVENTION DEVELOPMENT

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Objectives: Crystal methamphetamine use among men who have sex with men (MSM) has been shown to be substantially greater than the general population. This study was designed to identify factors associated with use of crystal and its association with HIV/STI risk behavior for intervention development (total sample n=189). **Methods:** Participants completed a qualitative interview and quantitative survey consisting of demographics, sexual behavior, drug and alcohol use, condom use self-efficacy, and psychosocial constructs of interest. **Results:** Overall, 20% of the men had used crystal in the past 12 months. Crystal users were more likely to be white (OR=10.93; P<0.001) and highly educated (OR=8.77, P<0.05) compared to non-crystal users. The majority of crystal users (68%) had a history of one or more STIs and 65% were HIV-infected. Unprotected receptive (62%) and insertive (68%) anal sex without condom were common among MSM using crystal. Crystal use was correlated with number of male sexual partners (r=0.18; P<0.05), receptive anal sex without a condom (r=0.20; P<0.05), popper use (r=0.28; P<0.01), and ecstasy use (r=0.46; P<0.01). Crystal users reported a higher number of male sexual partners in the past 12 months relative to MSM not using crystal (P<0.05). They reported an average of 7.53 HIV-infected male sexual partners and an average of 11.37 anonymous male sexual partners. Nearly two-thirds (65%) of crystal users screened positive for PTSD; 49% were depressed; and 59% had social anxiety. **Discussion:** The finding that condom use self-efficacy scores were higher among crystal users compared to non-crystal users (P<0.05), suggests that although MSM have the skills and efficacy to engage in safer sexual practices, interventions must address other factors, such as substance use, as well as psychosocial stressors to curb rising rates of STI and HIV infections among this high-risk population.

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C105

CORRELATES OF HIV TESTING AMONG AFRICAN AMERICANS

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Objectives: The CDC estimates 1.2 million people in the US are living with HIV/AIDS, and 25% are unaware of their HIV status. The present study is an examination of the prevalence and predictors of HIV testing among African Americans.

Method: A convenience sample of 415 heterosexuals (30% men) and 185 bisexuals/homosexuals (82% men) were recruited from beauty salons, barber shops, a night club, and social service organizations in Mississippi (M±SD age=30±10). Participants completed surveys of demographics and HIV-related attitudes and behaviors.

Results: 80% of participants had been tested for HIV. Discriminant function analysis indicated that having been tested was associated with higher education (p<.01), younger age (p<.01), being bisexual/homosexual (p<.01), knowing someone with HIV (p<.01), greater perceived likelihood of contracting HIV (p=.05), drug use and/or engaging in risky sexual behaviors (p<.01), low levels of stigmatizing attitude toward HIV+ individuals (p<.01), and assimilation (emphasizes commonalties between African Americans and the rest of American society; p<.05).

Conclusions: Programs designed to increase HIV testing among African Americans should include older adults, heterosexuals, and individuals with low education, high HIV stigma, and low perceived risk.

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C106

BUPRENORPHINE TREATMENT OF OPIATE ADDICTION AMONG HIV-INFECTED PATIENTS: KNOWLEDGE AND ATTITUDES AT AN URBAN CARE CLINIC

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Buprenorphine (BPN) is a relatively new treatment for opiate addiction, yet has not been widely disseminated in the US, despite advantages such as more convenient availability through prescription at local pharmacies, compared with the restrictions of methadone treatment. BPN is particularly not widely utilized among HIV-infected individuals, who are at high risk for substance abuse. As part of a feasibility project offering BPN on-site at an urban HIV care clinic, a brief educational video was shown to 200 patients in small lunch groups. Pre-and post-viewing surveys were completed by 128 participants to assess BPN knowledge and attitudes. The survey sample was 59% female and the majority self-identified as African–American (47%) or Hispanic (42%); the median age was 47 years. Pre-video, 83% had never heard of BPN; pre-knowledge was not statistically related to gender or age. Participants gained important knowledge from the process: post-video 65% knew that it is possible to switch from methadone to BPN compared to only 45% of the pre-video sample who had any knowledge of BPN ($p<.05$). Post-video, over half (58%) correctly reported that it is necessary to be in withdrawal to begin BPN treatment and 74% that BPN is obtained through pharmacy prescription. Most participants reported that they would consider BPN treatment for themselves (73%) or recommend it to family or friends (86%). Proportionately, males (82%) were more likely to consider BPN treatment compared with females (67%) ($p<.05$). Our preliminary findings indicate that HIV-infected patients are able to absorb important health-related information from viewing a relatively short and entertaining video in a comfortable setting at clinic facilities. Further, our experience indicates that HIV-infected patients often hesitate to reveal substance abuse problems to their care providers because they believe available treatments are ineffective or burdensome. Therefore it is critical to inform such patients of viable treatment options such as BPN which can offer efficacy with greater perceived convenience and privacy.

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C107

FORGIVENESS AND LONELINESS IN HIV+ WOMEN: ANXIETY'S CORRELATES

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Anxiety, a common psychological symptom found in HIV+ adults, is associated with progression to AIDS (Hand, Phillips, & Dudgeon, 2006). A second common symptom for HIV+ adults is loneliness, which is associated with drug use and unsafe sexual practices (Ware, Wyatt, & Tugenberg, 2006). Forgiveness coping (a positive cognitive, emotional, and behavioral responses to interpersonal conflict) has been associated with less anxiety (Lawler et. al, 2005).

We used a cross-sectional design to examine the relationship between forgiveness, loneliness and state and trait anxiety in 29 adult HIV+ women (96% African–American) who completed the Heartland Forgiveness Scale (Yamhure, Snyder, Hoffman, & Rasmussen, 2002); $\alpha=.86$, the UCLA Loneliness Scale (Russell, 1996); $\alpha=.95$, and the State-Trait Anxiety Scale (Spielberger, 1983); $\alpha=.80$. Two models (state anxiety and trait anxiety as the outcome variables) were analyzed to compare forgiveness and loneliness to both types of anxiety. A multiple regression analysis of model 1 showed participants with higher forgiveness ($\beta=-.7, t=-4.4, p<.001$) also reported significantly lower levels of state anxiety and accounted for 45% of the variance (adj. R squared=.45,$F(3, 30), p<.001$), however loneliness did not reach significance. However, in model 2, a regression analysis revealed forgiveness ($\beta=-.6, t=-5.4, p<.001$) and loneliness ($\beta=-.4, t=-3.2, p<.01$) were significantly inversely related to trait anxiety and accounted for 66% of the variance (adj. R squared=.66,$F(3, 30), p<.001$.)

Loneliness' inverse relationship to trait anxiety was not intuitive and contradicted our original hypothesis. We speculate that loneliness might result from avoidance coping behavior associated with disclosure and stigma issues for HIV+ women. While forgiveness may reduce short- and long-term anxiety, increased loneliness may only reduce trait anxiety due to use of isolation as a coping mechanism for HIV stigma. Clinical interventions that develop forgiveness skills and attend to loneliness may improve the quality of life of HIV+ adult women.

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C108

RISK PERCEPTION AND THEIR ASSOCIATION WITH CONDOM USE AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN HONG KONG

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Surveillance of the Hong Kong MSM population found a 4% HIV prevalence, which led to a debate over how to disseminate the findings to the community. On one hand, perceived HIV risk is believed to induce behavior change to adopt preventive behavior. On the other, there was fear that disseminating the data might lead to stigmatization against MSM. This laid the study background to hear from the MSM community on the matter and to investigate the association between their HIV risk perception and condom use behavior. A total of 443 Chinese MSM answered an anonymous questionnaire. Of all respondents, 63% aged ≤30 and 45.8% attained tertiary education. Unprotected anal sex with another man in the last 6 months was reported by 25.7%. Close to 12% had >6 male anal sex partners in the last 6 months. Around 77% of all respondents indicated that they wanted to be informed of the HIV prevalence among Hong Kong MSM regularly. Of all respondents, 18.5% perceived that the current HIV prevalence in the local MSM population was ≥20% and 30% perceived this to be 5 to<20% (whereas the latest figure from health authority was 4%). After being informed of the 4% prevalence, one-fifth expressed they would not change their condom use behavior during anal sex in the next year (14.1% would increase condom use). Further, perceived current HIV prevalence among Hong Kong MSM was not significantly associated with condom use during anal sex in the last 6 months ($p>0.05$). In response to a hypothetical question that if the HIV prevalence in local MSM was >20%, only 91.5% indicated consistent condom use. Respondents tend to over-estimate the HIV prevalence. Still, a substantial proportion would not adopt preventive behaviors even when the prevalence reaches an alarming level. Perceived disease prevalence also did not associate with condom use. Whereas raising the awareness of risk involved has been a core element of most HIV prevention programs, in a low prevalence city like Hong Kong, its effectiveness might be minimal.

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C109

THE ASSOCIATION OF STIGMA TO UNPROTECTED SEX AND PARTNER COMMUNICATION AMONG HIV+ MSM

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HIV-related stigmatization may interfere with safer sex negotiation and condom use among HIV+ people, although few studies have addressed these possibilities. This study examined the role of stigma in relation to serostatus disclosure, self-efficacy to negotiate safer sex, and sexual risk behavior among HIV+ men who have sex with men (MSM). Data are from a baseline assessment of HIV+ MSM (N=80, M age=40.6) enrolled in a coping and sexual risk reduction intervention. The assessment included an 11 item measure of HIV-related stigmatization (alpha=.83), as well as measures of serostatus disclosure, partner communication self-efficacy, and sexual risk behavior for the previous 3 months. The majority of participants (80%) reported having experienced HIV-related stigmatization since being diagnosed with HIV, with a significant minority (24%) having reported stigma experiences occurring monthly or more frequently. Unprotected anal sex (UAS) was reported by 40% of the complete sample, with 21% reporting UAS with an HIV+ partner and 30% reporting UAS with an HIV-negative partner. Using a logistic regression analysis that controlled for background characteristics, stigmatization was positively associated with UAS with HIV-negative partners (Model $\chi2=12.1$, $p<.04$), but showed no association with UAS for encounters involving HIV+ partners. Bivariate analyses revealed that higher levels of stigma were also associated with lower self-efficacy to disclose HIV status ($p<.005$) and lower self-efficacy to negotiate condom use ($p<.05$), with trends noted for serostatus disclosure to primary partners ($p<.06$) and non-primary partners ($p<.10$). Findings confirm that stigmatization is associated with sexual risk behavior antecedents, as well as the occurrence of UAS with HIV-negative partners. Public health education, policy, and legislative initiatives should seek innovative ways to reduce stigma at the societal level and "prevention for positives" interventions should include a focus on stigma as a barrier to safer sex negotiation.

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C110

RATIONALE, DESIGN, AND BASELINE RESULTS FOR A RCT OF SEXUAL RISK REDUCTION INTERVENTIONS FOR STI CLINIC PATIENTS

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Publicly-funded clinics serve socioeconomically disadvantaged clients who are often at elevated risk for HIV and other sexually transmitted infections (STIs). Such clinics provide an opportune setting to intervene with people at elevated risk.

We will describe the rationale, theory, methods, and baseline results from the Health Improvement Project—Rochester (HIP-R), a large-scale RCT that began in March, 2004. For this trial, we are using a 2 (brief intervention)×3 (intensive intervention)×4 (repeated measures) design to evaluate the efficacy of sexual risk reduction interventions. The interventions are guided by the Information-Motivation-Behavioral Skills (IMB) and Transtheoretical models (TTM), and their efficacy will be evaluated using markers of sexual risk behavior and incident STIs.

For the project, we screened 5613 patients; of those who were eligible (n= 2691), 1483 (55%) consented to participate. Women were more likely to consent than men. Consenting participants were 46% female, 64% African–American, and 24% Caucasian; 51% were unemployed, and 62% had a high school education or less. Participants reported high levels of recent sexual risk behavior, including an average of 2.8 sexual partners and 17.3 episodes of unprotected sex (past 3 months). Analyses indicated that baseline risk behaviors (e.g., number of partners and sexual events) were related to hypothesized constructs from the IMB model, including motivational (e.g., intention to engage in safer sex; condom, risk reduction, and testing attitudes) and behavioral skills constructs (e.g., use of condom influence strategies, self-efficacy). Of those invited to a workshop, 58% attended, with attendance more likely among women, older adults, African–Americans, and those who were unemployed (all ps<.05). These findings provide the foundation for subsequent analyses evaluating the efficacy of the interventions.

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C111

PREVALENCE AND PREDICTORS OF LATE HIV TESTING IN TIJUANA, MEXICO

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Timely diagnosis of HIV is essential to improve survival rates and reduce transmission of the virus. However, insufficient progress has been made in effecting earlier HIV diagnoses. The Mexican border city of Tijuana presents one of the highest AIDS incidence and mortality rates in all of Mexico. This study examined the prevalence and correlates of late HIV testing in Tijuana, Mexico. A cross-sectional interview and medical chart reviews were conducted on a convenience sample of HIV-infected individuals (N=241) from two HIV/AIDS clinics operating in the city. Late testers were defined as participants who had their first HIV-positive test within 1 year of AIDS diagnosis. Individual, social and environmental factors were tested as potential predictors of late HIV testing based on the Behavioral Ecological Model.

The prevalence of late HIV testing was 39.4%. Logistic regression indicated that significant predictors of late HIV testing were: HIV/AIDS-related stigma (OR=1.791, 95% CI: 1.196–2.681, p=0.005), having no father prior to HIV diagnosis (OR=4.743, 95% CI: 1.943–11.580, p=0.001), and belief that HIV testing was expensive (OR= 2.247, 95% CI 1.133–4.455, p=0.020). The likelihood of testing late for HIV infection is related to environmental and attitudinal factors. These findings may inform the design of interventions to increase timely HIV testing and reduce HIV transmission in the community at large.

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C112

USING ATHLETES TO EXAMINE ALCOHOL AND SEXUAL ASSAULT KNOWLEDGE

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Sexual assaults and first sexual experiences tend to occur during the college years. Additionally, research indicates that close to 50% of sexual assaults involve use of alcohol by the victim or perpetrator. Research indicates that alcohol use is associated with increased risk of sexual assault, but has failed to provide a theoretical foundation for the alcohol use variables. The present study examined sexual assault in the context of alcohol variables based on the Transtheoretical Model and with respect to issues surrounding consent. A total of 304 participants were involved with the study across the three time points (baseline, post-intervention, and 1-month follow up). The mean age was around 18. Four percent of the women reported being raped, and 4% of the men reported having raped someone. Only 37.3% of the participants had been part of a sexual assault prevention program.

Participants were compared on a number of alcohol and consent items. With respect to items such as "consensual drunk sex is a normal and harmless part of college life," participants in Precontemplation (PC) for quitting binge drinking had significantly higher agreement with the statement than non-bingers (NB), F(5, 248)=9.92, p<.001, partial eta-squared=.17. With respect to items concerning alcohol making sexual situations easier and more enjoyable, participants in PC for quitting binge drinking had significantly more agreement that NB and maintenance, F(5, 237)=5.70, p<.001.

To evaluate the effectiveness of the sexual assault intervention, participants were examined with regards to the aforementioned alcohol and consent items. With respect to drunk women legally giving consent, participants agreed significantly less after the intervention, t(36)=2.17, p=.037. In addition, participants agreed significantly less to the following statements after the intervention: consensual drunk sex is normal, intoxication is not a defense against rape, and alcohol makes sexual situations easier.

These results indicate a relationship between binge drinking stage of change and sexual consent issues. They support tailoring sexual assault interventions on TTM based alcohol variables.

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C113

PREDICTING SEXUAL ASSERTIVENESS IN COLLEGE STUDENTS

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Even with sexual experience ages decreasing, first sexual intercourse experiences tend to occur during the college years (Alan Guttmacher Institute, 1994). Sexual assertiveness has been related to a number of risks for sexual assault (Messman-Moore, Ward, & Walker, in press). The goal of the current study is to examine other variables which might have a relationship with sexual assertiveness.

A total of 599 participants were involved with the online study. Of the individuals who agreed to participate, the mean age was 20.00 (SD=3.10). Close to 70% of the sample was female; 88.7% Caucasian, 49.9% of families earn more than $95,000, and 42% are dating someone seriously.

Sexual assertiveness was defined as having four components: relational assertiveness (RSA), sexual confidence and communication (SCC), sexual standards (SS), and sex-related negative affect (SRNA). Using a stepwise linear regression, RSA was predicted from classic attachment styles and family attitudes towards sex. Fearful attachment (beta=−.22), preoccupied attachment (beta=−.20) and family attitudes towards premarital sex (beta=−.19) all significantly predicted RSA. SCC was also predicted from the same variables. Secure attachment (beta=.32), family attitudes towards relationships (beta=.12), and fearful attachment (beta=−.13) significantly predicted SCC. SS was only predicted by family attitudes (beta=−.32). SRNA was predicted by preoccupied (beta=−.18) and fearful (beta=−.18) attachment and family attitudes toward premarital sex and relationships (betas=.13 and .11).

The results from this study indicate a potential relationship between attachment styles and family attitudes towards sex and relationships with respect to sexual assertiveness. More healthy aspects of sexual assertiveness are predicted by more family influence and secure attachment styles. Implications will be discussed.

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C114

WHO TO TELL: DOES DISCLOSING YOUR HIV-STATUS TO FAMILY AND FRIENDS PROVIDE A BUFFER AGAINST MENTAL HEALTH CONCERNS?

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Managing a chronic illness, specifically HIV or AIDS, poses a mass of challenges including stigma, treatment planning, and disclosure. Current research has shown that individuals with HIV have significant levels of psychological distress (e.g. Cook, Grey, Burke-Miller, 2006). HIV-status disclosure has potential benefits and costs. Benefits may include increased support and costs may include ostracism. Kalichman, DiMarco, Austin, Luke, & DiFonzo (2003) found when individuals disclosed their HIV-status to family and friends, they experienced more social support in those relationships. Lam, Naar-King, & Wright (2007) studying a sample of youth, found that disclosure to close family and friends led to less psychological distress while disclosure to acquaintances led to increased psychological distress. These findings are varied and may not be generalizable to other HIV populations including African American adults.

It is hypothesized that various levels of HIV-status disclosure will predict psychological distress including symptoms of depression and anxiety. This study examines level of HIV-status disclosure and its relationship to psychological distress including depression, anxiety, and subjective stress in a sample of African American participants receiving medical care at an urban clinic (n=103). Participants are part of a larger study investigating cognitive processes and posttraumatic growth. Participants were interviewed and completed several questionnaires. HIV-status disclosure was assessed by asking participants if they disclosed their status to family, friends, former, recent, current or all sexual partners. Psychological distress was measured with the Psychiatric Symptom Index, Beck Depression Inventory, and the Impact of Event Scale. Results and implications of findings will be discussed, as well as recommendations for further research.

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C115

HEALTH BEHAVIORS AND RATES AND CORRELATES OF DEPRESSION IN RURAL WOMEN LIVING WITH HIV/AIDS

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OBJECTIVES: Most research examining the life circumstances of women living with HIV/AIDS has relied on samples assembled in large urban AIDS epicenters (e.g., New York City, Miami). Very little is known about the physical and mental health needs of women living with HIV/AIDS in small towns and rural areas of the U.S. Accordingly, this research characterized rates of health promotion behaviors (e.g., mammogram screenings) and rates of correlates of depression in a community sample of rural women living with HIV/AIDS.

PARTICIPANTS AND PROCEDURES: Participants were 65 women living with HIV/AIDS who resided in towns with populations of 30,000 or fewer and who lived at least 30 miles from a large metropolitan area. Most women (mean age=44.3 years) were White (57%) and had been infected through heterosexual intercourse (79%). Women completed an anonymous, self administered survey that assessed health promotion behaviors, depressive symptoms, social support, quality of life, life-stressor burden, and barriers to health care, and social services.

RESULTS: 53% of women had not received a mammogram screening in the past two years and 21% had not received a pap smear in the past year. Based on the Beck Depression Inventory, 54% of women reported "moderate" or "severe" levels of depressive symptoms. Point-biserial correlations found that, compared to their non-depressed counterparts, depressed women reported more barriers to health care and social services, $r(64)=.33$, $p<.05$; more life-stressor burden (i.e., life chaos), $r(63)=.49$, $p<.01$, more frequent use of marijuana, $r(62)=.21$, $p<.05$, and more frequent misuse of prescription medications, $r(61)=.22$, $p<.05$.

IMPLICATIONS: Rural women living with HIV/AIDS may be so concerned with their HIV infection that they fail to practice other important health promotion behaviors (e.g., mammogram screenings). The elevated levels of depressive symptoms found in this sample portend that culturally-contextualized AIDS mental health interventions are needed for this emotionally-vulnerable group.

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C116

CORRELATES OF STI SCREENING AND HEPATITIS B IMMUNIZATIONS AMONG HOMELESS ADOLESCENTS

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Homeless adolescents are one of the highest risk groups for STIs, including HIV/AIDS. However, little is understood about screening behaviors and treatment of STIs among this underserved population. The purpose of this study was to examine motivations and barriers to STI screening and Hep B immunizations among homeless adolescents, and investigate any effects by gender, race or sexual orientation. The SHARPE study is a longitudinal intervention study of homeless adolescents (n=572), and included measures of sexual behavior, STI screening, Hep B immunizations, and several psychosocial determinants of sexual health risk behaviors. The adolescents ranged in age from 16–23, with mean age of 19.2. years. Approximately 62% were male, while 30% characterized themselves as GLBQ. Logistic regression analyses revealed two parsimonious models, one for STI screening, the second for Hep B immunizations. Race (Hispanic), Gender (female), history of sexual abuse and social support were significant predictors of screening for STIs. For Hep B immunizations, significant variables were Race (Hispanic), history of sexual abuse, and future time perspective. These findings suggest that homeless Hispanic adolescents are less likely to receive screening and treatment for STIs or engage in health protective behaviors such as getting Hep B vaccinations. Adolescents with a history of sexual abuse were more likely to seek screening, treatment and immunizations. Despite the many psychosocial correlates tested, only social support was associated with STI screening, while having a positive sense of the future was the only psychosocial variable associated with getting immunized for Hepatitis B. Additional research is needed to clarify the motivations and barriers for STI screening and Hep B immunizations among this underserved population.

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C117

WHAT WORKS IN COPING WITH HIV? A META-ANALYSIS

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This meta-analysis addressed two questions: 1) Which types of coping are related to psychological and physical well-being among people with HIV? 2) Are there contextual (pre-post HAART; time since diagnosis) or measurement (HIV-related event vs. general prompts for coping measurement) variables that influence the extent to which coping is related to well-being?

We identified 169 studies of coping in samples of people living with HIV; 62 studies, representing 15,582 individuals, met our inclusion criteria. We classified coping into 18 different types and examined associations with four outcomes: Positive Affect (e.g., life satisfaction), Negative Affect (e.g., depression), Health Behaviors (e.g., medication adherence), and physical health (e.g., symptoms, CD4). Studies were also coded for 1) data collection pre- or post- HAART; 2) the prompt used for the coping items as related to HIV or not; and 3) average years since diagnosis for the sample.

The coping responses related to increased Positive Affect included Direct Action ($r=.18$, $p<.001$) Positive Reappraisal ($r=.22$, $p<.0001$) and Spirituality ($r=.25$, $p=.009$) Coping responses related to less Negative Affect were Acceptance ($r=-.19$, $p<.001$), Direct Action ($r=-.09$, $p<.001$), Fighting Spirit ($r=-.39$, $p<.001$), Planning ($r=-.14$, $p=.002$) and Seeking Social Support ($r=-.05$, $p=.003$). The single coping response associated with better Health Behavior was Direct Action ($r=.07$, $p=.006$) and the coping responses significantly associated with better Physical Health were Direct Action ($r=.06$, $p=.03$) and Positive Reappraisal ($r=.11$, $p=.0003$). Contextual and measurement variables were signficant moderators of many of the effects. For example, seeking social support was associated with less Negative Affect but only in studies conducted prior to HAART ($r=-.10$, $p<.007$ vs. $r=-.002$, $p=.94$).

Future research should 1) Consider inclusion of a wider range of outcomes beyond Negative Affect; and 2) Give attention to contextual and measurement variables that moderate the effects of coping.

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C118

THE RELATIONSHIP AMONG PHYSICAL ACTIVITY, COMMUTE SATISFACTION AND STRESS REACTIVITY FOLLOWING AN AUTOMOBILE COMMUTE

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Background: Almost 90 percent of American workers commute privately to and from work by automobile. Thus, commuting is an unavoidable component of the work day. While research has demonstrated that automobile commuting results in stress, there is a paucity of research investigating the effect of commute stress (CS) measured via stress reactivity. Furthermore, little is known regarding the possible moderating effect of physical activity (PA) on the commute stress-stress reactivity relationship. Purpose: To investigate the relationship among CS, PA, and stress reactivity immediately following a morning automobile commute. Methods: On two non-consecutive days within 10 minutes following a morning commute, participants (N=60) completed questionnaires including a measure of CS (5 item, 5-point Likert scale). BMI and PA (7Day PAR) were also determined. Stress reactivity was assessed through measuring sweat gland activity before, during, and 5 minutes after a stressful counting task. CS and PA were dichotomized (median split) to produce high (HCS, HPA) and low (LCS, LPA) groups, respectively; group differences were tested with student's t-test. Results: Individuals in the HCS group demonstrated higher stress at baseline ($p<.05$) and greater recovery following a counting ($p<.01$) task compared with the LCS group. Regression analyses indicated that CS predicted stress reactivity only for those in the LPA group ($R2=0.22$, $p<.01$). PA was not associated with stress at baseline or recovery following a counting task. Conclusions: CS is associated with improved recovery following a stressor following a morning commute by automobile. Because CS was associated with high stress reactivity only in the LPA group, it suggests that high levels of PA may provide a buffering effect against high CS on stress reactivity.

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C119

EFFECTS OF SUPPORT ON GROWTH, PSYCHOLOGICAL, AND PHYSICAL HEALTH FOLLOWING DISCLOSURE OF A STRESSFUL EVENT

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Many individuals indicate that they are able to find something positive in their experience of a stressful event. Theoretically, the ability to grow from adversity is the result of personal, environmental, and social resources. There is mixed empirical evidence for the role of social resources in growth. The purpose of the current study was to examine the effect of social support on growth. In this study, 44 freshman undergraduates completed three sessions during which they disclosed the difficulties associated with coming to college. Participants were randomly assigned to either a disclosure alone (n=15) or disclosure with support (n=29) condition. Growth, psychological and physical health outcomes were assessed at the beginning of the first session and again one month after the third session. A group difference was found in the individual's ability to gain a new perspective ($p<.05$), such that participants in the support condition had greater new perspective than participants in the alone condition. When the severity of the event was examined as a potential moderator, several additional associations were found. Individuals reported more growth ($p<.10$) and more satisfaction with life ($p<.10$) in the support condition than the alone condition when they perceived the transition to college as highly stressful. However, individuals also reported more intrusive thoughts ($p<.05$) and avoidant thoughts ($p<.01$) in the support condition than the alone condition when they perceived high threat severity. While intrusive and avoidant thoughts are typically viewed as measures of psychological distress, they also may reflect cognitive processing of a stressful event. Our results suggest that social support may facilitate cognitive processing and growth following stressful life events.

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C120

STRESS, ANXIETY, AND HAZARDOUS ALCOHOL USE AMONG COLLEGE STUDENTS: THE INFLUENCE OF GENDER AND COPING

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College students and young adults aged 18 to 24 years show the highest rates of alcohol use, and have the greatest percentage of problem drinkers in the United States. Within the framework of Social Learning Theory, Bandura formulated a coping deficits model of alcohol use, emphasizing that stress-induced drinking is likely to occur when alternative coping skills are not available to ameliorate stress and anxiety. This supposition has been examined in college-student samples but findings are both limited and conflicting. As such, the purpose of this study was to examine the direct and interactive (or moderating) effects of gender, stress, anxiety, and coping in the prediction of hazardous alcohol use among college students. Participants (N=713) consisted of male (n=296) and female (n=417) college students enrolled in large, baccalaureate-core classes. A cross-sectional, self-report format was used, with participants completing previously validated measures of stress, anxiety, coping, and alcohol use. Hierarchical moderated regression procedures revealed significant main effects for gender, anxiety, and problem-focused coping. These findings suggest that heightened symptoms of anxiety, deficits in problem-focused coping, and being male are predictive of hazardous alcohol use. The interaction term reflecting the product of stress and seeking social support to cope also was significant and indicated that increases in the tendency to seek social support buffered hazardous alcohol use among students in this study. These results may assist researchers and college health practitioners to identify focal points for assessment and to shape intervention designs. In particular, intervention efforts that attempt to reduce anxiety, and increase tendencies to engage in problem-focused coping and support seeking, may result in less hazardous alcohol consumption among college students.

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C121

COPING AND PARTNER NEUROTICISM: MODERATING EFFECTS ON DAILY POSITIVE AND NEGATIVE AFFECT

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According to the transitive interpersonal model (Ruiz et al., 2006), a person can exert key influences on close others, such as his/her partner. This model has helped us better understand the effects of one's personality on partner well-being. However, it is important to uncover the potential mechanism through which personality can impact the partner's well-being. Given the well-documented role of coping in well-being, it is possible that one's personality influences well-being by changing the effectiveness of the partner's coping efforts to deal with daily negative events. In this study, we examined whether one's level of neuroticism influences their partner's coping effectiveness, i.e., the ability of coping behavior to decrease negative affect and increase positive affect. Eighty three couples participated in a daily diary study on coping with daily interpersonal stressors. Positive and negative affect were measured in the morning as well as in the evening. Information on coping behaviors relevant to interpersonal stressors was obtained in the evening. Multi-level modeling analyses for dyadic data revealed significant interactions between husband neuroticism and wife coping. The results indicated that the wife's adaptive coping behaviors such as compromise, positive reappraisal, distancing and problem solving were more beneficial when her husband had higher scores on neuroticism. On the other hand, wives' maladaptive coping behaviors such as interpersonal withdrawal and escape avoidance played an even greater negative role in affect among husbands higher on neuroticism. These findings suggest, first, that wives' coping effectiveness may be more influenced by their husband's level of neuroticism than vice versa and second, that engaging in adaptive coping behaviors is more critical for well-being when one's spouse is high on neuroticism.

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C122

GENDER DIFFERENCES IN APPRAISAL OF AND PHYSIOLOGICAL RECOVERY TO AGENTIC VS. COMMUNAL LABORATORY STRESSORS

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Prior research has suggested that men and women may be differentially distressed by life events depending on the gender relevance (e.g., agentic vs. communal) of the event. The current study examined gender differences in subjective distress, blood pressure (BP) reactivity, and BP recovery in relation to gender-relevant stressors. Participants completed 3 tasks (agentic, communal, and neutral) while SBP and DBP were recorded. For the stressors, participants discussed threats to agency (e.g., academic ability) and communion (e.g., social rejection). Mood, task engagement, and ratings of self- and other- interpersonal behavior for each event were also obtained. Both stressors evoked significant reactivity in men and women and were subjectively more stressful than the neutral task (p's<.05). There was a marginally significant gender×task type interaction on stress ratings ($F(2, 134)=2.60$, $p=.078$) such that women rated the communal task as more stressful than the agency task. Men's stress ratings did not differ by task. There was a significant gender×task type interaction for DBP recovery ($F(2, 65)=3.70$, $p=.030$) such that men had poorer recovery following the agency task compared to women ($F(1, 71)=6.08$, $p=.016$). There were also marginally significant gender differences in SBP recovery for the agency ($F(1, 71)=2.82$, $p=.098$) and communion ($F(1, 71)=3.70$, $p=.059$) tasks in that men had poorer recovery compared to women. Ratings from the interpersonal behavior measures indicated that men rated the other person involved in the communal stressor as more dominant compared to women. Although there were no gender differences in BP reactivity by type of stressor, the pattern of subjective distress, recovery, and interpersonal ratings suggests that the experience of interpersonal stressors may be different for men and women. Gender differences in BP recovery are noteworthy given increasing evidence that poorer recovery following stressors is more strongly linked to negative health outcomes than is physiological reactivity.

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C123

GENDER DIFFERENCES IN AFFECTIVE RESPONSE AND EMOTIONAL REACTIVITY TO STRESS-INDUCING TASKS

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Women are more likely to be diagnosed with mood disorders than men. Some have hypothesized that this difference may be attributed to gender differences in stress responses and emotion reactivity to stress-inducing situations. The current study explored gender differences in affective response and reactivity to stressful challenges. Participants were 51 undergraduate students (52.9% female; mean age 19.7 years; 86.3% Caucasian; 21 currently depressed or dysthymic; 30 had never been depressed). Diagnoses were confirmed using the Structured Clinical Interview for DSM-IV-TR (SCID). Participants completed two stress tasks (cold pressor and speech performance). Affect was measured using the positive and negative affect scales (PANAS) at baseline, immediately after each task, and after a 10-minute rest period. A 2×2×3 repeated measures ANOVA tested the hypothesis that women would have stronger affective responses and emotional reactivity to the tasks than men. Currently depressed individuals reported significantly more negative affect than non-depressed individuals in both the speech and cold pressor tasks ($p<.05$); however, the rate of change in negative affect did not significantly increase from baseline. There was a significant interaction between gender and task. Specifically, the rate of change in negative affect that female participants reported, from baseline to immediately after the speech task, was greater than that of men's ($p<.05$). In other words emotional reactivity to the speech task was stronger in females than in males (for negative affect). Interestingly, male participants reported significantly greater positive affect than females following the speech task. No significant effects of gender emerged for positive or negative affect in the cold pressor task and there were no gender by depression interactions. In sum, depressed individuals reported more negative affect than non-depressed individuals, but were not more reactive to stress tasks and there were significant gender differences in affective response and emotional reactivity to stress tasks.

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C124

PREDICTING EXERCISE BEHAVIOR FROM STRESS APPRAISALS AND COPING RESPONSES

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Behavioral medicine researchers lack theories and models about circumstances that predict when individuals would be most likely to exercise. Understanding these circumstances seems important in the design of ecologically valid interventions to promote exercise behavior. We adapted Lazarus' (1991, 1999) Cognitive-Motivational-Relational (CMR) theory to predict exercise behavior from stress appraisals and coping. The participants ranged in age between 18 and 28 ($M=20.87$, $SD=1.65$) and included 51 males and 58 females who completed the Leisure-time Exercise Questionnaire (LTEQ: Godin & Shephard, 1985), and assessments of cognitive constructs derived from Lazarus (1999) CMR theory. All participants completed daily surveys focused on their most difficult event of the previous day along with threat, challenge, control appraisals and coping responses for between 14 to 16 consecutive days. Using a multilevel modeling approach, two models were computed in order to predict estimates of metabolic expenditure from mild, moderate, and strenuous exercise using stress appraisals and coping as predictor variables. The multilevel models revealed that control appraisals negatively predicted within-person measures of exercise behavior [$t(70)=-3.68$, $p<.01$], the interaction between threat and control appraisals positively predicted exercise behavior [$t(70)=3.02$, $p<.01$], and none of the coping responses were significant predictors. The interaction between threat and control appraisals suggest that on days when participants appraised their most difficult daily event with above average levels of threat and controllability they also engaged in higher intensity exercise behavior.

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C125

ROLE OF SOCIAL SUPPORT ON MATERNAL DEPRESSION AND STRESS AMONG LOW-INCOME PREGNANT WOMEN

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Prior studies have suggested that perceived social support is inversely related to maternal depression and stress during pregnancy, yet few studies have examined possible mechanisms for this relationship. The current study examines whether different dimensions of social support (e.g., types of support and who provides social support) are associated with maternal depressive symptoms and stress (cortisol) during pregnancy. Our sample is comprised of 58 predominantly low-income women who are at high risk for depression (average gestational age=16 weeks; average maternal age=25 years; education=11 years). Prenatal measures include social support (social support APGAR), depression (CES-D) and maternal stress (salivary cortisol). Salivary cortisol, a stress hormone, was collected from participants at two different times during the day (morning and evening). Hierarchical regression analyses indicated that: 1) higher levels of total social support were associated with lower depressive symptoms ($p<.05$); 2) higher levels of affection (i.e., caring relationship existing among family members) were associated with lower depressive symptoms ($p=.057$); and 3) higher levels of support from the participant's mother were associated with lower depressive symptoms ($p<.05$). None of the dimensions of social support were significantly associated with salivary cortisol levels. These findings indicate that the more affection and support a woman has from her mother the less likely she will experience depressive symptoms during pregnancy. Future studies may want to assess for different dimensions of social support when tailoring interventions aimed at prevention depression in this important population.

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C126

UNMET NEEDS OF PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Qualitative research has revealed that patients with chronic illnesses, including systemic lupus erythematosus (SLE), often report withholding the full range of their needs from health care providers. The purpose of this study was to assess unmet needs of patients with SLE.

Participants (N=112; 95% female, M age=50 years) were recruited through the mailing list and support group meetings of a Lupus Alliance of America Affiliate in New York State to complete a survey based on Moses et al. (2005). Most participants were White (76%) or African American (12%).

Results revealed that all participants perceived at least one unmet need. The most frequently reported unmet needs fell in the physical symptoms domain (e.g., needing help with tiredness and pain). Unmet needs related to psychological (e.g., feeling depressed) and social (e.g., maintaining relationships) concerns also were highly prevalent, as were needs related to activities of daily living. In addition, unmet needs related to health services, health information, and employment were common. Older patients were more likely than younger patients to have higher levels of unmet needs related to physical and psychological functioning. African–American patients were more likely than White patients to have higher levels of unmet needs related to health services and information. Overall, findings document the high prevalence and the variety of perceived unmet needs among patients with SLE, as well as variation between particular demographic groups. More must be done to identify and eliminate structural barriers that may limit access to high quality care and affect outcomes among patients with fewer resources. To address unmet needs in SLE, targeted referrals to patient educators, counselors, and support organizations are important adjuncts to medical treatment. The ability of patients to communicate their unmet needs can be facilitated by practitioners who are willing to inquire about them with sensitivity.

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C127

DOES THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND QUALITY OF LIFE DIFFER BASED ON GENERIC VERSUS DISEASE-TARGETED INSTRUMENTS?

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The relationship between physical activity and quality of life (QOL) in many disease conditions has been examined using both generic and disease-targeted QOL instruments. Generic instruments provide information that can be compared between disease conditions. Disease-targeted instruments capture unique information within a disease condition. Therefore, the use of generic versus disease-targeted QOL instruments might provide different information about physical activity's relationship with QOL. This study examined the association between physical activity and QOL using generic and disease-targeted instruments in multiple sclerosis (MS). The sample (N=261) consisted of individuals with MS who wore an accelerometer for 7 days and completed generic (Short Form-12 Health Survey [SF-12] & Satisfaction With Life Scale [SWLS]) and disease-targeted (Multiple Sclerosis Impact Scale-29 [MSIS-29] & Leeds Multiple Sclerosis Quality of Life Scale [LMSQOL]) measures of health-related and global QOL. The data were analyzed using bivariate correlations and covariance modeling. Bivariate correlations indicated that accelerometer counts had similar correlations with scores from generic (SF-12 Physical: r=.37; SF-12 Mental: r=.06) and the disease-specific (MSIS-29 Physical: r=.29; MSIS-29 Mental: r=.09) measures of health-related QOL. Bivariate correlations also indicated that accelerometer counts had similar correlations with scores from generic (SWLS: r=.14) and the disease-specific (LMSQOL: r=.11) measures of global QOL. Covariance modeling indicated a similar pattern of directional relationships between physical activity with physical and mental health-related QOL, and, in turn, physical and mental health-related QOL with global QOL using generic and disease-targeted instruments. Our results suggest that physical activity demonstrates similar relationships with generic and disease-targeted QOL instruments in MS.

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C128

INFLUENCE OF GENDER ON ILLNESS PERCEPTIONS AND COPING IN COUPLES WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Systemic lupus erythmatosus (SLE) is a chronic autoimmune disorder of unknown etiology, occurring 90% of the time in women. Because most adult women with SLE experience the disorder within the context of a committed relationship and are likely to look to their partner for support, male partners who experience stress and burden in their supportive role may perceive the illness in ways that affect relational coping. The objective of the present study was to examine gender differences in illness perceptions and relationship-focused coping among women with SLE and their male partners.

An anonymous survey was completed by 36 female SLE patients (M=44.43 years, SD=11.84) and 36 male partners (M=47.44 years; SD=14.23). The majority of participants were Caucasian (72%; 14% Latin American/Hispanic, 10% other, 3% Asian American, 1% African American), and 43% of patients rated their disease severity as moderate.

Compared to female patients, male partners believed SLE had more severe consequences, $F(1,71)=15.75$, $p<.01$, was more chronic $F(1,71)=19.63$, $p<.01$, and more uncontrollable, $F(1,71)=7.72$, $p<.01$. Male partners also reported being more willing than female patients to engage in discussions about illness and their relationship (i.e., active engagement coping), $F(1,71)=7.38$, $p<.05$.

Although it is difficult to tease apart gender from patient-partner roles in this sample, our findings suggest differences in illness perceptions and coping between female SLE patients and their male partners. As in couples coping with RA where the partner provides substantial emotional and tangible support (e.g., housework), the experience of SLE may be more stressful for male partners, resulting in negative perceptions but also a willingness to discuss concerns regarding illness. Understanding the role of gender in the experience of SLE may inform interventions targeting maladaptive illness perceptions and coping patterns among couples challenged by SLE.

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C129

ILLNESS PERCEPTIONS AMONG COUPLES WITH SYSTEMIC LUPUS ERYTHEMATOSUS: PREDICTING RELATIONAL COPING AND SATISFACTION

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Patients with systemic lupus erythematosus (SLE) are likely to manage illness within the context of interpersonal relationships, particularly committed romantic partnerships. As a result of managing illness jointly, couples may come to perceive SLE in ways that affect both relational coping and satisfaction. The present study examined links among illness perceptions, relationship-focused coping, and relationship satisfaction among patients with SLE and their partners.

Participants included forty-one patients with SLE (1 male; M=43.35 years, SD=11.88) and their partners (4 females; M=46.63 years; SD=14.02). The majority of participants were Caucasian (73%; 12% Latin American/Hispanic, 10% other, 1% African American, 2% Asian American) and a large proportion of patients (44.7%) rated their disease in the moderate range. Participants completed anonymous questionnaires assessing the study variables.

Results indicated that couples who perceived a negative disease course but engaged in discussions regarding their illness and relationship (i.e., active engagement) had less relationship dissatisfaction, $F(3,37)=10.08$, $p<.001$. Contrary to previous research, couples who held similar negative perceptions of illness symptoms, $t(40)=3.27$, $p=.00$, and similar negative perceptions of illness cure/control, $t(40)=4.75$, $p=.00$, and couples with similar positive perceptions of the illness timeline, $t(40)=3.12$, $p=.00$, were the most relationally satisfied. In addition, couples who perceived the negative illness consequences tended to employ more active engagement, $t(40)=2.26$, $p=.03$. Findings suggest that couples with SLE who have negative perceptions of the timeline of illness should be encouraged to communicate to reduce relationship dissatisfaction. Additional research on illness perceptions and relationship satisfaction will add to the small but growing literature on SLE, and may help improve couples' quality of life.

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C130

SOCIAL SUPPORT, FAMILY FUNCTIONING, AND WELLBEING IN WOMEN WITH RHEUMATOID ARTHRITIS

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The purpose of this study was to examine the impact of social support and family functioning on subjective wellbeing in women with rheumatoid arthritis (RA).

Research related to social support and family functioning is diverse. Social support was found to positively influence a woman's experience with chronic illness, whereas the findings related to family functioning were mixed. Some studies suggest that families continued to function well even when a family member has a chronic illness, while others do not. Few studies have examined both social support and family functioning in individuals with RA.

Data came from a longitudinal study of persons with RA. Seventy-three women with RA (mean age=57 years; average disease duration=6 years) completed questionnaires assessing social support (both detrimental support and unavailability of emotional support), family functioning (the FES), and subjective wellbeing (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 regressed the index of subjective wellbeing on family functioning and the two measures of support.

Detrimental support and unavailability of emotional support were inversely related to family functioning and subjective wellbeing, but were not significantly related to each other ($p>.12$). Family functioning was positively related to subjective wellbeing. In a multiple regression analysis, both social support variables and family functioning predicted 49% of the variance in subjective wellbeing [$F(3,69)=22.32$, $p<.001$] with each of the predictors adding unique as well as common variance.

The findings suggest that, among women with RA, their degree of wellbeing is jointly influenced by perceptions of social support and how well their family functions. Also, validity was established for a new 4-item measure of difficult social support that will be a useful addition to instruments used by researchers interested in this construct.

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C131

THE INFLUENCE OF PHYSICAL ACTIVITY AND AEROBIC FITNESS ON QUALITY OF LIFE, DEPRESSION, AND MOOD IN CELIAC DISEASE PATIENTS

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Celiac Disease (CD) affects 1 in 133 people in the United States. CD is associated with depression, anxiety and low levels of quality of life (Addolorato et al., 2001; Carta et al., 2002; Hallert et al., 2002). Phase 1 identified the relationship between physical activity and quality of life, depression, and mood in CD patients. Phase 2 was a pilot study designed to provide effect sizes for the relationship between aerobic fitness and these same outcome variables. In Phase 1, 47 CD patients completed surveys to assess physical activity (Aerobics Center Longitudinal Study Physical Activity Questionnaire), depression (Beck Depression Inventory, BDI-II), mood (Profile of Mood States, POMS), health-related quality of life (Medical Outcomes Study Health Survey, SF-36), and global quality of life (Satisfaction With Life Scale, SWLS). In Phase 2, 9 CD patients completed a maximal test of aerobic fitness (V02 peak) and all of the surveys administered in Phase 1. In Phase 1, canonical correlations were conducted for the SF-36 subscales, BDI-II, POMS, and SWLS, with two separate measures of physical activity (MET hours/week, bouts of vigorous activity/week). In Phase 2, bivariate correlations were conducted for V02 peak with depression, mood, and quality of life. There was a statistically significant correlation (.70) between bouts of vigorous physical activity and the SF-36 composite, with vitality, social, and physical functioning having the strongest influence. There was a significant correlation between bouts of vigorous physical activity and SWLS; however, the correlation was not statistically significant after a Bonferroni correction. In Phase 2, positive correlations were found for V02 peak with BDI-II ($r=.55$, $ES=.30$), the SF-36 aggregate physical component score ($r=.40$, $ES=.16$), and mood ($r=.45$, $ES=.20$). Bouts of vigorous activity/week and aerobic fitness were generally predictive of quality of life. Future research is needed to causally examine the beneficial effects of physical activity for CD patients.

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C132

THE ROLE OF FATIGUE AND SLEEP IN PHYSICAL AND MENTAL HEALTH AMONG RHEUMATOID ARTHRITIS PATIENTS

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Fatigue and sleep difficulties have been shown to have adverse outcomes on many aspects of psychosocial and physical functioning in people with chronic pain disorders such as Rheumatoid Arthritis (RA) (Zautra et. al, 2006; Parrish et. al, 2007). In many studies, sleep quality and fatigue are treated as if they were equivalent, with investigators assessing one problem or the other but not both. However, in our sample of women with RA, fatigue and sleep quality are correlated only .343, suggesting that although fatigue and sleep quality are related, they are not interchangeable constructs. We examined how sleep difficulties and fatigue predicted lower positive affect (PA), greater negative affect (NA), and impaired physical and mental health functioning for women with RA. To test these relationships, 231 RA patients completed the SF-36 subscales (Ware et. al, 1993) to assess functional health and the Pittsburgh Sleep Quality Index (Buysse et. al, 1988). Participants subsequently completed 30 daily measures of PA, NA and fatigue, and daily scores were averaged over the 30 days to yield average scores for the affects and fatigue. Results of regression analyses indicated that fatigue accounted for 14% and 12% of the variance for PA and NA respectively, while sleep quality accounted for only 0.8% and 2.5%. Likewise, for the four physical functioning subscales of the SF-36, fatigue accounted for between 16% and 18.1% of the variance, while sleep quality accounted for between 2.0% and 4.0%. In the mental functioning subscales, the pattern continued for social functioning and vitality, with fatigue accounting for 16.6% and 23.7% respectively and sleep quality accounting for 5.2% and 3.4%. However, for the mental functioning subscales of role emotional and mental health, fatigue accounted for 1.6% and 5.9% of the variance and sleep quality accounted for 8.0% and 6.9%. These findings suggest that fatigue accounts for most impairment suffered by those with fatigue and sleep difficulties, though sleep problems do contribute to the prediction of some key mental health problems.

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C133

GENDER AND PSYCHOLOGICAL ADJUSTMENT IN LUNG CANCER PATIENTS

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We present preliminary data from an ongoing study whose broader goal is to examine the relations among gender, coping and psychological adjustment in men and women with lung cancer. We tested the relations between gender and adjustment (posttraumatic growth, depressive symptoms, and cancer-specific distress); and examined gender as a moderator of the relationship between emotional approaching coping (EAC) and adjustment. Forty-three adult (>18 years old) men and women diagnosed with a primary lung cancer within the past 6 months completed self-report questionnaires assessing study constructs including: EAC, depressive symptoms (CES-D), cancer-specific distress (IES), and post-traumatic growth (PTGI). Participants were largely White, non-hispanic (86%), married (72%), well-educated (mean 14 years of education) men (n=22) and women (n=21), who were a mean of 68 years old and 15 weeks post-diagnosis at questionnaire completion. The majority (61%) of participants were diagnosed with non small cell cancer, and 51% had advanced disease (Stage III or IV; 33% were unaware of their stage). Most patients (63%) had received chemotherapy, a minority underwent radiation (14%) or surgical resection (21%). Psychological distress in this sample was mild-to-moderate. The mean CES-D score of 14.62 approached the standard cutoff for depression, and the mean IES score of 21.59, suggests that participants were experiencing a mild degree of cancer-specific distress. Participants also reported moderate psychological growth in response to their cancer experience (mean PTGI=55.83). Women and men did not differ significantly on the measures of psychological adjustment or EAC, however the mean IES score for women (25.05) was 7 points higher compared to men (18.60). The EAC*Gender interaction was marginally significant ($p=.096$) regressed on CES-D, such that higher levels of EAC were associated with more depressive symptoms for men, but not women ($p=.096$).

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C134

INVOLVEMENT IN DECISION-MAKING AND BREAST CANCER SURVIVOR QUALITY OF LIFE

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This study sought to better understand the long-term effects on women's health related quality of life (HRQOL) of involvement in decision-making about their surgical and chemotherapeutic treatments for breast cancer treatment and about follow-up care after treatment. Using a cross-sectional survey design, a sample of breast cancer survivors from Western Washington who were two, five, and ten years post-diagnosis were recruited via a cancer registry and interviewed about their HRQOL and their involvement in decision-making about their cancer treatment and follow-up care. Multivariate regression analyses revealed age, education, and income but not stage of cancer to be significant predictors of perceived involvement in decision-making about cancer treatment and follow-up. Controlling for these predictors perceived involvement in decision-making about chemotherapeutic treatment and follow-up care were independently associated with improved HRQOL, including the physical health component summary score of the SF-36 and the general health and vitality subscales ($p<0.05$). Involvement in decision-making overall and about surgical treatment in particular predicted the general health and vitality subscales ($p<0.05$), while involvement in decision-making about surgery also predicted mental health among survivors of breast cancer. Perceived involvement in decision-making about breast cancer treatment including surgery, chemotherapy, and about follow-up care after treatment are all associated with better HRQOL for survivors two, five, and ten years post-diagnosis. Prospective studies may be warranted to determine the possible mechanisms by which perceived involvement in decision-making about aspects of treatment other than surgery type might influence survivor HRQOL.

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C135

FREQUENT SEARCH FOR SENSE BY LONG-TERM BREAST CANCER SURVIVORS ASSOCIATED WITH REDUCED HRQOL

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This study examined breast cancer survivors' reports of continuing efforts to make sense of their breast cancer experience and associations of such efforts to search for sense and meaning on post-traumatic stress symptomology (PTSS) and long-term health related quality of life (HRQOL). A cross-sectional survey of 736 women two (n=250), five (n=212) and ten (n=174) years after diagnosis of breast cancer was conducted to examine the HRQOL of cancer survivors to this was added three questions on search for meaning and the Impact of Events Scale (IES) as a measure of PTSS. Only a minority of women with breast cancer reported frequently searching for sense in their cancer experience, or wondering "why did this happen to me?" two or more years after diagnosis. Controlling for key demographic and disease variables, greater involvement in search two, five and ten years post-diagnosis was associated with higher levels of PTSS ($R2=0.26$; $p<0.001$) and with reduced HRQOL as measured using the SF-36 composite and sub-scales ($p<0.01$ for all scales). Continued efforts to search for sense in the cancer experience two or more years after cancer diagnosis is associated with PTSS and lower levels of HRQOL in long-term survivors of breast cancer.

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C136

PREDICTORS OF QUALITY OF LIFE OVER TIME FOR TAIWANESE CHILDREN AND ADOLESCENTS WITH CANCER

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Objective: to predict health related quality of life (HRQL) over a six month period for pediatric oncology patients, using maternal factors (including physical and psychological distress) and patient's factors (including social support, self perception, illness severity, communication and their level of understanding their illness).

Method: A longitudinal study design (baseline and 6 month follow up) was employed. Six previously tested instruments associated with HQOL were used to collect data from patients and their mothers at both time periods. In total, there were 65 children (42 boys and 23 girls) and 65 mothers who participated at both baseline and 6 month follow up. Generalized Estimating Equation (GEE) analysis was calculated on each of the two repeated measurement models.

Results: In this study, physical, psychological and cognitive domain of quality of life for children with cancer improved significantly over time. Neither social functioning, or disease/symptoms changed significantly over time. Only communication with others and patients' self-esteem predicted the total scores of quality of life that did change over time. Parent stress associated with having a child with cancer is identified as an important issue. There were some variations among the predictors in a few of the subscales, these are reported and discussed.

Conclusions. This study was the first to examine factors which could possibly predict the quality of life in pediatric oncology patients over time. The findings of this study provide useful information for those in clinical practice to improve the quality of life for children who have cancer.

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C137

SYMPTOM BURDEN AND WORK PRODUCTIVITY IN LONG-TERM BREAST CANCER SURVIVORS

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Objective: Symptom burden has the potential to impact work in breast cancer survivors. At present it is unclear to what degree residual symptoms post primary treatment are associated with work productivity when considering demographics, job characteristics, disease and treatment related variables, and factors that can reduce the burden such as adequate sleep and physical activity.

Methods: 100 women with a history of breast cancer and a 103 non-cancer comparison group were recruited on breast cancer websites and major newspapers in the United States. Measures of physical fatigue, depression, anxiety and cognitive limitations were obtained via an internet-based questionnaire. Analyses accounted for the potential confounding effects of demographics, job stress and type of job as well as type and stage of disease, treatment exposure and health behavior.

Results: Four years post-diagnosis the breast cancer survivors reported higher levels of age-adjusted work limitations ($F=32.708$, $p<0.001$). A multivariable regression analysis of symptom burden on work limitations indicated that the role of physical fatigue and work limitations is stronger in breast cancer survivors relative to the healthy comparison group ($p<0.01$). This finding is irrespective of physical and non-physically demanding jobs. Interestingly, the association between depressive symptoms and work limitations is stronger in the non-cancer comparison group ($p<0.05$). The overall model accounted for 59% of the variance in work productivity. Results indicated that 70% of the association among symptom burden measures and work limitations were accounted for by physical fatigue alone.

Conclusions: The results indicate that the physical dimension of fatigue was the most important variable related to work limitations in those working four years post diagnosis. Along with efforts directed at the individual worker, interventions for workplace accommodations may prove useful in improving fatigue and work performance.

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C138

QUALITY OF LIFE AMONG FILIPINA IMMIGRANT BREAST CANCER SURVIVORS

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OBJECTIVES: The purpose of the study was to explore how breast cancer diagnosis has impacted quality of life (QOL) among Filipina immigrants. Among the five largest Asian American ethnic groups in California (Chinese, Filipino, Vietnamese, Korean, & Japanese), Filipinas had the second highest incidence (102.4/100,000) and the highest mortality (17.5/100,000) rate for breast cancer (McCracken et al., 2007). To date, there are limited research studies on Filipina immigrants, QOL, breast cancer, and social support. METHODOLOGY: To explore the impact of QOL, we qualitatively investigated the meaning of social support and the general well-being of Filipinas who emigrated from the Philippines to the US and later were diagnosed with breast cancer. The study involved an in-depth interview of a convenience sample of ten Filipina immigrants living in the US for at least 15 years. The participants were diagnosed in the San Francisco Bay Area with breast cancer for one or more years. Participants were interviewed face-to-face at baseline and every six months for two years to explore the psychosocial impact of breast cancer, the role and meaning of social support, and the impact of breast cancer on QOL. FINDINGS: A content analysis of the interviews identified five major themes: family, community, religion, spirituality, and personal beliefs and values. Spiritual healing appeared to help in coping with the cancer diagnosis for many of the participants. The family provided the main social support for many of the participants. These findings suggest a framework of multifaceted views held by Filipina immigrant breast cancer survivors. CONCLUSIONS: Our findings will help understand the QOL of Filipina breast cancer survivors and be most useful to newly diagnosed Filipinas with breast cancer who are faced with difficulties during and after treatment. However, additional research is needed to address Filipina breast cancer survivors' needs and to help improve their future QOL.

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C139

DOES SEXUAL FUNCTIONING CHANGE OVER TIME IN WOMEN WITH AND WITHOUT EARLY-STAGE BREAST CANCER?

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As part of an ongoing quality-of-life study, we tested whether early-stage breast cancer survivors and age-matched controls differentially experienced problems with sexual functioning over time. We also tested changes in sexual functioning by surgery type in patients only. We interviewed 1018 women (17.4% in situ, 25.7% Stage I, 7.8% IIA, 49.1% controls; mean age 57, range 40–89; 22.8% non-white; 64.4% married) a mean 6.7 weeks (T1), 6.2 months (T2), and 12.3 months (T3) after definitive surgery (patients) or screening mammogram (controls). Nine items measured sexual functioning problems; responses ranged from 1="not a problem" to 4="very much a problem". Principal components analysis yielded two subscales (sexual attractiveness and sexual interest/enjoyment); Cronbach alphas of both subscales and overall sexual functioning were >.74. Two linear mixed-effects models controlled for significant covariates in univariate tests (depressed mood, state anxiety, pain, menopausal symptoms, body image, age, and marital status) to examine the effects of time and diagnostic group (in situ, I, IIA, controls) and, in the second adjusted model, time and type of surgery (mastectomy vs. lumpectomy) on sexual functioning outcomes. In the first model, pairwise contrasts showed a significant main effect of time only, indicating that problems with overall sexual functioning and interest/enjoyment increased between T1 and T2 and between T1 and T3 (each $p<.05$) across diagnostic groups. In the second model, patients who had mastectomy (35.9%) reported more problems with sexual attractiveness across time than patients who had lumpectomy ($p=.02$). Sexual functioning problems worsened over time but did not differ significantly between early-stage breast cancer patients and controls; sexual attractiveness was a greater problem among patients who had mastectomy.

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C140

HOW STRESSFUL IS A BREAST CANCER DIAGNOSIS? THE RELATIONSHIP BETWEEN PERCEIVED STRESS AND POSTTRAUMATIC GROWTH

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Research suggests that many breast cancer survivors do not experience emotional distress following their diagnoses, but are finding growth from their experience. The literature indicates that perceived stress of a traumatic event, such as breast cancer, is related to posttraumatic growth, with higher perceived stress of the event being related to more posttraumatic growth (Cordova et al., 2001; Park et al., 1996; Sears et al., 2003). Research has also found that subjective measures of perceived stress from cancer may be a more important determinant of posttraumatic growth than objective measures (Cordova et al., 2001), suggesting the importance of examining a woman's perception of stress of the event, as opposed to mere objective measures such as stage of disease at diagnosis. The present study attempted to support previous findings that indicate perceived stress is related to survivors' posttraumatic growth. This study included an ethnically diverse sample of 161 breast cancer survivors with an average of 5 years since diagnosis. As part of a larger, ongoing study, the current investigation included a question about the perceived stress of the breast cancer diagnosis (with possible answers ranging from 1 to 5) and the Posttraumatic Growth Inventory (Tedeschi & Calhoun, 1996). Preliminary analyses reveal that on average the breast cancer survivors perceived the stressfulness of their breast cancer diagnosis to be a 3.8, with breast cancer survivors' reported levels of distress ranging from 1 to 5. Their posttraumatic growth scores averaged 77.1, and scores ranged from 0 to 105. Results and discussion examined the predictive nature of the perceived stress from the breast cancer diagnosis in regard to posttraumatic growth. Additionally, other relevant demographic (e.g., age, time since diagnosis) and psychosocial variables were examined to determine potential contributions to the relationship.

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C141

DEVELOPING A UNIVERSAL SEXUAL FUNCTION MEASURE: LESSONS LEARNED FROM COGNITIVE INTERVIEWS

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Purpose: There has been increased interest in understanding the impact of diseases on sexual functioning, but extant measures tend to be limited in their applicability. As part of the NIH Patient-Reported Outcomes Measurement Information System (PROMIS), we are developing a measure of sexual function using a definition of sexual activity that is not contingent on partnered status or sexual orientation. The measure must also account for therapeutically-adjusted functioning (e.g. Viagara) and cancer-specific issues. We describe the empirical and conceptual approach we took to developing items that addressed these goals. Methods: We conducted 37 cognitive interviews with patients recruited from the Duke University tumor registry and oncology clinics. Patients varied by site and across the continuum of cancer care. Each of the 81 candidate items were seen by 5 patients, at least 1 of whom was non-white, and 2 of whom were low literacy (<high school education or<9th grade reading level). Significantly revised items were retested in subsequent rounds of cognitive interviews. Results: Participants identified "sexual activity" and "sex life" as the most inclusive terms to use in items. Although we tried to write items that could be relevant for anyone, many participants felt that certain questions did not apply to them, e.g., items about rectal pain were assumed to apply only to patients engaging in anal sex, even though patients with colorectal cancers may experience it during other activities. Men tended to include the use of therapeutic aids when answering items about erectile function, but women had trouble deciding whether to consider the use of personal lubricants when answering items about vaginal dryness and pain. Item revisions were generally successful in addressing the problems identified in earlier cognitive interviews. Conclusion: Cognitive interviews provided excellent feedback on how to make questions more understandable and broadly applicable. Efforts are underway by the PROMIS Network to validate this measure in larger cancer populations.

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C142

ISSUES OF CANCER SURVIVORSHIP IN WOMEN

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In 2007, 678,060 new cancer cases are expected to be diagnosed in women, approximately 47% of the total number of new cancer diagnoses in the US (ACS, 2007). These numbers combined with the 2005 Institute of Medicine report which highlighted the needs of survivors, have led to interest in survivorship issues among women. Health care disparities for women and for minority women cancer survivors have been explored in several studies. This presentation will review the current literature relevant to long term cancer survivors (LTCS). Issues of concern to women generally and minority women specifically will be addressed.

Articles were reviewed representing a total of 2897 participants. Five studies considered breast cancer survivors; one studied long term ovarian cancer survivors; two examined different aspects of survival for the same cohort of colorectal LTCS, and one study looked at the functionality issues for women with different cancer diagnoses. A total of 28 different instruments were used for measuring survivorship needs. Findings indicate that poorer quality of life (QOL) is related to symptoms and pain, decreased income, use of adjuvant chemotherapy, co-morbidities, psychosocial issues and aging. A study specifically examining disparities in outcomes among African–American LTCS found that socioeconomic status, age and life burden, but not ethnicity, impacted QOL (Ashing-Giwa, et al. 1999). Dirksen et al., reported well-being in Hispanic and white breast cancer survivors and found no significant differences. Most studies indicate that LTCS generally exhibit good QOL or QOL similar to age-related general population norms. Questions that resonate are: Can we identify and predict the subsets of survivors that do have QOL deficits? Any small percentage of the estimated 10.1 million survivors represents a large and significant population. How great is the non-response bias? Are we measuring the things that are important to LTCS with generic QOL instruments? Unmet needs of women LTCS are still relatively undocumented and approaches to their discovery need to be formulated.

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Citation Poster
C143

PSYCHOSOCIAL FACTORS ASSOCIATED WITH PERCEIVED RISK OF RECURRENCE AMONG EARLY-STAGE BREAST CANCER PATIENTS: A LONGITUDINAL STUDY

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Although early-stage breast cancer patients have a low rate of recurrence after surgery and adjuvant therapy, some patients may perceive their risk of recurrence to be higher than it actually is, which may result in psychological distress. This study characterized longitudinal patterns of and factors associated with perceived risk of recurrence among 484 early-stage breast cancer patients (32% ductal carcinoma in situ, 53% stage I, 15% stage IIA; 21% non-white). Women with newly diagnosed early-stage breast cancer who enrolled in an ongoing quality-of-life study between 10/2003 and 3/2007 were interviewed four times after definitive surgery (a mean 1.4, 6.1, 12.1, and 24.2 months). A random-effects regression model was used to estimate the relationship between perceived risk of recurrence and demographic, medical, and psychosocial factors. Forty-six percent of patients reported their risk of recurrence to be 1–24% at first interview. Higher perceived risk of recurrence was significantly associated with white race [odds ratio (OR)=6.80; 95% confidence interval (CI)= 3.89–11.88], longer time since definitive surgery (OR=1.02; 95% CI=1.01–1.04), lower levels of perceived availability of emotional and informational support (OR= 0.50; 95% CI=0.34–0.74), and greater state anxiety (OR=1.09; 95% CI=1.03–1.15) but was not significantly associated with cancer stage or type of surgery (lumpectomy versus mastectomy). The magnitude of the effects of predictors did not vary significantly over time. Informing early-stage breast cancer patients of their actual risk of recurrence and providing ongoing emotional and informational support could result in more realistic recurrence-risk perceptions, potentially alleviating undue psychological distress in those survivors for whom distress continues to be a problem.

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C144

SOCIAL SUPPORT AND SURVIVAL AFTER BREAST CANCER DIAGNOSIS

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Background: Previous studies suggest that greater social isolation may be associated with elevated mortality after breast cancer diagnosis. We prospectively examined the relation between components of social integration and survival.

Methods: Participants included 4589 women diagnosed with invasive breast cancer between 1988 and 2001 recruited from a population based multi-centered case-control study. Women completed a questionnaire on recent post-diagnosis social support and other lifestyle factors a median of 5.6 (IQR 2.7–8.7) years after diagnosis. Based on a search of the 2005 National Death Index,552 deaths (146 related to breast cancer) were identified. Social support was measured using components of the Berkman-Syme Social Networks Index and adjusted hazard ratios(HR) and 95% confidence intervals(CI) were estimated using Cox proportional hazards regression. Models accounted for age at diagnosis,stage of disease,state of residence,interval between diagnosis and social support assessment,body mass index,education,menopausal status, smoking status,hormone therapy use,treatment modality,and parity.

Results:Compared with women attending religious meetings at least once a week (n=670,14%),women with no religious participation (n=1125,25%) had a significantly higher risk of dying from any cause (HR=1.55,95% CI 1.15–2.09,p-trend p<0.001). There was a significant inverse dose response between hours of community participation and overall(p-trend=0.03),but not breast cancer specific,mortality). No association was observed with number of close relatives,friends,or living children.

Conclusion:Participation in community groups and religious activities was associated with lower overall mortality after a diagnosis of breast cancer, whereas breast cancer-specific mortality was not influenced by participation in these activities.

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C145

QUALITY OF LIFE OF CAREGIVERS OF INDIVIDUALS WITH COLORECTAL CANCER: EFFECTS OF ADULT ATTACHMENT STYLE AND ETHNICITY

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Providing care to an individual with cancer can present challenges to the caregiver, which may be influenced by the quality of their relationship. Ethnicity of the caregiver may also play a role in how they fare in caregiving situations. This study aimed to examine the extent to which caregivers' well-being was influenced by relationship qualities (attachment theory) and the moderating effect of ethnicity on the attachment and QOL link. A total of 82 caregivers of persons diagnosed with colorectal cancer completed surveys at 2 (T1) and 6 (T2) months post-diagnosis. The survey included measures of attachment quality (MAQ) and caregivers' mental (MCS) and physical (PCS) functioning as QOL indicators. Participants were middle-aged (m=54), 74% female, 68%≥some college, 37% spouses, and 54% African American. Hierarchical regression analyses revealed a significant association between attachment style and mental and physical functioning only when race groups were delineated. AA caregivers had significantly greater mental functioning scores than non-AA (p=.001). Anxious attachment style was associated with lower physical functioning among AA (b=−4.13) although not the case among non-AA (p=.18). No significant association was found between avoidant attachment and mental functioning among AA (p=.996). However, avoidant attachment was associated with lower mental functioning among non-AA (p=.015). The findings suggest that attachment style has a differential impact on caregivers' quality of life, depending on the caregiver's ethnicity. AA caregivers who are anxiously attached to the care recipient may expend a lot of effort tending to the recipient's needs perhaps to the point of physical exertion. Conversely, non-AA caregivers who are emotionally distant (avoidant) from the caregiver may experience some mental anguish regarding their caregiving role. Cancer caregivers may benefit from culturally tailored programs; those designed for AA to manage their relationship anxiety, and for non-AA, to meet the care recipient's emotional needs, resulting in improving their QOL.

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C146

COPING STYLE PREDICTS SYMPTOM INTERFERENCE AMONG BONE MARROW TRANSPLANT PATIENTS

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A bone marrow transplant (BMT) is an aggressive treatment causing physical and psychological maladjustment. The most reported symptoms include: GVHD; cognitive dysfunction; painful joints and muscles; eye, skin and mouth problems. The degree to which these symptoms interfere with daily living can have a significant impact on quality of life. BMT patients use various coping methods to deal with emotional and physical stress that accompanies a BMT. Previous literature has shown that certain coping styles can improve the quality of life in cancer, while other coping styles have been negatively correlated with overall health outcome. It is known that coping and symptom distress are related to survival in BMT patients; however, the relationship between coping style and symptom interference in BMT patients needs examination. The current study addressed dispositional coping styles employed by BMT patients and how coping related to symptom interference. Patients (N=314) were part of a national study of two approaches to bone marrow transplantation and received treatment at 15 different sites throughout the US (T-Cell Depletion Trial). Baseline interviews took place prior to BMT with post-transplant interviews at 100 days, 6 months, 1 year, and 3 year follow-up time points. Participants of the current study were individuals completing baseline (N=274), 6 month (N=105), and 1 year interviews (N=88). Interviews were conducted by telephone and lasted approximately 45 minutes. Dispositional coping styles were measured by the Brief COPE. Symptom severity and interference were measured at follow up by the Bush BMT Module, a disease specific module developed for the European Organization for Research and Treatment of Cancer QOL measure. Baseline dispositional coping style was related to symptom interference at 6 months and 1 year following BMT (all p's<.05)(e.g., denial and venting positively predicted symptom interference). Since there is no current research addressing the relationship between coping and symptom interference in BMT patients, the findings of this study are an important contribution.

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C147

EFFECT OF SURGERY TYPE ON BODY IMAGE IN EARLY-STAGE BREAST CANCER PATIENTS COMPARED WITH HEALTHY WOMEN

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As part of an ongoing longitudinal quality-of-life study, we conducted 3 interviews with 1087 women, prospectively recruited, with and without early-stage breast cancer (16% in situ, 26% stage I, 8% stage IIA, 50% healthy controls; mean age 58, range 40–91, 75% White, 25% non-white). Participants completed interviews at a mean 6.3 weeks (T1), 6.2 months (T2), and 12.3 months (T3) following their definitive surgery or screening mammogram. At each interview, we asked 8 questions about body image (higher scores indicate greater self-consciousness about the way one looks; Cronbach α=.87) and measured body-mass index, severity of depressed mood, state anxiety, and pain. Each of these variables were positively correlated with body image at all three time points (p<.01) and used as covariates in multivariable analysis. Stage and type of surgery (breast-conserving surgery [BCS], mastectomy without reconstruction, mastectomy with reconstruction, and no surgery for controls) were obtained from the medical record. In a Generalized Estimating Equation unadjusted for covariates, patients who underwent BCS or mastectomy without reconstruction had better body image than mastectomy with reconstruction and controls (each p<.05); the latter two groups did not differ significantly across all time points. However, in the adjusted model measuring the interaction effect between type of surgery and time, patients who had mastectomy with reconstruction no longer had significantly worse body image compared with BCS across all time points, but had worse body image than patients who had mastectomy without reconstruction at T2 (p=.02); patients who had mastectomy without reconstruction had better body image than controls at T1 (p=.0014), possibly due to controls lack of cancer-related concerns. Efforts should be directed at helping breast cancer patients cope with emotional problems relating to body image that vary differentially by type of surgery at specific time points after treatment.

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C148

PROSTATE-SPECIFIC QUALITY OF LIFE OUTCOMES FOLLOWING ROBOTIC-ASSISTED PROSTATECTOMY

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Numerous studies document the prevalence of treatment-related side effects such as urinary, sexual, and bowel dysfunction in men treated for prostate cancer. However, general quality of life (QoL) outcomes in this group are generally good, and may not be related to the intensity or frequency of treatment-related symptoms. We present data from a prospective, longitudinal study of men surgically treated for early stage prostate cancer to shed light on the emotional, cognitive, and behavioral components of prostate-specific QoL in this population. Participants are N=68 men who underwent robotic-assisted prostatectomy (RP) at an NCI-designated comprehensive cancer center in Southern California and completed study questionnaires prior to surgery and 1 year later. Prostate-specific QoL was assessed with the 11 Prostate Cancer Quality of Life (PCQoL) Scales (Clark et al., 2003), which assess QoL across 4 areas of functioning: urinary control, sexual concerns, health concerns, and treatment perceptions. Mean age of the sample was 61 years, and most men were well-educated (>63% had at least college degrees), White (84%), and in long-term relationships (79% married/partnered; mean relationship length=29 years). Urinary control and sexual concerns worsened significantly pre- to post-surgery (ps<.005), with impairment in the sexual domain appearing more profound. Men also reported less health worry, more PSA concern, and a more positive life outlook 1 year following RP (all ps<.005). Marital affection remained constant. Findings suggest that RP has a significant impact on multiple domains of prostate-specific QoL, and that sexual concerns may be most adversely affected. General QoL instruments may not capture subtle, but important aspects of patient functioning. Discussion highlights areas of concern, and addresses implications for urinary vs. sexual interventions in this group of cancer survivors.

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C149

RELATIONS OF GENDER TO ADJUSTMENT OUTCOMES FOLLOWING HEMATOLOGICAL STEM CELL TRANSPLANTATION

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Research has documented that a significant minority of hematological stem cell transplant (HSCT) survivors experience cancer-related posttraumatic stress disorder (PTSD) symptoms, psychological distress, and serious functional limitations following treatment (Broers et al., 2000; Smith et al., 1999). Considering the very strong evidence from general population samples that women are more likely than men to develop PTSD (Olff et al., 2007), there is a need to assess cancer-related PTSD and associated outcomes in gender-balanced samples. This study examined 296 HSCT survivors (47.5% female; mean age=50.3 years) who were screened for eligibility in a psychological intervention trial. The sample was primarily Caucasian (83.8%) and 83.4% had at least some college. Participants had undergone HSCT from 1 to 3 years prior to completing the assessment, which included measures of PTSD (PCL-C), general distress (BSI), and quality of life (FACT-G).

Approximately 12.2% of participants met the three symptom cluster criteria for probable cancer-related PTSD, and 39.9% of participants met the criteria for caseness on the General Severity Index (GSI) of the BSI. The number and type of PTSD symptoms and the proportion of participants who were classified as cases on the GSI did not vary by gender. However, women endorsed more symptoms of distress relative to men, t(293)=−2.11, p<.05. Although physical and social well-being did not vary by gender, women reported worse emotional well-being relative to men, t(293)=2.18, p<.05.

The lack of gender differences in PTSD symptoms is consistent with prior research with cancer patients (DuHamel et al., 2001; Jacobsen et al., 2002), but contrasts with epidemiological studies of PTSD in non-cancer populations (see Olff et al., 2007). Findings suggest that women may be more likely than men to endorse general distress following HSCT, but cancer-specific PTSD symptoms may be equivalent across gender groups.

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C150

WOMEN'S CONCERNS FOLLOWING HEMATOLOGICAL STEM CELL TRANSPLANTATION

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A significant minority of patients experience adjustment problems following hematological stem cell transplantation (HSCT) (Broers et al., 2000; Smith et al., 1999). Female HSCT survivors evidence more global distress than male HSCT survivors (Vickberg et al., 2001). However, little is known about the specific quality-of-life concerns that women experience following HSCT. This study examined 140 female HSCT survivors (mean age=50.4 years) who were screened for eligibility in a psychological intervention trial. The sample was primarily Caucasian (83.6%) and 78.6% had at least some college. Participants had undergone HSCT from 1 to 3 years prior to completing the assessment, which included a quality-of-life measure (FACT-G).

Women's concerns encompassed various domains, including employment, physical stamina, body image, and sexuality. Forty women (28.6%) indicated that they were "somewhat" to "very much" concerned about their ability to maintain their job, including work in the home. Eighty-two women (58.6%) endorsed the same degree of concern regarding fatigue. Forty-eight women (34.3%) reported little or no satisfaction with their physical appearance, and 25% of the sample reported no interest in sex. Among 103 women with a spouse or partner, 28 women (27.2%) reported no sexual activity during the past year, and 23 women (22.3%) endorsed little or no satisfaction with their sex life. Among 41 women under the age of 45, 14 women (31.1%) indicated that they were "somewhat" or "very much" concerned about their ability to have children. Although participants reported a range of quality-of-life concerns, 96.4% did not regret their decision to undergo HSCT. However, 90% reported little or no pride in their ability to cope with their illness. Findings suggest that many women experience long-term adjustment difficulties following HSCT, and a range of medical and psychosocial intervention efforts may be needed to enhance their sleep, self-confidence, and well-being.

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C151

MEANING, PEACE AND FAITH: TESTING A REVISED FACTOR STRUCTURE FOR THE FACIT-SP

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The Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (FACIT-Sp) scale is a psychometrically sound measure of religious and spiritual (R/S) well-being in patients with cancer. Standard usage of this measure yields two subscales, one measuring a sense of meaning and peace and the other the role of faith in illness. Recently, Canada and colleagues (2007) proposed a three-factor model for the FACIT-Sp as a potential way to increase the utility of the instrument. This approach divided the first factor into two components (one each for meaning and peace) and eliminated the 12th item, resulting in a three-factor, 11-item solution. This approach may allow researchers to examine the contribution of individual R/S dimensions to quality of life (Q o L) more precisely. This study attempted to replicate these findings with a sample of 202 ethnically diverse breast cancer survivors. Factor analysis revealed that an 11-tem, three-factor solution improved the variance explained in the two-factor solution by 10%. Partial correlations of these factors with physical well-being (PWB) and emotional well-being (EWB) measured by the Functional Assessment of Cancer Therapy for Breast Cancer (FACT-B) scale, as well as depressive symptomatology (Beck Depression Inventory; BDI-II) was used to investigate their unique relationships with Q o L. The original meaning/peace factor (controlling for faith) was significantly associated with EWB ($r=.49$, $p<.000$), PWB ($r=.29$, $p<.000$), and depressive symptomatology ($r=-.47$, $p<.000$). However, with a 3-factor solution only the peace factor (controlling for meaning and faith) was uniquely associated with these three constructs ($r=.37$, $p<.000$; $r=.21$, $p<.000$; $r=-.29$, $p<.000$) while the meaning factor (controlling for peace and faith) was only associated with depressive symptomatology ($r=-.18$, $p<.012$). Implications of this approach for research with cancer patients are discussed.

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C152

COPING, DEPRESSIVE SYMPTOMS, AND CANCER-RELATED NEEDS IN CHOROIDAL MELANOMA

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Research on the psychosocial implications of cancer generally assess patients treated for commonly-occurring cancers, and may not generalize to patients diagnosed with rare cancers. Choroidal melanoma (CM), the most common intraocular cancer in adults, occurs in 5–8 individuals per million and is treated through removal of or radiation to the eye; chemotherapy is not a treatment for local disease. The treatment and side effects of this diagnosis distinguish ocular melanoma from other malignancies, necessitating independent psychosocial research to be conducted. The aim of this study was to investigate coping strategies, depressive symptoms, and cancer-related needs in a sample of CM patients. All patients diagnosed and treated at the Ophthalmic Oncology Center at the UCLA Jules Stein Eye Institute from January 2002 through December 2006 were recruited by mail. Participants completed questionnaires assessing coping strategies (COPE), depressive symptoms (CES-D), and cancer-related needs (Cancer Needs Questionnaire). Of 147 questionnaires mailed, 99 were completed. CM patients reported coping with their diagnosis with the use of approach-oriented strategies more often than avoidance-oriented strategies. When compared to other cancer samples, CM patients used less social support coping. Depressive symptoms reported by CM patients were comparable to those reported by other cancer populations. Patients treated for CM continued to report long-lasting needs for information and support related to their diagnosis. Depressive symptoms and cancer-related needs are associated with particular coping strategies. CM patients are both similar to and distinct from other cancer groups. Rates of depressive symptoms are similar in CM and other cancer groups. CM patients are less likely to seek social support than are other cancer samples. CM is a rare disease of which few lay people are aware, perhaps resulting in little support seeking by patients. Despite being several years post-treatment, patients continue to report diverse needs related to their diagnosis.

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C153

PROSPECTIVE STUDY OF EMOTIONAL ADJUSTMENT AND QUALITY-OF-LIFE CHANGES AMONG MULTIPLE MYELOMA PATIENTS RECEIVING AUTOLOGOUS STEM CELL TRANSPLANTATION

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Despite a growing database regarding health outcomes associated with autologous stem cell transplantation (ASCT), surprisingly little research has focused on multiple myeloma patients. This gap is striking given that myeloma is one of the most common indications for ASCT. In particular, there is a critical need for information regarding the experience of older patients (generally excluded from previous trials but now transplanted in growing numbers). Data also are needed regarding the acute post-transplant period, when risks for morbidity are greatest. This prospective study examined a range of health outcomes (FACT-BMT, BSI Anxiety and Depression, Satisfaction with Life Scale) among 94 patients assessed at stem cell collection and immediately post-transplant (mean=9.4 days). Mean age was 55.7 and 61.7% were male. Findings were compared with population norms and with transplant patient norms. At stem cell collection, deficits were extensive, with 70.2% scoring 1 SD below population norms for physical wellbeing, 94.7% reporting at least moderate fatigue, 39.3% with clinically meaningful levels of anxiety, and 40.4% with depression. Following transplantation there was a significant worsening of depression ($p<.05$), life satisfaction ($p<.001$), and FACT transplant-related concerns ($p<.05$) (all small-to-moderate effect sizes). Overall however, post-transplant declines in functioning were generally less than anticipated and less than those associated with transplant patient norms. Pain scores improved ($p<.001$). Older patients fared no worse than their younger counterparts; instead they reported better physical ($p<.05$) and social wellbeing ($p<.05$) at collection and better social wellbeing after transplant ($p<.05$). Outcomes were not strongly related to other demographic or clinical correlates. Results highlight the importance of routine screening and proactive intervention for myeloma patients undergoing taxing protocols.

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C154

THE EFFECTS OF A HOME-BASED AEROBIC EXERCISE INTERVENTION ON FATIGUE IN CHILDREN WITH ACUTE LYMPHOBLASTIC LEUKEMIA DURING THE MAINTENANCE STAGE OF CHEMOTHERAPY

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Effective management for cancer-related fatigue in clinical practice is essential for improving children's quality of life. The aim of this study was to examine the effect of the home-based aerobic exercise intervention on fatigue in children with ALL during the maintenance stage of chemotherapy.A quasi-experimental study was conducted with 14 pediatric oncology patients in the experimental group and 10 in control group who were matched by age and sex. A six-week home-based aerobic exercise intervention was implemented for children who were in the experimental group while patients in the control group only received the usual care. Self-reported fatigue data, assessed by PedsQL Multidimensional Fatigue (including three subscales, general, sleep/rest, and cognitive) were collected for 8 time points, including pre-intervention (baseline), every week during the intervention (6 weeks), post-intervention (after the completion of intervention), and follow-up (one month after the completion of intervention). Multivariate analyses were performed in order to assess the specific hypothesis for this study by using the intent-to-treat analysis (all subjects in the study) as well as the per-protocol analysis (only the children who adhered to the entire intervention protocol were used). For intent-to-treat analysis, the findings indicated that there are no intervention effects and time differences by any items on the subscale of fatigue. For pre-protocol analysis, general fatigue was the only subscale that was significantly lower for children who received the exercise intervention than those in control group at follow-up assessment. Children who received exercise intervention also reported lower sleep/rest fatigue at follow-up assessment only. There were no differences for either general, sleep/rest and cognitive fatigue between two groups at baseline, during intervention or post intervention. The findings from this study indicate that the exercise program may need to implemented in a larger group of patients and last a longer time before the effects can be detected.

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C155

PREDICTORS OF DISTRESS IN WOMEN OF AFRICAN DESCENT SEEKING GENETIC COUNSELING: PERSONAL HISTORY OF CANCER AND DEATH OF FIRST-DEGREE RELATIVE FROM CANCER

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Prior research has shown that levels of distress vary amongst women seeking genetic counseling for hereditary breast cancer susceptibility; however, the majority of these studies have examined distress among White women. Greater understanding of the predictors of distress amongst women seeking genetic counseling is imperative, as distress has been found to impact the receipt and understanding of information provided during the counseling session, as well as counseling satisfaction and testing decisions. This study explored the relationship between prior experience with cancer and cancer-specific distress among women of African descent seeking genetic counseling. We examined the hypothesis that women diagnosed with breast/ovarian cancer and/or women whose first-degree relative (FDR) died from cancer would have higher levels of cancer-specific distress than unaffected women and/or women whose FDR had not died. Women of African descent (N=122) with a personal and/or family history suggestive of inherited breast cancer completed a telephone interview prior to genetic counseling. The interview included questions on sociodemographics and thoughts and feelings about breast cancer. The Impact of Events Scale was used to assess cancer-specific distress (i.e., intrusive thoughts). Consistent with our hypothesis, women affected with cancer as well as women who lost a FDR to cancer reported more intrusive thoughts (p=.05, respectively) than unaffected women and those who had not lost a FDR to cancer. Women who were both affected and lost a FDR had the highest levels of cancer-specific distress (p=.06), and were more likely to meet clinical cutoff criteria for distress (p=.05). Findings from the present study highlight the importance of addressing the psychological and psychosocial needs of women affected by cancer, particularly if they have lost a FDR to cancer.

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C156

PSYCHOEDUCATIONAL GROUP INTERVENTION IMPROVES THE IMPACT OF COPING EFFORTS ON QUALITY OF LIFE IN AFRICAN AMERICAN WOMEN WITH BREAST CANCER

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Psychological interventions for cancer patients are effective in reducing the psychosocial sequelae of cancer, but little is known about the processes that lead to positive change. Moreover, the impact of interventions is understudied in African Americans. This study examined the impact of an 8-week group-based psychoeducational intervention and the impact of women's coping efforts on quality of life (QOL). African American women (N=84) with nonmetastatic breast cancer were randomized to intervention (n=45) or assessment-only (n=39) conditions. On average, women were 56 years old and had 13 years of education. Women completed 5 assessments: initial, post-treatment, 3-month, 6-month, and 12-month follow-up. The CARES-SF (Schag et al., 1991) assessed psychosocial, physical, and sexual QOL and the COPE (Carver et al., 1989) assessed coping efforts. Longitudinal hierarchical linear modeling was conducted for each QOL domain with group (intervention vs. control) as a predictor. Coping measured at each assessment was included as a time-varying predictor. Results showed that active coping efforts (e.g., seeking support, planning) had greater benefits for women in the intervention group compared to the control group in all QOL domains (psychosocial p=.004, physical p=.01, and sexual p=.01). In contrast, the negative impact of avoidant coping (e.g., alcohol use, disengagement) was reduced for women in the intervention group in the areas of psychosocial (p=.03) and sexual (p=.04) QOL. Follow-up analyses showed that the intervention did not impact coping levels or changes in coping over time (p>.10). However, participation in the intervention did enhance the effectiveness of the coping strategies used by these women. These findings suggest that interventions focused on enhancing the effectiveness of women's existing coping skills are important for improving QOL.

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C157

NEGOTIATING HEALTH AND BEAUTY CONCERNS IN WOMEN'S EXPECTATIONS AND DECISION-MAKING ABOUT BREAST RECONSTRUCTION

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Background: Breast cancer patients undergoing treatment face a cascade of decisions. For mastectomy patients, this may include deciding about breast reconstruction (BR). Reconstruction is an elective procedure chosen, in part, based on patients' expectations about quality of life postmastectomy, including health and appearance dimensions. However, few studies have examined the influence of expectations regarding these dimensions on reconstruction decision-making.

Method: Qualitative interviews were conducted with preoperative (n=23) and postoperative (n=11) reconstruction patients (mean age=48) participating in a study of expectations for BR. Audiotaped interviews were transcribed and analyzed via grounded theory methodology (Charmaz, 2006).

Results: BR decisions are often made during a time of considerable distress in which patients are coping with fears about mortality as well as imagining life after cancer. Emergent themes concerning tensions between health and aesthetic concerns in expectations and decision-making about BR are presented. Survival vs. Aesthetics: Many patients pitted survival against aesthetics, framing reconstruction as cosmetic and feeling vain for considering aesthetic concerns. Others framed reconstruction as a health issue, necessary for improved well-being. Reconstruction Decision-Making: In choosing among reconstruction procedures, participants explicitly balanced expectations about aesthetic outcomes with expectations about emotional and physical reactions to different surgeries. Pre-existing values and attitudes toward aesthetic surgery were raised as influences on patients' expectations and decision-making.

Conclusions: Findings are interpreted using a contextual approach to treatment decision-making (Revenson & Pranikoff, 2005), among other models. Practitioners working with patients contemplating reconstruction should assess patients' expectations and values regarding health and aesthetic concerns to promote optimal decision-making.

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C158

PREDICTORS OF FEAR OF RECURRENCE IN CANCER SURVIVORS

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Previous studies have shown that fear of recurrence (FOR) is prevalent across disease sites and is linked to mental health, health behavior, and screening behavior in cancer survivors. Predictors and levels of FOR vary by study (e.g., gender is a predictor for some and not others). FOR may be associated with survivors' avoidance and denial of health concerns, possibly leading to failure to monitor for late effects, recurrence, or new cancers. This paper explores levels and predictors of FOR among survivors.

Current analyses are from the American Cancer Society's Study of Cancer Survivors-I, a population-based study of cancer survivors' Quality of Life (QOL). Survivors in the sample were 10–24 months post-diagnosis with 1 of 6 cancers (colorectal, bladder, skin, non-Hodgkin lymphoma, kidney, and lung). FOR was measured by a 4-item subscale of the Cancer Problems in Living Scale (subscale Chronbach's alpha=0.79) with a range of 0 to 5.64. Multiple linear regressions were run to investigate factors impacting FOR scores. SUDAAN was used to account for the effects of the complex survey sampling for more precise testing.

The within-cancer type regression indicated that physical and mental health status were strong predictors across all six cancer types ($p<0.05$). Age was a strong predictor of FOR ($p<0.001$) except for bladder cancer. Race was a predictor (all $p<0.05$) except for colorectal and lung cancer. Stage and education were predictors for bladder and kidney cancer. Sex was not found to be significant; however, the regression by cancer type indicated cancer type as a predictor for females only ($p<0.01$).

Survivors who were younger, female, diagnosed with bladder cancer, and had lower physical and mental health status scores had the highest levels of FOR and may be at greater risk for avoiding follow-up care. Providers may wish to address issues surrounding and the effects of FOR by providing interventions to reduce distress, and discussing the importance of follow-up care and how healthy behaviors may reduce the risk of second cancers, co-morbidities, and improve overall QOL.

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C159

IDENTIFYING LOW FUNCTIONING COLORECTAL AND LUNG CANCER SURVIVORS USING CLUSTER ANALYSIS WITH SF-36 SCORES

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The general health of most survivors of local cancers returns to normal soon after treatment ends. Some, however, experience impaired health, both mental and physical. If vulnerable survivors could be identified, timely interventions could improve long-term functioning. In this paper, cluster analysis identifies groups of low functioning colorectal cancer (CC) and lung cancer (LC) survivors.

Data are from the American Cancer Society's Study of Cancer Survivors – I. Population-based samples drawn from 11 state cancer registries were analyzed. The analytic sample consisted of 779 CC and 510 LC survivors who completed the survey 10–22 months from diagnosis.

Two-dimensional clusters were identified by applying an EM, hierarchical clustering approach to SF-36 PCS and MCS scores. Optimal models were selected to minimize the Bayesian Information Criterion. Three clusters were identified: Low (LF), Mixed (MF), and High (HF) Functioning. SF-36 scores for CC and LC survivors are presented below. LF had low PCS and MCS scores; HF had high PCS and MCS scores; and MF had low PCS, high MCS scores.

CC survivors:
Group: PCS MCS
LF: 44 36 MF: 36 57
HF: 55 57
LC survivors
Group: PCS MCS
LF: 35 36
MF: 32 57
HF: 52 57

Multinomial logistic regression revealed that for both cancer types, survivors who were younger, less educated, had more co-morbidities, or multiple cancer events were more likely to be LF.

31% of CC and 36% of LC survivors were LF. 35% of CC and 43% of LC survivors were MF. The MFs may be mentally resilient in coping with troublesome physical effects of cancer. Programs for cancer survivors should consider the different needs of these groups. Interventions could target survivors most at risk for LF or MF. Future research should test whether survivors of other cancer types also group into these three clusters.

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C160

EFFECTS OF PRESURGICAL EXERCISE TRAINING ON QUALITY OF LIFE IN PATIENTS WITH MALIGNANT LUNG LESIONS

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Background: Surgical removal of malignant lung lesions remains the best curative option for patients with operable non-small cell lung cancer, however, many patients suffer significant morbidity, functional limitations, and decreased quality of life (QoL) following surgery.

Purpose: To explore the effects of presurgical exercise training on QoL in lung cancer patients before and after surgery.

Methods: In a single group design, patients scheduled to undergo surgical removal of malignant lung lesions were enrolled in supervised exercise training for the duration of their surgical wait-time (4–6 weeks). Patients completed exercise capacity (VO2peak, six minute walk distance; 6MWD) and quality of life (QoL) assessments (Functional Assessment of Cancer Therapy -Lung, Fatigue) at baseline (n=19), immediately pre-surgery (n=12), and one-month post surgery (n=13).

Results: QoL was unchanged after exercise training from baseline to presurgery. Exercise adherence, however, was meaningfully associated with change in several QoL indices including the FACT-L (r=.52, p=.102), lung cancer subscale (LCS; r=.40, p=.219), fatigue (r=.53, p=.094), and trial-outcome-index (TOI; r=.41, p=.207). Changes in 6MWD from baseline to pre-surgery were associated with changes in TOI (r=.28, p=.430), LCS (r=.31, p=.386), and Fatigue (r=.39, p=.262). Changes in VO2peak from pre to post surgery were associated with FACT-L (r=.61, p=.142), TOI (r=.75, p=.052), LCS (r=.77; $p<.05$).

Conclusion: Exercise training did not improve QoL from baseline to presurgery but it is possible that it prevented decline based on associations between exercise adherence, fitness changes, and QoL changes. A randomized controlled trial with an appropriate comparison group is needed to answer this question. Exercise training after surgery may also be warranted given the strong associations between fitness declines and QoL declines during this period.

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C161

PROCESS OF DISCUSSIONS WITH PEER COUNSELORS PREDICTS REDUCTION IN TRAUMA SYMPTOMS IN MATCHED NEWLY DIAGNOSED WOMEN WITH BREAST CANCER

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We conducted a randomized trial of peer counseling matching newly diagnosed women with breast cancer (Sojourners) with a trained (and supervised) peer who is herself a breast cancer survivor for 3 to 6 months. 52 of 104 randomized women were matched a peer counselor (Navigator: N=30). Matched pairs filled out rating sheets after weekly contacts as well as the PCLC at baseline, 3, 6 and 12 months. We tested whether Sojourners' report of positive and negative feelings and topics discussed during the contacts predicted change in trauma symptoms using the PCLC. Sojourners who reported higher average positive feelings during the contact (p=.003) increased in total trauma symptom over 12 months, while those who experienced a greater total duration of contact (total number×average duration) (p=.03) and more frequent expression of feelings decreased (p=.01). In addition to these variables, the linear regression model included reported negative feelings, and active coping discussions and accounted for 19% of the variance. The avoidance subscale was associated with greater positive affect reported, while the associations between arousal and discussion topics mimicked that of the total PCLC. Although we predicted that higher average positive feelings during contacts would decrease trauma symptoms, the reverse was true, suggesting that Sojourners focusing on positive more than on difficult feelings may be hindered from confronting cancer-related trauma, and experience greater avoidance and arousal symptoms. Openly talking about negative feeling may also allow newly diagnosed women to better process the trauma associated with recent cancer diagnosis.

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C162

TALKING ABOUT EMPOWERMENT WITH A PEER COUNSELOR PREDICTS INCREASED MARITAL SATISFACTION IN WOMEN WITH BREAST CANCER

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Decreases in marital satisfaction in women newly diagnosed with breast cancer undergoing treatment are often predicted by increasing levels of distress in both the patient and their spouse. Peer support may alleviate some of the family-related distress. In a randomized trial of peer navigation, we found that newly diagnosed women (sojourners) (N=52 of 104) who were matched with a peer counselor (navigator) (N=30) significantly increased their marital satisfaction over 12 months compared with a control group who decreased. We averaged ratings across all contact sheets (by woman) each sojourner and her navigator completed following each contact. We ran a stepwise forward regression using contact sheet data from 31 married sojourners to predict change over time in marital satisfaction. We included as independent variables: the total amount of time spent in contacts, positive and negative affect ratings, and frequency of discussion topics including empowerment, expressing feelings, cancer information, cancer resources, sexuality, relationships, social issues, and active coping. We found that sojourners reporting more frequent discussions of empowerment reported greater increases in marital satisfaction over 12 months (β=.40, p=.02; Adjusted R2=.13). None of the other sojourner variables was associated significantly with marital satisfaction change. Next we conducted a second regression entering sojourner's rating of empowerment discussions on the first step and navigator ratings of each of the contact sheet variables in the second step (stepwise forward for the latter). Significant additional variance was explained by navigators' ratings of less frequent cancer resources discussions, which were associated with greater increases in marital satisfaction for sojourners (β=−.39, p=.02; Adjusted R2=.26; F Change=.02). We conclude that peer discussions about empowerment and less time conveying information about cancer resources resulted in greater marital satisfaction.

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C163

DIFFERENCES IN COGNITIVE APPRAISALS BETWEEN INITIAL DIAGNOSIS AND RECURRENT BREAST CANCER PATIENTS

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This study aimed to determine if cognitive appraisals differed between women experiencing an initial breast cancer diagnosis and those experiencing a recurrence. Appraisal is the process where patients determine whether the cancer threatens their well-being and determines how to approach the situation. Primary appraisals among breast cancer patients have been found to predict psychological adjustment. While breast cancer typically elicits primary appraisals of threat for patients, it is unclear if appraisals of breast cancer differ between the initial cancer diagnosis and recurrence. In order to address this question, women with breast cancer from the Indiana University Cancer Center were asked to complete the Cognitive Appraisals of Health Scale as part of a larger ongoing study. This scale assesses four cognitive primary appraisals, benign, threat, challenge, and harm/loss. Data from 37 married women undergoing chemotherapy treatment was utilized. Most of these patients were experiencing a recurrence of cancer (n=23; 62%). Almost a third (31.6%) of the participants were employed (31.6%), most (54.5%) had household incomes of $70,000 or more a year, and most (68.2%) were in Stage IV of breast cancer. There were no significant differences between groups in terms of stage (F(1, 36)=1.28, p=.27). The findings showed that women who are experiencing their first occurrence of cancer are more likely to appraise the diagnosis as challenging, while women experiencing a recurrence are more likely to view the diagnosis as threatening (F(1, 22)=6.39, p=.02). This is significant as an appraisal of threat is associated with poorer mental health outcomes. Future research should determine what accounts for these differences and tailor psychosocial interventions to the course of the breast cancer as the needs of the patients may differ.

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C164

PAIN PERCEPTIONS OF THE TERMINALLY ILL; POTENTIAL BENEFITS OF VOLUNTEER VISITORS

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A recent study found that patients who received support visits from hospice volunteers lived significantly longer than those who were not visited (Herbst-Damm & Kulik, 2005). A current debate about the value of this service centers on the potential poor quality of life that may negate the benefit of living longer for terminally ill patients. The current retrospective study assessed a random sample of Hospice patients in the year 2006 for indicators of sympotmology such as heart rate, blood pressure, respiration, and 3 measures of pain; best pain and worst pain of one week and current pain on a 10-point scale. Heart rate and pain ratings did not differ at intake and at a 2 week followup. However, the 4 week followup, which is a temporal marker for when volunteers had begun visiting patients, demonstrated an interesting difference. Those who requested a volunteer had significantly lower heart rates (mean=77 vs 92, p=.03) and lower pain ratings (current pain=1.9 vs 5, p=.012; worst pain=3 vs 5, p=.0016) compared to patients who did not request volunteers. These results remain when controlling for disease and for a subsample of patients where Karnofsky scores, an index of disease severity, were available. Thus volunteer visits to terminally ill patients are associated not only with greater patient longevity but also with more favorable pain experiences. This warrants further investigation of the potential benefits of volunteer services on pain and other quality of life indicators.

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C165

WOMEN'S EXPERIENCES OF LIVING WITH NEUROCOGNITIVE CHANGES WHILE UNDERGOING CHEMOTHERAPY FOR BREAST CANCER

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Purpose. The purpose of this study was to describe the lived experience of the neurological changes women describe while undergoing chemotherapy for breast cancer. Background. Breast cancer is the most frequently diagnosed cancer in U.S. women and the most prevalent cancer in the world. There is growing recognition that cognitive difficulties may occur in women who receive adjuvant chemotherapy for breast cancer. Published research in the area of "chemo brain" has been quantitative and little is known how these difficulties affect everyday life from the patient's perspective.

Method. A descriptive, phenomenological approach was used to describe the lived experience of neurocognitive effects of chemotherapy on everyday life. A purposive sample of 8 women with breast cancer participated in audiotaped interviews in a community setting of their choice. Participants were either currently undergoing or had recently completed adjuvant chemotherapy treatment, with reported changes in memory, concentration, or attention since undergoing chemotherapy; who were able to read and understand English and were willing and able to talk about their experiences. Colaizzi's (1978) descriptive phenomenological method guided data analysis

Results. Data were grouped into the following eight recurrent themes: 1) Insidious recognition and validation of "chemo brain"; 2) Looking for answers in all the wrong places; 3) Can't keep my eye on the ball; 4) Underwhelming information for an overwhelming experience; 5) What the future holds; 6) Work department: Hold please! ; 7) Caution: Woman on chemo on board; 8) Coping strategies.

Conclusions & Implications. Women receiving chemotherapy for breast cancer have substantial problems with cognition affecting their everyday lives. Suggestions of caring implications which emerged from the data underscore the need to support these women through this underestimated experience and stressful time of their lives.

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C166

DIFFERENCES IN SEXUAL FUNCTIONING BETWEEN WOMEN WITH GENDER AND NON-GENDER SPECIFIC CANCERS

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Previous research has documented the prevalence of sexual dysfunction among women with a history of cancer. However, most studies have focused on single cancers, precluding comparison of sexual functioning across survivors of different cancers. The current study hypothesized that there is greater sexual dysfunction in women with female gender-specific cancers (GSC) than in women with non gender-specific cancers (NGSC). We also predicted greater sexual dysfunction in post-menopausal women than in pre-menopausal women. Data for this study are from the American Cancer Society Study of Cancer Survivors-II (SCS-II), a nationwide study of quality of life among cancer survivors. The survey included the MOS Sexual Problems Scale, which assesses sexual concerns and difficulties. The analytical dataset was limited to women diagnosed with GSC (breast/uterine cancer; N=1,451) or NGSC (colorectal/skin melanoma cancer; N=474) who reported being in an intimate relationship. The sample was predominately white (81.5%), had a HS education (85.4%), and had a mean age of 58. Results of a general linear regression supported our first hypothesis, showing that women with GSC had significantly ($p<.05$) more sexual dysfunction (Mean=21.0, SE=2.6) than women with NGSC (Mean=15.5, SE=2.9), even after controlling for relevant medico-demographic variables. Notably, this difference was significant among women under 55 ($p<.005$), but was not for women in the older age groups (55–64, 65+), indicating an age by cancer interaction. Our second hypothesis was also supported by a main effect of menopausal status ($p<.05$), with post-menopausal women reporting more sexual dysfunction than pre-menopausal women, regardless of cancer type. Overall, these findings suggest women with GSC are more likely to have impaired sexual functioning and that this effect is most pronounced among younger women. These findings may inform interventions to improve women's sexual health.

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C167

PAIN EXPECTATIONS AND BENEFIT-FINDING IN WOMEN UNDERGOING SURGERY FOR SUSPECTED ENDOMETRIAL CANCER

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Adjustment to endometrial cancer (ECa) represents an important area of research, as ECa is the 4th most common female cancer. Benefit-finding is associated with positive adjustment to a variety of medical conditions; however, relatively little is known about the predictors of benefit-finding in women with cancer. In addition, there is a dearth of research exploring how pain, a prevalent cancer symptom, is associated with benefit-finding. This study explored the relationship between presurgical pain expectations and postsurgical benefit-finding in women undergoing surgical resection for newly diagnosed ECa. Nineteen women (Age M=60 yrs, SD=9 yrs) with suspected ECa completed the Patient-Centered Outcomes (PCO) questionnaire, assessing usual pain levels and ideal and expected pain levels following ECa surgery (0=no pain, 100=worst pain imaginable); the Functional Assessment of Cancer Therapy-Endometrial Cancer (FACT-En), assessing health-related quality of life, including pain; and the Benefit-Finding Scale (BFS) immediately prior to surgery. The FACT-En and BFS were also completed 1 month following surgery. Prior to surgery, mean usual pain was 19.38 (SD=27.41); mean expected postsurgical pain was 12.72 (SD=21.25); mean ideal postsurgical pain was 8.39 (SD=9.50) (a 56% desired reduction from usual pain, which is similar to desired pain reductions observed among non-malignant pain populations). Using hierarchical linear regression, postsurgical benefit-finding was regressed on presurgical benefit-finding and pre/postsurgical pain levels (Block 1) and presurgical pain expectation (Block 2). Ss with greater pain prior to surgery reported greater benefit-finding following surgery ($B=.42$, $p<.05$). Furthermore, Ss who expected lower pain levels following surgery reported greater benefit-finding following surgery ($B=-.33$, $p<.05$). Although based on a small sample, these findings are among the first to suggest that both pain and pain expectations may be associated with the ability to identify positive consequences of cancer in women.

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C168

OPTIMISM AND QUALITY OF LIFE FOLLOWING ACUTE CORONARY SYNDROME

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Quality of life is increasingly becoming recognised as an important outcome of cardiac treatment interventions alongside clinical measures such as morbidity and mortality. We investigated whether optimism was associated with quality of life in patients diagnosed with an acute coronary syndrome (ACS) 12 months and 36 months after hospitalization. Patients with a diagnosis of ACS (n=212) completed the revised Life Orientation Test while in hospital. After 12 and 36 months, quality of life was assessed using the physical and mental health status measures from the Medical Outcomes questionnaire (SF36). Participants were 76.9% male with a mean age of 60.25 (s.d. 11.31). Poorer quality of life was reported by women, patients from ethnic minorities and those having higher levels of social deprivation. Clinical factors such as being diabetic, pre-admission aspirin use, illness reoccurrence/re-admission, and lifestyle factors such as physical inactivity pre-ACS also predicted poorer quality of life after 12 months. Multiple linear regression was used to build a predictive model of physical quality of life after 12 months. Optimism was associated with physical wellbeing independently of age, gender, ethnicity, deprivation, ACS risk score (taken from the Global Registry of Acute Coronary Events), diabetes, pre-admission aspirin use, anxiety, recurrence/readmission, and level of physical activity ($r^2=.252$, $F=5.03$, $p<.001$). Optimism was also associated with mental well being ($r^2=.240$, $F=4.58$, $p<.001$). Physical wellbeing deteriorated between 12 and 36 months, while mental wellbeing was unchanged. Optimism remained an independent predictor of both physical ($r^2=.212$, $F=2.99$, $p=.001$) and mental wellbeing ($r^2=.220$, $F=3.12$, $p=.001$) after 36 months. Interventions aimed at promoting optimism may improve future health status and functioning in ACS patients.

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C169

CHARACTERISTICS ASSOCIATED WITH HEALTH RELATED QUALITY OF LIFE IN PATIENTS WITH TYPE2 DIABETES

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This study was to:1)identify the relationships between general health-related(MOS SF-36)and diabetes specific(Diabetes Quality of Life Measure-DQOL)quality of life,and 2)examine characteristics(sociodemographic and number and types of study-focused comorbidities)associated with general and disease specific health related quality of life (HRQoL)in persons with type-2 diabetes and hypertension and/or hyperlipidemia. 321subjects with type2 diabetes and hypertension and/orhyperlipidemia were included in this secondary data analysis.

The parent study(R01DK59048)examined the impact of a problem-solving,multi-component telephone intervention on adherence to multiple medications. Patients,aged ≥40 years,with type-2 diabetes(duration>1 year)and hypertension and/or hyperlipidemia,and who were prescribed ≥ one oral medication for diabetes and one for hypertension or hyperlipidemia were recruited. Baseline data from the parent study were used in the current study. Pearson's product-moment coefficients,t-tests,ANOVA, and linear regressions were used for data analyses. There were significant positive correlations between general and diabetes specific HRQoL measures ($r=0.13–0.62$, $p<.01$). Characteristics significantly associated with SF-36 subscale scores were gender ($p<.01–.001$),marital status($F=4.57–4.82$,$p<.003–.004$),household size ($F=6.20$,$p<.002$),peripheral vascular disease ($t=2.57–6.06$,$p<.01–.000$),renal disease ($t=2.95–3.69$,$p<.01–.001$),history of stroke/TIA($t=2.64$,$p<.01$)and arthritis ($t=3.35–7.44$,$p<.000$). The number of study-focused comorbidities was significantly related to DQOL subscales scores ($r=0.80–1.42$, $p<.01$). Age ($r=0.15–0.36$, $p<.006–.001$),income ($F=4.41–12.54$, $p<.005–.001$) and having a psychological problem ($t=2.80–7.13$,$p<.005–.001$)were significantly related to both SF-36 and DQOL subscale scores as well as the DQOL total score. Sociodemographic characteristics and the presence of study-focused comorbidities were statistically significantly related to HRQoL in this sample. These findings need to be confirmed in a larger independent study.

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C170

PREDICTORS OF QUALITY OF LIFE AND GLYCEMIC CONTROL IN ADOLESCENTS WITH TYPE 1 DIABETES: THE ROLE OF SELF-DIRECTEDNESS AND ALEXITHYMIA

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Adolescence with type-1 diabetes faced with a complex set of developmental changes (multiple psychosocial transitions in emotional, cognitive and social domains, individuation and integrated sense of self) as well as changing demands of the disease. The aim of this study was to examine how diabetic adolescents recognize and respond their illness in relation with their personality traits and emotional well-being.

Adolescents (n=102, between the ages 14–19) reported on their own experiences, perception about their health behavior. Information were provided by written narratives in connection with feelings of their diabetes as well. Self-reported measures assessed temperament and character factors of personality (JTCI), alexithymia (TAS-20) and quality of life (Kidscreen-27).

Findings suggest difficulties to identify feelings and self-directedness which play an important role on children's adjustment and illness outcome. Individuals with alexithymia prone to higher levels of perceived psychological well-being (lower QoL) ($\beta=-.116$, $p=.033$), which might decrease adolescents' emotional perception and body awareness. Contrary self-directedness could improve the perception of autonomous and independent self ($\beta=.425$, $p=.001$), indirectly improving metabolic control (lower HbA1C) ($\beta=-.136$, $p=.008$). Girls were more vulnerable in relation to emotional regulation and QoL, than boys (mean±SD: 14,5±1,0 vs.10,4±3,8, $p=.017$).

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C171

OVERWEIGHT, OBESITY, AND STRONG ATTITUDES: PREDICTING PARTICIPATION PHYSICAL ACTIVITY IN A PREDOMINANTLY HISPANIC COLLEGE POPULATION

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Obesity is the leading cause of preventable death and conveys risk for diabetes, hypertension, heart disease, and stroke. Overweight and obesity are common among college students with surveys showing 35% of college students to be overweight (NCHRBS, 1995). Unhealthy diets and low physical activity are the major causes. We examined relationships between demographic and behavioral variables including age, alcohol consumption, weight, BMI, strong attitudes, smoking status, and perceived stress and participation in physical activity among a predominantly Hispanic (72%) college student sample. Three hundred ninety two students completed questionnaires as part of a general health screening. Results showed strong attitudes and gender to important predictors of participation in physical activity and exercise in this sample. Future studies might explore these relationships among other ethnic/demographic groups, as well as test the effectiveness of interventions for weight reductions.

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C172

MODERATE-INTENSITY PHYSICAL ACTIVITY AND SLEEP DISTURBANCES IN JAPANESE ADULTS: A CONTROLLED TRIAL

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BACKGROUND: Sleep disturbances, especially insomnia and excess daytime sleepiness are common complaints. OBJECTIVE: To determine the effects of increased daytime physical activity and other sleep hygiene education on self-rated sleep quality among sedentary Japanese adults reporting moderate sleep complaints. DESIGN: Quasi-experimental design of 4 weeks' duration. PARTICIPANTS: Volunteer sample of 22 women and 15 men (of 51 eligible subjects) aged 28 to 83 years who were sedentary, free of cardiovascular disease, and reported moderate sleep complaints. INTERVENTION: All the subjects were received to lecture and pamphlet on sleep hygiene, 19 subjects who hope to be enrolled in the course were add to personalized behavioral intervention (personalized advice, goal setting, self-monitoring, and accelerometer). Subjects in the behavioral intervention conditions (BIC) were recommended to promote a least 1000 walking steps per day. MAIN OUTCOME MEASURE: Pittsburgh Sleep Quality Index (PSQI-J), Epworth Sleepiness Scale (ESS), Oguri-Shirakawa-Azumi sleep inventory for middle aged and aged (OSA-MA), and International Physical Activity Questionnaire (I-PAQ). RESULTS: Subjects in both the BIC and only information provision conditions (IPC) showed significant improvement in the PSQI global sleep score, sleep onset latency, total physical activity levels, and walking behavior at 4 weeks ($P<.01$). Compared with the IPC, subjects in the BIC showed significant improvement of dreaming scores in the OSA-MA (BIC: 47.4 [points] at pre, 50.9 at post; IPC: 53.5 at pre, 50.8 at post, $P<.05$) and walking behavior (BIC: 7.9 [METS*h] at pre, 19.6 at post; IPC: 11.5 at pre, 19.6 at post, $P<.05$). No participant was withdrawn for adverse effects. CONCLUSIONS: Although information provision on sleep hygiene can improve self-rated sleep quality, adding moderate-intensity physical activity may be more improved in adults with moderate sleep complaints. ACKNOELEDGEMENT: This study was supported by "Academic Frontier" Project for Private Universities: matching subsidy from the Ministry of Education, Culture, Sports, Science and Technology in Japan, 2004–2008.

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C173

INFLUENCE OF EDUCATIONAL LEVEL ON THE RELATIONSHIP BETWEEN OBESITY AND HEALTH-RELATED QUALITY OF LIFE (HRQL) AMONG GALICIAN WOMEN

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Objetive: To ascertain the influence of obesity on health-related quality of life (HRQL) among women in Galicia, according to educational level

Methods: Cross-sectional study with personal interview of 1321 women selected by random sampling from the voters' rolls of 14 Galician towns. HRQL was assessed using the SF-36 questionnaire. The association between body mass index (BMI) and suboptimal scores in the different HRQL dimensions was quantified by means of odds ratios (ORs), obtained on the basis of logistic regression models adjusted for age, sex, area, work status, education, smoking habit, hours of sleep and number of chronic diseases. Separate analyses were conducted on women with and without secondary education.

Results: Among women without secondary education, obesity was associated with a higher prevalence of suboptimal values in the following dimensions: Physical functioning (OR: 2.04; 95% CI:1.27–3.28); Role-physical (OR: 1.81; 95% CI: 1.05–3.13); General health (OR:1.80; 95% CI: 1.14–2.86); and Role-emotional (OR: 2.31; 95% CI: 1.17-4.55).

Women with secondary education registered better scores in the various SF-36 dimensions, and a rise in BMI was mainly associated with a fall on the Physical functioning scale (OR: 2.34; 95% CI:1.00–5.48)

Conclusion: The impact of obesity on women's HRQL is greater among those with a better educational level, entailing a significant worsening in the physical and role-emotional dimensions and a worse perception of health.

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C174

THE ASSOCIATION BETWEEN SELF-EFFICACY AND HEALTH-RELATED QUALITY OF LIFE (HRQOL) AMONG PARTICIPANTS IN A WEIGHT LOSS STUDY

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Self-efficacy has been investigated in terms of its influence on clinical outcomes among weight loss study participants; however, its relationship with quality of life during weight loss treatment has not been examined. The purpose of our study was to examine the association between eating-related self-efficacy and HRQOL over a 12-month cognitive-behavioral intervention followed by a 6-month maintenance period in the PREFER Trial, a randomized clinical weight loss trial. Participants were randomized initially to receive their dietary preference or not and next, to a standard calorie- and fat-restricted diet or a calorie- and fat-restricted lacto-ovo-vegetarian diet; however, for the purpose of this paper, analyses were conducted treating the participants' protocol assignment as background/contextual variables. At baseline, 6, 12, and 18 months, self-efficacy for resisting eating was measured with the Weight Efficacy Lifestyle (WEL) questionnaire and HRQOL was measured with the Medical Outcomes Study-Short Form-36 (SF-36) questionnaire. For the analysis, we examined the total WEL score and the five sub-scale scores- negative emotions, availability, social pressure, physical discomfort, and positive activities as predictors of quality of life, measured by the physical and mental health SF-36 component scores. The sample (N=176) was mostly female (87%) and Caucasian (70%), with a mean age of 44±9 years and body mass index of 34.0±4.1 kg/m^2. Using linear mixed modeling, we found the total WEL score, as well as the five sub-scale scores, were significantly positively predictive of the physical health and mental health components of the SF-36 across the four time points (ps<.007). These data suggest that one's self-efficacy for resisting foods in varying situations positively impacts the physical and mental components of quality of life among individuals who are participating in a formal weight loss program. Thus, enhancing self-efficacy may be a means to improving HRQOL.

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C175

OF FITNESS AND FATNESS: THE CONTRIBUTIONS OF WEIGHT LOSS AND INCREASED PHYSICAL FITNESS TO IMPROVEMENTS IN HEALTH RELATED QUALITY OF LIFE

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The relative importance of obesity and poor fitness to adverse health outcomes and diminished quality of life remains an area of controversy. Indeed, some researchers contend that the poor cardiorespiratory fitness represents a greater threat to health and health-related quality of life (HRQOL) than excess body weight. We addressed this issue in the context of 6-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 298 obese women (mean BMI=36; mean age=58.9 years) who completed treatment, and categorized the participants based on weight loss and on improvements in aerobic fitness, as measured by pre- to post-treatment changes on the 6-Minute Walk Test. We identified two specific subgroups for comparison. Group 1 included participants (n=19) in the top tertile for weight loss (mean=−13.6 kg) but the bottom tertile for improved fitness (mean=−0.8% change). Group 2 included participants (n=19) in the bottom tertile for weight loss (mean=−3.6 kg) and top tertile of for improved fitness (mean=+2.1%). We compared pre- to post-treatment changes in these groups on a global index of HRQOL derived from the SF-36. An examination based on the full sample showed that both weight reduction and increased physical fitness were associated with improvements in HRQOL (rs=.42 and .18, respectively, ps<.01). A comparison of the groups showed significantly greater improvement in HRQOL for the participants in Group 1 (p<.001). Thus, large decreases in weight loss accompanied with small increases in fitness produced greater improvements in HRQOL than large increases in fitness coupled by small weight losses. These findings suggest that for obese persons increased fitness in the absence of significant weight loss may not improve health-related quality of life.

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C176

THE BENEFIT OF CONTINUED DRIVING ON QUALITY OF LIFE AMONG OLDER ADULTS

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Issue: Driving is an important part of mobility, quality of life, and independence. Many older adults at some point will be faced with the possibility of driving cessation, which may lead to social isolation. Some older adults are forced to stop driving even though they may still posses the capabilities to drive with restrictions. By extending driving for capable older adults, we are allowing them to keep their independence and thus have a positive effect on their quality of life.

Many driving evaluation services are designed to determine who is safe to drive and who is not. By creating an intermediate level of driving we are optimizing quality of life. The objective of our study is to assess changes in quality of life among the older drivers found to be safe or restricted compared to those found to be unsafe.

Program: Drivers at our driving clinic are classified as safe, restricted,and unsafe based on medical history, neuropsychological testing, and simulated driving evaluation. Restricted drivers are instructed to continue driving but under certain circumstances. To assess quality of life, patients are given the SF-36 Quality of Life survey which measures physical health and mental health. For our study the survey was administered at driver's initial visit and on average six months later. This allowed us to compare quality of life over time among the three driving groups.

Outcomes: Drivers told to stop driving experienced a decrease in mental health quality six months following their initial driving evaluation. Interestingly, older drivers who were told to stop driving reported a slight increase in physical health. This may be due to having more time for physical activity such as walking to church or taking leisurely walks in the neighborhood. Safe and restricted drivers had similar mental and physical health scores. This indicates that by allowing capable older drivers to continue driving, it reduces their chance of experiencing decreased mental health. These findings demonstrate the benefits of an intermediate level of driving for older drivers. It allows capable older drivers to maintain their independence and quality of life.

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C177

WHO DO SCOLIOSIS PATIENTS TURN TO FOR SUPPORT? DOES IT MATTER?

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The diagnosis and treatment of Adolescent idiopathic scoliosis (AIS), a chronic health condition of the spine, corresponds with a critical period in social development. Little is known about AIS patients' sources of social support and the resulting effect on their health related quality of life, but the visibility of the deformity and duration of treatment makes the problem evident to others. Support could vary by treatment: patients enduring drastic surgery might elicit more social support, and those undergoing a regimen of bracing for several years might experience diminished support, relative to healthy controls. Participants were recruited via reputable websites and at a Midwestern University. Complete data was collected from 521 participants (M age=35.1 years; 85% female; 84.5% white; 30% post-surgery for AIS; 28% had AIS, but not surgery; 35% healthy backs and 7% chronic back pain without AIS). All were assessed for social support (ISEL), quality of life (SRS-22r), disability (Oswestry), depression (PHQ-9), pain anxiety (PASS), and catastrophizing (CSQ). Social support was generally perceived as high and did not differ across back pain groups. Most talked to their spouse/partner, family member, or friend about their health problems; the remainder talked to their doctor, mental health professional, support group, spiritual advisor, or others. Patients supported by their spouse/partner or family member reported significantly higher social support than those confiding in their doctor (p<.01). Across participants, low social support correlated with mental health problems: higher depression, anxiety, catastrophizing and pain anxiety; lower quality of life related to pain, function, self-image and mental health (p<.01). It appears that the presence of spouses and family members is useful in providing adequate social support. Low social support is related to poorer health-related quality of life and overall mental health, suggesting that low social support should be a concern of medical providers as it may be a risk factor for mental health problems.

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C178

PILOT STUDY: EXERCISE INTENSITY LEVEL NECESSARY FOR PSYCHOLOGICAL BENEFIT. A RANDOMIZED CONTROLLED STUDY

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Introduction: This effectiveness study examines how different levels of exercise influence mental health. A moderate intensity workout has both physical and psychological benefits (King, Taylor & Haskell, 1993). Limited research has explored the effects of low-intensity exercise on mental health.
Methods: Participants (N=55) completed a variety of self-report measures before and after a four-week exercise intervention. Individuals were randomly assigned to one of three groups: a wait-list control (WLC) group, a low-intensity exercise group, and a moderate intensity exercise group. Those in the exercise conditions were asked to exercise at their prescribed heart rate twelve times over four weeks.
Results: Only 36% of participants in the exercise groups completed the required sessions. Intent-to-treat analyses compared the three groups on each measure. With the low adherence rate, it was not surprising to find no significant differences between the three groups. However, completer analyses comparing adherent participants to non-adherent showed a significant difference in self-esteem ($p<.001$), as well as trends towards improvement on the depression measure. Finally, analyses of those who exercised (were adherent) compared to those who did not (adherent plus WLC) showed trends in a positive direction.
Conclusions: Much can be learned from this randomized effectiveness study. First, it seems that those who exercise at any level show improvements in mood compared to those who do not. Further, the rate of adherence to this intervention provides insight into the difficulty of persuading a college sample to incorporate exercise into their schedules. Finally, the lack of difference between low and moderate exercise intensity indicates that both levels influence mental health in a similar manner. Some limits of this study are the small sample size, failure of randomization to eliminate heterogeneity between groups, poor adherence to prescribed exercise regimen, and difficulty controlling outside behaviors (e.g., additional exercise).

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C179

ASSESSING CHANGE IN HEALTH-RELATED QUALITY OF LIFE AND VISUAL FUNCTIONING FOLLOWING CATARACT SURGERY

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The assessment of health-related quality of life (HRQoL) following medical procedures allows investigators to gauge the impact of the procedure on functioning. We compared five generic HRQoL measures with a disease-specific measure for patients before and after cataract surgery.
Patients scheduled for cataract surgery (N=205) completed five HRQoL measures: the self administered Quality of Well-being scale (QWB-SA), EuroQoL (EQ-5D), the Health Utilities Index Mark 2 (HUI-2) and Mark 3(HUI-3), and the Medical Outcomes Study 36-Item Short Form (SF-36). Each patient also completed the National Eye Institute 25 Item Visual Functioning Questionnaire (NEI-VFQ25). Patients were re-assessed one month after surgery. Paired t-tests were used to compare changes from pre- to post-surgery. Change scores were calculated for all measures.
Vision-specific quality of life was significantly improved from pre- to post-surgery ($p<0.001$). Of the HRQoL measures, the HUI3 ($p=0.005$), HUI2 ($p=0.022$), HUI3 vision subscale ($p<0.001$), and QWB-SA overall score ($p=0.034$) were all significantly different from pre- to post-surgery indicating sensitivity to the changes that occur after cataract surgery. Correlations between change scores were significant between the NEI-VFQ25 and the QWB-SA ($p<0.001$), HUI2 ($p<0.001$), HUI3 ($p<0.001$), HUI vision subscale ($p<0.001$), SF36 PCS ($p=0.014$), and the EQ-5D ($p=0.006$).
Cataract surgery results in improvements in visual functioning. In addition, this procedure results in improvements in HRQoL as measured by some, but not all, standard generic instruments. Whether this is due to the generic instruments being sensitive to vision changes or whether vision changes affect HRQoL more globally is not yet clear. Measures that include vision-specific items or sub-scales were most responsive to change.

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C180

MOOD INFLUENCES SELF-RATED HEALTH

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Self-rated health is determined by multiple factors, primarily current symptoms. Studies have demonstrated the influence of mood on health ratings in a variety of contexts. In the present study, we investigated whether mood influences self-rated health in 120 pre-surgical cataract patients aged 40–91. Symptoms were quantified using the Quality of Well-Being Scale, Self-Administered (QWBSA), a preference-weighted quality of life measure that assesses most symptoms, including psychological symptoms. Participants also completed a 100-point visual analogue scale for self-rated health, the Profile of Mood States (POMS) and the Geriatric Depression Scale (GDS). A scatterplot of self-rated health scores vs QWBSA scores revealed that there is a strong correlation between the two, $r=.51$, $p<.0005$. Using a multiple regression prediction equation, predicted self-rated health scores were computed from QWBSA scores based on the line of best fit. Residuals were calculated as the distance between actual self-rated health scores and those predicted from the QWBSA score. These residuals, representing magnitude of over or underestimation of self-rated health, were significantly correlated with less depressed mood on both the GDS, $r=-.20$, $p=.03$ and the POMS, $r=-.35$, $p<.0005$. These data suggest that mood influences self-rated health even when correcting for symptoms, although other possible explanations exist. It is possible that people in this sample weigh the health impact of disturbed mood more heavily than the sample from which the QWBSA preference weights were drawn. The QWBSA assesses for presence or absence of symptoms, and so people who rate their health lower than would be expected based on the QWBSA score might have more severe symptoms, which could be associated with more depressed mood. Another possible explanation is that people with less symptomatic diseases expected to affect their future health or survivability might rate their overall health as lower than would be indicated by current symptoms, as well as have mood disturbance from this negative expectation.

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C181

TO FORGIVE IS DIVINE, BUT DOES IT HELP PATIENTS ADJUST TO CHRONIC PAIN?: THE ROLE OF FORGIVENESS AND OFFENSE-TAKING IN CHRONIC PAIN

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This study augments the literature on forgiveness and health by examining the relationship between pain severity and 3 targets of forgiveness- self, others, and the situation- in patients with chronic pain. This study also explores the cognitive basis of anger in chronic pain patients by determining whether offense-taking- the cognitive process preceding feelings of anger- is related to pain severity. Finally, this study examines the relationship between pain severity and 6 dimensions of anger (trait anger, state anger, anger expression-in, anger expression-out, anger control-in, and anger control-out). Twenty-one chronic pain patients (15 female; mean age=52.62) completed a Patient Demographic Questionnaire, the Heartland Forgiveness Scale, the Offense-Taking Scale, the Multidimensional Pain Inventory, and the State-Trait Anger Expression Inventory-2. Linear regression analyses were performed, controlling for demographic variables. Forgiveness of self was a significant predictor of pain severity ($B=-.48$, $p<.05$); neither forgiveness of others nor forgiveness toward the situation significantly predicted pain severity. Furthermore, a significant linear relationship was found between offense-taking and pain severity ($B=.59$, $p<.001$). Of the 6 anger dimensions, only anger control-out ($B=-.52$, $p<.05$) and anger control-in ($B=-.67$, $p<.001$) significantly predicted pain severity, suggesting that beliefs of "being wronged" are more relevant to the experience of pain than feelings of anger. It is likely that the patient who possesses a high disposition to take offense will perceive the pain as transgressing against his/her normal life and will experience the pain as more severe, possibly reflecting the fact that these patients view themselves as "victims" of the chronic pain condition. Our findings also suggest that pain can be allayed through more positive attitudes or feelings toward oneself.

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C182

PATIENT SATISFACTION WITH THE UTAH WORKERS' COMPENSATION SYSTEM FOLLOWING LUMBAR DISCECTOMY: A VALIDITY STUDY

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There have been very few studies that have examined patient satisfaction among workers' compensation populations, particularly among patients who have undergone a surgical intervention. The purposes of this study were to report post-operative measures of satisfaction for Utah workers who have undergone lumbar discectomy and determine how these satisfaction measures were related to pre-surgical patient characteristics and post-surgery clinical and cost outcomes. Participants were 134 workers from Utah (average age= 40.2 yrs., 83% male, 97% white) who underwent either percutaneous or open lumbar discectomy. A retrospective-cohort design was utilized consisting of a review of pre-surgical medical records and a post-operative survey of satisfaction and clinical outcomes. Total medical and compensation costs were also assessed. Satisfaction was assessed via three questions which were summed to create a total satisfaction score. In terms of pre-surgical characteristics, lower total satisfaction was correlated with a greater number of comorbid medical conditions (−.19; $p<.05$) and lawyer involvement (−.35; $p<.05$). Regarding outcomes, lower total satisfaction correlated with failing to return to work (.28 ; $p<.05$), greater dysfunction on the Roland-Morris Disability Scale (−.33; $p<.05$), lower scores on the physical composite subscale of the SF-36 (.24; $p<.05$), and greater total compensation and medical costs (−.30; $p<.05$). A multivariate linear regression using presurgical and postsurgical outcomes to predict total satisfaction yielded a statistically significant model ($F=5.13$, $p<.05$) that accounted for 20% of variation in the total satisfaction measure. Results indicated that patient satisfaction is likely a function of both pre-surgery patient characteristics and post-surgery outcomes. The importance of using brief measures of satisfaction in patient outcome assessment is discussed.

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C183

DISEASE ADAPTATION AND HEALTH OUTCOMES IN HIV-POSTIVE HISPANICS

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A growing body of literature supports the association between adaptation to disease and health outcomes in HIV/AIDS patients. We examined adaptation to disease and health outcomes in 160 Hispanic HIV+ patients (n=121 Male; Mean age=39.46 years), recruited from a community clinic near the San Diego/Tijuana border. Participants completed measures of disease adaptation, quality of life, transmission risk behaviors, and disclosure of HIV status to partners. Disease status (CD4 cell count) was measured in 144 participants. Hierarchical regression analyses showed that after controlling for sex, age and sexual orientation, positive adaptation related to improved mental ($R2\Delta=.18$, $\beta=.45$, $p<.001$) and physical($R2\Delta=.12$, $\beta=.36$, $p<.001$) functioning, fewer difficulties with daily activities ($R2\Delta=.04$, $\beta=.20$, $p<.05$), and a trend toward higher CD4 counts ($R2\Delta=.03$, $\beta=.16$, $p<.10$). Poorer adaptation related to worse mental ($R2\Delta=.27$, $\beta=-.57$, $p<.001$) and physical ($R2\Delta=.13$, $\beta=-.40$, $p<.001$) functioning, more interference with daily activities ($R2\Delta=.08$, $\beta=-.30$, $p<.01$), and lower CD4 counts, ($R2\Delta=.04$, $\beta=-.20$, $p<.05$). Neither positive nor negative adaptation related to overall participation in risk behaviors. However, a logistic regression analysis showed that higher negative adaptation predicted a lower likelihood of disclosure of HIV status to partners (OR=1.8, $p<.01$). These findings demonstrate the importance of successfully adapting to HIV/AIDS diagnosis, to facilitate better health and reduced transmission risk (through disclosure of status to partners). Future interventions should include skills and guidance for patients to promote positive adaptation and to target individuals identified as adapting negatively. Additional research concerning factors that contribute to disease adaptation in Hispanics is especially important, since this population is disproportionately burdened by HIV/AIDS.

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C184

AIDS-RELATED STIGMA IN OLDER ADULTS LIVING WITH HIV/AIDS

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Objectives This study compared the predictive validity of the Chronic Illness Quality of Life (CIQOL) Model (Heckman, 2003) to a model proposed by Emlet to predict shame in older adults living with HIV/AIDS. As the number of older adults living with HIV/AIDS increases, it will be important to understand the sources and sequelae of shame in this vulnerable population and develop interventions to reduce shame and depression commonly found in persons living with HIV/AIDS

Participants and Procedures Participants were 259 HIV-infected older adults (Mage=55.5 years, 60% male, 48% African American) enrolled in a RCT evaluating a mental health intervention for older PWA. Using audio-computer assisted self-interviews, participants completed a 14-item AIDS-related shame scale, the Geriatric Depression Scale, the Barriers to Care Scale, the Functional Assessment of HIV Inventory, Perceived Social Relations Scale, and the Ways of Coping Checklist.

Results Heterosexual men reported levels of AIDS-related shame (M=19.9) that were significantly greater than those reported by women (M=14.5, $p<.05$) and slightly higher than (although not statistically different from) those reported by gay/bisexual men (M=17.9). The CIQOL model accounted for a significant amount of variance in shame in gay/bisexual men $F(8,109)=10.8$, $p<.001$, $R2=.44$), heterosexual men ($F(8,31)=2.8$, $P=.02$, $R2=.42$), and women ($F(8,89)=6.98$, $P<.001$, $R2=.39$). However, Emlet's theoretical model of shame accounted for a significantly greater amount of the variance in the shame criterion measure in gay/bisexual men, $F(6,111)=27.17$, $p<.001$, $R2=.60$, heterosexual men, $F(7,32)=7.38$, $p<.001$, $R2=.53$, and women, $F(6,91)=13.44$, $P<.001$, $R2=.47$.

Implications: Emlet's conceptual model of shame appears to provide an adequate theoretical framework by which to understand AIDS-related shame in older adults living with HIV/AIDS and to inform interventions to reduce shame-related distress in this clinical population.

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C185

SHORT-TERM INTERVENTION OUTCOMES FROM A RCT EVALUATING A COPING IMPROVEMENT GROUP INTERVENTION FOR HIV-INFECTED OLDER ADULTS

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Objectives: The CDC predicts that by the year 2015, 50% of all persons living with HIV/AIDS in the U.S. will be 50 years of age or older. This research reports on the short-term intervention outcomes of a coping improvement group intervention for older adults living with HIV/AIDS.

Participants and Procedures: Participants were 303 persons 50-plus years of age living with HIV/AIDS in New York City, Columbus, OH, and Cincinnati, OH (Mage= 55.4 years, 54% males, 51% African American). Participants were assigned to a 12-session coping improvement group intervention (n=112), a 12-session attention control group intervention based on Erikson's model of generativity (n=105), or an individual therapy upon request comparison condition (n=86). Participants provided data via audio-computer assisted self interviews prior to and immediately after the 12-session intervention.

Results: RM ANOVA found that coping improvement intervention participants reported significant reductions in Geriatric Depression Screening scores from pre-intervention (MPre=14.1) to post-intervention (MPost=11.6) but generativity group intervention (MPre=10.9, MPost=9.9) and individual therapy upon request participants (MPre= 10.5, MPost=10.%) did not, $F(2, 240)=4.7$, $p<.01$. Coping intervention participants also reported marginally significant increases in coping self-efficacy (MPre=169.9, MPost=182.2) while generativity intervention (MPre=180.2, MPost=180.7) and individual therapy upon request participants did not (MPre=178.4, MPost=182.3), $F(2,240)=2.0$, $p<.09$. No intervention effects were found on the outcome measures of social support, anxiety, life-stressor burden, or loneliness (all ps>.20).

Implications: As AIDS become more prevalent in older adults, age-appropriate interventions that can improve life quality in this group are urgently needed.

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C186

COPING DIFFERENCES RELATED TO AGE, EDUCATION, AND SUBSTANCE USE AMONG HIV+ PATIENTS ON ART

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There is a substantial body of literature that demonstrates that substance abuse, lower educational attainment and old age are associated with poor antiretroviral (ART) treatment adherence. HIV+ patients may also engage in coping strategies that impact their ART adherence. This study sought to explore whether age, education level, and substance use would be associated with differences in coping strategies that might explain poorer adherence. Patients (n=154) enrolled in Project MOTIV8 (mean age 40, SD=9, 56.1% African American) provided demographic and substance use data and completed two self-report coping scales. Coping measures were adapted for use with HIV+ patients and assessed general coping strategies (Brief Cope) and specific religious/spiritual coping (Religious Cope). Results revealed that older age was associated with more use of religious ($r=.19$, $p<.05$) and collaborative religious ($r=.25$, $p<.005$) coping, indicating that older participants are not only more likely to use religious forms of coping, but especially religious coping that involves working together with God to find solutions. Education was negatively correlated with denial ($rs=-.18$, $p<.05$) and passive religious deferral coping ($rs=-.24$, $p<.005$) indicating that those with lower levels of education were more likely to deny problems and rely solely on God for solutions than those with higher education. Substance use was associated with greater use of self-directing religious coping ($rs=.18$, $p<.05$) indicating that substance users were more likely to rely on themselves than those with lower levels of use. Substance use was also associated with less collaborative religious coping ($rs=-.20$, $p<.05$). These results suggest that differences in coping styles, particularly religious coping, may partly explain why age, education and substance use are consistently associated with poorer ART adherence.

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C187

STIGMA, FORGIVENESS AND DEPRESSION IN HIV+ WOMEN

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Stigma, a stressor in HIV+ adult women, is associated with increased levels of maladaptive coping and behavior (Martin, 2006). Stress from HIV-related stigma can result in depression which is associated with poor medical adherence, nondisclosure to sexual partners, and coping difficulties (Vanable, 2006). Forgiveness, a teachable skill, is associated with reducing stress and increasing self-esteem and self-efficacy (Luskin, 2002).

Based on Lazarus and Folkman's stress and coping deficit model (1984) we hypothesized HIV-related stigma as a stressor would be positively associated with depression whereas forgiveness would be negatively associated with depression.

Data was collected in 2007 from 30 heterosexual HIV+ women from an AIDS service organization in Dallas. Mean sample age was 47(SD=8.4) years, 93% identified as African American and the remainder European American. The Heartland Forgiveness Scale (Thompson, 2005; $\alpha=.76$), HIV Stigma Scale(Berger et al., 2001; $\alpha=.95$), and Center for Epidemiological Studies Depression Scale(Radloff, 1977; $\alpha=.89$) were administered.

A regression analysis revealed that both stigma ($\beta=.30$, $T=2.2$, $p<.05$) and forgiveness ($\beta=-.59$, $T=-4.4$, $p<.01$) significantly explained 53% of the variance (Adj $R2=.53$, $F(2,27)=17.80$, $p<.001$) in depression in our sample. Although forgiveness did not significantly moderate the relationship between stigma and depression in our model, this may be due to small sample size and lack of sufficient power.

Our findings suggest forgiveness is associated with less depression while stigma is associated with more depression in HIV+ women. Although our small sample size and recruitment from only one site limit the generalizability of our findings and may limit our ability to uncover moderation, we believe this pilot data provides important information on a potentially new dimension that may mitigate stigma in HIV+ women. We speculate forgiveness training will not only reduce depression among HIV+ adult women, but will also moderate HIV-related stigma in depression, resulting in less perceived stress and improved quality of life in HIV+ women.

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C188

TRAUMA HISTORY, SELF-ESTEEM AND STRESS APPRAISAL: CORRELATES OF EMOTIONAL WELL-BEING

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The relationship of trauma, self-esteem and stress appraisal to quality of life (QOL), spec0ifically towards emotional well being, is helpful in understanding a client's trauma history and their adjustment to traumatic events (Green, 2000). Trauma has been significantly associated distress in college students (Green, 2000) however not extended to QOL.

Our study looked at the relationship of trauma, self-esteem, and perceived stress to college students' emotional well-being. Participants (n=120, 78% women) self-identified as European American (53.5%), African American (26.0%), Latino(a) (8.7%), Asian American (7.1%), and Other (4.7%)

Participants completed the Trauma History Questionnaire (Green, 1996; Cronbach's alpha=.85) the Rosenberg Self-Esteem Scale (Rosenberg, Schooler, & Schoenbach, 1989; Cronbach's alpha=.78), the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1993; Cronbach's alpha=.85), and the SF 36 (a measure of QOL; Ware & Sherbourne, 1992; Cronbach's alpha=.85). Significant correlations were identified among these scales. A multiple regression analysis revealed that students who reported higher levels of trauma ($\beta=.144$, $t=2.04$, $p<.05$), higher levels self-esteem ($\beta=.38$, $t=4.31$, $p<.001$) and lower perceived stress ($\beta=-.39$, $t=-4.44$, $p<.001$), had higher emotional well-being and explained 43% of the variance in our model (Adj. $R2=.43$, $F(3,111)=31.71$, $p<.001$). Contrary to our hypotheses, instance of reported trauma was associated with better emotional well-being. Future research needs to untangle this counter-intuitive finding. However, perhaps past traumatic events that have been processed may contribute to more robust current emotional well-being for college students.

Our study suggests that clinicians who work with college students may want to focus on reducing stress and increasing self-esteem to improve overall QOL, particularly along the dimension of emotional well-being, and probe for past traumatic events.

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C189

STRESS AND QUALITY OF LIFE IN WOMEN: ASSESSING CYCLE PHASE AND EXERCISE EFFECTS

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This study examined the moderating effects of exercise on the relationship between stress and quality of life reports during the follicular and luteal phases of the female menstrual cycle. Women (N=101, 18–45 years of age) were screened for menstrual cycle length, hormone use, and health problems. Of the 87 women that met criteria, 67 completed the Bouchard Three Day Physical Activity Record during both the follicluar and luteal phases of their menstrual cycle along with the Frisch Quality of Life (QOL) Inventory and the Cohen Perceived Stress Scale. Participants called on the first day of their menstruation following screening. Setting this as day one, we scheduled an in-lab session on follicular days 5–9 where participants provided informed consent, received a packet of questionnaires, and an ovulation test kit (Answer Quick, Scantibodies Laboratory, Inc.) for urine detection of the leutenizing hormone surge. Participants called the lab when this test was positive to schedule luteal phase questionnaire completion dates. Participants returned completed luteal measures within three days of these dates.

For these analyses, total caloric expenditure from exercise was calculated along with QOL raw score. Significant interrelationships among all three measures existed during both cycle phases. Regression analyses to assess a moderation effects of exercise on the relationship between stress and QOL followed the methods of Aiken and West (1996). Results were statistically insignificant irrespective of cycle phase. Such findings are telling given the inconsistent results reported in the literature related to the benefits of exercise on stress and QOL. When cycle phase is taken into account with a prospective daily measure of exercise a beneficial effect of exercise is not observed. While conventional wisdom regards exercise as a panacea, these results indicate that other means of mitigating stress effects should be sought for women dealing the with cyclical low points in well-being experienced across their menstrual cycle.

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C190

PILOT STUDY: SHORT TERM EFFECT OF LOW VS. MODERATE INTENSITY EXERCISE. A RANDOMIZED CLINICAL CONTROLLED TRIAL

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Introduction: The current study examines the effect of different levels of exercise on perceived level of stress, depression, and self esteem and whether or not the intensity (low vs. moderate exercise) makes a difference. Studies have shown that people who exercise show physical and psychological benefits (e.g., reduced stress and anxiety) (King, Taylor & Haskell 1993). However, few studies have examined the level of exercise intensity needed to affect these changes.
Methods: Participants (N=55) were randomly assigned to one of three groups: a low intensity exercise group, a moderate intensity exercise group, and a wait-list control group. Those in the exercise conditions were asked to exercise at their prescribed heart rate (low vs. moderate) at the student recreation center three times each week for four weeks for 30 minutes each session. Participants were asked to complete visual analogue scales for depression, anxiety, and self-esteem before and after each exercise session.
Results: A paired samples T-test showed significant improvements between pre and post scores for perceived level of stress ($p=.000$), depression ($p=.000$), and self esteem ($p=.000$). Analyses of direction indicated that stress decreased, depression decreased, and self esteem increased from pre to post exercise session. When exercise intensity was examined, no significant differences emerged.
Conclusions: While there are no significant differences between low and moderate intensity workouts when comparing perceived levels of stress, depression, and self esteem, there were significant differences (in the desired direction) between pre and post scores for stress, depression, and self esteem for both low and moderate workouts. These findings indicate that exercise does improve mood, at least in the short term, regardless of the intensity of the workout. Thus, it is likely that individuals who are unable to exercise at a higher intensity will still receive the psychological benefits of physical activity.

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C191

SPIRITUAL QOL OF PERSONS WITH INTESTINAL OSTOMIES

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Background: Religious and spiritual beliefs can influence adjustment to medical treatments and outcomes. Objectives: This mixed-methods cross-sectional study examined the spiritual quality of life (QOL) of persons with intestinal ostomies. Methods: Men (n=88) and women (n=55) with ostomies whose total scores fell in the upper (n=71) or lower (n=72) quartiles of the validated City of Hope Quality-of-Life ostomy-specific (COHQOL-O) survey provided quantitative and qualitative data regarding spiritual dimensions of QOL. Analyses included chi-square and analysis of variance±standard deviations with significance set at $p<0.05$. Content analysis was used to explicate meanings for spirituality items in survey narratives and focus groups. Results: The high COHQOL-O group was significantly more likely to be older (74±9 vs. 70±1.3, $p<0.01$) and married or partnered (72% vs. 55%, $p<0.03$). Upper quartile subjects had more favorable scores for the spiritual items 'Sense of Inner Peace,' 'Hopeful,' 'Reason to be Alive,' and support from spiritual (e.g., prayer) and religious (e.g., church) activities compared to the lower quartile (all $p<0.0001$). The two groups did not differ for the item 'Positive Changes' in life related to having an ostomy. Qualitative comments made by participants reflected the meaning of their high or low spiritual QOL scores. Conclusions: Spiritual dimensions of QOL are significantly influenced by an intestinal stoma. Qualitative comments provided insight into the meanings and lived experiences related to the spirituality items. Persons with ostomies report less inner peace, feeling less hopeful, not having a reason to be alive, as well as fewer spiritual and religious activities for coping. An understanding of these factors will facilitate integration of holistic care and treatment in this population.

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C192

A PROSPECTIVE STUDY OF RELIGIOUS COPING AND HEALTH OUTCOMES AMONG PATIENTS UNDERGOING STEM CELL TRANSPLANTATION

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There has been growing interest in relationships between health outcomes and religious coping (RC) among cancer patients. To date however, surprisingly few oncology studies have differentiated among distinct dimensions of RC; those that have were mostly limited by cross-sectional designs. Negative aspects of RC, or religious struggle, may be a particularly compelling target for investigation. This prospective study examined negative RC, positive RC, and general religious orientation among myeloma patients undergoing autologous stem cell transplantation (SCT). Negative RC was expected to have the most salient effects on study outcomes. Outcome measures included BSI anxiety and depression and FACT-BMT scales. Participants were 94 patients assessed during stem cell collection, and again in the immediate aftermath of transplantation (mean=9.4 days), when risks for morbidity are most elevated. Mean age was 55.7, 91.5% were white, and 61.7% were male. At baseline, negative RC was tied to greater BSI anxiety ($\beta=.30$, $p<01$) and depression ($\beta=.29$, $p<01$), and poorer FACT physical wellbeing ($\beta=-.24$, $p<05$), functional wellbeing ($\beta=-.21$, $p<05$), emotional wellbeing ($\beta=-.29$, $p<01$), and BMT-specific concerns ($\beta=-.30$, $p<01$), after adjusting for relevant medical and demographic covariates. Neither positive RC nor general religiousness were significant predictors. In prospective analyses that controlled for outcome scores at baseline and other relevant covariates, negative RC at baseline predicted worse post-transplant anxiety ($\beta=.21$, $p<05$), depression ($\beta=.26$, $p<01$), FACT emotional wellbeing ($\beta=-.35$, $p<05$), and social wellbeing ($\beta=-.25$, $p<01$). Positive RC predicted greater post-transplant BMT-specific concerns ($\beta=-.31$, $p<01$). Results suggest that religious struggle may contribute to adverse changes in psychosocial health outcomes among myeloma patients undergoing aggressive treatment.

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C193

THE DIFFERENTIAL ASSOCIATION OF SPIRITUAL WELL-BEING ON HEALTH-RELATED QUALITY OF LIFE IN COLORECTAL CANCER: A MULTI-SITE EXAMINATION OF THE ROLE OF MEANING/PEACE

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Individuals diagnosed and treated for cancer often report high levels of distress, continuing even after treatment has ceased. Spiritual Well-Being (SpWB) has been identified as an important factor associated with improved coping and more positive outcomes. Few studies examine the association of SpWB (Meaning/Peace, Faith) above and beyond distress on health-related quality of life (HRQOL) in people with colorectal cancer. Study 1 consisted of 258 participants (57% men) recruited from comprehensive cancer centers in metropolitan areas (age: M=60.6, months post-diagnosis: M=17.2). Participants completed measures of SpWB (FACIT-Sp), HRQOL (FACT-C) and general distress (POMS). HRQOL outcomes were Trial Outcome Index (TOI), Social/Family Well-Being (SWB) and Emotional Well-Being (EWB) scores from the FACT-C. Hierarchical regression analyses were conducted with gender, ethnicity and age in Step 1, disease stage and ostomy in Step 2, general distress in Step 3 and SpWB in Step 4. Significant incremental variance in HRQOL was explained by general distress ($\Delta R^2=.39$ for TOI, .10 for SWB, .33 for EWB) and SpWB ($\Delta R^2=.14$ for SWB, .05 for EWB). Study 2 consisted of 568 participants (51% men) recruited from a state cancer registry (age: M=66.7, months post-diagnosis: M=19.1). Participants completed the FACIT-Sp, FACT-C and an index of cancer-related distress. Parallel hierarchical regression analyses were conducted. Significant incremental variance in HRQOL was explained by cancer-specific distress ($\Delta R^2=.29$ for TOI, .24 for EWB) and SpWB ($\Delta R^2=.26$ for TOI, .27 for SWB, .20 for EWB). Importantly, in both studies, SpWB partially mediated the relationship between distress and EWB. Moreover, higher Meaning/Peace consistently emerged as a robust predictor of better HRQOL. This study provides further evidence of the importance of SpWB, particularly Meaning/Peace, to HRQOL for people with colorectal cancer.

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C194

SPIRITUALITY AND CHURCH ATTEDANCE INTERACT IN PREDICTING PHYSICAL AND PSYCHOSOCIAL HEALTH IN MEXICAN IMMIGRANTS

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\Religiosity and spirituality have been related to positive health outcomes. Preliminary research has found that religiosity and spirituality are related to reduced stress and better adjustment in immigrant groups. It was hypothesized that religiosity and spirituality would interact in predicting health outcomes in Mexican immigrants, with those high in both religiosity and spirituality having better health. To examine the hypothesis, 150 Mexican immigrants (average age 32, 57% female, average of 7 years living in the United States) was studied. Religiosity was measured by frequency of church attendance and spirituality was measured using the FACIT-SP which measures qualities such as compassion, gratitude and forgiveness. Physical health was measured using ambulatory blood pressure, C-reactive protein, and body mass index. Psychosocial health was measured using the Center for Epidemiological Studies Depression scale, the Interpersonal Support Evaluation List, and the Perceived Stress Scale. Overall, those scoring high in both religiosity and spirituality had more positive physical health (p's<.05) and psychosocial health (p's<.01) outcomes. Religiosity and spirituality appear to have an interdependent effect in the well being of immigrants, with religious community (church attendance) and application of religious or spiritual principles (i.e. compassion, forgiveness) contributing in a synergistic fashion to health.

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C195

RELIGIOUSNESS AND SPIRITUALITY AS PREDICTORS OF ANGER MANAGEMENT STYLES IN COMMUNITY DWELLING OLDER PERSONS

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The purpose of this secondary analysis was to explore relationships between dimensions of religiousness and spirituality and the anger management styles of community dwelling older persons. Eighty-two generally healthy older persons completed the Deffenbacher Anger Scale, which measures both healthy anger management (e.g, reciprocal communication) and unhealthy anger management (e.g., verbal assault) and the Multidimensional Measure of Religiousness/Spirituality (MMRS), which measures aspects of both religious and spiritual experience. The mean age of this sample was 74, with 67% female, 51% married, and 10 different religious preferences identified. Overall this sample scored significantly higher on the majority of the individual MMRS items than the 1998 U.S. national norms. Most of the MMRS subscales demonstrated statistically significant relationships with the styles of anger management. Forward stepwise linear regressions demonstrated that: (1) unhealthy anger styles were predicted by lower levels of daily spiritual experiences, congregational benefits, and religious/spiritual coping, and by higher levels of congregational problems and time spent on religious activities; (2) healthier anger styles were predicted by higher levels of forgiveness, intensity of spirituality/religiousness, time spent on religious activities, and higher self-reports of loss of faith at some point in life, and by lower levels of congregational problems; and (3) anger turned inwards was predicted by higher levels of negative religious coping and intensity of spirituality/religiousness and by lower reports of loss in faith. These data address a gap in the anger literature, which fails to consider religious variables. Mismanaged anger damages social functioning and has consequences to overall health. Interventions to promote positive religious/spiritual coping and spirituality, a willingness to give and receive forgiveness, and supportive congregations may promote the use of healthy styles of anger expression among older adults.

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C196

PSYCHOPHYSIOLOGICAL RESPONSES TO TRANSFORMATIONAL WORSHIP EXPERIENCES: CLARIFYING THE RELATIONSHIP BETWEEN CHURCH ATTENDANCE AND HEALTH

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Current spirituality and health literature has not addressed worship experience as a mediational pathway in the relationship between organized religiousness and health. In a preliminary study designed to assess potential health-related associations between church attendance and health, 74 participants recalled past worship experiences while being monitored psychophysiologically. Participants were selected from African American, Caucasian, Korean, and Latino Pentecostal and Presbyterian churches. Participants responded to interview questions about four different worship experiences: sustaining (how worship has sustained them), close to God (worship experiences where they felt close to God), struggling (worship experiences where they experienced struggle), and transformation (worship experiences that had changed them that were not conversion experiences). Participants were monitored physiologically (e.g., heart rate and skin conductance) as they recalled worship experiences silently (imagery), responded to interview questions, and sat quietly during a recovery period. Assignment to the conditions was stratified by ethnicity, denomination, and gender. Using multilevel modeling, the transformational imagery condition had .58 beats per minute higher heart rate ($t(4903)=-2.71$, $p=.007$), .87 microsiemens higher SCL ($t(4903)=12.87$, $p<.0001$) and increasing SCR and a continued decrease in RSA compared to the close imagery condition. On average, there was a 3.03 heart beat per minute increase ($t(4904)=17.70$, $p<.001$) during the imagery condition compared to baseline. These results support sympathetic activity and engagement and the participant narratives provide insight regarding unique features of these experiences that may provide meaning and contribute to change.

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C197

DOES GENDER MODERATE THE RELATIONSHIP BETWEEN RELIGIOUSNESS AND ALCOHOL USE IN COLLEGE STUDENTS?

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Dimensions of religiousness have been found to be protective against alcohol use in college samples. In general, male students generally report more binge drinking and experience more alcohol-related problems than their female counterparts. The purpose of this study was to examine whether protective dimensions of religiousness are moderated by gender. The sample consisted of 221 students at a large Midwestern research university. There were 76 men and 143 women; the sample was 85.2% White and 14.8% students of color. The majority of the participants (73.3%) identified as Christian. Religious commitment, religious coping, as well as a range of drinking behaviors were examined. College men reported significantly more frequent alcohol use ($t=-2.08$, $p<.05$) and binge drinking ($t=-2.21$, $p<.05$) than college women. College women reported significantly more religious coping ($t=2.336$, $p<.05$) than college men. There were no significant gender differences in reported alcohol problems or religious commitment. There were main effects for gender (beta=−.16, $p<.05$), religious commitment (beta=−.26, $p<.01$) and religious coping (beta=−.30, $p<.001$) as predictors of binge drinking. For alcohol problems, a main effect was found for both religious coping (beta=−.14, $p<.05$) and religious commitment (beta=−.17, $p<.05$). Finally, for alcohol use frequency, a main effect was found for both religious coping (beta=−.38, $p<.001$) and religious commitment (beta=−.39, $p<.001$). Findings did not support moderating effects of gender in the relationship between religiousness and alcohol use. The discussion explores the relevance of gender as related to drinking patterns and religiousness among college students.

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C198

GENDER DIFFERENCES IN RELIGIOSITY-SOCIAL SUPPORT RELATIONS

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Social support has long been recognized as a beneficial quality of religious involvement, as such involvement may provide several types of social provisions (Weiss, 1974). Cutrona and Russell's (1990) optimal matching hypothesis, if applied to the study of religiosity, would suggest that social support would be most effective for an individual if the religious experience were to satisfy that individual's needs for particular types of social support. To evaluate Cutrona and Russell's (1990) optimal matching hypothesis in the context of the religiosity-social support relationship, we conducted a cross sectional study among community dwelling adults (N=214). Middle-aged to older (M age=66.6, SD=9.4 years) men (n=51) and women (n=163) completed the Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS; NIA & Fetzer Group, 1999) and Social Provisions Scale (SPS; Russell & Cutrona, 1984). Associations between the BMMRS and items of the SPS were analyzed using bivariate correlations in SPSS version 14.0. Results indicated that religiosity and social support items were generally unrelated to one another among female participants. However, among male participants, three dimensions of social support were significantly correlated with religiosity scores: attachment/emotional support ($r=.54$, $p<.01$), guidance ($r=.41$, $p<.01$), and social integration ($r=.31$, $p<.05$). These results suggest that the value of religiosity with respect to social support may be stronger for men than for women. Furthermore, an optimal matching perspective would suggest that religiosity is more effective as a source of social support for men because it satisfies men's needs for an existing social network that provides emotional support and guidance. This finding provides a possible mechanism for the salutary benefits of religiosity among men.

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C199

VALIDATION OF THE FUNCTIONAL ASSESSMENT OF CHRONIC ILLNESS THERAPY – SPIRITUAL WELL-BEING SCALE EXPANDED (FACIT-SPEX) IN PATIENTS WITH HIV/AIDS

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Background: Although the importance of spirituality for people with chronic illnesses such as HIV/AIDS is generally accepted, psychometrically sound measures of spirituality remain scant. The FACIT-SpEx (23 items) is one such measure, but only its first 12 items, which assess faith and meaning/peace, have been examined psychometrically. Objective: The purpose of this study is to examine the factor structure of the full 23-item scale, including the additional 11 items addressing forgiveness, connectedness and appreciation, in a sample of patients with HIV/AIDS.

Methods: We interviewed 450 patients from 4 sites by using a battery of measures assessing religiosity and spirituality, health-related quality of life, depression, and other psychosocial variables. To assess the FACIT-SpEx's psychometric properties, we performed an exploratory factor analysis with varimax rotation, and tested for internal consistency reliability and convergent validity for each of the identified factors and the overall scale.

Results: The patients' mean (SD) age was 43.3 (8.4) years; 387 (86%) were male; 246 (55%) were minorities; and 358 (80%) indicated a specific religious preference. Three factors—"meaning/peace," "faith," and "relational with others"—had eigenvalues >1.0. Internal consistency was high for the overall 23-item scale ($\alpha=0.95$) and for its 3 subscales (meaning, $\alpha=0.90$; faith, $\alpha=0.93$; relational, $\alpha=0.83$). The FACIT-Relational correlated in the expected direction with measures of HIV-related quality of life, social support, and self-esteem, with correlations ranging from 0.41 to 0.49 ($p<.01$).

Conclusions: The 23-item FACIT-SpEx appears to have a third subscale that assesses relational aspects of spirituality. Future examination of the psychometric properties of the full 23-items is necessary in other chronically ill samples to determine whether the FACIT-Relational subscale contributes uniquely to spiritual well-being.

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C200

SPIRITUALITY, FORGIVENESS, AND STIGMA IN HIV+ WOMEN

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Since the advent of HAART, health providers consider HIV to have transitioned from a terminal disease to a chronic illness. As a result, the focus of treatment of HIV+ adults has expanded to address quality of life issues. However, there is a dearth of research on how HIV+ adults cope successfully with HIV stigmatization. Two atypical coping strategies, forgiveness and spirituality, have been given little attention in the research literature. Although spirituality has been linked to HIV stigma (Parons, Cruise, Davenport, & Jones, 2006), many scales that are used to measure spirituality make a direct reference to God, which limits the utility of the instrument.

The purpose of this study was to investigate factors that decrease HIV-related stigma in women living with HIV (WLH). We hypothesized that increased use of spirituality and forgiveness as strategies to cope with HIV would lead to decreased stigma as experienced by WLH.

Tendency to Forgive (TTF; Brown, 2003; $\alpha=.75$) and the Spirituality Index of Well-Being (SIWB; Daaleman & Frey, 2004; $\alpha=.91$) were used to assess these two dimensions of coping. The SIWB is careful to not reference God in its items. Most (70%) of the participants (30 HIV+ women, aged 24 to 60) identified themselves as Christian; 40% reported attending some kind of religious services at least once a week.

Both a tendency to forgive ($r=-.57$, $p<.01$) and spirituality ($r=-.50$, $p<.01$) were significantly correlated with HIV stigma. In a multiple regression model, tendency to forgive ($\beta=-.44$, $t=-2.75$, $p<.01$) and spirituality ($\beta=-.32$, $t=-2.02$, $p<.05$) accounted for 37% of the variance in HIV stigma (adjusted $R2=0.37$, $R2=.41$, $F=9.42$, $p<.001$).

Our results suggest that WLH who use forgiveness and spirituality as ways to cope with their disease may experience reduced levels of HIV-related stigma. Behavioral medicine practitioners should recognize the clinical implications of these strategies in helping PLH cope with HIV and the resulting stigma. Although our sample size is small but sufficient to power our model, larger more diverse samples must be analyzed to better understand these relationships.

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Friday
March 28, 2008
3:30 PM–5:00 PM

Paper Session #26 3:30 PM–3:45 PM 3087

DIFFERENCES IN COLORECTAL CANCER SCREENING RATES BETWEEN BREAST CANCER SURVIVORS AND HEALTHY CONTROLS

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It is recommended that all adults be screened for colorectal cancer (CRC) by means of colonoscopy, sigmoidoscopy, or fecal occult blood testing beginning at age 50. Research shows low compliance rates with recommendations in the general population. It is unclear, however, how having had a form of cancer other than CRC affects CRC screening behaviors. To address the issue, the current study examined differences in CRC screening rates between women previously treated for breast cancer and an age- and geographically-matched comparison group of women with no history of cancer. Participants were 100 breast cancer survivors (mean age=61 years, 3 years post-diagnosis) and 100 control participants (mean age=60) aged 50 or older. They answered questions regarding whether they had received any of the three types of CRC screening within the recommended time frame, as well as their perceived lifetime risk for developing CRC (1=extremely unlikely to 6=extremely likely). Results showed that survivors were more likely to have undergone CRC screening than controls (χ^2=7.71, p<.05); 84% of survivors had undergone screening versus 66% of controls. Furthermore, this relationship was moderated by perceived lifetime risk. Specifically, perceived risk was significantly correlated with obtaining CRC screening in controls (r=0.39, p<.0001), but not survivors (r=.10, p=. 31). As detection of CRC by routine screening can lead to higher survival rates, it is important to identify who is adhering to screening recommendations and why. Future studies should further investigate the relationship between having had a different cancer and CRC screening behaviors, paying particular attention to the role that health care provider recommendations or perceived efficacy of screening may play.

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Paper Session #26 3:45 PM–4:00 PM 3088

ELECTRONIC COLORECTAL CANCER SCREENING PATIENT PROMPTS IN RURAL PRIMARY CARE

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Colorectal cancer (CRC) screening remains underutilized in rural communities. This study compared tailored vs. general education messages to promote CRC screening among patients attending rural primary care clinics. Patients 50+ years old from 48 Kansas primary care clinics completed a computerized CRC assessment while waiting for their provider. The program randomized participants not up-to-date on CRC screening to either a general CRC reminder message (GRM) or a tailored reminder message (TRM) group. All participants received an electronic reminder message at the end of the assessment and a reminder mailed one week later. Tailoring was based on patient reported CRC screening preferences, level of comfort in discussing CRC with their provider, screening barriers, and perceived risk. At 90 days post visit, we assessed CRC screening discussion, CRC screening completion, and satisfaction. Of the 233 participants completing the program to date, 41% discussed CRC screening with their provider, 17% arranged CRC screening, and 12% completed this screening prior to follow-up. There were no significant differences in these measures between the GRM and TRM groups. TRM participants were, however, more likely to have read the mailed CRC screening reminder (p=0.02). The majority (87%) reported they would recommend the program to others. While TRM participants were more likely to review the mailed message, tailoring of the messages did not result in significantly higher rates of CRC discussion, CRC screening receipt, or patient satisfaction. Overall, however, the high uptake of CRC screening after this single office visit suggests that simple electronic messaging immediately prior to patient/provider contact plus a mailed booster prompt can have a promising and important impact on CRC screening among rural primary care patients.

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Paper Session #26 4:00 PM–4:15 PM 3089

AREA SOCIOECONOMIC STATUS AND DISPARITY IN COLORECTAL CANCER SCREENING

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Colorectal cancer (CRC) is one of the most prevalent cancers and CRC screening use remains low in the U. S. It is still unknown about the effect of area socioeconomic status on colorectal cancer screening and related individual-level mediating pathways. Using the 2006 Missouri Behavioral Risk Factor Surveillance System (BRFSS) data, we conducted a three-level study to examine the effect of area-level poverty rate on geographic variation of CRC screening use among people age 50 or older in Missouri. A total of 2987 individuals were nested within 659 ZIP codes (Zip Code Tabulated Areas; ZCTA5 areas), which were further nested within 25 3-digit zip codes (ZCTA3 areas). Six groups of individual-level factors were considered as potential mediators. About 51.5% of Missourians aged 50 or older followed CRC screening guidelines in 2006. Nearly 15% of the total variation in CRC screening was across ZCTA5s. People residing in ZCTA5 areas with more than 10% of poverty rate were less likely to follow CRC screening guidelines than those residing in areas with less than a 10% poverty rate (unadjusted odds ratio [OR]=0.68, 95% confidence interval [95% CI]=0.58–0.81; adjusted OR=0.81, 95% CI=0.67–0.98). Persons who resided in ZCTA3 areas with more than a 20% poverty rate were also less likely to follow CRC screening guidelines than those residing in areas with less than a 20% poverty rate (unadjusted OR=0.64, 95% CI=0.50–0.82; adjusted OR=0.60, 95% CI =0.46–0.79). In conclusion, CRC screening disparity was associated with area-level poverty rate independent of individual-level characteristics examined. Future studies should identify other individual-level factors that may mediate the process by which area poverty exerts its impacts on CRC screening to increase the intervention effectiveness.

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Paper Session #26 4:15 PM–4:30 PM 3090

PHYSICIAN EXPLANATION OF PROS AND CONS OF PSA/DRE TESTS, PROSTATE CANCER SCREENING KNOWLEDGE & BEHAVIORAL BELIEFS ABOUT SCREENING AMONG BLACK MEN IN NYC

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Most medical organizations recommend discussion of the pros and cons of prostate cancer screening tests (prostate specific antigen (PSA) test and digital rectal exam (DRE)) rather than routine screening. Such discussion may support informed screening decisions, particularly among high-risk groups such as Black men. This study explored physician explanation of pros and cons of PSA/DRE tests and its association with knowledge and behavioral beliefs relevant to screening. Participants were 210 Black men between 40–75 years of age recruited in NYC. Men were asked if a physician had ever provided a comprehensive explanation of pros and cons of PSA and DRE tests. All men completed a 10-item knowledge scale and a subset completed a 26-item measure of behavioral beliefs (alpha=.87). Only 14% of the sample reported receiving a comprehensive explanation and knowledge in the sample was fairly low (mean=43% correct). Those who received a comprehensive explanation had higher total knowledge scores than those who did not ($p<.02$) but explanation was unrelated to correct responses to some specific items, including those about Black men's disease risk or the lack of consensus for routine screening. Multivariate analyses revealed that when adjusting for covariates of age, income, job status, health insurance status, and previous PSA/DRE screening, total knowledge was associated with comprehensive explanation ($p<.01$), past screening ($p<.04$), and insurance status ($p<.03$). Analyses also showed that explanation ($p<.03$) and age ($p<.007$) were related to more positive screening beliefs. Results indicate that explanation of the pros/cons of PSA/DRE tests is related to general prostate cancer screening knowledge but unrelated to items that may be central to fully informed screening decisions. Findings suggest that continued focus on patient education and physician communication is warranted.

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Paper Session #26 4:30 PM–4:45 PM 3091

THE TRAJECTORY OF CANCER-SPECIFIC WORRY: LONGITUDINAL DATA FROM PARTICIPANTS IN AN OVARIAN SCREENING PROGRAM

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Annual transvaginal sonography (TVS) is an investigational approach to ovarian cancer screening. While previous research has explored the psychosocial impact of TVS, participants have not been surveyed prior to presentation for screening as part of a prospective design. To describe a more complete trajectory of cancer worry, this study includes a novel data collection point in the period prior to screening and explores the impact of other variables on this trajectory. Participants (N=179) were predominantly Caucasian (95%), married (68%), had 15 (2.4) years of education, and were 56 (10) years of age. Measures were administered at three time points: two weeks pre-screening, day of screening, and two weeks post-screening. Women received TVS results within three days post-screening. Worry was assessed using three common methods: the Cancer Worry Scale, the Intrusion Subscale of the Impact of Events Scale, and a single-item measure of worry magnitude. Results of a RMANOVA indicated that worry unexpectedly decreased linearly from pre-screening through post-screening ($p's<.01$). Participants with a first-degree family history of ovarian cancer reported greater worry at all three time points ($p's<.01$), but still reported a similar decrease in worry over time. As expected, women who received an abnormal screening result endorsed increased worry at post-screening on two of the measures ($p's<.01$), but actually reported a decrease in worry at follow-up as assessed by the single-item measure. Overall, results suggest that ovarian cancer worry was highest in the weeks prior to screening and that mere presentation at a screening clinic was associated with a significant decline. As some results differed by the measure of worry, it is likely that these instruments are not interchangeable. This may help explain why the relationship between worry and cancer screening has yielded inconsistent results in the literature.

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Paper Session #26 4:45 PM–5:00 PM 3092

WHEN AMBIVALENCE PREDICTS REPEAT MAMMOGRAPHY SCREENING: IT'S THE AMOUNT OF THOUGHT THAT COUNTS

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Past studies have shown that people who hold ambivalent attitudes about breast and colorectal cancer screening express weaker behavioral intentions and are less likely to be screened compared to people who are not ambivalent. In a sample of 3526 insured women aged 40–75, we examined whether women who were ambivalent about getting their next mammograms when due, operationalized as having mixed thoughts about and feeling torn about getting their next mammograms, would be less likely to get repeat mammograms (e.g., having had last mammogram within 10 to 14 months of prior mammogram). Further, because people who are ambivalent may be more likely to scrutinize reasons for or against a behavior, we examined whether ambivalence was related to the amount of thought women gave to the positive and negative consequences of getting/not getting repeat mammograms and whether ambivalence would interact with amount of thought to affect the likelihood of obtaining a repeat mammogram.

Overall, 74% of women received repeat mammograms. Women who were more ambivalent about mammography were significantly less likely to report getting repeat screenings [Probit −0.165, $p<.0001$]. Although ambivalence did not predict amount of thought, ambivalence interacted with total thought about the positive and negative consequences of getting and not getting mammograms, respectively. At low levels of ambivalence, thought had no effect on getting repeat mammograms. At higher levels of ambivalence, increasing amount of thought increased significantly the probability of repeat screening. These results suggest that encouraging women who are ambivalent about mammography to think about the positive and negative consequences of getting/not getting mammograms may increase their likelihood of remaining adherent. Results add to the literature on attitudinal ambivalence, a construct that may merit further exploration for inclusion in models of behavioral maintenance.

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Paper Session #27 3:30 PM–3:45 PM 3093

SEX DIFFERENCES IN PHYSICAL ACTIVITY IN ADOLESCENTS AND STRATEGIES USED FOR ENGAGING PEERS IN DAILY ACTIVITY

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This study examined how underserved (low income, minorities) adolescent males and females differ in physical activity (PA) preferences and strategies for engaging their peers. Participants (n=167) were enrolled in the Active by Choice Today (ACT) randomized school-based trial which is a motivational intervention for increasing PA in underserved 6th graders. A unique component of the ACT intervention is strategic self-presentation which involves having students participate in a structured interview that elicits their own positive coping strategies for making effective lifestyle. It was hypothesized, based on previous research, that boys would report engaging in a greater number of competitive physical activities while girls would report engaging in a greater number of leisure-time physical activities. All interviews were coded by two raters using a standardized coding scheme (inter-rater reliability=0 .75). PA preferences were measured by counting reported activities as either competitive (basketball, track) or leisure (walking, jumping on trampolines). Strategies used to enlist peers were separated into six categories: psychological (enjoyment, increased confidence), emotional (feel good), social (be with friends), physical (increased ability), health (reduce heart-risk), and other. The total number of preferences and strategies for engaging peers in PA were recorded and averaged for males and females, separately. Preliminary results (n=41) indicated that girls reported a greater number of leisure activities than boys (3.43 ± 1.53 vs. 2.77 ± 1.66, $p<.05$). Girls were also more likely to report using psychological strategies, such as enjoyment, for engaging peers in PA than boys (2.26 ± 1.76 vs. 1.27 ± 1.02, $p<.05$). In contrast, boys were more likely to report using health related strategies for engaging peers in PA than girls (2.66 ± 1.46 vs. 1.63 ± 1.21, $p<.05$). Understanding the activities that adolescents prefer and use to engage peers could be useful in creating effective PA programs.

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Paper Session #27 3:45 PM–4:00 PM 3094

PSYCHOSOCIAL CORRELATES OF PHYSICAL ACTIVITY VS CORRELATES OF SEDENTARY BEHAVIOR AMONG ADOLESCENTS: IMPLICATIONS FOR MEASURING ANTECEDENTS OF ADOLESCENT OBESITY

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Among adolescents, sedentary behavior continues to be associated with overweight while the relationship between physical activity and overweight is inconsistent. The psychosocial variables associated with exercise are often considered equally valid correlates (although inversely related) of sedentary behavior. The purpose of this study was to examine whether psychosocial correlates of physical activity were associated with physical inactivity. A multiethnic sample of 3,636 7th grade students (The CATCH Cohort) participated in an epidemiological study of nutrition, physical activity, and cardiovascular health. The weight distribution of the sample was as follows: 2.1% underweight (BMI<5th %), 66.5% normal weight (5th≤BMI<85th %), 16.9% at-risk (85th≤BMI<95th %), and 14.5% overweight (BMI≥95th %). After adjusting for race and gender, the model for physical activity (total minutes of exercise) showed self-efficacy, positive social support, and negative social support as statistically significant correlates ($p<.05$, $R2=.08$). The adjusted model for physical inactivity based upon sedentary minutes was weak, and showed positive social support as the only significant correlate ($p<.01$, $R2=.02$). Minutes of physical activity were not a statistically significant predictor of overweight status. However, overweight teens were 52% more likely to have greater sedentary behavior than normal weight teens. This paper concludes that better measures of physical inactivity/sedentary behavior, beyond tv/video game usage should be developed, and psychosocial variables more strongly associated with sedentary behavior, however the variable is operationalized, should be investigated. Furthermore, because sedentary behavior is a better predictor of overweight status than physical activity, reducing minutes engaged in sedentary behaviors should be emphasized in school health interventions.

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Paper Session #27 4:00 PM–4:15 PM 3095

THE CENTRAL ROLE OF CONTEXTUAL FACTORS IN A SCHOOL BASED UTILITARIAN EXERCISE INTERVENTION

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For the first time, children are faced with once adult-onset chronic diseases and cardiovascular risk factors. Large-scale youth-based health behavior interventions are needed to promote lifestyle choices, such as regular physical activity, that improve future health. This controlled study examined the effects of a school-based intervention on students' bicycling to school; direct effects were presented last year at this conference. New findings on the moderating role of environment and social context are presented here.

Participants were 118 fourth and fifth grade students across seven schools matched on socioeconomic status and randomized to experiment or waitlist. Students were measured at two time points: prior to the intervention and a 7-month follow-up.

While there was no overall effect for the education-based program on active commuting, examination of moderating factors via 2 (condition)×2 (time) ANOVAs elucidated this lack of relationship. Across conditions, students who perceived their home-to-school environment as more conducive to active commuting were more likely to report bicycling to school, $F(1,87)=7.05$, $p=.01$; partial $\eta 2=.075$, and male students were more likely to bicycle to school than female students, $F(1,102)=4.93$, $p=.03$; partial $\eta 2=.046$. Further, across conditions, students with parents who reported that they would allow active commuting showed a trend towards significance for being more likely to bicycle to school, $F(1,20)=3.40$, $p=.08$. The importance of contextual factors was reinforced by qualitative data from 27 parents at follow-up; across conditions parents emphasized that perceived proximity and safety influenced whether to allow active commuting.

Overall, these findings demonstrate that physical environment, sex roles, and parental cooperation were more strongly associated with children's active commuting to school than an education-based intervention targeted on students. These results underscore the need for youth-based health behavior interventions to consistently broaden their focus to modify, as is possible, limiting environmental and social contextual factors.

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Paper Session #27 4:15 PM–4:30 PM 3096

ETHNIC DIFFERENCES IN PHYSICAL ACTIVITY IN RURAL SCHOOL CHILDREN

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Rural communities are understudied yet provide a means of assessing behaviors without the influence of socioeconomic status. The current study assesses ethnic differences in physical activity levels in rural 4th through 6th grade children. Participants for this physical activity substudy were randomly selected from a larger weight gain prevention program. BMI percentile (BMI %tile), percent body fat (%BF), and waist hip circumference was measured. Participants wore ActiGraph accelerometers for three consecutive weekdays and levels of physical activity were based on the Puyau equation. Data was collected on 278 of the 316 children who agreed to participate in the study. The sample was 75% African American (67 M, 141 F) and 25% Caucasian/other (29 M, 41 F). African American girls had a higher BMI %tile and %BF compared to Caucasian girls ($ps<.014$). In addition, African American children had a higher %BF ($p=.034$). However, there were no ethnic differences in waist and hip circumferences ($ps>.226$). Controlling for age and %BF, African American children spent more time in moderate (17 vs. 14) and leisure time activity (126 vs. 111) compared to Caucasian children ($ps<.016$). In addition, African American children accumulated more counts ($p=.027$) per day. There were no differences in the amount of time spent in sedentary activities. These data indicate that African American children spend approximately 20 additional minutes engaged in physical activity (146 vs. 125), and 20 fewer minutes in sedentary pursuits (756 vs. 774) during the weekday compared to Caucasian children. Despite research indicating that African American children spend less time in moderate intensity physical activity and more time in sedentary pursuits, our data suggests that this pattern may be reversed in rural populations. It will be important for future research to determine those elements within the rural environment that facilitate these behaviors in African American children.

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Paper Session #27 4:30 PM–4:45 PM 3097

PREDICTING ADOLESCENT PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR: A SIGNAL DETECTION ANALYSIS

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Determining prospective predictors of adolescent health behaviors is critical for improving interventions. A total of 819 adolescents aged 11 to 15 (53% female, mean age=12.8) were randomized to the PACE+ physical activity and diet intervention or a comparison condition. The 7-day physical activity interview determined meeting the recommendation of at least 60 min on 5-days/wk of physical activity (PA), and two self-report measures of TV-time and computer time determined meeting the guideline of 2 hrs/day of sedentary behavior (SB). Signal detection analysis (using ROC4 software) determined predictors and treatment moderators of PA and SB at 6, 12 and 24 months assessments, with samples of 719, 690, and 661, respectively. Analyses included 28 predictors measured at baseline (7 demographic, 11 GIS measured neighborhood environment measures, 6 perceived environment, 2 home environment, and parental support) and treatment group. Prevalence of meeting the guidelines at 6, 12, and 24 months was 26%, 32%, and 29% for PA and 51%, 57%, and 61% for SB, respectively. High parental support, being a boy, low housing density, fewer nearby retail stores, and flat neighborhood topography were all predictors of meeting the PA guideline on at least one assessment ($p<.01$). At 24 months, neighborhood topography moderated the intervention effect where 52% of those in the intervention group and in the flattest topology quartile were meeting the PA guideline; compared to 30% in hillier neighborhoods ($\chi 2=13.2$, $p<.01$). The SB guideline was predicted at 6 or 12 months by limiting children's screen time, neighborhood home values, child BMI, and parent support ($p<.01$). By 24 months only the intervention was related to the SB guideline (72% vs. 50%, $\chi 2=34.4$, $p<.001$). The findings suggest that family-based interventions that closely involve parents are needed for adolescent behavior change. Physical activity interventions may need to include instruction for overcoming environmental barriers like hilly neighborhoods.

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Paper Session #27 4:45 PM–5:00 PM 3098

PERCEIVED EXPOSURE TO A PHYSICAL ACTIVITY INTERVENTION: THE TRIAL OF ACTIVITY FOR ADOLESCENT GIRLS

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This study examines the perceived exposure of middle school girls to a physical activity intervention in 36 middle schools (18 intervention, 18 control) participating in the Trial of Activity for Adolescent Girls (TAAG). TAAG was a school and community-linked physical activity (PA) intervention directed by university staff in years 1 and 2 and school- or community-based personnel (i.e. program champions) for an additional year, focusing on physical education, health education, school-wide promotion of PA, and school-community partnerships to offer and enhance PA programs. Eighth grade girls were randomly selected during year 2, (n=3,469) and year 3 (n=3,462) to complete surveys on exposure to PA-supporting environments. Results in year 2 indicate that girls at intervention schools reported higher levels of exposure to every component of the TAAG intervention, including a health education curriculum promoting behavioral skills needed for PA ($p<0.001$), quality PE ($p<0.001$), positive messages about PA ($p<0.001$) and participation in before- school or lunch-time PA programs ($p=0.009$). There was no difference by treatment in participation in after school programs. Intervention girls also perceived greater support for physical activity from teachers and other girls than control school girls did ($p=0.004$ and $p=.043$, respectively). In year 3, differences by treatment disappeared except for reported exposure to a PA-promoting health education curriculum ($p<0.001$). Results indicate that intervention girls were exposed to TAAG in year 2; however, effects diminished in year 3 when local personnel assumed responsibility for the intervention.

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Paper Session #28 3:30 PM–3:45 PM 3099

THE EFFECT OF MAJOR DEPRESSION ON BEHAVIORAL WEIGHT LOSS TREATMENT SUCCESS

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Recent epidemiological research confirms a strong association between obesity and clinically significant levels of depression, especially among women. Limited evidence suggests comorbid depression is associated with poorer participation rates and outcomes in behavioral weight loss programs; however, people with clinical depression are typically excluded from trials of weight loss interventions. The current study was designed to examine participation and weight loss outcomes in a behavioral weight loss treatment program among obese women with (n=65) and without (n=125) major depressive disorder (MDD). Women (mean age=52; mean BMI=38; 82% white) were proactively recruited without regard to motivation to participate into a 26-session one-year group intervention. Non-depressed women were more likely to attend any program sessions, and to attend 12+ sessions than depressed women (54% vs. 42%, $p=0.11$ for difference), but weight loss at 6 and 12 month follow-up did not significantly differ by baseline depression. Women with MDD lost an average of 3.0 kgs at 12-month follow-up versus 3.6 kgs for women without MDD ($p=.66$). Women who attended at least 12 treatment program sessions lost more weight than women who attended fewer sessions, regardless of depression status at baseline, i.e., there was no significant interaction between depression and session attendance. When depressed women attended for at least 12 sessions they were as successful at losing weight as non-depressed women. Because of the strong association between obesity and depression this is encouraging news, suggesting we can help depressed women lose weight and improve their health related quality of life. The less encouraging finding is that non-depressed women are also at risk for not attending group sessions, and they fare poorly as well.

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Paper Session #28 3:45 PM–4:00 PM 3100

PATTERNS OF MOOD AND WEIGHT, AND PREDICTORS OF DISTRESS AMONG PARTICIPANTS IN A LONG-TERM WEIGHT-LOSS TRIAL

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This study sought to examine the trajectories of mood and weight among 213 participants enrolled in an 18-month weight loss intervention. Eligible individuals had a BMI of 30–39 and were free of chronic illness. In the present report, analyses were collapsed across treatment condition. Assessments (completed at baseline and 6, 12 and 18 months) included the Profile of Mood States (POMS) and a measure of weight loss cue salience. The latter contains 7 items such as, "During the past week, how often did putting on clothes make you think of what you needed to do to lose weight?" Demographic characteristics were: M (SD) age=48.8 (10.5), 53% female, 3% Hispanic, and 32% non-Caucasian. Weight differed as a function of time, $p=.000$. Weight decreased from baseline to 6 months to 12 months (Ms=103.3 kg, 96.0 kg, and 92.5 kg, $p=.000$), but increased from 12–18 months (M=93.2 kg, $p=.004$). Mood also differed as a function of time, $p=.001$. The pattern paralleled that for weight. POMS total mood disturbance scores decreased from baseline to 6 months to 12 months (Ms=20.2, 10.4, and 4.3, $p<or=.05$), but increased from 12–18 months (M=10.6, $p=.035$). Predictors of 18 month distress included greater cue salience (beta coefficient=.31, $p=.006$), female gender (beta coefficient=.22, $p=.058$), and greater baseline distress (beta coefficient=.33, $p=.004$). Concurrent weight did not predict distress, $p>.05$. Results highlight a synchronization of weight loss and mood improvement and conversely, a synchronization of weight gain and distress. The behavioral changes requisite to weight loss are likely less pleasant in the absence of continued success. The relationship between mood disturbance and cue salience suggests that behavioral lapses are in fact recognized and a cause for concern. Future work is needed to fully understand the mechanisms by which mood and weight are associated.

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Paper Session #28 4:00 PM–4:15 PM 3101

OBESITY-DEPRESSIVE SYMPTOMS RELATIONSHIPS IN ASIAN AND HISPANIC ADOLESCENTS

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Objective: Very few studies have prospectively investigated the obesity-depressive symptoms association with application of mediation-moderation framework in Asian and Hispanic adolescent populations.

Design and Subjects: Analysis data included 780 Hispanic and 376 Asian students living in the Greater Los Angeles area (total N=1,156 with 43.9% boys and 56.1% girls) with complete demographic and weight and height measures taken at grade 7 (time 1) and 8 (one-year follow-up) in 2001 and 2002. Multiple-group Structural Equation Modeling (SEM) approach was utilized to prospectively explore the moderation effects of gender, ethnicity and acculturation on the mediation pathways from obesity to depressive symptoms through body image dissatisfaction.

Results: The mediation effect of body image dissatisfaction demonstrated differently in multiple-group SEM models comparing male versus female, and low versus high acculturated adolescents. Significant mediation was observed only in female (mediation effect=0.11, $p<0.05$) or adolescents with low acculturation level (mediation effect=0.09, $p<0.05$). That is, obesity significantly predicted enhanced level of body image dissatisfaction, which in turn was significantly related to depressive symptoms. When the complex interplay of these moderators was considered, significant mediation was pronounced in Asian females (mediation effect=0.15, $p<0.05$) or females with high acculturation (mediation effect=0.18, $p<0.05$).

Conclusion: Given that obesity during adolescence can persist into adulthood and that negative emotion is a gateway symptom for the development of major depression, our findings will greatly benefit public health practitioners and social workers to design effective obesity prevention curriculum tailored to at-risk subgroups of adolescents.

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Citation Paper
Paper Session #28 4:15 PM–4:30 PM 3102

DOES CHANGE IN OBESITY STATUS OVER TIME AFFECT THE PROSPECTIVE ASSOCIATION BETWEEN SYMPTOMS OF DEPRESSION AND STROKE?

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Earlier studies have shown that symptoms of depression are associated with stroke incidence however they did not look at obesity status at baseline and change in obesity status during followup. The relationships between symptoms of depression, obesity and stroke incidence were examined using data from the NHANES I Epidemiologic Followup Study (NHEFS). NHEFS is a longitudinal study of the adult participants in the first National Health and Nutrition Examination Survey (1971–75), a nationally representative sample of the U.S. population. A cohort of 6076 white and black men and women aged 25–74 years who did not report a history of stroke were followed for up to 22 years. The General Well-Being Schedule Cheerful vs. Depressed scale (GWB-D), a self-reported psychological inventory, categorized symptomatology into three levels: low, intermediate or high. High and intermediate levels may indicate depressive disorders and subsyndromal depression respectively. Obesity cases were defined in accordance with W.H.O. class I-III standards as BMI>=30. Incident cases of stroke were based on morbidity—hospital facility and nursing home records and mortality—death certificates. Multivariate analyses used Cox proportional hazards to adjust for baseline age, education, race, sex, smoking status, alcohol use, exercise, serum cholesterol level, systolic blood pressure, obesity, history of hypertension, diabetes and coronary heart disease, and change in obesity over the followup as a time dependent covariate. Baseline high and intermediate depression symptoms (relative risk (RR)=1.71 and 1.28) were significantly associated with stroke incidence ($p<.05$). Depression symptom risks were significant after adjusting for baseline obesity and were unaffected by the addition of change in obesity. Thus, symptoms of depression may be implicated in the onset of stroke. Neither baseline obesity nor obesity over followup appear to be mechanisms attenuating the depression/stroke connection. As the obesity epidemic grows, further research should verify the relationship between symptoms of depression, obesity and stroke onset.

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Paper Session #28 4:30 PM–4:45 PM 3103

STRESS, RACE, AND BODY WEIGHT

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Stress has been identified as a significant factor in health and in racial/ethnic health disparities through biological and psychological mechanisms. A potential mediator in these relationships is body weight. Cross-sectional and longitudinal relationships between perceived stress, race, body weight, and weight change were examined in an ethnically diverse sample of overweight and obese women with type 2 diabetes (n=217) undergoing an intensive behavioral weight loss program. Measures were collected at baseline and 6-months. Stress was not related to baseline body weight. With every 1 unit decrease in perceived stress, −.10 kg±.04 of weight was lost ($p<.05$). When stress was divided into tertiles, those in the lowest stress group had significantly greater weight loss (5.2 kg±4.9) compared to those in the highest stress group (3.0 kg±4.0) ($p<.05$). There was a statistical trend of African Americans reporting greater levels of mean stress (20.7±8.8) than Whites (18.3±8.3) ($p=.08$). Stress' association with lower weight loss has important implications for weight loss programs for women with type 2 diabetes. Future examinations of stress, race, and body weight would benefit the science of weight loss treatment for diverse populations and increase understanding of psychosocial factors in body weight and obesity etiology.

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Paper Session #28 4:45 PM–5:00 PM 3104

PSYCHOLOGICAL PREDICTORS OF SUCCESS IN BARIATRIC SURGERY PATIENTS: A META-ANALYTIC REVIEW

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Bariatric surgeries are an increasingly popular option for obese individuals attempting to lose weight. Though these surgeries often result in substantial weight loss, especially in short-term follow-up, many individuals are unable to achieve long-term weight loss success. These failures demand a critical investigation into variables that may influence weight loss success with the goal of optimizing outcomes. Within the bariatric surgery literature several psychological variables have been suggested as possible predictors of long-term failure to maintain weight loss. Purpose: This meta-analysis was designed to assess the ability of psychological variables to predict weight loss after surgery. Methods: Effect sizes from 10 studies were calculated and combined to determine the overall effect size across the data pool. The variables of depression and anxiety were isolated to determine the effect size within this narrower subset of studies. A test of homogeneity was also performed to determine the extent to which the overall effect was representative of the findings across studies. Results: No significant relationship was found between pre-surgical psychopathology and weight loss ($r=.082$, $p=.122$). A small non-significant correlation was found between pre-surgical anxiety and depression and weight loss ($r=.177$, $p=.13$). Both data sets were found to be heterogeneous (psychopathology: $Q=19.15$, $p=.024$, $I^2=52.99$; anxiety/depression: $Q=8.34$, $p=.04$, $I^2=64.01$). Conclusions: The results indicate that pre-surgical psychopathology is not predictive of weight loss success after surgery. The positive relation between anxiety and depression and weight loss suggests that at this time patients should not be excluded from surgery due to depression or anxiety. Given the lack of standardized test data for psychopathology prior to surgery and the poor quality of data reporting in the existing literature, we recommend further investigation in the field using validated instruments, especially concerning anxiety and depression.

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Paper Session #29 3:30 PM–3:45 PM 3105

DEPRESSION, ANXIETY, AND QUALITY OF LIFE IN CONGESTIVE HEART FAILURE

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Congestive heart failure (CHF) patients have lower health status and more functional and social limitations than patients with other chronic illnesses, such as asthma, hypertension, and diabetes, suggesting that CHF patients represent a more impaired chronic illness population. As CHF progresses, patients' symptoms can significantly interfere with basic physical, social, and emotional functioning. This experience is often linked to increased levels of psychological distress, namely, anxiety and depression, which significantly affect quality of life and functioning above and beyond the impact of the medical disease. However, the relative contributions of illness burden, anxiety and depression have not been adequately explored. In order to examine the relationship between depression, anxiety (relative to demographic and clinical factors) and quality of life for older heart failure patients, a prospective sample of 104 veterans age 60+ was conducted. Patients completed telephone and in-person assessments examining: quality of life, medical morbidity, severity of CHF, depression, and anxiety. T-tests indicated veterans without anxiety/depression had higher quality of life, but did not differ with respect to demographic characteristics, severity of CHF, or illness burden. To explore the relative contribution of demographic variables, illness, and anxiety/depression, a multiple regression was completed. This model accounted for 35% of the variance in overall quality of life ($F[8,94]=6.18$, $p<.001$). Further, the two strongest predictors of better overall quality of life were CHF severity ($\beta=-11.88$, $t=-4.23$, $p<.001$) and depression ($\beta=-2.73$, $t=-3.73$, $p<.001$). Collectively, these results suggest that anxiety, relative to depression and medical illness severity and other demographic factors, is not a unique contributor to quality of life in CHF patients. Results confirm the significant impact of depression on quality of life for heart failure patients.

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Paper Session #29 3:45 PM–4:00 PM 3106

RELATIONSHIPS BETWEEN RACE, GENDER AND QUALITY OF LIFE AMONG PATIENTS IN CARDIAC REHABILITATION

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Background: After having an adverse cardiac event many patients attend cardiac rehabilitation (CR). Improving quality of life is an important component of these programs. Many clinical and behavioral factors are known predictors of poor quality of life. However, results have been inconsistent regarding race and gender. The goal of this study was to clarify relationships among behavioral, clinical and demographic variables and physical quality of life (PQOL) in a racially diverse sample of CR participants. **Method:** Baseline variables collected included demographic, clinical (e.g. depression, clinical risk, physical functioning, comorbidity index), and behavioral (physical activity) variables. Direct and mediational relationships among variables and baseline PQOL were assessed using path analysis. **Results:** 693 (Mean age: 60.9±11.11) participants were included in the sample. The sample was primarily male, unemployed and mildly depressed. 29% were African American. Results indicated adequate support for the final model (χ^2=97.08, *df*=19, p<.001; RMSEA=.08; CFI=.95). Physical activity, depression, comorbidity severity, physical functioning and employment were directly associated with baseline PQOL. Race proved to have the strongest indirect relationship to PQOL. Caucasian participants had better perceptions of their PQOL than African Americans. Race was mediated by comorbidity severity and physical functioning. Women and higher clinical risk patients with more depressive symptoms were more likely to have lower PQOL than men and lower risk patients, respectively. **Conclusions:** To our knowledge, this study is the first to examine these relationships in a large and racially diverse sample. The lower PQOL for African Americans, seemingly due to greater comorbidity severity and poorer physical functioning, and the lower PQOL in women, attributed to increased depressive symptoms, suggests that tailoring interventions is necessary.

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Paper Session #29 4:00 PM–4:15 PM 3107

PSYCHOLOGICAL FUNCTIONING, QUALITY OF LIFE, AND PERSONALITY FACTORS AMONG MEN AND WOMEN WITH CONGESTIVE HEART FAILURE

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Few past studies have examined psychological/behavioral factors that are unique among patients with congestive heart failure (CHF), and few studies have evaluated gender differences in CHF. This study examined psychological functioning, quality of life, and personality among patients with CHF in comparison to patients with other cardiac diagnoses to better characterize psychological functioning of CHF patients. In addition, sex differences in psychological functioning of patients with CHF were examined. Sixty-three men and women with CHF were compared to a sample of 63 patients with other cardiac disease diagnoses (e.g., recent myocardial infarction, coronary artery disease). Groups were matched on age, gender, and ethnicity (mean age 59+11 years, range: 36–82 years, 33% women). All participants completed self-report measures of psychological functioning (Center for Epidemiological Studies Depression Inventory), personality (Life Orientation Test and Trait Anxiety scale), and quality of life (Medical Outcomes Study 36-Item Short-Form Health Survey). Data were analyzed with analysis of variance. Results indicated significantly lower left ventricular ejection fraction among CHF patients. In addition, CHF patients reported poorer physical functioning (p<0.001), social functioning (p<0.01), and vitality (p<0.01) than patients with other cardiac disease diagnoses. Although there were gender differences in the non-CHF patients (women with higher trait anxiety, lower optimism, and poorer emotional quality of life), no gender differences were found among CHF patients. These results underscore the profound impact of CHF of physical and social functioning among patients with CHF. Furthermore, it appears that CHF affects both men and women to a similar degree.

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Paper Session #29 4:15 PM–4:30 PM 3108

EXPLORING SOURCES OF THE GENDER DIFFERENCE IN SELF-EFFICACY FOR EXERCISE IN CARDIAC REHABILITATION

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Self-efficacy (SE) (Bandura, 1986) is strongly associated with adherence and positive outcomes in cardiac rehabilitation (CR) (Joekes et al., 2007; Lau-Walker, 2006; Reid et al., 2007). Among other observed gender differences, women cardiac rehabilitation (CR) patients exhibit lower exercise levels and exercise SE than men (Bjarnason-Whrens et al., 2007), which might contribute to worse CR outcomes. The strongest source of SE is theorized to be overt mastery experiences (Bandura) so if women's SE is due to lower activity levels and exercise capacity, then observed gender differences in SE for CR should disappear when exercise capacity is controlled. Furthermore, if exercise SE is multidimensional, exercise capacity should only relate to task SE, and not to SE for other behaviours like scheduling. This study examined the relationship of gender to three types of exercise SE in CR considering exercise capacity. Upon referral to CR, a total of 158 (123 men; 40 women - 22%) patients were sent an orientation package including baseline questionnaires assessing task, coping and scheduling SE for exercise during CR. Patients also performed a baseline stress test and health characteristics were drawn from their medical charts. A MANOVA comparing men's and women's task, coping and scheduling SE for exercise yielded a significant multivariate effect for gender (effect size μ^2=.05, p<.05). A subsequent MANCOVA, controlling for exercise tolerance in METS reduced the effect size of gender to μ^2=.03, p=ns, but yielded a significant multivariate effect of METS (effect size μ^2=.06, p<.05) for task (effect size $\mu,^2$=.04, p<.01) and coping (effect size μ^2=.04, p<.01), but not scheduling SE. In this sample, gender differences in SE for exercise in CR were strongly associated with exercise capacity. These results support SE theory suggesting that overt mastery experience is a strong source of task SE. These results also support the theoretical and empirical distinction of the three types of SE and point to modifications to CR that might close the gender gap over the course of rehabilitation.

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Paper Session #29 4:30 PM–4:45 PM 3109

ADVERSE BASELINE PHYSIOLOGICAL AND PSYCHOSOCIAL PROFILES OF WOMEN ENROLLED IN A CARDIAC REHABILITATION CLINICAL TRIAL

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PURPOSE: Coronary heart disease (CHD) remains the leading cause of death in women. Despite positive outcomes associated with cardiac rehabilitation (CR), investigations of women are sparse. We examined the baseline physiological and psychosocial profiles of 182 women in the Women's-Only Cardiac Rehabilitation study. METHOD: Using a two-group longitudinal clinical trial design, women were randomized to a women's-only motivational interviewing or traditional CR group. Physiological measures included lipid profiles, body mass index (BMI), functional capacity, and anthropomorphic measures. Psychosocial measures included optimism, hope, social support, anxiety, depression, quality of life and health perceptions. The median age was used to split the sample to examined data on 92 younger (≤64 years) and 90 older (>64 years) women. RESULTS: With a mean age of 63 years, 66.5% were Caucasian, 47% were retired, and 54% were married. Most women were physically inactive (83%), hypertensive (76%), and overweight (56%). Most women (71.4%) met the ATP-III criteria for metabolic syndrome (MetS). Younger compared to older women demonstrated significantly worse psychosocial profiles. More of the younger women (64%) had depressive symptoms compared to older women (37%). Younger women demonstrated a mean CES-D score of 20.8±12.4 while older women had a substantially lower mean score of 14.9±9.5 (p<.001). Younger participants also reported significantly more anxiety than older participants (38.8±13.4 versus 32.8±10.6, p<.001). Women ≤ 64 years with MetS (n=68; mean age=54±8 years) demonstrated the worst physiological and psychosocial profiles. CONCLUSION: Younger women, particularly those with MetS, enrolled in a CR clinical trial had adverse baseline risk factor profiles placing them at high risk for disease progression. Younger women with CHD may be an appropriate group to target for interventions individualized to their psychosocial circumstances.

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Paper Session #29 4:45 PM–5:00 PM 3110

THE INFLUENCE OF ANXIETY AND DEPRESSION ON PHYSICAL ACTIVITY DURING HOME-BASED CARDIAC REHABILITATION: PRELIMINARY RESULTS

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Psychological distress, particularly depressive symptoms, has been reported to have an unfavorable impact on mortality in coronary heart disease. The prevalence of depression and anxiety are one of the most prominent psychosocial issues in cardiac rehabilitation (CR) today. Cardiac rehabilitation in general has been identified as one method by which effective reductions in distressful symptoms can be achieved. Physical activity (PA) is one of the main building blocks of CR programs and has been consistently reported as an effective means of improving psychological well-being. The relationship between anxiety, depression and PA in home-based CR has yet to be examined, therefore, the present study examined the influence that anxiety and depression have on PA during a home-based cardiac rehabilitation program.

Preliminary analysis was completed on one hundred and seventy one patients (mean age=62.3; 73% males; 95% Caucasian; 78% married; 52% retired) who participated in a home-based CR program. Anxiety and depression were assessed via the HADS and PA was assessed via the Godin Leisure Time Exercise Questionnaire at CR program entry (baseline) and after program completion (3 month follow-up).

Multiple regression analyses showed that anxiety and depression accounted for 11% of the variance in PA at baseline and 15% of variance in PA at follow-up. However, only depression at baseline ($\beta=-.24$, $p<.01$) and follow-up ($\beta=-.22$, $p<.05$) significantly predicted PA scores. Anxiety was found to have a non-significant impact on PA at both baseline and follow-up.

Results from the preliminary analysis suggest that depression is a better predictor of PA levels over anxiety. This highlights the importance of reducing depression rates among CR patients. In doing so, other CR outcomes, such as PA, will be enhanced through tailoring CR programs to account for the psychological distress patients face with depression when trying to achieve their CR goals.

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Paper Session #30 3:30 PM–3:45 PM 3111

RESULTS OF A TAILORED INTERNET PLUS EMAIL INTERVENTION TO INCREASE PHYSICAL ACTIVITY IN WOMEN: "WOMEN'S FITNESS PLANNER"

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Internet-based interventions designed to promote the adoption and maintenance of physical activity offer a low-cost opportunity to reach large segments of the population. Research tested the efficacy of an individually-tailored internet plus email physical activity intervention among adult women. Healthy females were randomly assigned to an intervention (n=85) or wait-list control (n=71) group. Intervention participants completed an online assessment of individual characteristics (i.e., activity level, perceived benefits, perceived barriers, intentions, readiness to change), which was used to develop tailored electronic feedback and recommendations. Intervention participants also received weekly emails containing links to a website providing information about healthy eating and physical activity. Participants in both study arms completed web-based assessments of physical activity, stage of change, and psychosocial variables at baseline, 1-month, 2-months, and 3-months. Data were analyzed using ANCOVAs that adjusted for baseline levels of each variable. After 3 months, the intervention group increased walking to a greater extent than the control group, with the greatest improvements among women who had a college degree or higher ($p=.05$), were married ($p=.024$), or self-identified as Caucasian ($p=.013$). Also, the intervention group demonstrated greater stage progression than the control group after 3 months, with the greatest changes demonstrated among participants who were obese ($p=.001$), unmarried ($p=.024$), have children at home ($p=.028$), self-identified as non-Caucasian ($p=.034$), were 43 years old or younger ($p=.025$), or do not meet physical activity recommendations ($p=.016$). Findings suggest that tailored internet-based interventions targeting adult women may have a positive impact on physical activity outcomes, especially among certain subgroups of the population.

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Meritorious Student Paper
Paper Session #30 3:45 PM–4:00 PM 3112

EFFECTS OF NONDIRECTIVE AND DIRECTIVE SUPPORT ON WEIGHT LOSS AND SATISFACTION IN A 12-WEEK WEIGHT LOSS E-COACHING PROGRAM

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Nondirective support (NS; collaborative, flexible, guided by needs and perspectives of recipient) is positively associated with successful disease management, healthy lifestyles, quality of life and support satisfaction, whereas directive support (DS; prescriptive, protocol driven) is associated with poorer disease management and quality of life. However, DS appears to be advantageous in acute, highly stressful situations or in situations in which an individual lacks skills to handle a challenge. The current study manipulated these support types through e-mail exchanges and evaluated their effects on weight loss and satisfaction in a 12-week e-coaching program. Overweight adult women (N=87, M age=45.95, 69.0% Caucasian) were randomly assigned to one of three conditions: NS, DS, or minimal support (MS). All participants received two e-mails each week: 1) a weight loss lesson and a web link which allowed participants to report their weight, daily calories, and exercise; 2) feedback graphs. Participants in the NS and DS conditions also received individualized weight loss support following protocols reflecting each type of support. Participants in the DS condition lost more weight (10.61 pounds) than those in the NS (5.51 pounds) and MS conditions (5.98 pounds), $F(2,82)=5.33$, $p<.01$. Directive support over the Internet appears to be beneficial in the beginning of a weight loss program. Paradoxically, although DS was associated with greater weight loss than NS, satisfaction with support provided was greater in NS (3.38 on 4 point scale) than DS or MS conditions (2.98 and 2.55, respectively), $F(2,74)=6.24$, $p<.05$. However, general program satisfaction in NS (3.45 on 4 point scale) and DS (3.39) conditions was equal and higher than in MS (2.96), $F(2,81)=4.59$, $p<.05$. These findings provide further support for the effectiveness of internet programs for weight loss and underscore the value of individualized weight loss support to program acceptability.

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Paper Session #30 4:00 PM–4:15 PM 3113

TRANSLATION OF AN INTENSIVE LIFESTYLE INTERVENTION TO AN ONLINE SETTING

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Guidelines recommend that physicians address obesity, yet few evidence-based programs are accessible. We translated the Diabetes Prevention Program's (DPP) lifestyle curriculum into an online format, integrated with primary health care. The Virtual Lifestyle Management program includes an orientation lesson, then 16 weekly and 8 monthly lessons derived from DPP materials. Lessons are adapted for individuals with or without diabetes, and include interactive workbook exercises. Behavioral tools include email prompts for diet, physical activity and weight self-monitoring, and automated weekly progress reports. Support measures include scheduled and as-needed emails from health-coaches, who review participants' status, tracking and workbook entries, and coach-moderated participant chat sessions. Physicians receive quarterly feedback on their patients' progress, for use in ongoing medical care. After developing the software, we implemented VLM in November, 2006, enrolling 50 patients from a single large academic practice from 11/16/06–2/11/07. Participants are aged 26–78 (mean 52.7), mostly female (76%), with BMI>25 (mean 36.8; SD 6.8) and with at least one weight-related cardiovascular risk factor. After an average of 189.4 (SD 25.0) days of follow-up, 66% had logged in within the last 30 days. Participants reported a weight change of −14.1 lb (SD 13.0), with an 8.4 grams (SD 16.6) drop in daily fat consumption, and a 1538 step-equivalent (SD 3566) increase in physical activity, using a last-observation-carried forward approach. Measured weight data for those who participated in the 6-month evaluation (72%) were similar (−13.6 lb, SD 14.0). Among those with measured weight, 41.7% had achieved >7% weight loss. These data suggest that Internet-based lifestyle intervention may facilitate lifestyle intervention in primary care. An online approach may relieve clinical barriers such as staffing and scheduling costs, and overcome patient barriers such as cost, travel, and scheduling constraints.

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Paper Session #30 4:15 PM–4:30 PM 3114

USER ATTITUDES TOWARDS PHYSICAL ACTIVITY WEBSITES IN A RANDOMIZED CONTROLLED TRIAL

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Objective: Physical activity interventions delivered through the Internet are effective; however, little is known regarding the usefulness of specific website components. Method: Participants were sedentary adults who had been randomized to a Tailored Internet arm (n=81; 12 month website and email intervention consisting of instantaneous tailored feedback to participants) or a Standard Internet arm (n=82; 12 month website consisting of links to websites currently available to the public). We obtained both subjective usefulness data via self-report questionnaires and objective electronic utilization data.
Results: The Tailored Internet arm logged onto their study website significantly more times than the Standard Internet arm (median 50 vs. 38; $p<.05$). Participants rated the physical activity logging feature as most useful followed by Goal Setting, the Feedback Reports, and the Physical Activity Resources webpages. Higher use of the website was significantly related to higher physical activity at 12 months ($t=3.39$, $p<.01$). Additionally, the more times participants set goals, the greater the odds of meeting national physical activity guidelines at 12 months (OR=1.29, CI=1.14–1.47).
Conclusion: The number of logins in the current study was substantially higher compared to previous studies. Our findings provide information on which aspects of websites are important to include as future studies continue to develop and refine community-based Internet physical activity interventions.

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Paper Session #30 4:30 PM–4:45 PM 3115

RELATIONSHIPS AMONG MOTIVATION, ADHERENCE, AND WEIGHT LOSS IN A 16-WEEK INTERNET BEHAVIORAL WEIGHT LOSS INTERVENTION

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Adherence to program recommendations has been correlated with desirable health outcomes in previous studies. One way to increase adherence and possibly improve outcomes is the use of motivational interviewing (MI) techniques. MI has been shown to increase adherence to behavior change programs and to improve weight losses in at least one previous face-to-face behavioral program. In this study, two different 16-week weight loss interventions were compared, both of which were started with one face-to-face MI based session. Both groups lost weight (4.5 kg), and no between group differences were found. The sample (n=66) was collapsed to examine the relationships among autonomous motivation, adherence to completion of online self-monitoring diaries, and weight loss. Motivation was measured at baseline, at four weeks, and at follow-up using the Treatment Self-Regulation Questionnaire (TSRQ). Changes in motivation over time were examined using RMANOVA. The relationships among autonomous motivation, program adherence, and weight loss were examined using regression analysis. Autonomous motivation levels increased significantly between baseline and four weeks. Autonomous motivation at four weeks was a predictor of weight loss ($r=-0.28$, $p<0.05$) and adherence ($r=0.40$, $p<0.01$); baseline autonomous motivation did not predict weight loss or adherence. Regression analysis revealed that autonomous motivation at four weeks was a significant predictor of adherence to self-monitoring. Self-monitoring and years of previous Internet experience predicted a significant amount of variance in 16-week weight loss (adjusted $R2=0.41$). It appears that motivation may impact weight loss through its' effect on adherence to self-monitoring. Future interventions might benefit from building motivation for adherence to self-monitoring.

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Paper Session #30 4:45 PM–5:00 PM 3116

KEEPING PARTICIPANTS ACTIVELY ENGAGED IN INTERNET WEIGHT LOSS PROGRAMS: PREDICTORS OF SUSTAINED WEBSITE USE

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BACKGROUND: Web-based behavioral weight loss programs produce successful outcomes in controlled trials. More logins predict more weight loss, yet the determinants of sustained website use are unknown. METHODS: Our sample comprised 51 intervention participants in Step Up, Trim Down, a pilot randomized controlled trial evaluating a 12-week, interactive, Internet weight loss program for hypertensive, obese (BMI 30–40 kg/m^2) adult patients in primary care. Upon study initiation, participants received a utilization goal: log in to the website at least 3 times/week. We defined our main outcome, sustained website use, as achieving this login goal all 12 weeks of the study. We tested which baseline patient characteristics were associated with sustained use. RESULTS: The majority of participants were male (59%), white (51%), college graduates (56%), and employed (82%). Mean age was 54.7 (SD 7.1) years. Participants logged in to the website an average of 7.4 times/week (SD 4.4, range 0.0–17.4), and 20 (39%) achieved sustained website use. Compared with non-sustained users, more sustained users were white (75% vs. 35%, $p=0.006$) and physically active at baseline (80% vs. 47%, $p=0.02$), and they were somewhat more likely to be college educated (70% vs. 47%, $p=0.10$), over 55 years of age (75% vs. 48%, $p=0.06$), and male (70% vs. 48%, $p=0.19$). We did not find differences in use by income, baseline BMI, marital status, social support, or general overall health. Multivariable analyses revealed similar results. Mean weight loss from baseline to study completion was 5.0 kg (SD 3.0) among sustained users, whereas it was only 0.5 kg (SD 1.8) among non-sustainers, $p<0.0001$. CONCLUSIONS: While overall use of the website in this web-based weight loss trial was high, sustained use was highest among men, older participants, the more physically active, and the more advantaged — white and college educated. Given that sustained use was associated with substantial weight loss, efforts are needed to reach all population segments in Internet-based behavior change interventions.

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Paper Session #31 3:30 PM–3:45 PM 3117

MEASURING BLOOD PRESSURE KNOWLEDGE AND SELF-CARE BEHAVIORS OF AFRICAN AMERICANS

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Purpose: Psychometric evaluation of two new instruments to measure African Americans' knowledge and self-care behaviors necessary for blood pressure (BP) control. No other instruments exist to measure the totality of BP self-care required.
Design: Cross-sectional study conducted with 306 adults conveniently recruited from urban community sites. Participants were well distributed by gender (47% men; 53% women); age (range 21–65, $M=44.42\pm12.41$); and education (range 4–20 years; $M=12.92\pm2.35$); 115 participants (38%) had a known history of hypertension.
Methods: Automated BP readings were recorded as validity evidence. Confirmatory factor analysis and structural equation modeling were used.
Results: The 9-item BP knowledge scale had good reliability ($\alpha=.91$), and fit a single factor (CMIN/df=2.39; CFI=.98; RMSEA=.068). Knowledge of behaviors to control BP was high ($M=5.8$; ±1.28, on a 7-point scale). The 8-item BP self-care scale had acceptable reliability ($\alpha=.78$) and fit to a bi-factor model (CMIN/df=2.48; CFI=.96; RMSEA=.070). Participants' self-care behaviors averaged 4.46 (±1.17). BP knowledge was significantly correlated with behaviors ($r=.31$, $p<.01$). A SEM model including these scales and recorded BP fit well (CMIN/df=2.03; CFI=.93; RMSEA=.058); however BP self-care was positively related to BP (i.e., increased self-care associated with increased BP). Most of the explained variance in BP was due to covariates relating to traditional BP risk factors.
Conclusions: The BP Knowledge scale demonstrated acceptable psychometric properties. Minor revisions are suggested before testing with other groups. Results for BP Self-care were mixed; the scale had good content and convergent validity yet was positively related to BP. We consider the possibility that an alternative causal pathway may exist such that awareness of rising BP may result in increasing self-care behaviors. While there is theoretical justification for this perspective, we have found no support in the literature for this as yet.

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Paper Session #31 3:45 PM–4:00 PM 3118

ESTIMATING THE PREVALENCE OF MAMMOGRAPHY AND PAP SMEAR SCREENING IN LITTLE HAITI: CBPR IN ACTION

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"Partners in Action," or Patnè en Aksyon in Haitian Creole, is a campus-community partnership between the University of Miami Sylvester Comprehensive Cancer Center and key Haitian American community-based organizations in Miami, Florida. The partnership aims to alleviate the excess burden of breast and cervical cancer mortality experienced by Haitian American women living in the Miami metropolitan area. To accomplish this aim, we are conducting a two-year study, grounded in the principles of community-based participatory research (CBPR) to identify behavioral, cultural, and environmental determinants that contribute to exaggerated deaths from breast and cervical cancer among Haitian women. All data are collected by Community Health Workers (CHWs) who are Haitian, and trained to conduct research. Preliminary findings indicate that Haitian women experience adverse breast and cervical cancer outcomes for a myriad of reasons, the most notable of which is underutilization of mammography and Pap smear screening. Of 1000 Haitian women surveyed, nearly half reported never having had a mammogram in their lifetime, and approximately one third reported never having had a Pap smear. Among women who reported prior mammography or Pap smear use, the majority was screened less frequently than recommended by national guidelines . Such findings are complemented by a series of qualitative interviews with a random sample of Haitian women (n=50), which identify specific barriers to mammography and Pap smear use within the Haitian community, as well as, inform the development of culturally-and linguistically-appropriate interventions to attenuate such barriers.

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Paper Session #31 4:00 PM–4:15 PM 3119

THE TRIMMING RISK IN MEN (TRIM) STUDY: ADRESSING DISPARITIES AMONG BLACK MEN WHO VISIT BARBERSHOPS

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Barbershops are a promising setting for reaching Black men to address disparities in health. The 2-yr Trimming Risk in Men (TRIM) Study is designed to assess the feasibility of training barbers to promote informed decision making among Black men about colorectal & prostate cancer screening. Phase 1 used community based participatory research principles to develop culturally and contextually-appropriate barber training workshops and customer intervention materials using formative research results from interviews with shop owners and barbers (n=24), shop observations (n=8), customer focus groups (n=7) and evaluations of two pilot barber training workshops. Phase 2 tested these interventions in a group randomized, cross-over intervention study in 4 barbershops, with 16 barbers and 228 customers. Phase 1 results indicate that Black barbershops are busy small businesses with a loyal customer base. On busy days, average participating shops have been in business 10 yrs and see 50 customers. Average participating barbers have 65 regular customers. Customers see the same barber every visit (85%), have been going to the same shop for an average of 10 years, and 80% visit a shop at least once every 3 weeks. Health-related conversations in shops are uncommon, but barbers report high comfort levels discussing health topics with customers. Two pilot barber training workshops (one each for colorectal/prostate cancer) produced positive changes in prostate and colorectal cancer knowledge and self-efficacy to deliver key messages among attending barbers. Final data collection is currently underway for Phase 2 but most customers find the idea of barbershop-based interventions highly acceptable. Changes in barber and customer knowledge, self-efficacy and cancer screening behaviors will be reported. Preliminary results indicate that it is feasible to promote health and cancer prevention information in barbershops and that Black men are receptive to and reachable with vital health information in these settings.

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Meritorious Student Paper
Paper Session #31 4:15 PM–4:30 PM 3120

SOCIO-CULTURAL FACTORS INFLUENCE COLORECTAL CANCER SCREENING INTENTIONS IN AFRICAN AMERICANS

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Theoretical models of preventive behaviors like cancer screening, do not typically account for social and cultural factors relevant to African Americans, who are at high risk for several types of cancer. Using two structural equation models the following hypothesis was tested: the relationship between socio-cultural (traditional acculturation, group-based medical mistrust, group susceptibility, social support) socioeconomic, and health background variables (physician recommendation of screening, past screening, and personal history of colorectal polyps) and intention to be screened is mediated by perceived benefits of and barriers to colonoscopy. Data from 198 African Americans (Age: M=59.7, SD=9.9; 65% female; 44% household income $50,000+) were analyzed using structural equation modeling (LISREL 8.51) with full information maximum likelihood (FIML) estimation. The perceived benefits mediation model exhibited close fit [FIML $\chi 2$ (119)=172.23, $p<.01$; RMSEA=.047] with significant indirect effects for traditional acculturation ($\beta=.10$, $z=2.87$), group susceptibility ($\beta=.08$, $z=3.30$), social support ($\beta=.13$, $z=3.30$), and past screening ($\beta=.11$, $z=3.79$) and direct paths from traditional acculturation ($\beta=.18$, $t=2.56$) and SES ($\beta=.21$, $t=2.93$) to screening intention. The perceived barriers mediation model indicated reasonably close fit [FIML $\chi 2$ (66)=126.08, $p<.001$; RMSEA=.068] with significant indirect effects for traditional acculturation ($\beta=.09$, $z=2.32$), medical mistrust ($\beta=-.16$, $z=-3.63$), SES ($\beta=.18$, $z=3.77$), and past screening ($\beta=.20$, $z=4.57$) and direct paths from traditional acculturation ($\beta=.23$, $t=3.27$) and group-based medical mistrust ($\beta=.17$, $t=2.30$). Social and cultural factors are significantly associated with screening attitudes and should be included in behavioral interventions to increase CRC screening among African Americans.

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Paper Session #31 4:30 PM–4:45 PM 3121

BARRIERS TO DIABETES SELF-MANAGEMENT AMONG LATINO MEN AND WOMEN

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Introduction: Diabetes is a morbid, costly disease that disproportionately affects Latinos. To develop a culturally relevant diabetes self-management intervention, this project assessed barriers to self-management behaviors by gender among Latinos with diabetes living in central North Carolina.

Methods: Focus groups were designed using the Health Belief Model and were based on a review of existing literature. We conducted 8 groups (4 men, 4 women) among Latinos adults with diabetes. Participants were recruited from 3 local clinics and two community centers. Groups lasted 90 minutes and began with the administration of a brief demographic survey. A bilingual-bicultural moderator used a guide to facilitate discussion in Spanish; topics included diabetes management, perceived control, barriers to self-management, and program needs. Themes were identified using a combined deductive/inductive approach. Men and women's responses were analyzed separately.

Results: There were 45 participants, 20 men and 25 women. Mean age was 39 (range 18–65), the majority of participants came from Mexico. Mean time with diabetes was 5.25 years (range 6 months to 35 years). All participants believed it is possible to control diabetes through combinations of diet modification, physical activity, medications and abstinence from tobacco and alcohol. Participants identified lack of knowledge as the biggest barrier to self-management. Barriers differed by gender, with women reporting less family/social support; men reporting less time and energy due to long work hours. Participants voiced the need for more information, such as how to modify diet with regard to food types and portion sizes.

Conclusions: Lack of knowledge was identified as a major barrier to diabetes self-management among Latino adults in North Carolina. Different barriers were identified by men and women suggesting that tailored approaches may be needed to improve self-management.

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Paper Session #31 4:45 PM–5:00 PM 3122

RURAL CHARACTERISTICS OF AIDS STIGMA

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People with HIV/AIDS (PWHAs) living in rural areas of the United States face greater barriers to care and may perceive greater stigmatization by their community than urban PWHAs (Heckman et al., 1998; Reif, Golin, & Smith, 2005). AIDS-stigma been associated with delay of HIV testing (Chesney & Smith, 1999), risky behaviors (Preston, D'Augelli, Kassab, & Starks, 2007), and access to care (Brimlow, Cook, & Seaton, 2003). It is important to understand the prevalence and severity of AIDS-stigma in order to create effective interventions. Stigma related to HIV/AIDS has been repeatedly evaluated nationwide, most notably by Herek and colleagues (e.g. Herek & Capitanio, 1993; Herek, Capitanio, & Widaman, 2002), yet to date, no studies have specifically assessed stigmatizing attitudes of non-infected residents in rural areas of the United States, where stigma is expected to be greater. Nor has there been any direct comparison between rural and urban attitudes about HIV/AIDS. The goal of this project was to compare the prevalence and severity of AIDS stigma among residents of the state of Wyoming and residents of the Denver metro area. Participants included 825 Wyoming residents and 400 Denver residents. Each participant anonymously completed an AIDS Stigma Survey (Herek & Capitanio, 1993) along with demographic questions. The sample was recruited using a random digit dialing procedure by the University of Wyoming Survey Research Center and completed the survey over the telephone. Results will be discussed in terms overall endorsement of stigmatizing beliefs and comparison between a rural and an urban sample.

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Paper Session #32 3:30 PM–3:45 PM 3123

TAILORED TELEPHONE COUNSELING TO PROMOTE FRUIT AND VEGETABLE CONSUMPTION AMONG URBAN AND PREDOMINANTLY IMMIGRANT BLACK MEN

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Compared with other racial groups, black men have higher incidence and mortality rates for many diet-related diseases, including various forms of cancers. Epidemiologic data suggests that a diet rich in fruits and vegetables (FVs) may lower risk for chronic diseases, yet daily FV intake (FVI) in men is low, with blacks less likely to meet federal guidelines than whites. In a unique collaboration between two universities and a labor union/health insurer, we evaluated the efficacy of a tailored telephone counseling intervention that was designed to educate black men about the FV federal guidelines, as well as to promote increased FVI. The sample was 490 urban and predominantly immigrant black men, 45–71 years old. The trial used a randomized two-group (diet intervention vs. attention control) repeated-measures design. Intervention participants received a brochure and two telephone counseling sessions, which focused on promoting knowledge about current guidelines, awareness of potential health benefits, and simple ways to increase FVI. Our tailored approach was to bolster motivation to eat more FVs based on what each participant valued and their readiness to change. Controls received a brochure and tailored telephone counseling about prostate cancer screening. At baseline, daily servings of FV intake, as measured by a 3-item questionnaire was similar between groups (overall mean (SD): 3.1(2.2)). Relative to controls, men in the intervention group had greater increases in overall FVI ($p<0.001$), as well as F ($p<0.001$) and V ($p<0.01$) consumption individually. Mean (SD) change in overall FV was 1.63 (3.98) daily servings for the intervention group and 0.31 (2.57) daily servings for controls ($p<0.001$). In addition, the intervention had positive effects on men's overall knowledge regarding guidelines ($p<0.01$). These findings suggest that tailored telephone counseling is efficacious for promoting FV guidelines and modifying FVI in a high-risk population of mainly immigrant black men.

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Paper Session #32 3:45 PM–4:00 PM 3124

OBESITY REDUCTION BLACK INTERVENTION TRIAL (ORBIT): SIX-MONTH OUTCOME RESULTS

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ORBIT is a randomized controlled trial designed to assess the efficacy of a culturally proficient weight loss trial for obese Black women. Two hundred thirteen obese Black women aged 30–65 years were randomized to the intervention group or a general health control group. The interventions were delivered in two cohorts. The weight loss intervention consisted of a 6-month culturally-adapted weight loss progam (twice weekly) followed by a 1-year maintenance progam. Overall retention did not differ between the intervention and control groups at six-months (92%)and the intervention showed significant reductions in BMI as well as weight after controlling for baseline values and cohort ($p<0.001$). There was an increase on the Healthy Eating Index ($p<0.001$), overall fruit intake ($p<0.01$), and vigorous physical activity ($p<0.01$)in the intervention group but no changes specifically in energy intake (kcal), fat(%kcal), or walking were observed. The results also reflected substantial variability, with some participants losing more than 40 lbs and other gaining more than 10 lbs. Therefore, the strategies used may have resulted in some participants receiving insufficient contact, while others received more contact than needed. Varying the delivery of weight loss interventions based on response to treatment is discussed as well as implications that could lead to more cost-effective allocation of time and resources to treat obesity in this underserved and understudied population.

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Paper Session #32 4:00 PM–4:15 PM 3125

DO PSYCHOSOCIAL VARIABLES EXPLAIN RACIAL AND SES DISPARITIES IN PHYSICAL ACTIVITY?

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The major national health objective is to eliminate racial and ethnic disparities in health outcomes, including physical activity (PA). It is well documented that low income and African American adults tend to be less active, but it is unclear what factors account for disparities. The present study examined whether socioeconomic status (SES) and racial differences in objectively measured PA were explained by psychosocial variables.

Participants were 269 African Americans and 1522 Caucasians aged 20 to 65 years, recruited from King County, WA. and Baltimore, MD regions. PA was measured by 7 days of Actigraph accelerometer monitoring. Daily minutes of moderate and vigorous PA were computed. The 8 psychosocial variables, assessed mainly by validated scales, were barriers, benefits, social support from family and friends, self-efficacy for vigorous and moderate PA, and enjoyment of vigorous and moderate PA. SES was assessed by education and household income.

Using linear regressions, disparities in PA by race and SES were assessed, adjusting for the covariates gender, age, and BMI. A second set of regressions included blocks for covariates, psychosocial variables, SES, and race.

Whites had higher moderate PA (R2 chg=.011; $p<.001$), and the higher SES group had higher vigorous PA (R2 chg=.014, $p<.001$). Although the 8 psychosocial variables accounted for 3.7% of variance in moderate PA ($p<.001$), the racial disparity in moderate PA remained unchanged (R2 chg =.014; $p<.01$). Psychosocial variables explained 7.1% of variance in vigorous PA ($p<.001$), and the SES disparity decreased but remained significant (R2 chg=.004; $p<.05$).

Racial and SES disparities in PA were confirmed, but they were not consistent across two intensities of PA. Adjusting for 8 psychosocial variables did not reduce racial disparities in moderate PA but partially accounted for SES disparities in vigorous PA. Other variables should be explored to explain racial and SES disparities.

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Paper Session #32 4:15 PM–4:30 PM 3126

INFLUENCES ON PHYSICAL ACTIVITY AND DIET IN RURAL, LOW-INCOME ADULTS

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The promotion of physical activity and healthy diets in diverse populations is a prominent public health challenge. Sedentary lifestyles and poor diets are highly prevalent among low-income people, residents of rural areas, and some racial and ethnic groups. These groups are often underrepresented in population-based studies of health behaviors because they lack telephones, do not speak English as a primary language, or have low literacy. The purpose of the Healthy Lifestyles Study was to describe influences on physical activity and diet in low-income, rural adults, including those who speak Spanish as a primary language. Using instruments based on an ecological framework, we conducted face-to-face interviews with participants. Eligibility criteria for the study were age 18 or older, annual family income at or below 200% of federal poverty guidelines, residency in one of the two study counties, and English or Spanish-speaking. A convenience sample (n=137) was recruited from health clinics, job centers, local health departments, grocery stores, churches, and other community agencies. Fifty-five percent of the participants self-identified as Hispanic, and 73% reported annual family incomes of $20,000 or less. Survey questions addressed physical activity and diet behaviors, as well as individual factors (self-efficacy, barriers, demographic characteristics), interpersonal factors (social support), and community factors (safety, aesthetic qualities, resources) that influence physical activity and diet. We used latent cluster analysis to categorize participants into physical activity/diet subgroups and then explored the relationships of subgroups to individual, interpersonal, and community factors. Results will inform future studies of health promotion interventions tailored to the needs of specific subgroups within the rural, low-income population.

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Paper Session #32 4:30 PM–4:45 PM 3127

PREDICTORS OF PHYSICAL ACTIVITY AMONG MEXICAN AMERICANS USING A PATH MODEL

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Purpose: To examine predictors of physical activity using levels of acculturation, marital status, social support, fatalism, motivation, barriers, knowledge, and importance of physical activity using a conceptual model. Design: Cross-sectional study of healthy Mexican Americans in Texas with Setting: College Station, Texas. Subjects: A convenience sample of 208 Mexican Americans was recruited through faith based organizations.
Measures: Acculturation was measured by the Acculturation Rating Scale for Mexican Americans (ARSMA), physical activity by Rapid Assessment of Physical Activity (RAPA), social support by the Multidimensional Scale of Perceived Social Support (MSPSS), fatalism, motivation, barriers, and knowledge was measured by 2, 7, 9, and 2 questions respectively. Analysis: Structural Equation Modeling (SEM) was used to assess the adequacy of the model and model parameters.
Results: Fatalism, marital status, motivation, knowledge, and importance of physical activity exhibited the strongest (direct) effects on physical activity. Importance of PA and motivation for PA mediated the relationship between knowledge and activity level. The indexes of fit for the tested model indicated a good fit; the predictors accounted for 60% of the variance in physical activity. Conclusion: Knowledge, importance, and motivation for physical activity play a role in activity level that can be influenced by educators. Further, the transition period from single to married state may be an opportune time for trying interventions in this ethnic group.

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Paper Session #32 4:45 PM–5:00 PM 3128

PHYSICAL ACTIVITY BEHAVIORS AND MOTIVATIONS IN A ADULT FIRST NATION POPULATION

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The prevalence of obesity in Indigenous North America populations is cause for concern. Regular physical activity has been shown to mitigate this risk factor. Despite this, little research assesses the physical activity behaviors of First Nations people in Canada. Further, no studies have used Ajzen's Theory of Planned Behavior (TPB) to determine the social and cognitive motivations of First Nations people to engage in physical activity. The purpose of this mixed method research was to determine the physical activity motivations and underlying accessible beliefs of Westbank First Nation (WFN) adults from Kelowna, British Columbia as they relate to the TPB. It was hypothesized that use of the TPB would adequately predict WFN intentions and behaviors. Considering the qualitative nature of the second purpose no hypothesis was generated, however, a tentative proposition was that some accessible beliefs and behaviors of WFN adults would differ than the general population. Data collection consisted of 35 females and 18 males completing a mail-out questionnaire based on the TPB as well as follow-up focus groups to elicit accessible beliefs and to determine physical activity behaviors (N=12). Regression analyses were used to predict intentions and behaviors. Intention significantly explained 16% of the variance in behavior. Only affective attitude and perceived behavioral control predicted intention but explained 50% of the variance. Qualitative analyses revealed that despite similarities, WFN adults engage in culturally specific activities and have unique salient beliefs compared to the general population. Specifically, WFN adults value the social consequences of physical activity, especially those with cultural relevance. It is suggested that to increase intentions, interventions should focus on the affective benefits of being physically active and promote activities perceived as easy to do with facilities that are accessible. Further, programs designed to increase WFN participation should focus on the social benefits of engaging in culturally relevant physical activities.

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Paper Session #33 3:30 PM–3:45 PM 3129

SPOUSE DISCLOSURE OF CANCER-RELATED CONCERNS: ASSOCIATIONS WITH SPOUSE AND PATIENT ADJUSTMENT

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Previous studies have found that, for cancer patients, disclosure of cancer-related concerns is generally associated with better adjustment, while holding back from disclosing concerns is associated with poorer adjustment. While cancer also takes an emotional toll on spouses, little is known about the effects of spouse disclosure on themselves or the patient. The present study examined associations between spouse disclosure and spouse and patient adjustment. Interactions between disclosure and gender were also explored. Participants were 119 patients with GI cancer (69% male, mean age=59 years, 89% White) and their spouses (69% female, mean age=57 years, 89% White). Spouses completed measures of disclosure (how much they disclosed and held back from disclosing cancer-related concerns to the patient), caregiver strain, and mood. Patients completed measures of quality of life and mood. Spouse disclosure was positively associated with spouse vigor [F(1,118)=7.3, p<.01). Spouse holding back was positively associated with spouse mood disturbance [F(1,118)=42.4, p<.0001). In addition, significant gender by holding back interactions indicated that, for female but not male spouses, holding back was positively associated with depressed mood and caregiver strain. For measures of patient adjustment, spouse disclosure was positively associated with patients' lung cancer symptoms [F(1,118)=7.6, p<.01]. Spouse holding back was negatively associated with patient physical well-being [F(1,118)=5.9, p=.02], and positively associated with lung cancer symptoms [F(1,119)=4.4, p=.04] and patient mood disturbance [F(1,118)=7.3, p<.01]. These findings suggest that spouse holding back is associated with poorer adjustment for both patients and spouses, and particularly for female spouses. Similarities and differences with correlates of patient disclosure will be discussed.

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Paper Session #33 3:45 PM–4:00 PM 3130

ROLE OF SPOUSE SUPPORTIVE COPING IN TREATMENT DECISION-MAKING FOR PROSTATE CANCER PATIENTS

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Background: Spousal support and coping can influence treatment decision-making discussions and outcomes in prostate cancer (PCA) patients. This study investigates how a specific type of spouse (SP) coping, supportive coping, influences decision-making for PCA patients (PT).
Method: Data was collected from 129 PCA PT-SP dyads at two Philadelphia, PA, hospitals. Participants completed measures of SP supportive coping (SUPPORT), PT marital quality (QUALITY), PT concerns about treatment side effects (CONCERNS), and amount of discussion about treatment options (DISCUSSION).
Results: PT were significantly older than SP (63 vs 59 years). 27% of PT were African American; 68% were White. Majority (73%) reported ≥1 co-morbid condition (52% high blood pressure). Results from a multi-level model (accounting for dyadic influence between PT and SP) showed an interaction of SP SUPPORT and report source (PT vs. SP) on CONCERNS. PT perceived SP as providing more support as PT concerns increased, whereas, SP reports of providing support to PT were unrelated to level of PT concerns. A marginal effect was found for QUALITY; higher quality was associated with fewer PT concerns. Results also showed a main effect of SUPPORT on DISCUSSION; for both PT and SP, more SP support was associated with more discussion. Interestingly, SP were more likely than PT to report wanting more DISCUSSION, but as QUALITY increased, preference for more discussion decreased for both PT and SP.
Conclusion: SP play an important role in PT decision-making processes. PT with more concerns perceive SP as more supportive even though SP report no differences in support. More SP supportive coping is also associated with more discussion of treatment options. The quality of the PT-SP relationship is of particular importance with higher quality linked to fewer PT concerns and decreased preference for further discussion, suggesting greater satisfaction with treatment decision-making for couples with higher marital quality.

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Citation Paper
Paper Session #33 4:00 PM–4:15 PM 3131

THE RELATIONSHIP BETWEEN PATIENT PAIN AND SPOUSAL COMMUNICATION PATTERNS IN COUPLES' PSYCHOSOCIAL ADAPTATION TO METASTATIC BREAST CANCER

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Recent work in early stage breast cancer has demonstrated significant associations between couples' psychosocial adaptation and three strategies used when discussing cancer-related concerns (mutual constructive communication, MCC; mutual avoidance, MA; and demand-withdraw communication, DWC). Unlike those with early stage disease, couples with advanced cancer must cope with increasing patient pain and disability. Cancer pain has been shown to exacerbate distress, interfere with everyday interaction, and may adversely affect marital quality. We examined the joint effects of patient pain (BPI severity and interference) and engaging in different spousal communication strategies (MCC, MA, and DWC) on the psychological and marital adjustment of 175 couples coping with metastatic breast cancer. Almost 39% of patients and 33% of spouses met CESD criteria for psychological distress; 20% of patients and spouses met DAS7 criteria for marital distress. Results using the couple as the unit of analysis showed that, for patients and partners, MCC (Sobel's Z=2.68, p=.01) and MA (Z=2.33, p=.02) partially mediated the association between pain interference and psychological distress after controlling for pain severity and age. MCC also moderated the association between pain interference and both partners' dyadic adjustment (p=.03). Patients and partners scoring low (−1SD) on MCC reported less dyadic adjustment, regardless of their level of pain interference. Although pain interference was negatively associated with dyadic adjustment for those high (+1 SD) on MCC, these individuals reported greater dyadic adjustment overall. This study highlights the interplay between physical symptoms and relationship processes in couples' psychosocial adaptation to cancer. Learning to decrease negative communication and increase constructive communication may help alleviate the negative impact of cancer pain on both partners' adjustment.

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Paper Session #33 4:15 PM–4:30 PM 3132

MARITAL DISTRESS PREDICTS PROLONGED STRESS, POOR MENTAL HEALTH, AND SLOWED PHYSICAL RECOVERY IN BREAST CANCER SURVIVORS

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Background: Romantic partnership distress has been implicated in difficulties with adjustment to and recovery from a breast cancer diagnosis.
Methods: Five-year longitudinal data from 100 regional breast cancer survivors who were married or cohabiting were used. Patients were assessed shortly after diagnosis, then every four months during the first year and every six months during the next four years. Women were identified as in either a distressed relationship (n=28) or a non-distressed relationship (n=72) based on six yearly assessments with the Dyadic Adjustment Scale. Groups were compared across stress, depressive symptom, quality of life, and nurse-rated health trajectories using mixed-effects modeling.
Results: Overall, patients in distressed partnerships showed poorer adjustment and recovery than patients in non-distressed partnerships. Over time cancer-specific stress (Impact of Events Scale) decreased significantly for both groups (ps<.01), but with the Distressed group showing significantly slower improvement (p=.02). The Distressed group showed no improvement in global stress (Perceived Stress Scale) during follow-up while the Non-distressed group significantly improved (p=.02). The Distressed group also had significantly more depressive symptoms (Center for Epidemiology Studies Depression Scale) and poorer mental health quality of life (SF-36 Mental Component Summary; ps <.01) both initially and throughout the next five years. Moreover, the Distressed group showed significantly more symptoms/signs of illness and treatment side effects (Southwest Oncology Group toxicity index) throughout the follow-up (p=.01) and slower recovery in performance status (Karnofsky Performance Status) than the Non-distressed group (p=.01).
Conclusion: Women in distressed relationships showed slower recovery and poorer physical and mental health outcomes up to five years post-diagnosis. Endeavors to improve distressed partnerships may aid women in both adjustment to and recovery from breast cancer.

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Paper Session #33 4:30 PM–4:45 PM 3133

DOES RELATIONSHIP MAINTENANCE HELP ALLEVIATE DISTRESS AND IMPROVE DYADIC ADJUSTMENT FOR COUPLES COPING WITH LUNG CANCER?

Hoda Badr, PhD and Cindy L. Carmack Taylor, PhD

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The interpersonal nature of the cancer experience necessitates an understanding of the ways couples maintain or enhance their relationships during this time. Relationship maintenance strategies (positivity, openness, assurances, relying on social networks, and sharing tasks) help keep relationships at a certain level of intimacy. Maintaining a healthy spousal relationship may be particularly important in lung cancer as patients have a poor prognosis and report significant distress. After administering a series of questionnaires (within 1 month of treatment initiation (baseline) and 3 and 6 months later), we evaluated how 158 patients' and spouses' efforts to maintain their relationships affected their distress and dyadic adjustment over time. Patient average age was 62.86 years (SD=10.14). Most were male (62.7%); not Hispanic or Latino (95.3%); white (88.2%); married (97.6%); and had advanced disease (69.2%). Approximately 1/3 of patients and spouses met the BSI criteria for distress. Multilevel modeling analyses showed that couples where both partners engaged in more frequent maintenance behaviors reported greater dyadic adjustment at baseline and over time. Further, individuals who engaged in the strategies of positivity, networks, and shared tasks reported less distress at baseline than other subjects regardless of gender or social role (patient or spouse). Over time, the effects of providing more assurances and experiencing a partner's increased reliance on social networks differed: patient distress was exacerbated, and spouse distress was alleviated. For couples coping with lung cancer, the initial treatment period may be an important time that sets the tone for future spousal interactions. Focusing on the relationship by engaging in maintenance strategies during this stressful time may help mold more resilient relationships and alleviate distress as the disease progresses. However, when designing couples-focused interventions, researchers may need to adjust for the changing and sometimes conflicting needs of each partner.

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Paper Session #33 4:45 PM–5:00 PM 3134

PSYCHOLOGICAL AND RELATIONSHIP FUNCTIONING OF LUNG CANCER PATIENTS AND THEIR SPOUSES

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Couples facing lung cancer may be at increased risk for distress compared to couples facing non-tobacco-related cancers. We examined the prevalence of psychological and relationship distress in lung cancer patients and their spouses, predictors of psychological distress for both, and whether relationship functioning moderated the relation between patient and spouse distress. Participants were 169 patients and 167 spouses enrolled in a longitudinal psychosocial study. Analyses were from the baseline data (within one month of treatment initiation). A total of 34.6% of patients and 36.4% of spouses reported psychological distress. Patient and spouse distress were correlated; however, the association depended on the symptom examined. Only 10.9% of patients and 14.1% of spouses reported distressed spousal relationships. Stepwise regression analyses indicated that for patients, age, coping (behavioral disengagement and self-distraction) and social support (positive social interaction) predicted psychological distress (adjusted $R2=.295$, $p<.001$). For spouses, education, attitude of patient blame for the cancer cause, coping (substance use and emotional support) and social support (emotional/informational and tangible) predicted psychological distress (adjusted $R2=.297$, $p<.001$). Multi-level modeling analyses indicated that relationship functioning buffered the association between each partner's distress on 3 Brief Symptom Inventory dimensions (Somatization, Paranoid Ideation, Psychoticism). The interactions approached significance for the Global Severity Index ($p=.07$) and Depression ($p=.08$). Psychosocial interventions for lung cancer patients may be most effective when they include the spouse and when they target both decreasing individual distress and enhancing relationship functioning.

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Saturday
March 29, 2008
8:00 AM–10:00 AM

Poster Session D D001

SOCIAL FACTORS ASSOCIATED WITH TANNING BED USE IN YOUNG ADULTS

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Exposure to ultraviolet radiation (UVR) is an important risk factor for skin cancer, with indoor tanning bed use as a significant contributor to intentional UVR exposure (American Cancer Society, 2007). The use of tanning beds is especially common among college students; Hillhouse and colleagues (1999) found that over one-third of their undergraduate sample had used tanning beds within the prior year. To date, most of the studies focused on correlates of indoor tanning have only examined individual-level variables and have not explored the social context in which these behaviors occur. The purpose of the present study was to explore the role of friends' attitudes and behaviors in college students' tanning bed use.

Participants included 480 undergraduates (63% female; 37% male) at Washington State University (WSU); ages ranged from 18 to 39 years old ($M=19.5$). Participants were asked about the number of times they had used a tanning bed in the past year, along with two questions about their friends' attitudes and use of tanning beds. Overall, 43% ($n=208$) of participants reported indoor tanning use within the last year. Frequency of use was quite variable among those 208 individuals, ranging from 1–5 visits (31%), 6–10 visits (19%), 11–20 visits (26%), 21–40 visits (14%), and over 40 visits (10%). Of those who endorsed tanning bed use, 71% reported going to the tanning salon with friends at least "some of the time". Among all participants, there was a significant positive correlation between frequency of personal tanning bed use and the reported percentage of friends who used tanning beds ($r=.46$, $p<.001$). In addition, individuals who reported at least some friend encouragement of tanning behavior had significantly more visits to the tanning salon compared to those whose friends either discouraged or were neutral about tanning bed use, $F(1, 476)=37.23$, $p<.001$. Results suggest that indoor tanning among college students is a highly social activity and that friends' attitudes and tanning behaviors may affect an individual's tanning bed use.

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D002

LOW INCOME SMOKING: 20 YEARS OF DATA, NHIS 1983-2006

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Low income smokers, defined as those who live in poverty, are at high risk for tobacco use and suffer disproportionately from tobacco-related illness, disease, and death. The health disparities are likely due both to higher tobacco use as well as less access to medical care when compared to those with higher income.

This study examines current smoking patterns of U.S. adults by sociodemographic variables and smoking frequency. Data were analyzed from the National Health Interview Survey, years 1983–2006.

The relationship of smoking status (current, never, former) and income (below vs. above poverty level) during 1983, 1995 and 2006 was examined via multivariate logistical regression, controlling for other sociodemographic variables. The odds ratio for low income adults to be current smokers compared to never smokers increased from 1983–2006 ($p \leq .05$). Adults in poverty were 1.17 times more likely to be smokers in 1983 than those above the poverty threshold (CI: 1.03–1.32). Consistent patterns were found in 1995 (OR: 1.31; CI: 1.14–1.51) and in 2006 (OR: 1.46; CI: 1.26–1.69). Similarly, those whose household income is higher than the poverty level are also more likely to be former as opposed to current smokers (OR's: 1.49, 1.61, & 1.80 for 1983, 1995, & 2006 respectively).

Adults with a family income less than $25,000/year have not experienced the marked decline in current smoking that adults with a family income of more than $45,000 have experienced over the past 20 years. Prioritizing smoking cessation in those groups who continue to demonstrate elevated levels of smoking rates is key to moving closer to relieving the burden of cancer.

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D003

WHEN SMOKERS MOVE OUT AND NONSMOKERS MOVE IN: RESIDENTIAL TOBACCO SMOKE POLLUTION AND EXPOSURE TO RESIDUAL ETS

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This study examined whether homes occupied by smokers remain contaminated with environmental tobacco smoke (ETS) pollutants when the smokers move out and nonsmokers move in, and whether nonsmokers are exposed to residual ETS in these homes. In Part 1, we measured 100 smokers' homes and 50 nonsmokers' homes. Participants were interviewed before they moved, and household dust, air, and surfaces were examined for nicotine concentration. Children's urine samples were analyzed for cotinine concentration. In Part 2, the new residents were recruited if they were all nonsmokers, and the same sampling was conducted.

Participants in Part 1 "smoker" homes reported a mean of 48.09 (95% CI= 37.29–61.93) cigarettes/week smoked inside their homes and 11.68 (6.03–21.90) cigarettes/week exposure to their children<=11 years old (n=35). Preliminary analyses indicate that children in smoker homes had higher mean urine cotinine concentration (5.10 ng/ml [3.60–7.10]) than children in "nonsmoker" homes (0.15 ng/ml [0.09–0.21], $p<.001$). Mean nicotine concentration of living room dust was higher in smoker homes (32.88 μg/g [17.82–59.97]) than nonsmoker homes (2.20 μg/g [1.21–3.63]), as were surface nicotine (92.11 μg/m2 [57.12–149.15] vs. 1.56 [0.69–2.88]) and air nicotine (1.81 μg/m3 [1.31–2.43] vs. 0.02 [0.01–0.03], all $p<.001$). These results confirm our previous findings, showing that dust, surfaces, and air in smokers' homes are contaminated with residual ETS.

After the change of occupancy, air and surface nicotine in former smoker homes showed a significant decrease in living rooms and bedrooms ($p<.01$). There were no differences for nonsmoker homes or children's urine cotinine. In progress dust analyses will also be reported. Nicotine levels and children's urine cotinine concentration were higher in Part 2 former smoker homes than in Part 1 non-smoker homes, indicating residual contamination of the residences.

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D004

INCREASING THE INCLUSION OF AFRICAN AMERICAN SMOKERS IN INTERVENTION TRIALS: EXAMINING RELATIONSHIPS BETWEEN RECRUITMENT APPROACH AND PARTICIPANT CHARACTERISTICS

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The under-representation of African Americans in smoking cessation trials may contribute to health disparities. The present study examined (1) results of an 8-month recruitment campaign to enroll African American smokers into a randomized clinical trial and (2) correlates of proactive, reactive, and combination recruitment approaches. African American smokers (N=249) completed assessments of readiness to quit smoking, decisional balance, the processes of change, and acculturation. Proactive recruitment consisted of efforts to make personal contact with potential participants. Reactive recruitment required smokers to call the project's telephone number to enroll. Combination recruitment utilized both proactive and reactive methods.

Reactive recruitment produced the most enrollees (43%), followed by, proactive (31%), and combination (26%). Most participants (76%) completed at least a high school education. Participants were notably low-income, smoked an average of 17 cigarettes per day (cpd) for 23 years, and was moderately nicotine dependent. Evidence suggested that different smoking subpopulations were recruited by each method. Compared to proactively recruited smokers, the reactive recruitment strategy was associated with higher income ($b=.31$, $p=.006$), heavier daily smoking ($b=.86$, $p<.001$), lower nicotine dependence ($b=-.38$, $p=.002$), greater readiness to quit ($b=.28$, $p=.002$), and greater acculturation ($b=-.77$, $p<.001$).

These findings highlight the importance of using multiple recruitment strategies to obtain a representative sample of African American smokers. Moreover, individual determinants of research participation and smoking outcomes are related to the recruitment approach. Reactive recruitment approaches appear to enhance accrual rates (over shorter period of time); however this approach produces a sample that may not be representative of African American smokers. Future efforts should use this information to develop culturally-specific recruitment strategies.

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D005

FRUIT AND VEGETABLE INTAKE AMONG AFRICAN AMERICANS IN THE BODY & SOUL PROGRAM: ASSOCIATIONS WITH PSYCHOSOCIAL VARIABLES

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African Americans suffer disproportionately from diseases related to poor eating habits. Body & Soul is an evidence-based fruit and vegetable (FV) intervention currently disseminated by the National Cancer Institute among African American churches. The program includes pastor church support, educational and environmental/policy change activities, and peer-counseling. The aim was to identify correlates of FV intake among participants.

The baseline survey assessed FV consumption and potential correlates including self-efficacy, intrinsic motivation, and social support. Self-efficacy was assessed using a 10-item scale ($\alpha=.90$), intrinsic motivation with a 10-item scale ($\alpha=.89$), and social support with a 3 item scale ($\alpha=.70$). Fourteen of 16 churches completed baseline assessments yielding 941 participants for preliminary data analysis. A clustered standard error procedure in STATA controlled for the inherent correlation among church members. Hierarchical multiple regression analyses were conducted to determine if adding psychosocial variables (self-efficacy, intrinsic motivation, and social support) to the model improved prediction of baseline FV intake beyond the impact of socio-demographic background variables.

At baseline, 60% of church members ate less than 5 servings/day and median intake was 3.6 servings. In the full multivariable model, self-efficacy, intrinsic motivation, and social support were each significant. Addition of these psychosocial variables to the socio-demographic model significantly improved R2, accounting for 72% of the explained variance. However, the overall variance accounted for was relatively small (8.75%). These three psychosocial variables significantly improved prediction of baseline FV intake in this study. Understanding determinants of FV consumption can lead to more effective interventions to reduce health disparities.

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D006

NEIGHBORHOOD FACTORS AND PHYSICAL ACTIVITY IN WOMEN OF COLOR

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INTRODUCTION: African American (AA) and Hispanic/Latino (HL) women report low rates of physical activity (PA), related, in part, to lack of places and opportunities for PA. This study investigated the association between neighborhood factors and PA in AA and HL women. METHOD: AA women in Houston (n=259) and HL women in Austin (n=99) reported measures of sociodemographics, the environmental assessment from the international prevalence survey (EA), and the International Physical Activity Questionnaire. RESULTS: Most women (M=45.3 yrs, SD=9.3) were overweight (M BMI=34.8, SD=8.8). Mean energy expenditure was 2,734.2 METS per day (SD=3751.4). AA women (98% compl. some college) reported more education than HL women (71% compl. some college). No other site differences were seen. EA factor analysis produced four factors: safety, physical activity opportunities (PAO), goods and services (GAS), and sidewalks. An additional question assessed car ownership. After controlling for education, poverty income ratio, and site, simultaneous regression models found that more PAOs (Beta=0.18, $p<0.01$) and number of cars owned (Beta=0.13, $p<0.05$) was associated with greater overall energy expenditure. This relationship was driven by energy expenditure from work; none of the EA factors was associated with energy expenditure from walking, leisure, transport, home/garden or moderate PA. However, reporting more PAOs (Beta=0.16, $p<0.05$) and less safety (Beta=0.14, $p<0.05$) was associated with greater energy expenditure from vigorous PA. DISCUSSION: Results suggest that car ownership may provide access to PA opportunities, suggesting a differential relationship between car ownership and PA for those in sprawling cities with extreme weather conditions. Expected SES differences in energy expenditure were not found, perhaps due to a relatively higher SES sample, or universally lower rates of PA among women of color, regardless of SES.
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D007

LONGITUDINAL PREDICTORS OF HEAVY DRINKING IN A COMMUNITY SAMPLE OF MARRIED COUPLES

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Multiple contextual, individual, and sociocultural factors (e.g., family, other drug use, and psychological factors) influence heavy drinking. Among married couples, spouses tend to have similar drinking and smoking patterns. Previous published findings from a longitudinal community sample of married couples suggest that spouses influence each other's smoking patterns and previous research indicates that husbands' drinking before marriage is predictive of wives' drinking after marriage. The purpose of this study was to expand previous research by investigating the longitudinal influence of spousal and individual smoking on heavy drinking within the first seven years of marriage. Generalized Estimating Equations were used to predict the likelihood of heavy drinking on the basis of an individuals' and partners' level of smoking after controlling for relevant sociodemographic factors. Husbands, whose wives were either former smokers ($p=.005$) or smoked less than half a pack a day ($p=.038$), were more likely to be heavy drinkers when compared to husbands whose wives were never smokers. For individuals, rather than couples, husbands were more likely to engage in heavy drinking if they were former smokers ($p=.019$), smoked less than pack a day ($p<.001$), or smoked more than a pack a day ($p<.001$). Similarly, wives were more likely to engage in heavy drinking if they were former smokers ($p=.002$), smoked less than half a pack a day ($p<.001$), or smoked more than half a pack a day ($p<.001$) when compared to never smokers. For men and women, being a current or former smoker, compared to never smoking, predicted heavy drinking. For men, spousal former or current moderate smoking, compared to never smoking, predicted heavy drinking. These findings highlight the influence of contextual factors, specifically the marital relationship, on heavy drinking as well as the importance of including individual and spousal smoking patterns when developing predictive models and interventions for heavy drinking.

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D008

PHYSICAL ACTIVITY, FRUIT AND VEGETABLE CONSUMPTION, AND CHURCH SUPPORT IN AFRICAN AMERICAN CHURCH MEMBERS

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The church is an important source of support for African Americans, and is a place where health behavior interventions can be offered in a manner that is spiritually and culturally acceptable to members. Faith, Activity, and Nutrition (FAN) is a faith-based, community-based participatory research intervention aiming to increase physical activity (PA) and fruit and vegetable (FV) consumption in African Methodist Episcopal (AME) church members. We examined the relationship between PA participation, FV consumption, and church support in AME church members at baseline (recruitment is ongoing). Non-occupational PA was assessed using the CHAMPS questionnaire (hrs/wk of mod to vig PA), and FV consumption was assessed using the NIH FV screener and a 2-item FV measure. Church support for PA and FV was assessed with 16 items about the encouragement, opportunities, and information church members received from the church, pastor, and health director. To account for the dependency among participants from the same church and cluster, simultaneous multiple regression analyses were conducted using SAS PROC MIXED. Participants were 352 adults from 27 churches averaging 55 years of age (SD=15.16), 77% female, 44% married, 54% employed for wages, 64% with total household incomes under $40,000/yr, and 85% overweight or obese. Church support for PA was independently and significantly related to greater PA at baseline ($p=0.0005$). Men were significantly more active than women ($p=0.0001$), and age ($p=0.0029$) and BMI ($p=0.0111$) were inversely related to PA. Church support for FV consumption was not significantly related to FV consumption based on the NIH screener ($p=0.1503$), but was significantly and independently related to higher FV consumption based on the 2-item measure at baseline ($p=0.0242$). These findings suggest that church support may be an important intervention target for promoting PA and FV consumption in churches.

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D009

NICOTINE AND HOUSING ALTER HEART MORPHOLOGY IN FEMALE RATS

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Nicotine alters heart morphology in female rats in ways that are relevant to cardiovascular diseases (Elliott, Faraday, & Grunberg, 2003). Enriched environments can alter biology and behavior in rats and humans (Hebb, 1947; Rosenzweig, 1966; Diamond, 1967; Elliott & Grunberg, 2005). The present experiment assessed effects of nicotine and enrichment on heart morphology in a 2 (nicotine, saline)×4 (isolation [1 rat/cage], social enrichment [2 rats/cage], physical enrichment [1 rat/cage+2 toys] or super enrichment [8 rats/large cage+toys]) factorial design. Subjects were Sprague-Dawley female rats that were 21 days old at the start of the study. Rats were housed in one of the four conditions for 5 weeks, and then half of the animals in each housing condition were given chronic nicotine (9 mg/kg/day via osmotic minipump) for two weeks.

There was a significant main effect for housing on body weight, with physically enriched (PE) rats weighing more than social (SE) and super enriched (SUPER) rats. There was a significant main effect of housing and drug and a significant drug×housing interaction on heart structure. Covarying for body weight, isolated rats had longer hearts than all enriched rats; isolated and SE rats had wider hearts than PE and SUPER rats; and SE and SUPER rats had thicker septal walls than isolated and physically enriched rats. Covarying for body weight, saline rats had smaller right ventricles than nicotine rats.

These results indicate that nicotine per se changes the structure of the heart in female rats, consistent with other reports (e.g., Elliott et al., 2003). Also, housing per se changes the structure of the heart in female rats. These findings underscore the value of using a rat model to investigate environmental variables that affect heart morphology.

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D010

BUILT ENVIRONMENT, HEALTH AND HEALTH-RELATED BEHAVIOR IN MIDDLE AGED AND OLDER ADULTS: A MULTILEVEL ANALYSIS

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This study examined the relationship between neighborhood built environment factors (representing dimensions of urban form) and health and health-related behaviors in a sample of middle aged and older adults. The study used a cross-sectional, multilevel design with neighborhoods (defined by Census block groups) as the primary sampling unit (PSU). Study participants (N=1221) were community-dwelling residents aged between 50–75 years old (mean age=62 years, SD=6.9) recruited from 120 neighborhoods in Portland, Oregon. The independent variables at the PSU level involved geographic information systems-derived measures of land use mix (commercial, residential, public facilities), density of fast food outlets, street connectivity, public transit, and green and open spaces. Dependent variables included resident-level measures of overweight/obesity (>25 as defined by BMI), neighborhood walking (walking vs. no walking), physical activity (meets/does not meet recommendation for moderate or vigorous physical activity), and hypertension (blood pressure >140/90 mmHg). Results of multilevel analyses indicated that, controlling for neighborhood- and resident-level sociodemographic characteristics, neighborhoods with higher mixed land use and lower density of fast food outlets were more likely to have residents with lower BMI, and that residents living in neighborhoods with higher mixed land use, high street connectivity, better access to public transit, and more green and open spaces were more likely to engage in neighborhood walking, meet physical activity recommendations, and have lower levels of hypertension. This study indicates that variations in land use mix and food outlets across neighborhoods are associated with residents' health outcomes and physical activity behaviors, suggesting that city planning, zoning policies and community health promotion should consider built environments that facilitate residents' health and physical activity.

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D011

RURAL ADULTS' PARTICIPATION IN EXERCISE WITH THEIR CHILDREN

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Background: Previous studies show that adults with children, especially women with young children, are less physically active. Thus some have promoted joint parent and child exercise. This survey examines how often parents exercise with their children and their perceptions of how children affect their ability to exercise.
Methods: Half-hour telephone survey of health behaviors and priorities among rural adults between Oct 2006 and Jan 2007. Adults were randomly sampled from voter registration records in two rural Iowa counties monitored by the Iowa Prevention Research Center. Sampling was stratified by median income by zip code and continued until age and income distributions closely approximated those of the overall counties. Logistic regression, chi-squared tests and summary measures were computed using Stata 10.
Results: 845 people participated for a response rate of 28.4%. 207 (25%) reported having children 18 and under. Of parents, 27% reported exercising with their children often or always in the past month, 32% sometimes and 40% almost never (no significant difference by gender). Some parents reported encouragement from their children to exercise (22% almost always or often; 28% sometimes, 50% never). There was no significant difference by gender. On the other hand, adults reported their children made it difficult for them to exercise (18% almost always or often, 21% sometimes). More women than men stated children made exercising difficult (often or almost always: 22% vs 10%; sometimes 26% vs 13%: p=0.003).
Conclusions: While over a third of rural Midwestern adults, particularly women, reported that children make it difficult to exercise, more than half reported they exercised with their children at least sometimes in the past month and many reported encouragement from their children to exercise. Interventions should consider promoting parent-child exercise opportunities, using children to motivate family exercise and finding creative ways to allow adults with children more chances to exercise.

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D012

RACIAL/ETHNIC DISPARITIES IN THE LIKELIHOOD OF DIABETES: WHERE YOU LIVE MATTERS

Stephanie L. Taylor, PhD and John Romley, PhD

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Background: Racial/ethnic disparities in diabetes have been shown to exist. Additionally, individuals' likelihood of having diabetes recently has been shown to correlate with where one resides. However, we are unaware of any study examining the effect of where one resides on racial/ethnic disparities in diabetes. This paper addressed three questions: 1) do racial/ethnic disparities in diabetes exist and, if so, 2) do they vary geographically and, if so, 3) which of eleven built environment and social characteristics of census tracts correlate with that geographic variation, controlling for individuals' characteristics? That is, are racial/ethnic disparities in diabetes stronger in some census tracts and weaker in others, and what might explain it.
Methods: We used individual-level data from the 1999/2000 and 2002/2003 Los Angeles County Health Surveys, which were population-based, telephone surveys of random samples of adults. The analytic sample included only persons (n=12,901) providing accurate cross street data so they could be assigned census tracts. We conducted cross-sectional, random effects (multi-level) analysis of individuals nested within census tracts. We controlled for eight individual-level covariates.
Results: Racial/ethnic disparities in diabetes existed, such that Latinos were more likely than Whites to have diabetes when body mass index, physical activity, and fruit/vegetable intake were controlled for. These disparities varied across census tracts (i.e., were stronger in some more tracts than others). When we simultaneously added tracts' characteristics, three were related to the likelihood of having diabetes. Residents of areas with lower household density, lower household income, and higher proportions of the land mass devoted to residences versus businesses or industrial space were more likely to have diabetes than residents other areas. However, none of the eleven tract characteristics we examined accounted for the finding that the racial/ethnic disparities in diabetes were stronger in some tracts than others.

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D013

SIGNIFICANT CLUSTERING OF EATING DISORDERED BEHAVIORS IN U.S. HIGH SCHOOL STUDENTS

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Disordered eating behavior is a significant public health problem. One potential hypothesis for these disorders includes the "social contagion" theory, where modeling of like-behaviors leads to social reinforcement of those actions, perpetuating more related, socially-desirable behaviors. The aim of this study was to determine if eating disorder behaviors clustered among male and female U.S. high school students. Our sample consisted of 15,349 high school students who responded to the 1999 Youth Risk Behavior Study (YRBS). Weight control and eating disordered behaviors under investigation included self-reported dieting, exercising, fasting, using diet pills, and vomiting or using laxatives (purging) to control weight in the last 30 days. We used alternating logistic regression (ALR) to produce pairwise odds ratios (PWORs) to determine the degree of within-county clustering of individual as well as summary measures of weight control and eating disorder behaviors. Among all participants, adjusted analyses revealed that having any weight control symptom, any eating disorder symptom, severe restricting, dieting, exercising, and diet pill use each showed significant clustering by county ($p<0.05$). Purging did not significantly cluster in our analyses. The magnitude of clustering was stronger for female students than male students, who only exhibited significant patterns of clustering for having any weight control symptom and exercising ($p<0.05$). We did not find differences in clustering patterns in analyses stratified by metropolitan status. The significant clustering of weight control and eating disorder behavior in U.S. high school students confirms evidence of a social contagion effect of eating disorders. This understanding that even subthreshold levels of eating disorders tend to cluster among adolescents in geographic proximity to each other can improve the effectiveness of prevention strategies to reduce eating disorder behavior and associated morbidity and mortality.

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D014

THE EFFECT OF MEDIA EXPOSURE ON WOMEN'S EATING BEHAVIORS: A PILOT STUDY

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Research has demonstrated that exposure to thin-ideal images as well as exposure to food cues elicits increased food consumption in women. In light of the association between rising obesity rates and the proliferation of media depicting exceptionally thin people and "toxic environment" food advertisements, we experimentally tested whether such stimuli might influence acute eating behavior. We hypothesized that when exposed to "toxic environment" or thin-ideal food images, women would consume more food than when exposed to control images. Five adult women participated in an experimental study with three conditions: a thin-ideal (TI) condition (a Feb. 2007 Vogue magazine), a "toxic environment" (TE) condition (a compilation of food coupons and advertisements from newspapers), and a control (CC) condition (a 2007 Consumer Reports car magazine). Women were exposed to these stimuli under the guise of a study designed to examine the effects of hunger on attention. They completed an "attention task" by finding dots in each of the stimuli, in counterbalanced order, with each condition separated by a week. The same food – consisting of sweet and savory snacks – was available for ad lib consumption across conditions. Participants consumed 493.4±467.6 calories in the TI condition, 609.8± 501.7 calories in the TE condition, and 488.8±339.5 calories in the CC condition, demonstrating that significantly more food was consumed when exposed to the TE condition ($p<.05$). Considering the wide range of calories consumed, the data were reanalyzed excluding one outlier, yielding same findings ($p<.05$). Food choices were categorized as healthy (i.e., grapes, cheese, and pretzels) and unhealthy choices (potato chips, gummi bears, cookies, donut holes, and chocolate candy). Participants ate significantly less healthy food in the CC condition than the other conditions ($p<.05$) and marginally less unhealthy food in the TI condition versus the other conditions ($p=.09$). Considering the small sample size, these results are encouraging and warrant further studies examining the effects of media on women's eating behavior and food choice.

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D015

THE EFFECTS OF VARIETY ON CHILDREN'S SNACK FOOD CONSUMPTION

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Background: Because snack food companies are introducing snacks specific to children that include a mix of existing foods, this study examined the effects of variety on children's snack food consumption by comparing intake of a snack mixture to intake of a single constituent. We also explored the possibility that children at risk for overweight might be particularly vulnerable to the impact of variety. Methods: At time 1, fifteen children (mean age=8.6 years) were randomly assigned to consume either a snack mixture or one of the three constituent snacks of the mixture during an activity (watching television). A counter-balanced, repeated measures design was used, such that children were offered the other snack one week later at time 2. Children completed measures of hunger and fullness before and after snacking sessions. At each session, children freely consumed food for 30 minutes while watching television, and ratings of enjoyment of television shows were taken. Results: A 2×2 repeated measures ANOVA (snack intake× weight status) showed the main effect of condition was significant ($F=15.54$, $p<0.01$), demonstrating increased consumption of the mixture compared to single constituents. The interaction of weight status was not significant ($F=0.33$, $p=0.58$). Potential covariates, including hunger, fullness, and enjoyment of the television show were not different between conditions, nor was there a difference in liking of constituent snacks. Conclusions: Variety in snack foods leads to increased intake in children, and some mixtures marketed as healthy might increase calorie intake.

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D016

PARENTING QUALITY AFFECTS OBESITY IN PRETEENS

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According to Ecological Theory, proximal risk factors for child obesity may be influenced by family dynamics, including parental depression, family structure, and parenting quality. We tested a path model in which parental depression and single parent status affect parenting quality, which relates to three major risk factors for child obesity: activity level, diet, and sedentary behavior. Participants included 4,290 5th grade children (mean age= 11.1 years; 34% Black, 34% Hispanic, 24% White, & 9% other) and their primary caregivers (PCGs, 85% mothers) who provided complete data for selected variables during Wave 1 of Healthy Passages, a multi-site study of health risk behaviors. PCGs reported on their depression, family composition, family cohesion, and child activities (e.g., free time activity preferences). Children provided information about sedentary behaviors, diet, and maternal nurturance. Measured height and weight were used to calculate child BMI, which was converted to z-scores. In the final model, parental depression and single parent status were associated with lower parenting quality. Higher parenting quality was inversely related to sedentary behavior and positively related to activity and healthy food intake (milk, fruit, and vegetables). Higher sedentary behavior and less activity were associated with higher child BMI. Healthy food intake was not related to child BMI. The model adjusted for the child's age, family income, and site. Overall, the model fit the data well (RSMEA=.04). Results suggest that the associations of parental depression and single parenthood with child BMI are mediated by parenting quality, which is related to children's diet, activity, and sedentary behavior. Interventions for child obesity may be more successful if they focus on incorporating family systems and improving parenting quality.

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D017

CHILDHOOD OBESITY PREVENTION IN THE WESTERN CAPE REGION OF SOUTH AFRICA

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This paper describes formative research with parents of school-age children in townships and other low-income communities in the Western Cape region of South Africa. Researchers from South Africa and the U.S. conducted face-to-face interviews with parents in approximately 100 urban and rural schools to learn about nutrition & physical activity knowledge, attitudes, and beliefs, and behaviors, and about media and other social influences. Interviews were conducted in English, Afrikaans, and Xhosa to ensure coverage of all local population groups.

The Western Cape has a complex nutrition environment, in particular. Childhood overweight rates are above 17% based on recent national data, comparable to or higher than rates in the U.S. Yet malnutrition and stunting are also prevalent. School feeding schemes have recently been introduced, but their effects are not yet known. The transition of many families from farms to urban lifestyles has led to changes in employment status, living conditions, and access to nutritious food. There is also extensive marketing of junk and fast foods in the growing townships and other low-income communities around Cape Town. The current study examines these factors within an ecological child health framework.

Results are being used to design a school- and family-based intervention to improve family practices and child health outcomes. The intervention will include school-based curriculum and a social marketing campaign aimed at communities and families. A randomized controlled trial will be conducted to evaluate outcomes starting in late 2008.

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D018

HOME AND SCHOOL INFLUENCES ON US CHILDREN'S DIET, PHYSICAL ACTIVITY AND SEDENTARY BEHAVIORS

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The home and school environments may influence children's diet and physical activity behaviors and thus play a pivotal role in preventing childhood obesity. Purpose: To determine whether the home environment influences children's eating behaviors in school and impact physical activity and TV watching. Method: This paper analyzed the 2005 Styles mail panel survey data, a stratified random sample balanced to provide a representative sample of the US population (n=1695 families). Home variables included: having a TV in child's bedroom, eating junk food at home, eating at fast food restaurants as a family, bringing lunch to school, and being active as a family. Four weighted multiple logistic regressions analyses were performed in STATA to examine home and school variables associated with children's buying of junk/fried food and sodas/snacks in school, level of physical activity and TV watching behaviors, after controlling for socio-demographic variables. Results: Parents who reported that the family ate more often at fast food restaurants had children who reported they were more likely to buy junk/fried food (OR 1.42 95% CI 1.18–1.70) or sodas/snacks (OR 1.29 95% CI 1.09–1.52) at school; whereas parents who reported their children brought their lunches to school had children who reported that they were less likely to buy junk/fried food (OR .45 95% CI .38–.55) or soda/snacks (OR.63 95% CI .53–.76). Children who did not have a TV in their bedroom and had an active family were less likely to report watching TV (OR .52 95% CI .42–.64–OR .80 95% CI .72–.88-respectively). Finally, children were more likely to report higher levels of physical activity if the family was active together (OR 1.42 95% CI 1.26–1.59). Socio-demographic differences were found. Conclusion: The results show that both the school and home environment may influence children's behaviors and that interventions aimed at changing unhealthy behaviors should consider targeting multiple environments.

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D019

ASSOCIATIONS OF NEIGHBORHOOD WALKABILITY, INCOME AND EDUCATION WITH SEDENTARY BEHAVIORS IN ADULTS

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Lack of physical activity and sedentary behavior are risk factors for overweight and obesity. Growing evidence indicates that neighborhood walkability is related to risk of overweight and obesity. The purpose of the present study was to examine the associations of neighborhood walkability and education level with sedentary behavior. The sample included 2,198 adults from the Seattle, Washington, and Baltimore, Maryland regions who were recruited from neighborhoods selected to vary on walkability and median income. Within each region, neighborhoods were selected based on a "walkability index," a measure derived from objective built environment indicators such as: residential density, intersection density, land use mix, and retail floor area ratio. Self reported time spent engaged in 8 different sedentary behaviors were obtained and these were compared across neighborhoods that varied on walkability levels, and participants' education levels. Descriptive statistics were run on all measures and two way ANOVAS were employed to examine each of the 7 log transformed sedentary behavior variables. Education level was recoded into a dichotomous variable: Less than or some college and completed college and above. Lower neighborhood walkability was associated with more time spent driving or riding in a car (252.25,low vs. 129.59 high, $p \leq .001$) and more time spent watching TV/videos (437.26 low vs. 340.64 high, $p \leq .001$). Higher education level was associated with less TV/video watching($p \leq .001$),but more computer/Internet use ($p \leq .001$), and more total sitting time ($p = .001$) Of the 8 sedentary behaviors examined, driving/riding in a car and TV watching were inversely related to neighborhood walkability. These two sedentary behaviors were previously shown to be related to obesity risk, so these sedentary behaviors could be a mediator of the relation between neighborhood walkability and overweight/obesity. Education level had a complex relation with sedentary behaviors.

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D020

HIGH SCHOOL PHYSICAL EDUCATION (PE) AND ADOLESCENT OBESITY: INSIGHTS FROM SCHOOL PERSONNEL

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School PE has been examined as one potential avenue for addressing obesity and some research supports the efficacy of enhanced PE in increasing activity and preventing weight gain. However, little is known about high school (HS) personnel's perceptions of the role of PE and its use as a tool for addressing obesity. We conducted interviews with PE teachers (n=8) and principals (n=8) in 8 HS to better understand these factors. Interviews were audio-taped, transcribed, and independently coded by 3 researchers using a grounded theory approach. An outside analyst extracted themes and examined inter-coder reliability. PE teachers themes included: 1)The purpose of PE is to educate students about health and wellness; promoting cardio-respiratory fitness is one goal, 2)Obesity is a problem; PE is one solution but more focus should be placed outside the school, 3)Schools face multiple barriers to PE, including lack of resources, limited class time, student participation, and scheduling difficulties within the academic structure, 4)PE requirements are inadequate but increasing them will create more barriers, including inability to respond to increased demand and diminished student motivation. Principal themes included: 1)Schools have a role in educating students about the importance of physical activity but academic achievement is the top priority, 2)Obesity is a problem but not at their school; PE is not the cause, 3)Increasing PE would take away from academic instruction, 4)Change would be hard to implement without eliminating other classes (e.g., art, music); this is not fair to students with interests in these areas. Results suggest that HS personnel view PE as a potential avenue for addressing adolescent obesity but perceive significant barriers to modifying the PE curricula. A better understanding of these barriers is needed before schools, researchers, and policy makers can work together to successfully effect change.

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D021

MEASUREMENT AND INFLUENCES OF CHILDREN'S SELF-EFFICACY FOR FRUIT AND VEGETABLE CONSUMPTION

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Children's self-efficacy to consume fruits and vegetables (FV) and to influence others to make FV available (proxy efficacy) may determine FV intake. This study developed a scale to assess children's self-efficacy and proxy efficacy for FV at after-school programs and at home. Fourth-, fifth- and sixth-grade children (N=184, 53% male) attending one of seven after-school programs completed a survey that assessed self-efficacy and proxy efficacy for FV and opportunities for FV at their after-school program. Validity and reliability of the measure was examined using exploratory factor analysis (EFA) and Cronbach's alphas, respectively. A mixed model ANCOVA identified differences in self-efficacy and proxy efficacy between children categorized by the diversity-SES classification of their school (measured by ethnic diversity and free-reduced lunch status) and by perceptions of FV availability from their after-school program. The self-efficacy and proxy efficacy FV measure assessed four related constructs: self efficacy for fruit ($\alpha = 0.81$), self-efficacy for vegetable ($\alpha = 0.84$), proxy efficacy to influence parents to make FV available ($\alpha = 0.75$), proxy efficacy to influence after-school staff to make FV available ($\alpha = 0.80$). The 4-factor solution met all statistical criteria, accounting for approximately 66.1% of the variability among the 14-items. Children perceiving after-school sites to have FV opportunities had greater self-efficacy for FV and greater proxy efficacy to influence school staff compared to students who perceived less FV opportunities. Children attending schools of high-SES and low diversity were more confident they could influence their parents to make FV available than students attending low-SES and high diversity schools. In conclusion, self-efficacy and proxy efficacy for FV intake at after-school programs are independent but related constructs that can be assessed in children using the instrument evaluated by the current study.USDA CREES 2005-35215-15418

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D022

NAVIGATING SOCIOCULTURAL ELEMENTS: ACCULTURATION AND PHYSICAL ACTIVITY OF IMMIGRANT WOMEN

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Recent paradigm shifts in the conceptualization of both acculturation and physical activity (PA) highlight the need for cultural and contextual understanding of these complex phenomena. The extant research literature that links acculturation to PA, however, does not account for the complexity and richness of the constructs or the process that relates the two. The ecological and grounded theory approaches used in the present study, with their focus on the lived experiences of immigrant women and women's interdependence with their environments, facilitated the development of an empirically derived theoretical scheme of how acculturation affected PA of midlife immigrant women from the Former Soviet Union (FSU). The core category of navigating sociocultural elements emerged as a central acculturative process affecting PA. This process was common to all sixteen study participants regardless of the meaning they assigned to PA, how PA played out in their lives, or their particular acculturative experiences. The sociocultural elements were represented in the relatively enduring domains that comprised the life context of immigrant women, such as family, work, social networks, media, and physical environment. As a result of cultural transition, all immigrant women appraised various sociocultural demands and resources of relevance to PA in their lives. Women then responded to and negotiated these elements using cognitive and behavioral skills with a goal of overcoming or preventing perceived negative consequences and/or improving prospects for perceived benefits for self or important others. As a result of this navigational process, the balance of physical activities of daily living and leisure-time physical activities in immigrant women's lives was reappraised and altered compared to that of the country of origin. These findings have important implications for future research on acculturation and PA of immigrant women and for designing interventions to promote PA for health.

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D023

EFFECTS OF PHYSICALLY ACTIVE, ACADEMIC LESSONS ON CLASSROOM BEHAVIOR: CONSIDERATIONS OF TIME OF DAY

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Behavioral control and attentional focus are integral to learning and academic performance. Protracted periods of sitting during the school day may initiate behavioral consequences such as poor attentional focus. Physical activity may counteract these effects. Moreover, the timing and placement of physically active lessons may moderate benefits such as increased focus and learning. Therefore, the purpose of this study was to examine the differential effects of time of day and physical activity on the behavioral control of third grade children. Students (N=137) were observed before and after an active or inactive (control) lesson in the morning and in the afternoon. Behavior was assessed through observations of time-on-task by two observers (IRR=94%). A three-way (pre- vs. post-observation×time of day [morning vs. afternoon]×lesson type [active vs. control]) repeated measures analysis of variance compared time-on-task between observation periods. Results indicated a significant difference in time-on-task in the afternoon between the active and control lessons. Specifically, although no difference was found in the morning, time-on-task increased by 5% following the active lesson in the afternoon compared to controls, in which attentional focus was reduced by 13% following the inactive lesson. Thus, physically active lessons are a viable tool with which to improve on-task behavior and could subsequently improve academic performance.

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D024

CONTEXTUAL BARRIERS TO REDUCING CHILDREN'S PASSIVE SMOKE EXPOSURE

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According to the Environmental Protection Agency, children are especially vulnerable to the health consequences of Passive Smoke Exposure (PSE). Since most smokers are of childrearing age, as many as 50% of children are exposed at home, where public smoking bans do not apply. Although tobacco control policies have decreased smoking rates, those smokers who persist may be fundamentally different, and more difficult to reach. Behavioral and socio-economic factors common to this population such as 1) lower income 2) material hardships 3) less education 4) drug abuse 5) alcohol abuse and 6) poor mental health are associated with a reduced likelihood of modifying smoking behaviors. A related environmental factor, 7) crowded living arrangements, is linked to PSE from multiple smokers and difficulties keeping smoke away from the child. Protecting the children of these higher risk or distressed smokers presents a challenge. This study is part of a controlled community trial designed to assess the efficacy of counseling to reduce preteens' PSE. A case study design (n=4) was used to investigate associations between the 7 characteristics typical of the smoking population and preteens' PSE, as measured by cotinine (a metabolite of nicotine). Families A, B, C, and D were selected systematically to represent low distress (A & B) and high distress (C & D). Analyses indicated that families A and B, demonstrating 0 and 1 contextual factors respectively, successfully reduced PSE during counseling and at follow-up. Families C and D, exhibiting 5 factors each, failed to reduce their children's PSE. Results suggest that the intensity of counseling may need to be matched to level of distress. Further, the sources of distress may warrant prevention and control interventions as much as PSE.

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Meritorious Student Poster
D025

SMOKING POLICIES AND SECONDHAND SMOKE IN RENTAL CARS

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Smoking cigarettes in a car can lead to extremely high air concentrations of SHS pollutants and to residual contamination of the microenvironment of a car long after smoking has ceased. Policies enacted to prevent the non-smoking public's exposure to SHS do not apply to private rental cars. Although many rental car agencies attempt to protect nonsmoking customers by designating some or all of their cars "non-smoking," it is unclear if these efforts are successful. This study is the first to examine the impact of these policies on the prevalence and level of SHS contamination in rental cars. A total of 210 cars will be sampled, 105 from national and 105 from local agencies. Twenty percent are rented requesting a designated smoker car, 40% a designated nonsmoker car, and 40% without specifying a preference ("unknown"). The cars' SHS contamination levels will be compared. Surface wipe, air, and dust samples are collected to measure concentrations of nicotine, 3-ethenylpyridine (3EP), and polycyclic aromatic hydrocarbons (PAHs). The cars are inspected for detectable signs of tobacco use including odor, ashes, and burn marks. Interviews regarding smoking policies are conducted with agency representatives to investigate official policy. Preliminary analyses (n=70) indicated that cars designated as nonsmoking did not exhibit fewer detectable signs of tobacco use than smoker or "unknown" cars. Residual secondhand smoke was detected in 50% of non-smoker, 71% of smoker, and 64% of "unknown" cars. Of the contaminated cars, the geometric means and 95% CIs for nicotine (micrograms per squared meter) were non-smoker: 2.53 (1.23;4.57), "unknown": 5.71 (2.69;11.21), and smoker: 7.79 (3.10;17.86). Neither the non-smoker nor the "unknown" cars' nicotine concentration levels differed significantly from the requested smoker cars. Voluntary smoking policies put in place by car rental companies do not appear to create SHS-free car environments.

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D026

SUBJECTIVE SOCIAL STATUS AND INTERLEUKIN-6 PRODUCTION IN HEALTHY ADOLESCENT WOMEN

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Subjective social status (SSS) is an important determinant of health. However, it is not clear which of peoples various social identities, e.g., those having to do with finances, academics, and popularity are related most strongly to health outcomes. This study explored the relationship between different areas of SSS and the production of interleukin-6 (IL-6), a pro-inflammatory cytokine, which plays a key role in the etiology of coronary, metabolic, and vascular diseases.

Eighty five adolescent women with no known or suspected major health problems participated. SSS was measured using modified versions of the MacArthur Scale of SSS – Youth Version. Participants rated SSS in three areas of their life: (1) family's socioeconomic status in society, (2) status in the school community based on respect and academic achievement, and (3) status in the school community based on popularity and appearance. IL-6 production was measured by incubating whole blood in vitro with lipopolysachracide for six hours, and then quantifying IL-6 with ELISA.

Analyses revealed a significant inverse relationship between both SSS of family placement in society and respect and grades at school and IL-6 production (p's=.03 and .01; $\Delta R2=.06$ and .08) after controlling for age, race and contraceptive use. When smoking, exercise, alcohol use, and adiposity were controlled, this association held for respect and grades at school (p=.02; $\Delta R2=.07$), but not for family status in society. SSS based on popularity at school was unrelated to IL-6 production.

Women who reported low SSS related to grades and respect had greater IL-6 production, suggesting they may be prone to exaggerated inflammatory responses. If sustained over time such responses could place them at risk for adverse medical outcomes. Low SSS of family was also related to greater IL-6 production, but this association was driven primarily by poor health practices. Though future research is needed to substantiate these findings, they highlight the value of considering people's placement on multiple social hierarchies.

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D027

ASSOCIATIONS BETWEEN FAMILY STRUCTURE, FAMILY FUNCTIONING, AND SUBSTANCE USE AMONG LATINO ADOLESCENTS

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Substance use by U.S. adolescents appears to vary by ethnicity, and the increasing rate of substance use among Latino adolescents is of particular concern. One significant influence on substance among adolescents of all ethnicities is the role of the family. Both family structure and family functioning have been shown to influence adolescent substance use. This study used two waves of data to examine the role of family in predicting the use of alcohol, marijuana, and cigarettes by Latino adolescents. Data were collected in years one and two of a three-year study of acculturation and other predictors of substance use among Latino adolescents in Southern California. Subjects (N=1185) were 53% female and mostly 14 years old. All were Latino, and 86% were born in the U.S. Structural equation modeling was used to test a theoretical model in which the effect of family structure (i.e., presence/absence of one or both parents) on substance use is mediated by characteristics of family functioning (i.e., parent/child communication, family cohesion, parental monitoring, and family conflict). Results suggest that some characteristics of family functioning (i.e., monitoring and conflict) may mediate the association between family structure and substance use. After controlling for baseline substance use and demographics, living with a single mother or single father was significantly associated with less monitoring (betas=−0.09, −0.10, respectively), while living with neither parent was significantly associated with less communication (beta=−0.11) and more conflict (beta=0.09). Less monitoring and increased conflict were associated with substance use at follow-up (betas=−0.44 and 0.09, respectively). Communication and cohesion, characteristics that have found to be protective elsewhere, were not associated with substance use. These findings may help develop interventions for families that include components to strengthen monitoring and conflict resolution skills.

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D028

PARENTAL MONITORING MODERATES EFFECTS OF FAMILY SEXUAL COMMUNICATION ON SEXUAL RISK BEHAVIOR AMONG ADOLESCENTS IN PSYCHIATRIC CARE

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Two aspects of family functioning are linked to sexual risk taking among adolescents in psychiatric care: communication about sexual topics and parental monitoring. Although not yet tested, effects of these factors may be interactive; family discussions about sex may be linked to decreased sexual risk behavior among troubled teens only in context of consistent parental monitoring. We tested this moderator model. 776 parents and thier adolescents, participating in Project STYLE, an HIV prevention intervention for teens recruited from psychiatric treatment centers, completed the Sexual Communication Questionnaire, Parenting Style Questionnaire, and Adolescent Risk Behavior Assessment. Hierarchical multiple regression indicated parent reported family sexual communication quality×parental monitoring interaction was significant. Among high monitors, higher quality sexual communication was significantly related to less adolescent sexual risk behavior; among low monitors, the relationship was nonsignificant. Evidence for the moderator model was not found for adolescent report. Neverthless, there was a significant main effect of monitoring; greater monitoring was related to less sexual risk taking. Findings underscore importance of examining interactive effects of family processes in relation to sexual risk taking among teens receiving mental health services. Open family communication about sex may be related to diminished sexual risk taking only when parents provide high levels of structure and supervision. Despite study limitations, results support emerging theoretical models (e.g., Social Personal Framework) that implicate family factors in sexual risk taking among troubled youth, an at-risk, yet understudied, population.

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D029

AFRICAN AMERICAN CHURCH CAPACITY FOR HIV PREVENTION AND SCREENING INTERVENTIONS

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African American churches are under-studied venues for delivering HIV prevention and screening interventions; yet, they have the potential for widespread reach, recruitment and retainment of underserved populations through regular church services and community outreach ministries (e.g., homeless and substance abuse programs). To explore interest in and capacity of African American churches for delivery of HIV prevention and screening programming, African American church leaders attending national and regional health ministry conferences completed self-report questionnaires. Of the 101 participants, (68.8% male, 67.7% aged >50), 57.6% were pastors and 86.2% were Baptist. Findings indicated that their churches held several regular services each week, including Sunday Services (91.6%) and a midweek service (92.6%), and facilitated various outreach ministries, including health programs (49.5%), feeding the hungry programs/food pantries (68.5%), and youth programs (80.6%). Nearly all of the church leaders (95.7%) wanted to learn more about HIV and how to prevent it, and most had been tested for HIV (61.9%). Also, 42.0% reported that their churches provided sex education for their adolescent members; some of their churches had participated in HIV-related activities, such as HIV education and prevention (33.3%) and HIV testing (14.0%). Represented churches with larger congregations (>199 members; p=.002) and more paid staff (p=.003) were more likely to have participated in HIV prevention and education activities than others. With the development of culturally and religiously appropriate prevention tools and technical assistance strategies, African American churches could provide critical capacity and accessible venues for intervening with underserved populations at risk for HIV infection.

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D030

DOES THE RATIO OF MEN TO WOMEN IN A COMMUNITY PREDICT SEXUAL RISK BEHAVIOR?

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Qualitative research suggests that a low male-to-female ratio may lead to multiple, concurrent female sexual partners for men, who have little competition from other men. Little empirical research has investigated this issue, however. Participants were 928 African–American patients (47% women) attending an STD clinic. Demographic and sexual behavior data, including gender and number of sexual partners (past 3 months), were collected by computerized survey. Participants' addresses were used to determine their census tracts. U. S. Census Bureau data were used to calculate the percentage of African–American men per census tract. Because individuals are nested within census tracts, multilevel modeling was used. Gender, the percentage of African–American men per census tract, and their interaction were used to predict the number of recent sexual partners.

The average percentage of African–American men per census tract was 44%. Overall, men reported significantly more sexual partners (M=3.2) than women (M=2.6). There was a gender-by-percentage of men interaction. For men, there was no association between the percentage of men per census tract and the number of sexual partners; for women, a higher percentage of men was associated with having more sexual partners. However, after excluding participants who reported trading sex for money or drugs, this interaction was no longer significant.

Overall, we did not find empirical evidence that a low male-to-female ratio was associated with more sex partners for men; to the contrary, we found that a higher male-to-female ratio was associated with more sex partners for women. Subsequent analyses suggest that this association may be an artifact of sex trading. These findings challenge conventional thinking and warrant replication before conclusions can be drawn.

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D031

MEASURING PHYSICAL ACTIVITY IN MULTIPLE SCLEROSIS: DOES AMBULATORY IMPAIRMENT MATTER?

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There is evidence of the validity of scores from measures of physical activity (PA) among individuals with multiple sclerosis (MS) who do not have an ambulatory impairment. We are unaware of research examining the validity of scores from measures of PA among individuals with MS who have ambulatory impairments (e.g., walk with a cane). We conducted two studies that examined the validity of scores from objective and self-report measures of PA among those with MS with and without ambulatory impairment. The first study evaluated the validity of an Actigraph accelerometer and the Godin Leisure-Time Exercise Questionnaire (GLTEQ) in 250 individuals with MS who were divided into two groups differing in mobility based on the Patient Determined Diseases Steps scale. There was a moderate correlation between scores from the Actigraph and GLTEQ in the entire sample (r=.40), but the correlation differed in magnitude between sub-samples of individuals with (n=76, r =.19) and without (n=174, r=.43) ambulatory impairment. The second study evaluated the validity of an Actigraph accelerometer and the GLTEQ and International Physical Activity Questionnaire (IPAQ) in 70 individuals with MS divided into two groups differing in mobility based on Expanded Disability Status Scale scores. Overall, there were large correlations between scores from the GLTEQ and IPAQ (r=.73) and between the Actigraph and GLTEQ (r=.74) and IPAQ (r=.64). In the sample without ambulatory impairment (n=40), there were large correlations between scores from the GLTEQ and IPAQ (r=.75) and between the Actigraph and GLTEQ (r=.79) and IPAQ (r=.70). In the sample with impairment (n=30), there was a large correlation between scores from the GLTEQ and IPAQ (r=.71), but weak correlations between the Actigraph and GLTEQ (r =.33) and IPAQ (r=.30). Our results support the quantification of PA using self-report measures among those with MS with and without ambulatory impairment.

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Meritorious Student Poster
D032

COMPARABILITY OF PAIN SCORES REPORTED BY PERSONS WITH RHEUMATOID ARTHRITIS

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Pain is the symptom of most concern reported by rheumatoid arthritis (RA) patients, and its management is one of the main reasons for seeking treatment. Pain associated with RA is very complex. Patients experience periods of remission and exacerbation which can erratically change physical abilities, as well as the way in which pain may be reported.

The purpose of this analysis is to compare pain reported by persons with RA, across several pain-related questionnaires ranging from generic, to disease specific, to single-item answer, in order to obtain a multi-dimensional assessment of the amount and type of pain being experienced. A secondary analysis of an NIH funded study provided baseline data on 600 participants, 18 years of age and older, with RA who completed several measure of pain.

Subjects selected for analysis were those who had completed all of the instruments of interest: the Health Assessment Questionnaire, the Illness Perception Questionnaire, the Jette Functional Status Index, the Medical Outcomes Study Short Form-36 Health Survey, and the Rapid Assessment of Disease Activity in Rheumatology.

Preliminary analyses reveal strong correlations between questionnaires. The correlations between generic pain scores and disease specific scores ranged from 0.606 to 0.694. Significant relationships were also found between questionnaires that use similar scoring techniques. The correlations between a generic visual analogue scale for pain and the disease specific visual analogue scales ranged from 0.553 to 0.709. All correlations were significant at the 0.01 level.

The analyses also revealed site-specific information on pain levels. A questionnaire that records the amount of pain experienced in most of the major joints revealed that the percentage of individuals experiencing some level of pain ranged from between 32.6% and 32.7% in the Right and Left Elbows, respectively, to 71.8% and 73.7% in the Right and Left Finger Knuckles, respectively.

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D033

CONSTRUCTS OF PHYSICAL FUNCTIONING: SIMILARITIES AND DIFFERENCES OF SELF-REPORTED AND PERFORMANCE-BASED MEASURES AMONG ELDERLY CANCER SURVIVORS

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Self-report and performance-based assessments of physical function are thought to measure different constructs. This concept is borne out by factor analyses which expose low correlations between self-reported and performance-based results. However, others have argued that the two types constructs do correspond, with good correlations detected if the task items being compared are sufficiently similar. Issues that have not been addressed in the literature are the specific outcomes of self-reports relative to performance-based tests in cancer survivors. Both self-report and performance measures of physical functioning were administered to participants recruited into a randomized control trial funded by the National Cancer Institute (CA114523-01A1), "A RENEW Intervention for Elderly Cancer Survivors." The intervention study, a 12-week exercise program designed to assess the effect of resistance exercise on muscle and mobility utilized self-report and performance measures of physical functioning. These constructs were compared amongst 26 participants to assess congruency of the outcomes. The average age of the participants were 74.7 years; 15 of the participants were female and 11 were male with multiple cancer diagnoses (12 breast, 7 prostate, 6 colon, 1 uterus). There were no significant relationships between strength-based performance and self-reports of weakness (R2 =.349, F(1,24), p=.80); nor spontaneous steps/day and an activities questionnaire for older adults (i.e., CHAMPS) (R2=.346, F(1,24), p=.83). There was, however, a significant relationship between the six-minute walk test and self-reports of fatigue (R2=.451, F(1,24), p=.021). These findings suggest a need to assess both self- report and performance-based measures to capture a complete picture of physical functioning.

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D034

ACCURACY OF ONE- AND THREE-MONTH RECALLS FOR INDOOR TANNING

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Indoor UV tanning is a significant health risk for the development of skin cancer. Research has shown that it is strongly related to the development of all types of skin cancer including melanoma, the most lethal form of skin cancer. Despite this, the popularity of indoor tanning is strong and growing. This study examined the validity of a common global measure of indoor tanning frequency by comparing it against diary measures of behavior for 3-months and 1-month time periods. We also sought to examine whether global measures exhibited any recency bias in recall by correlating their recall over the 3-month time period with diary reports early in the period vs late in the period. As a part of a larger study involving indoor tanning, we surveyed 374 participants using email diaries. Participants were asked to record their indoor tanning behavior using diary measures for 12 weeks. Following the last diary survey, participants were asked to estimate how many total times they had indoor tanned throughout the duration of the study. Additionally, they were asked how many total times they had indoor tanned in the previous month. Results comparing aggregated diary reports to the global 3-month and 1-month recalls revealed strong associations for both 3- and 1-months ($r=.855$ and .768 respectively; $p=<.01$). There was a tendency for the respondents to over report indoor tanning frequency on their global recall assessments (Mglobal=8.21, Mdiary=6.34, $t=5.04$, $p<.01$). There was no evidence of a recency bias in recall. Interestingly, while it only approached significance, the correlation for the global recall with the first four weeks of diary measures was actually stronger than with the last four (Z Diff=1.78 , $p<.076$) suggesting some participants tend to use a think-forward strategy for global recall of indoor tanning (i.e, they start at the beginning of the time period and count instances that occur sequentially since the inception date). Implications for assessing indoor tanning are discussed.

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D035

AN EXPERIMENTAL TEST OF THE EFFECT OF INCENTIVES ON RECRUITMENT OF ETHNICALLY DIVERSE COLORECTAL CANCER CASES AND THEIR FIRST-DEGREE RELATIVES INTO A RESEARCH STUDY

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Background: Optimizing response rates is important for obtaining representative samples and for completing research studies in a timely manner. It is a common practice to use participant incentives and other strategies to boost response and retention rates, but few studies have systematically examined the effectiveness of such strategies.

Methods: Random samples of Black, Latino, Asian and White colorectal cancer (CRC) cases were asked to provide contact information on their first-degree relatives between the ages of 40–75 years, and relatives were invited to participate in a randomized trial of a mail and telephone intervention to promote CRC screening. We experimentally tested three participant incentive strategies for their effectiveness in improving response rates among cases (N=3,300) and relatives (N=2,483). A 2×2×2 factorial design compared registered versus first class mail, a $5 enclosure with the initial mailing (yes/no), and the promise of $20 (yes/no) upon completion of the relative information form (for cases) or the promise of $10 (yes/no) upon completion of the baseline survey (for relatives). Outcome measures were provision of contact information on first-degree relatives for cases and completion of the baseline survey for relatives.

Results: Overall, response rates among cases were not significantly different by incentive strategy. The overall baseline survey response rate among relatives was 71%, ranging from 65% among Asians to 75% among Whites. Response rates were sensitive to monetary incentives, but were not influenced by type of mailing (registered versus first-class). Modest absolute increases for "received anything" versus "received nothing" were observed among Asians (13%) and Latinos (11%), but not among Blacks (6%) and Whites (7%). Among Latinos, a $5 enclosure was more effective than a $10 promise (10% versus 4% increase).

Discussion: The effects of incentives may be modest, and may differ by ethnic group and type of incentive employed.

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D036

MODEL TESTING AND INVARIANT STRUCTURE TESTS OF THE PROCESSES OF CHANGE QUESTIONNAIRE FOR PHYSICAL ACTIVITY WITH TWO POPULATIONS OF CANCER PATIENTS

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Introduction: Physical activity has been demonstrated to lower the risk of recurrence and improve the overall quality of life for cancer patients. The transtheoretical model is commonly employed to design physical activity interventions. Methods: The process of change questionnaire (POC) measures the 5 behavioral and 5 cognitive processes postulated by the transtheoretical model. As part of two separate research projects, 134 prostate cancer survivors (Mean Age 69.4) and 148 breast cancer survivors (Mean Age 54.1) were given the POC. Purpose: The purpose of this project was to determine if the POC was validly measuring the latent behavioral and cognitive processes using these two populations of cancer patients. Analysis: Confirmatory factor analysis (CFA) was first done using the breast cancer population. Exploratory factor analysis (EFA) was then used to determine a model which better fit these data and this final factorial model was tested using the prostate cancer patients' data. Results: The initial fit of the CFA model for the breast cancer patients was moderate (cognitive RMSEA=.073; behavioral RMSEA=.088). Using EFA poorly performing factors were dropped or crossloaded with multiple latent processes. The fit of the final models was significantly improved (cognitive RMSEA=.056; behavioral RMSEA=.060). The final cognitive and behavioral models also demonstrated good fit using the prostate cancer patients' data (cognitive RMSEA=.060; behavioral RMSEA=.069). Chi square difference tests determined that the model was invariant across the two populations. Conclusions: The POC required some modification in order to obtain good model fit. The modified model fit well for both groups and was invariant. Given that these two populations have significantly different mean ages and are of different sexes makes a strong case that the model is robust and the instrument performs well across populations.

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D037

ASSESSING UVR EXPOSURE AND SUN PROTECTION USING A MULTI-MEASURE APPROACH AND LATENT CLASS ANALYSIS

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Frequent, intermittent overexposure to UVR, such as that obtained during outdoor recreation activities or vacations to sunny locations, can result in the development of melanoma and non-melanoma skin cancers. Therefore, the purpose of this study was to conduct a multi-measure assessment of the levels of UVR exposure and sun protection practices of vacationers to a popular holiday destination. Participants completed the sun habits survey prior to entry to the beach and completed an exit survey of their sun protection practices while at the beach. Ambient UVR was monitored using polysulphone dosimeters. Composite scores for UVR exposure, sunscreen coverage and clothing coverage were developed from objective and self-report measures. Latent Class Analysis (LCA) was used to identify homogeneous subgroups based on intent to tan, sun protection behavior and skin cancer risk. Participants spent on average 3 hours at the beach, and received an estimated UV dose of 10.4 standard erythemal doses (SEDs). LCA identified 3 classes. Class 1 was at least risk of skin cancer, intended to tan, and used least amount of sun protection. Class 2 had the highest proportion of women, those who burned easily, intended to tan, had recent tanning bed use, and had the highest proportion of sunscreen coverage and least clothing. Those in Class 3 had the highest skin cancer risk, highest proportion of clothing coverage and shade use and were more likely residents of Hawaii. Findings from this study revealed that beachgoers were exposed 5 times the UV dose required to result in erythema among unprotected fair skinned populations. LCA was effective in identifying sub-groups of beachgoers that would benefit from targeted, population-based interventions aimed at reducing skin cancer risks while enjoying outdoor leisure-time activities. The development of sun protection programs that impact on individual and environmental characteristics may be an effective approach to reduce harmful UVR exposures while on vacation.

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D038

THE CLINICAL AND RESEARCH UTILITY OF NOVEL CONCEPTUALIZATIONS OF DSM-IV NICOTINE DEPENDENCE CRITERIA

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The Diagnostic and Statistical Manual (4th ed.) (DSM-IV) provides a widely used measure of nicotine dependence with considerable face validity. However, very few data support the validity of DSM-IV criteria as predictors of key smoking-related characteristics or treatment outcome. In anticipation of the DSM-V, it would be advantageous to explore modifications of nicotine dependence criteria. The primary objective of the current study was to compare the validities of two novel and empirically-derived sets of DSM-IV criteria for nicotine dependence to the validity of the full DSM-IV criteria. The first set of criteria was based on the notion that Withdrawal, Difficulty Controlling Use, and Use Despite Harm are specific to nicotine dependence (Hughes, 2006). The second set of criteria was garnered from classic theory that underscores the significance of Tolerance and Withdrawal in the etiology of dependence. Two samples of cigarette smokers (Ns=810 and 322) were derived from three randomized clinical trials of smoking cessation. DSM-IV nicotine dependence criteria were assessed at baseline with the Diagnostic Interview Schedule for DSM-IV, along with Fagerström Test of Nicotine Dependence scores, cigarettes smoked per day, years smoked, breath carbon monoxide, withdrawal, positive- and negative-reinforcement smoking, mood, and general physical and mental health functioning. Seven-day point-prevalence abstinence was assessed at week 12. Full DSM-IV criteria displayed greater validity than either of the two unique collections of criteria. However, DSM symptoms accounted for only a nominal amount of the variance in baseline smoking characteristics and were unrelated to smoking at week 12. The current investigation provides no compelling evidence that nicotine dependence criteria in the forthcoming DSM-V be altered. Nevertheless, the poor psychometric properties of the DSM indicates that its clinical and research utility is limited. Recommendations for the future DSM-V are discussed.

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D039

A META-ANALYTIC STUDY OF TTM SMOKING CESSATION INTERVENTIONS

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Smoking causes 35% of all cancers, 33% of all heart attacks and strokes, and 90% of COPD. In spite of its risks, 22% of the population still smokes. These facts underscore the importance of population-based smoking cessation interventions. The Transtheoretical Model (TTM) is the theoretical foundation for many diverse smoking cessation interventions, with variable outcomes. Systematic reviews of the TTM's efficacy have arrived at conflicting conclusions. This study compared effect sizes across 24 randomized controlled trials (including a combined sample size of N= 27,190) of TTM cessation treatments using meta-analytic procedures to examine the 24-hour point prevalence smoking abstinence rates across time. These 24 studies were conducted in a range of community (37.5%), school (4.2%) and health care (58.3%) settings, most targeted smoking only (91.7%), many used proactive recruitment strategies (79.2%), and more than half were conducted outside the US (62.5%). Most intervention modalities ranged from counseling (41.9%) to computer-based expert system (32.3%). Most control groups were usual care (79.2%) and the remainder were assessment only (20.8%). Odds ratios (OR) and 95% confidence intervals were computed revealing a series of significant pooled ORs over time ranging from 1.25–1.56 across timepoints spanning 1-month to 24-months. Overall effect sizes were larger for studies that used (1) three/four TTM constructs compared to one/two constructs, and (2) a computerized tailored expert system modality compared to counseling. In general, participants in treatment conditions were anywhere from 25% to 56% more likely to have quit smoking compared to participants in comparison conditions. Moreover, effect sizes were sustained at long-term 24-month follow ups. These patterns of pooled effect sizes over time support the efficacy of TTM cessation interventions across a range of settings.

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D040

EXAMINING THE PROCESSES OF CHANGE FOR EXERCISE USING THE GRADED UNFOLDING MODEL

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One of the fundamental tenets of the transtheoretical model (TTM) is that for successful behavior change to occur, individuals must employ cognitive and behavioral processes of change (POC). According to the TTM, the cognitive POC encourage pre-action stage transitions while the behavioral POC are used within the action/maintenance stages. However, the POC remains one of the least investigated dimensions of the TTM and the validity evidence for the POC for exercise is sparse. It is also unclear how the POC are used in the acquisition of regular exercise behavior. Plotnikoff et al. (2001) found only partial support for the POC for exercise. More recent research found that cognitive processes do not differentiate between stages for college students (Wadsworth & Hallam, 2007). Although the POC for exercise appears to increase in a monotonical pattern, there is also a growing body of research demonstrating nonlinear relationships between the POC and SOC. The identification of nonlinear patterns suggests that it may be more appropriate to model the POC for exercise as an unfolding model. This model specifically assumes that some processes are relevant in a given stage but no longer relevant as one progresses along the continuum. An item such as "I get frustrated with myself when I don't exercise" may be rejected because an individual does not consider lack of exercise to be a problem or because the individual is currently exercising. Thus, the purpose of this study was to examine the interaction between the SOC and the POC for exercise behavior using the graded unfolding model (GUM).
Responses to the SOC and 39-item POC for exercise were collected from college students. Analysis of the data using the GGUM (Roberts, 2000) demonstrated the applicability and appropriateness of the unfolding model to the POC for exercise. Not only did the unfolding model fit the POC data better than other item response theory models, the graded unfolding analysis ordered eight of the ten processes according to the theoretical order proposed by the TTM (i.e., cognitive processes before behavioral processes).

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D041

ESTIMATING THE CAUSAL EFFECT OF EXERCISE ADHERENCE ON WEEKLY SMOKING CESSATION USING THE G-COMPUTATION ALGORITHM

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We are concerned with drawing inference about the causal effect of adhering to a program of vigorous exercise on weekly smoking cessation behavior using data from a randomized longitudinal trial. A key complication is that a nontrivial proportion of participants do not adhere to the prescribed exercise program. An intention to treat analysis provides the causal effect of being randomized to exercise, but not the effect of actually adhering. Because adherence is a post-randomization event, ad-hoc approaches (e.g. stratifying on observed adherence status) cannot be used to infer the effect of adhering with exercise. We argue that both the IT effect and the adherence effect are of interest to behavioral researchers. We use the G-computation algorithm (GCA), a method based on potential outcomes that makes use of accumulating longitudinal information to reduce the selection bias. In general the GCA is difficult to implement because it requires evaluation of high-dimensional integrals; with binary data, however, the integrals are reduced to summations and the computations are considerably simplified. The GCA can therefore be used in a wide variety of longitudinal trials where the primary endpoint is binary. Using the Commit to Quit study as motivation, this work describes and illustrates the GCA for estimating the effect of receiving treatment. The Commit to Quit study randomized participants to a smoking cessation program plus either supervised vigorous exercise or lectures on wellness. Smoking status was recorded weekly for 12 weeks. Using the GCA, estimated week 12 cessation rates under full adherence with assigned treatment is .27 (exercise) and .17 (wellness), for an estimated causal effect of .09 (se=.06). By contrast, an analysis that stratifies on observed compliance status gives an effect size of .19 (se=.08). The specific advantages of the GCA in the analysis of moderate-sized sequences of longitudinal binary data (such as smoking cessation trials) will be highlighted.

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D042

GENETIC AND ENVIRONMENTAL MAIN EFFECTS AND INTERACTIONS ON BLOOD PRESSURE INDICES IN AFRICAN AMERICANS

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The origins of hypertension have been studied from both environmental and biologic or genetic perspectives. Current knowledge allows for the examination of how genes and environmental influences serve as both main effects and interact to account for individual variability in indices of blood pressure status. Using data from the Carolina African American Twin Study of Aging (CAATSA), we examined the genetic and environmental influences on blood pressure indices and hypertension status. The final sample used here consisted of 572 interviews from 286 pairs of twins (101 MZ pairs, 121 DZ pairs, and 64 Opposite sex twin pairs). Background variables included age, gender, BMI, and education; Environmental variables included context (degree of urban residence), perceived stress, social support received; Genotypic variables included the three genotypes for ACE (AA,AT, TT), ACT (AA,AG,GG), and AGT (CC, CT,TT). Dependent variables were BP indices that included Systolic BP, Pulse Pressure, and High Blood Pressure status. The interaction between genetic variables and urban influence showed a positive effect of the "AA" genotype for ACT and the interaction term TT genotype*Urban for the ACE was also associated with lower pulse pressure in the full model. Using High Blood Pressure status as the dependent variable, there was a significant positive effect of the "AA" genotype for ACT, but adding interaction terms with urban influence, the significance of the effect was absent, but the "AA" genotype in ACE, and the interaction term for the "AA" genotype*Urban influence became significant at .1 level in the full model. The findings indicate main effects as well as suggest that there are genetic×environmental interactions that impact the individual variability observed in blood pressure indices among African Americans.

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D043

LONGITUDINAL ANALYSIS OF WEIGHT PERCEPTION AND PSYCHOLOGICAL FACTORS IN CHINESE ADOLESCENTS

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Background: This study represents the first longitudinal analysis effort examining dynamic associations of repeated measures of overweight status and perception with change trajectory of psychological distress in Chinese adolescents.

Methods: Longitudinal data from two follow-up cohorts of 7th and 10th graders (N= 6,970 at baseline) living in seven large cities in China were used. Overweight status, overweight perception and misperception, and symptoms of psychological distress including perceived stress, hostility and depressive symptoms were measured annually in 2002–2004. The multivariate Curve-of-Factor Latent Growth Curve Modeling approach was adopted to describe the change trajectory of psychological distress symptoms and examine its association with actual, perceived and misperceived overweight status which were incorporated in the model as time-varying covariates.

Results: Consistently across the follow-up years, about 40% of adolescents perceived themselves as overweight and 25% misperceived themselves overweight with relatively higher proportion of girls than boys perceiving or misperceiving themselves as overweight. After controlling for actual overweight status, experience of psychological distress symptoms was weakly but significantly associated with overweight perception (gamma=0.08 for boys and gamma=0.10 for girls, $p<0.05$) and misperception (gamma= 0.06 for boys and gamma=0.09 for girls, $p<0.05$) in both boys and girls.

Conclusions: Findings of this study confirm our previous observations on the relationship between psychological distress and overweight perception and misperception and have important implications for the future development of interventions to treat and prevent obesity to ensure the physical and psychological well being of adolescents.

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Meritorious Student Poster

D044

TRANSLATING PHYSICAL ACTIVITY RECOMMENDATIONS FOR YOUTH TO DAILY PEDOMETER STEPS

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Evidence suggests that taking 3,000 to 4,000 steps/day "over and above" daily activities (i.e. 7,000–6,000 steps) approximates the current 30-minutes/day physical activity (PA) recommendation for adults. Steps/day guidelines for children age 12 and under, estimated from average of steps taken per day or BMI-referenced categories, are 12,000 to 16,000. However, there are no reports in the literature on how many steps/day adolescents need to meet the currently recommended 60-minutes per day moderate to vigorous physical activity (MVPA) guideline. This study used free-living PA data from 43 adolescents (72.1% girls, ages 11 to 16 (M=13.1, SD=1.2)), all overweight (BMI M=31.8, SD=5.3), 48.8% White, Non-Hispanic, 23.3% Hispanic, and 27.9% Other race/ethnicity. Participants wore a dual-mode accelerometer (Actigraph model 7164) for 3 to 7 days that measured accelerations and step counts simultaneously. The age-adjusted Freedson equation was used to estimate PA-intensity minutes. Participants averaged 7.9 (+—1.7) hrs/day inactivity, 4.5 (+—1.0) hrs/day light activity, 66.4 (+—28.3) min/day MVPA, and 9,866 (+—2823) steps/day. Approximately 52% of participants did not meet MVPA recommendations based on accelerometer data. An ANCOVA found that adolescents who met the PA recommendation had higher MVPA min/day (M=90.1 SE=3.9 vs. M=44.9 SE= 3.7; $p<.001$, eta2=.63) and higher step counts (M=12,255, SE=472 vs. M=7739, SE=448; $p<.001$, eta2=.54), after adjusting for sex, age, and ethnicity. A Receiver Operating Characteristic curve analysis found that 9,930 steps produced .90 sensitivity and .82 specificity (area under curve=.91) for meeting the recommendation. These data suggest that overweight adolescents in this age group are likely to meet national MVPA recommendations if they accumulate approximately 10,000 steps per day. These findings are lower than for younger children but closer to adult recommendations.

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D045

OUTCOME EXPECTATIONS IN PHYSICAL ACTIVITY RESEARCH: DEVELOPMENT AND VALIDATION OF THE EXERCISE AND PHYSICAL ACTIVITY BELIEFS SCALE

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Outcome expectations (OE) are a fundamental component of Social Cognitive Theory but their assessment in physical activity (PA) research is inconsistent. Bandura (1997) suggested that OE be assessed along three related, but conceptually independent, subdomains representing physical outcomes (PO), social outcomes (SO), and self-evaluative outcomes (SEO). Most measures of OE, however, collapse these outcomes across a single scale. The purpose of this study was to develop and validate the Exercise and Physical Activity Beliefs Scale (E-PABS), a three-dimensional measure of OE for older adults. Standard steps for the generation of items were followed and confirmatory factor analyses were conducted to test several competing models of the scale. A sample of 321 older community adults (M age=63.8) completed the E-PABS, assessments of PA, and a battery of related measures. The best fitting model was a 19-item, three-factor correlated model representing the hypothesized factor structure, χ^2 (144)=285.00, $p<.001$; CFI=.95; RMSEA=.056; SRMR=.047. All three subscales were internally consistent with an $\alpha>.85$. Subsequent correlation and regression analyses examined the association between OE, self-efficacy (SE), and PA. All analyses suggested that the PO and SO scales were most important, accounting for significant variation in PA beyond that accounted for by SE. Also, participants meeting public health guidelines for PA reported higher PO and SO. These initial findings suggest the E-PABS to have initial psychometric qualities that reflect the social cognitive structure proposed by Bandura. Further cross-validation of the measure is now required to determine whether this factor structure holds across other samples and the extent to which the different subscales are useful for predicting PA behavior across time.

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D046

THE NIH TOOLBOX FOR ASSESSMENT OF NEUROLOGICAL AND BEHAVIORAL FUNCTION: THE MOTOR FUNCTION TEAM EXPERIENCE

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Aims: The NIH Toolbox, part of the NIH Neurological Blueprint initiative, seeks to develop brief yet comprehensive assessment tools measuring motor, cognitive, sensory and emotional health and function. Upon completion, the Toolbox will be available for use in longitudinal epidemiologic studies and prevention or intervention trials for people ages 3–85. An early task of the project was to identify core functional constructs (FCs) within each domain. This paper demonstrates the selection process using motor function as an example. Methods: We conducted an online-survey and in-depth interviews with investigators who had expertise in motor domain and/or with experience in conducting large cohort, pre-clinical and clinical studies. These investigators were asked to provide FCs thought to be key components when measuring motor function and rank them based on conceptual and clinical relevance. A follow-up consensus meeting involving NIH project team, external working group, and Toolbox steering committee members was held to finalize FCs to be included in the Toolbox. Results: 146 responded to the survey and 12 completed the in-depth interviews. Accordingly, 8 FCs were consequently identified as the most relevant areas of motor functioning: locomotion (23% and 92%, respectively), strength (14%; 67%), coordination (14%; 36%), balance (13%; 50%), endurance (11%; 58%), dexterity (10%; 46%), hand and upper extremity function (10%; 92%), and flexibility (3%; 8%). A consensus meeting led to the inclusion of locomotion, balance, dexterity, strength, and endurance in the Toolbox. DISCUSSION: A survey, in-depth interviews, and a consensus meeting were used to identify key FCs of motor function. Similar procedures were used for other three domains. We are currently evaluating existing measures on key FCs. Accordingly, either new measures will be developed or existing ones will be modified for further validation. We anticipate the final Toolbox to be available in 2011. Ultimately, it can serve as a national resource for the scientific community

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D047

HOW SOCIOECONOMIC STATUS RELATES TO HEALTH (OR DOESN'T RELATE, OR ONLY SLIGHTLY RELATES): CONCEPTUAL ISSUES IN MEASUREMENT

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A number of scholars have argued for greater theoretical and empirical rigor in the operationalization of socioeconomic status (SES) in health research. Although income and education are frequently employed to capture SES, it has been argued that these variables may not have conceptual equivalence across populations, and that other variables and levels of specification may be more appropriate. The purpose of this study was to investigate the extent to which associations between SES and symptoms of depression varied according to the SES measure employed. The sample comprised 139 African American women recruited from community settings in New York City. Depression was measured with the Beck Depression Inventory (BDI). SES comprised measures of education (highest degree/training obtained), employment status (full-time employment or not) and income. Several specifications were used for income: 1) a 5-point ordinal scale indicating pre-tax household income brackets; 2) a continuous measure indicating the midpoint of each bracket in dollars; 3) a per capita measure that accounted for the number of people supported by the midpoint dollar amount; 4) a dichotomous measure of whether income adequately met household needs; and 5) an 8-point scale measuring the discrepancy between household income and area (census tract) income. In the total sample, statistically significant inverse correlations between BDI scores and SES were detected for education and all but income specification #1. The strength of each of these associations varied: the strongest was education, ($r=-.356$, $p<.0001$), and the weakest was income discrepancy, ($r=-.222$, $p=.015$). Splitting the sample by income specification #4 revealed that correlations between SES and depression were only significant among women who did not have enough money to buy the things they need. These findings highlight the need for theoretically-derived operationalizations and interpretations of SES as a construct, and attention to the meaning and impact of SES on the health of different populations.

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D048

IS BIGGER BETTER? VALIDITY OF THREE SCREENERS TO ASSESS FRUIT AND VEGETABLE INTAKE

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Background: Fruit and vegetable (FV) screeners have decreased burden and cost compared to other dietary assessment methods. Since FV screeners are commonly implemented in surveillance and intervention research, valid and reliable screeners are critical.

Objective: To evaluate validity of three short FV screeners (16-item, 2-item serving, 2-item cup) using multiple 24-hour phone dietary recalls (24HR) as the gold standard. The screeners were embedded in a large survey, the Food Attitudes and Behavior (FAB) survey.

Design: Using a Consumer Opinion Panel, 331 participants were recruited to complete multiple 24HR within 21 days. The 254 participants who completed the recalls (227=3 recalls, 27=2 recalls) were mailed the FAB Survey (with the 3 embedded screeners), which 244 participants returned. The fruit, vegetable, and FV combined values from the three screeners were compared with values from the 24HR and adjusted correlation coefficients were computed.

Results: The longest screener (16-item) had the strongest and most significant correlations when compared with the 24HR ($r=0.57$ fruit, 0.42 vegetables and 0.39 FV combined). The 2-item cup was somewhat similar when compared with the 24HR ($r=0.49$ fruit, 0.34 vegetables and 0.38 FV combined), however, the correlation for vegetables in males was not significant. The 2-item serving had the poorest correlations with many non-significant values.

Conclusions: This study was unique in that it gave a "side-by-side" comparison of three FV screeners compared with multiple 24HR. Although the 16-item screener had the best validity, a case could be made to use a shorter screener (e.g., 2-item cup), especially when time and space constraints arise.

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D049

PATTERNS OF PHYSICAL ACTIVITY AND MORTALITY RISK: COMBINING LATENT GROWTH AND SURVIVAL ANALYSES

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Physical activity is associated with longer life, but it is unclear how different individual patterns affect mortality risk. The present study employed cutting edge statistical methods of joint estimation that consider both quantitative change over time (growth curves) and survival across the lifespan. Using prospective data we derived from and collected for the Terman Life Cycle Study, we examined how patterns of activity relate to mortality risk across the lifespan. Participants self-reported various activities in 1936, 1940, 1950, 1960, and 1972; these reports were rated for energy intensity and used to create a physical activity score for each year. Four analyses were performed: (1) a latent growth curve analysis, which examined individual patterns of activity across five measurement occasions; (2) a survival analysis, which estimated the risk associated with activity at each measurement occasion; (3) a two-stage growth and survival model, which used the latent intercepts and slopes from the growth curve analysis to predict mortality risk; and (4) a shared growth-survival model, which simultaneously estimated mortality risk associated with individual patterns. The best overall growth curve model was nonlinear, with general declines in activity occurring over time, although there was substantial individual variation.

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D050

COMPLETENESS OF DATA IN SELF REPORT HEALTH HISTORY VS. MEDICAL CHART REVIEW

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This study examines health history information obtained by self-report (SR) vs. medical record review (MRR). Participants in the study (R01 NR04749) were HIV positive men and women ages 18 and older. Self report health histories were obtained using the Center for Research in Chronic Disorder's Comorbidity Questionnaire, adapted from the Charlson Comorbidity Inventory. This questionnaire asks the subject to rate 36 different medical conditions. A subset of 62 participants had health histories also compiled from medical record using the same inventory. The range of total comorbidities reported for SR was 1 to 10 (median 3.5) and for MRR was 1 to 16 (median 5.0). The correlation for total number of comorbidities reported between SR and MR was r=.446 ($p<.001$, n=62). Item analysis indicates that certain conditions were less likely to be self reported with percent disagreements between SR and MR from 0% to 38%. Higher percent disagreements included headaches (37.7%), anxiety (34.4%), bone fractures (33.3%), depression (32.8%), skin disorders (23.0%), anemia (15.3%), irregular heart rate (15.0%), and pneumonia (15.0%) with medical records generally reporting more. Self report was more likely to indicate the conditions of liver troubles (33.9% disagreement) and mental health conditions other than depression and anxiety (23.2%). Other conditions such as heart attack, coronary artery disease, cancer, bladder problems, high blood pressure, thyroid, and heart valve disorders were more likely to have similar reporting with a range of 2 to 7% disagreement. Reasons for disagreement may include participants' memory, participants' understanding of the medical categories, and the quality of training and methods by which the medical record is reviewed. Although medical record review is more resource intensive, it may provide different data than self report. Future research should consider the possibility of combining data from two sources to have more complete health history data.

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D051

AN INSTRUMENT FOR MEASURING PARTICIPATION IN THE HEALTH EDUCATION PROCESS

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The effectiveness of health education and health promotion programs and interventions is contingent upon students' active participation and discussion, and critical understanding (Freire, 1973; Minkler, 2006; Minkler & Wallerstein, 2003). With this in mind, we created the Participation in Class Discussion (PCD) scale (Beric, 2005), a self-report instrument designed to assess the extent to which college students in health education classes perceive themselves as active participants in the discussion process. The instrument was developed according to the framework for community of inquiry (Lipman, 1997; 2003). A 15-item scale emerged following content review by a 4-member expert panel. In order to examine its factor structure, the instrument was administered to two samples: undergraduate students at two universities in the northeastern US (n1=191 and n2=86, respectively). Evidence for reliability of the instrument was provided in both the first (α =.89) and second (α=.90) samples. A single-factor model was hypothesized and evaluated using covariance modeling software. Following poor fit of the single-factor model in both data sets, a two-factor model specifying a method effect of positively- versus negatively-worded items was tested and provided a good fit to the data in both the first ($\chi2$=137.0, df=76; CFI=.95; RMSEA=.05; SRMR=.04) and second ($\chi2$=124.3, df=76; CFI=.92; RMSEA=.06; SRMR=.08) samples. These results provide initial support for a method effect based two-factor model of the PCD scale as a means for evaluating participants' active engagement, i.e., participation in class discussion. Future work is needed to provide additional evidence for the validity of this scale and its utility in predicting changes in health behaviors following participation in health education.

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D052

THE INJURY RESILIENCE INDEX: DEVELOPMENT AND PSYCHOMETRIC CHARACTERISTICS

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Introduction: Psychological resilience is characterized by one's ability to "bounce back" from negative or traumatic life experiences. Often challenging to measure, resilience has traditionally been operationalized through associated concepts such as optimism, cognitive flexibility (e.g., positive reappraising), hardiness, perceived social support and coping self-efficacy (e.g., mastery). **Objective**: This study examined the psychometric properties of the Injury Resilience Index (IRI), a 19-item measurement tool designed to assess self-reported features of psychological resilience following traumatic physical injury. **Participants**: 167 culturally diverse traumatically injured adults (31% orthopedic hand, 21% burn, 48% orthopedic trauma) were recruited from the orthopedic hand, trauma and burn services at a large Southeastern level-1 trauma center. **Methods**: The IRI was developed with patient and expert involvement and was subsequently field tested along with established measures within 1 week of admission. **Results:** Construct validity was evaluated through exploratory factor analyses (EFA) and correlations with outside measures. EFA extracted 5 separate factors with eigenvalues >1, which included: hardiness (variance=34%), social support & satisfaction (variance=12%), challenge (variance=8%), optimism (variance=7%) and coping self-efficacy (variance =6%). Pattern and structure coefficients ranged between .44–.95. Cronbach's Alpha coefficients were within an acceptable range. Unlike its original tripartite conceptual definition, hardiness was comprised of control and commitment items, while challenge items (similar to cognitive flexibility) extracted into a distinct factor. Overall, IRI scales correlated in a convergent manner with external measures of the same name (HRHS, SSQ, LOT-R, GPSES, IDI). **Conclusions**: Results support initial psychometric properties for the IRI, which demonstrated acceptable internal consistency and construct validity coefficients with this sample.

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D053

REPLICABILITY OF THE SMOKING EXPECTANCY SCALE FOR ADOLESCENTS: FRENCH-CANADIAN VERSION

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Based on the 2002 Canadian Youth Smoking Survey, 39% of French-speaking adolescents in 5th to 9th grades smoked versus only 18% of English-speaking adolescents. This disparity may be due to different smoking expectancies or beliefs about the consequences of tobacco smoking. The Smoking Expectancy Scale for Adolescents (SESA) is a self-report questionnaire initially developed with an English-speaking Australian sample (M age=14.6; SD age=1.7; 87% nonsmokers). The original scale yielded eight factors: affect control, social benefits, boredom reduction, weight control, appearance costs, health costs, social costs, and addiction; as well as two higher order factors: expected-benefits and -costs. The present study sought to evaluate the factor structure of the French-Canadian version. Using the back translation procedure, the SESA was translated into French and completed by 277 sixth graders (M age=12.3; SD age=0.4; 63% female; 97% nonsmokers). Principal components analysis with varimax rotation was used; items with factor loadings >0.40 were retained. Based on the 27-item version, the items on the French-Canadian version loaded identically across the two higher order factors except for one item ("distract you from negative feelings") which cross-loaded on both expected-benefits and -costs. In contrast, the eight factor solution was not replicated. Age or previous tobacco experience may explain the different factor structures. Alternatively, cultural differences may account for differences in smoking expectancies. Future researchers should examine the factor structure of the French-Canadian version with other ages to evaluate how smoking expectancies may contribute to the disparities in smoking rates between French- and English-speaking Canadians.

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D054

DEVELOPMENT AND VALIDATION OF THE PHYSICIAN-PATIENT COMMUNICATION ABOUT PAIN SCALE

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Communication about pain in physician-patient interactions is a common but challenging aspect of the medical care process. Although many coding/rating schemes exist for the judgment of general aspects of communication, there is no measure focused specifically on communication about pain. Audiotaped primary care medical interactions were used to develop the Physician-Patient Communication about Pain scale (PCAP), a reliable, valid scale for rating communication in interactions where patients self-reported high pain levels. Four research assistants completed ratings of 181 audiotaped primary care visits (collected as part of a larger study). Patients rated their level of pain on the MOS SF-36 Bodily Pain Scale and completed demographics and medical care satisfaction questionnaires. Global ratings of affect in the physician-patient relationship were also collected. Inter-rater reliability was assessed, and principal components analyses guided the creation of subscales. Correlational analyses with measures of satisfaction and global affect assessed scale validity. Five subscales of physician and patient behavior were generated (mean reliability=.75). The PCAP subscales captured significant differences in physicians' communication about pain with high and low pain patients. The findings indicated that the scale could differentiate high and low pain patients, particularly in their communication. Concurrent validity was also demonstrated with relationships of PCAP composites with independent global affect ratings. The finding that patients with higher pain were more negative and mistrustful was of interest. It speaks to the need to develop a personalized, tailored approach to communicating with patients with pain and incorporating the topic of pain into communication skills training for health care providers and patients. Although limited to primary care patients and their pain of short duration (4 weeks prior to measurement), this scale has promise for future research, clinical, and training application.

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D055

PSYCHOMETRIC CHARACTERISTICS OF THE INJURY COPING INDEX

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Introduction: Physical injuries are a leading cause of death and disability in the United States and worldwide. For injury survivors, recovery requires coping with psychological stressors. A vast body of research has examined coping strategies used by persons confronting stressful life events. Measurement of coping generally has involved retrospective self-report inventories designed to be adapted to a variety of stressful situations. Researchers also have begun to develop coping inventories for use in highly specific settings (e.g., burn injury, chronic pain). **Objective:** To describe the initial psychometrics of the Injury Coping Index (ICI), a 19-item, factor-analytically derived, self-report instrument to assess coping following physical injury. **Methods:** Participants were 167 adult patients from the orthopedic trauma, orthopedic hand, and burn divisions at a southeastern level-one trauma center. The experimental ICI and collateral measures were administered within 1 week of admission for injury. **Results:** Exploratory factor analysis (EFA) revealed 6 factors: Behavioral Avoidance, Use of Social Support, Humor, Transformational (positive) Coping, Use of Substances, Use of Distraction. Cronbach alphas for all ICI scales were in the acceptable range. Convergent validity was examined through correlations with the Brief COPE. Criterion-related validity was explored through correlations with established collateral measures related to psychological distress and resilience. Correlations between ICI and Brief COPE scales for similar constructs were statistically significant. Significant inverse correlations were found between ICI Transformational Coping and all scale-level measures of distress. Significant positive correlations were found between both the ICI Behavioral Avoidance and Distraction scales and all measures of distress. Item descriptions and validity findings for all ICI scales will be presented. **Conclusions:** Results provide strong support for the internal consistency and construct validity of the ICI.

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D056

ASSESSMENT OF BENEFIT FINDING AMONG HIV+ PEOPLE: PSYCHOMETRIC PROPERTIES AND TEST-RETEST RELIABILITY OF A MEASURE ADAPTED FROM THE CANCER LITERATURE

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Benefit finding (BF) refers to efforts to identify positive changes and find meaning in a purportedly "negative" life experience, such as living with a chronic illness. Although there is growing interest in BF among HIV researchers, little consensus exists regarding how to best assess BF. In this study, we report on the psychometric properties and test-retest reliability of a BF measure for use with HIV+ samples. Our adaptation of Antoni et al.'s (2001) measure addresses potential concerns regarding positively biased response options and the measure's limited emphasis on the assessment of tangible benefits. The adapted BF measure retained 5 of the original items; an additional 10 items represented new questions or adaptations of those contained in the original measure. The revised measure employed a 6-point response scale and included items assessing tangible benefits (e.g., improved relationships). The BF measure, along with standard measures of optimism, perceived stress, and HIV knowledge were completed by 80 HIV+ MSM (M age=41, 25% African–American, 29% AIDS diagnosis) enrolled in a sexual risk-reduction intervention. After conducting factor analyses, 4 items were removed due to low item-total correlation. The resulting 11-item single factor scale had excellent internal consistency (α =.89) and strong test-retest reliability at a three-month follow-up assessment (r=.88, p<.001). BF was strongly associated with optimism (r=.56, p <.001) and perceived stress (r=−.51, p<.001), providing evidence of convergent validity; BF was not associated with HIV knowledge (r=.12, ns), demonstrating discriminant validity. Use of a 6-point scale allowed for an improved distribution of BF scores across items (M=4.1, SD=1.0, range =1.8–6.0). Findings confirm that the revised BF measure has strong psychometric properties. Research is needed to examine the utility of this revised BF scale and to clarify the ways in which BF influences health outcomes among HIV+ people.

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D057

CONFIRMATORY FACTOR ANALYSIS OF THE PERCEIVED STRESS SCALE

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The Perceived Stress Scale (PSS) assesses the degree to which situations in one's life are considered stressful (Cohen, Kamarck, & Mermelstein, 1983). The PSS is frequently used in health psychology, particularly in psychoneuroimmunology (i.e., Cohen, Doyle, & Skoner, 1999). However, there appears to be few analyses on the PSS factor structure, with the most recent analyses exploratory in nature (Golden-Kreutz, Browne, Frierson, & Andersen, 2004; Roberti, Harrington, & Storch, 2006). Previous analyses found that the positively-worded "stress" items loaded on 1 factor and negatively-worded "counter-stress" items loaded on a second factor. Using confirmatory factor analysis (CFA), this research tests the 2-factor structure of the PSS at two time points in a healthy adult population. Participants were part of the Spokane Heart Study, a longitudinal study currently in its 14th year. Time 1 data was collected at initial entry into the study (1994–1998), N=380. Time 2 data was collected approximately 2 years later, N=118. The PSS (10-item version, Cohen & Williamson, 1988) contains 6 positively-worded items and 4 negatively-worded items. Items are rated on 5-point scale of occurrence over the past 4 weeks (1=never; 5=very often). Results indicated good fit of the 2-factor model at time 1 (χ^2 (34)=74.21, p<.05, CFI =.97, RMSEA=.06, SRMR=.04), and at time 2 (χ^2 (34)=54.73, p<.05, CFI=.96, RMSEA=.07, SRMR=.05), with all items loading significantly on hypothesized factors. Time 1 factors were significantly correlated, r=−.74, p<.05, as were time 2 factors, r=−.84, p<.05. The PSS appears to have a stable 2-factor structure with items loading on "stress" and "counter-stress" factors. The 2 factors may be due to wording (positively vs. negatively worded items), or may be seen as first-order factors under a higher-order, global "perceived stress" factor. Although this offers support for use of the PSS, further psychometric analyses are needed to examine measurement invariance of the PSS over time and across groups before mean levels of stress can be compared.

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D058

LIFESTYLE BEHAVIOURS AND HEALTH-RELATED QUALITY OF LIFE IN CANCER SURVIVORS: IS THERE A NEED TO CONSIDER CANCER SITE AND TIME SINCE DIAGNOSIS?

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Background: Few lifestyle behaviour studies in cancer survivors have (a) utilized registry-based staging, cancer diagnosis, and time since diagnosis measures, (b) attempted to identify mutually exclusive behavioural clusters, and (c) examined the potential independent and interactive effects of cancer site and time since diagnosis on lifestyle behaviours and subsequent quality of life (QoL).

Purpose: First, to examine the prevalence of physical activity (PA), 5-A-Day, and smoking by cancer site and time since diagnosis and to identify potential behaviour clusters. Second, to examine the associations between QoL and the independent/clustered lifestyle behaviours and whether these relationships were moderated by cancer site and time since diagnosis.

Method: A total of 9105 cancer survivors stratified by time since diagnosis (2, 5, and 10 years) completed a national cross-sectional survey that included the lifestyle behaviour questions and the RAND-36 Health Status Inventory.

Results: Binary logistic regressions showed that the prevalence of all 3 lifestyle behaviours varied by cancer site, but not time since diagnosis. Additionally, 5 mutually exclusive lifestyle behaviour clusters emerged that also varied by cancer site. In terms of QoL, mixed-model analyses of covariance showed that survivors who met each lifestyle behaviour recommendation had significantly higher QoL compared to those who did not regardless of cancer site and time since diagnosis. More interesting, however, was that a lifestyle behaviour cumulative effect was present on QoL (e.g., meeting all 3 lifestyle behaviour recommendations led to higher QoL compared to meeting 2 or 1 recommendation).

Conclusion: Cancer site needs to be considered when examining lifestyle behaviours. Furthermore, it appears to be more beneficial to meet multiple lifestyle behaviour recommendations compared to fewer if the goal is to enhance QoL.

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D059

ASSOCIATIONS BETWEEN WEIGHT STATUS, PHYSICAL ACTIVITY, AND QUALITY OF LIFE IN CANCER SURVIVORS

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Background: Research has shown that physical activity (PA) is positively associated with quality of life (QoL), whereas weight status (i.e., obesity) has the opposite effect. How PA and weight status interact, however, to influence each other and QoL is relatively unknown.

Purpose: First, to determine whether PA levels varied by weight status (i.e., normal weight, overweight, and obese) and whether the weight status/PA relationship was moderated by time since diagnosis (i.e., 2, 5, and 10 years post diagnosis). Second, to examine the independent and interactive associations of weight status and PA on QoL.

Method: A total of 3132 cancer survivors stratified by time since diagnosis (2, 5, and 10 years) completed a cross-sectional survey that included the lifestyle behaviour questions and the RAND-36.

Results: Adjusted odds ratios showed that compared to obese cancer survivors, normal weight breast, prostate, bladder, and uterine cancer survivors and overweight prostate and bladder cancer survivors were significantly more likely to meet the PA guideline. However, the main and interactive effects of weight status and time since diagnosis were non-significant. Furthermore, mixed-model ANCOVAs showed that weight status had a negative association and PA had a positive association with QoL regardless of cancer group or time since diagnosis.

Conclusion: Weight status and PA need to be considered in conjunction with one another in cancer survivors regardless of cancer type and time since diagnosis.

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D060

PERCEIVED ACCESS TO TOBACCO: IF CIGARETTES ARE GETTING HARDER TO GET, WHY ARE STUDENTS SMOKING MORE?

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Background: Student tobacco use rates in California trended downward for a decade, but are now trending upward. Perceived access to tobacco products has been cited as one contributor to student tobacco use. Has perceived access to tobacco use changed for California 8th and 10th graders? Do these changes appear to explain the changing prevalence of student tobacco use over time? Have there been qualitative changes in student sources of tobacco over time? Samples: Biennial random cluster samples of students from 1995 through 2006, averaging 18,000–25,000 students each survey. Measures: Perceived ease of access to cigarettes. Results: For both 8th and 10th grade nonsmokers, their perceived access to cigarettes has become progressively reduced, which seemed to help explain why cigarette smoking declined for a decade but now is puzzling, because student tobacco use is now rising. Changing demographics, such as increased acculturation of girls (as reflected in more mixed ethnic parentage) and changing sources of tobacco (e.g., fewer store purchases, more purchases from friends) appear to offer more parsimonious explanations of past and present tobacco use trends. Conclusion: Successful reductions in student perceived access to cigarettes may have helped reduce student tobacco use in past years, but the current rise in California student tobacco use is inconsistent with student reports that access to cigarettes is progressively more difficult. Changes in student demographics and changes in students' most common sources of tobacco may better explain current California student tobacco trends.

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D061

CHANGES IN PRINT ADVERTISING FOCUS TO AFRICAN AMERICANS IS ASSOCIATED WITH DECLINES IN SMOKING INITIATION

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Previous research indicates an association between targeted cigarette advertising and increased smoking initiation. We examined whether changes in cigarette advertising targeting African Americans (AA) during the late-1970s until the mid-1980s were associated with previously documented declines in smoking initiation among AA during the same period.

We calculated the incidence rate of regular smoking initiation (IRSI; age started smoking fairly regularly) for AA adolescents and young adults (14–25 yrs old) from nationally representative survey data, the Tobacco Use Supplements of the Current Population Survey (1992–93, 1995–96, 1998–99, 2001–02, and 2003). A dataset of cigarette ads from 18 popular magazines in the US was examined, with particular focus on 3 magazines with large AA readerships, Ebony, Essence, and Jet (EEJ). Of cigarette ads in EEJ that featured human characters, we calculated the annual percentage of ads that showed AA models.

From 1975–90, the percentage of cigarette ads by RJ Reynolds, Philip Morris and Lorillard that featured AA models in EEJ was consistently between 95–100%. However, the annual percentage of ads by Brown & Williamson (B&W) in EEJ that showed AA models decreased substantially from 1979 (89%) to 1986 (63%) and appeared to be highly correlated with the period of decline in the IRSI. The IRSI began a steady annual decline in 1978 (3.3%) and continued on to 1986 (1.9%). Furthermore, the periods when nearly 100% of B&W's ads featured AA models coincided with periods when the IRSI were flat.

The decline in smoking initiation among AAs from the late-1970s to mid-1980s appears to be associated with changes in the print advertising of cigarettes, particularly ads by B&W, makers of the most popular cigarette brand among AAs during this time period, Kool. Results from this research provide support for the power of targeted advertising on smoking initiation and suggest that strongly restricting tobacco advertising may be an essential step in reducing smoking initiation.

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D062

USING STATE TOBACCO QUITLINES TO REACH SMOKERS WITH DIABETES

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Introduction: All 50 U.S. states now have state quitlines providing free, phone-based smoking cessation services. These quitlines collectively serve about 400,000 smokers/year. There is no report of how many of these smokers have diabetes. This study reports data from the California Smokers' Helpline (the first state quitline in the U.S.) and discusses the potential of quitlines to reach the large subgroup of people with diabetes and co-morbid conditions.
Methods: We compared 18-month Helpline data (3/2006–9/2007) with the most recent (2005) California Health Interview Survey population data on smoking and diabetes. The California Health Interview Survey includes a random sample of the general California smoking population (N=6,166). The Helpline assessed current smokers (N=40,457) for diabetes and cardiovascular conditions.
Results: Smokers calling the Helpline were almost twice as likely to have diabetes as the general smoking population in California (11.0% vs. 5.9%, $p<0.001$). This large difference cut across all ethnic groups. Overall, 45% of Helpline callers with diabetes were ethnic minorities (African Americans, Hispanics, Asians, and American Indians). Helpline callers with diabetes were more likely to have high blood pressure or histories of heart attack or stroke, compared to people with diabetes among the general smoking population in California (69% vs. 58%, $p<0.01$). A significant proportion of Helpline callers with diabetes (17.8%) reported taking no medication for diabetes control. It is noteworthy that smokers with diabetes were more likely than those without diabetes to call the Helpline due to physician referral (46% vs. 32%, $P<0.001$).
Discussion: If California Smokers' Helpline data represent quitline users in general, then over 40,000 U.S. smokers with diabetes receive smoking cessation service through state quitlines annually. As centralized operations, state quitlines have strong potential for reaching people with diabetes.

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D063

THE FOOD ENVIRONMENT IN US ELEMENTARY SCHOOLS

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Overweight and obesity are increasing rapidly among US children. Schools are an ideal setting for promoting healthy eating, and school-based policy interventions can contribute to obesity prevention efforts. However, there is limited information on the extent and characteristics of school nutrition policies and practices. Beginning in spring 2007, we mailed a pen-and-paper survey to principals at a nationally-representative sample of 1,451 elementary schools. To date, 744 schools (51%) have responded and data from 621 (404 public, 217 private) have been entered. Data collection will continue through October. In approximately one third of schools, teachers use food as a reward either for good academic performance (32.1%) or for good student behavior (33.3%). In another third, teachers use these two practices although they are discouraged (31.7% and 33.1% respectively), and in the remaining schools these practices were not permitted. For schools with regular snacktime in any K-5th grade classes (81.2%), 46.6% had a school-wide policy limiting sugar-sweetened items as snacks. Policies limiting sugar-sweetened items at school parties (e.g., birthdays, holidays) were reported by 30.7% of schools. Some schools (26.8%) had a school-wide policy addressing the nutritional quality of items sold in school fundraising activities; however, most (69%) did not. Among public schools, 93.8% participated in the National School Lunch Program, and some offered additional commercial foods during lunchtime. Among the 16.3% of public schools that offered meals from commercial vendors (e.g., fast food, sandwich shops), most (93.9%) offered this option once per week or less frequently, with pizza the most commonly served food (66.7% of these schools). Content of lunch offerings and comparisons between public vs. private schools will be presented at the Annual Meeting. Preliminary analyses show some encouraging findings regarding current practices, but there are many areas for improvements. Implications for such changes will be discussed.

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D064

EFFECT OF SCHOOL BREAKFAST PARTICIPATION BY SCHOOLS AND STUDENTS ON STUDENT BMI, DEPRESSIVENESS, ACADEMIC ACHIEVEMENT AND TOBACCO USE

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Background: Nearly 10% of "severe need" schools in California do not participate in USDA School Breakfast program (SBP). Student academic performance and obesity risk have been associated with eating breakfast in past research. Is school non-participation in the SBP associated with student obesity risk and risk of tobacco use in California "severe need" schools? Are students reports of eating breakfast associated with BMI, depressiveness, academic achievement or tobacco use?
Samples: (1) Survey of 6,607 "severe need" schools' SBP status in 2004–2005; (2) Cumulative results from California Healthy Kids survey of 1,614,700 California 7th, 9th, 11th graders.
Measures: SBP status (provide school breakfast-Yes/No), BMI, depressiveness (prolonged sad/hopeless in last 12 months-Yes/No) , 30-day smoking (Yes/No), academic achievement (past year average letter grades).
Results: Multilevel regression results: BMI was higher and tobacco use was higher in students attending schools without the SBP ($p<.0001$), consistent with the higher BMI and higher tobacco use observed in breakfast skippers compared to breakfast eaters. Breakfast skippers had higher prevalence of depressiveness and lower academic achievement compared to students who ate breakfast ($p<.0001$) but school SBP status was negligibly associated with depressiveness or academic achievement.
Conclusions: Failure of schools to provide a school breakfast program may increase students' risk of obesity and tobacco use. Students who skip breakfast have increased risk of obesity, tobacco use, depressiveness and lower academic achievement. More resources should be devoted to making sure students have daily access to breakfast. More resources should be devoted to getting students with daily access to breakfast to eat a wholesome breakfast before the start of classes.

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D065

DAILY SMOKERS WHO SWITCH TO OCCASIONAL SMOKING: IMPLICATIONS FOR ADDICTION THEORY AND POPULATION BEHAVIOR CHANGE

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INTRODUCTION Occasional (non-daily) smokers are a substantial proportion of the U.S. smoking population. Among California Hispanics, most smokers are occasional smokers. Studies show that many occasional smokers once smoked daily. This phenomenon contradicts classic addiction theory, which assumes tolerance and nicotine regulation. This study compares former-daily occasional smokers (who once smoked daily) with never-daily occasional smokers (who never smoked daily). Key question: Are former-daily occasional smokers more like never-daily occasional smokers or current daily smokers?
METHOD We compared the 3 smoker subgroups using population data from the 2002 California Tobacco Survey Young Adult Supplement to examine a) smoking situations and outcome expectancies, b) smoking in the social network, and c) source of cigarettes. The sample (N=1289) consisted of non-Hispanic White and Hispanic young adult (age 18–29) established smokers. We calculated population-weighted estimates separately for Whites and Hispanics because of differential proportions of occasional smokers.
RESULTS For most smoking situations and outcome expectations, former-daily and never-daily occasional smokers did not significantly differ. Both groups did generally differ from daily smokers. For smoking in the social network, former-daily and never-daily occasional smokers were similar. Both differed from daily smokers on half the categories. For source of cigarettes, former-daily and never-daily occasional smokers were similar but significantly different from daily smokers. The same pattern emerged for both Whites and Hispanics. In short, former-daily occasional smokers behave like never-daily occasional smokers rather than like daily smokers, their previous smoking category.
DISCUSSION Daily smokers can switch to smoke occasionally and behave like never-daily occasional smokers, who are non-dependent. The change from daily to occasional smoking, common among current smokers, challenges classic addiction theory. It has implications for reducing cigarette consumption for the whole smoking population.

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D066

IMPACT OF A SMOKING BAN ON A SUBSTANCE ABUSE TREATMENT UNIT

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There is a national trend towards making substance abuse centers non-smoking. This is seen as a problem by many. Conventional wisdom considers it unreasonable to ask the patient to stop smoking when already withdrawing from alcohol and other substances. Banning smoking is seen as reducing the chances of success. This project attempted to address a few of the questions raised. Would a smoking ban: deter patients? decrease admission rates? increase leaving against medical advice? affect the demographics of patients? Admission logs on the unit were used to identify all patients admitted 12 months before and after the unit implemented a smoking ban. Medical records were abstracted by trained reviewers. The number of admissions remained stable, with 516 before and 561 after the ban. Patient demographics remained remarkably similar: average (SE) age went from 36.7 (.4), to 35.7 (.4), (P>.10). Patients were predominately male, (69.6%) before and (73.6%) after the ban. Caucasians were the largest group before the ban (72.7%) and afterwards (76.5%). The pattern of substance use was also stable. Alcohol abuse predominated, with 81% of patients admitting a history of alcohol use before the ban and 78% after. Similarly, 75.8% admitted currently using alcohol before the ban and 72.7% afterwards. Of particular interest, the percentage of patients who used tobacco products remained stable: 80.2% pre and 84.0% post. There were no statistically stable changes in the proportions of patients endorsing using each substance (all P>.10). The average length of stay before the ban of 5.15 (.12) days decreased to an average 4.79 (.10) days after the ban (P<.05). However, rates of different discharge types did not change significantly. Notably the rate of leaving against medical advice before (29.0%) and after (28.8%) the smoking ban appeared quite stable (P>.10). Despite the previous concerns, the smoking ban did not appear to have any notable impact.

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D067

HOUSEHOLD SMOKING BANS AND ADOLESCENT ANTI-SMOKING ATTITUDES AND SMOKING INITIATION: A LONGITUDINAL STUDY

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BACKGROUND: Besides reducing youth secondhand smoke exposure, household smoking bans (HSB) may have the additional benefit of discouraging youths from smoking by denormalizing tobacco use. HSB might serve to discourage smoking initiation among youths who are at high risk because their parents smoke.
PURPOSE: To determine whether adolescents living in households where smoking is banned develop more negative attitudes about the social acceptability of smoking and are less likely to start smoking.
METHODS: Analysis of a 4-year, 3-wave longitudinal study of a representative sample of 3,834 Massachusetts youths ages 12–17 at baseline, of whom 2,791 (72.8%) were interviewed at 2 years and 2,217 (57.8%) were interviewed at 4 years. Using hierarchical linear modeling (HLM), we analyze individual- and town-level predictors of anti-smoking attitudes and smoking initiation.
RESULTS: The absence of a HSB increased the odds that youths perceived a higher prevalence of adult smoking, among both youths living with smokers (odds ratio [OR]=1.60; 95% CI, 1.22–2.10) and those living with nonsmokers (OR=1.48; 95% CI, 1.13–1.96). Among youths living with nonsmokers, those in homes with no HSB were more likely to transition from nonsmoking to early experimentation (OR=1.63; 95% CI, 1.14–2.34); there was no effect for those living with a smoker. No effect of a HSB was found on progression to established smoking for both groups.
CONCLUSIONS: Household smoking bans promote anti-smoking attitudes among youths, even among youths who live with smokers; and they reduce progression to smoking experimentation, but only in youths who live with nonsmokers.

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D068

COMPARING A PREDICTIVE MODEL OF BLOOD DONATION INTENTION AMONG DONORS AND NON-DONORS

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Severe and potentially dangerous shortages in the blood supply are common in many parts of the world. In the U.S., 14 million blood transfusions are performed each year, resulting in a constant need to recruit and retain volunteer blood donors. To help address this demand, studies have examined psychosocial factors which may predict blood donation behavior. Previously, we have used path analysis to establish that elements of the Theory of Planned Behavior (attitude, subjective norm, personal moral norm, and donation self-efficacy) are important constructs in a model to predict donation intention among experienced donors. Prior research using regression techniques has also shown these constructs to be important predictors among non-donors. The current study extends earlier research by using multiple sample path analysis techniques to compare the utility of these constructs in predicting donation intention among donors and non-donors. Results of the initial path analysis established a model characterized by a) four direct pathways from attitude, self-efficacy, subjective norm, and personal moral norm to donation intention, and b) two indirect pathways where self-efficacy and personal moral norm influence donation intention through attitude ($\chi 2=2.518$, df=1; CFI=0.998; RMSEA=0.055; SRMR=0.012). Subsequent multi-sample path analyses that allowed coefficients to vary as a function of donor status revealed a significant difference in the path coefficient from self-efficacy to intention, with self-efficacy being a stronger contributor to donation intention among experienced donors. None of the other path coefficients significantly differed between donors and non-donors. This research supports earlier findings that constructs from the Theory of Planned Behavior are useful in predicting donation intention in experienced and novice donors. In addition, these results highlight the relationship between self-efficacy and donor retention, and suggest that interventions that promote donor self-efficacy may provide an efficient method of enhancing retention among both novice and experienced donors.

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D069

SECONDHAND SMOKE EXPOSURE IN BOTH CHILDHOOD AND ADULTHOOD AND THE RISK OF ADVERSE PREGNANCY OUTCOMES

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Background: A large percentage of the population continues to be exposed to secondhand smoke (SHS). While studies have consistently linked active smoking to a number of adverse pregnancy outcomes (APO), results from the few studies examining SHS exposure and APO have been inconsistent.
Methods: Approximately 4,800 women who received care at Roswell Park Cancer Institute between 1982 and 1997 and reported being pregnant detailed their child and adulthood exposure to secondhand smoke on a self-report questionnaire. These women also reported on APO, which included spontaneous abortions (SA) (≤5 months after conception), stillbirth (> 5 months after conception), difficulty becoming pregnant, difficulty becoming pregnant >1 year, and difficulty becoming pregnant requiring a doctor's visit.
Results: Fourteen% of respondents reported difficulty becoming pregnant, 11.3% reported this lasted >1 year and 11.3% visted a doctor about this problem. 29.1% of women reported at least one spontaneous abortion, 12.9% reported multiple spontaneous abortions, and 5.8% reported a stillbirth; 40.2% reported at least one APO and 21.1% multiple APO. Women exposed to SHS during childhood were more likely to report difficulty becoming pregnant (OR=1.26, 95%CI 1.07–1.48) and this difficulty lasting >1 year (OR=1.34, 95%CI 1.12–1.60). Women exposed to SHS in both child and adulthood more stillbirths (OR=1.49, 95%CI 1.05–2.12), SA (OR=1.40, 95%CI 1.17–1.67), and multiple SA (OR=1.54, 95%CI 1.16–2.05). When number of hours/day exposed to SHS in adulthood was examined, positive trends (Ptrend<0.05) were noted for stillbirths, difficulty becoming pregnant, multiple SA, and any APO.
Conclusions: Women exposed to SHS during child and adulthood were at increased risk for a variety of APO. These significant associations between SHS exposure and adverse pregnancy outcomes underscore the importance of protecting women during their reproductive years from exposure to SHS.

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D070

PERCEIVED UTILITY OF HEALTH AND CONFIDENCE IN MEDICINE INCREASING IN UNITED STATES OVER RECENT YEARS

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Health and happiness have been shown to be related. Some researchers have interpreted group differences in the magnitude of this relationship as differences in overall perceived utility of health. Groups with lower perceived utility of health tend to demonstrate worse health behaviors. The purpose of the present study was to investigate whether this perceived utility of health has changed over recent years. Every one to two years, a unique cohort of the 33,401 participants in the representatively sampled, cross-sectional U.S. General Social Survey (GSS) rated their health as excellent, good, fair, or poor, and their happiness as very happy, pretty happy, or not too happy. They also rated their confidence in medicine as a great deal, only some, or hardly any. The data were analyzed using correlations and a regression analysis. Over these 30 years, there has been a small linear increase in self-reported health ($r=.03$, $p<.0005$) and confidence in medicine ($r=.09$, $p<.0005$), but happiness decreased by a nonsignificant amount ($r<.01$, $p>.05$). An orthogonalized interaction between time and health in predicting happiness was used to assess the change in the correlation over time. There was a correlation between health and happiness ($r=.26$, $p<.0005$). This correlation slightly, yet significantly, increased linearly over time as evidenced by a significant interaction between time and health in predicting happiness (Beta=.02, $p<.005$). This could be interpreted as an increase in the utility of health over time that is likely to be associated with better health behaviors. The current results also suggest that confidence in medicine among Americans is increasing. These linear trends would predict continuing advances.

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D071

PARTNERS' RESPONSES TO PATIENTS' CHRONIC PAIN: A DYADIC-COUPLE ANALYSIS

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Receiving needed social support particularly from a spouse or partner is a key factor in promoting adjustment to chronic pain. Within the pain literature, social support is often conceptualized as a multifaceted construct that entails punishing, solicitous, and distracting responses (Kerns, Turk, & Rudy, 1985). This study examined how these three responses form distinct behavioral styles partners may adopt toward patients' pain. The sample included 52 couples in which one individual was treated for chronic pain. Using self-report data from both partners (the Multidimensional Pain Inventory) and behavioral observations, we conducted a cluster analysis to describe couples' pain response styles and ANOVAs to examine cluster differences in pain, psychological distress, and relationship quality. A four-cluster solution emerged. In Cluster I couples (Guilty Partnering, 44% of the sample), partners reported more punishing responses than patients perceived them as doing, but patients and their partners reported similar levels of solicitousness and distraction. Cluster II couples (Incongruent Partnering, 13%) disagreed on how the partner was responding: patients perceived more punishing, fewer solicitous, and fewer distracting responses than reported by the partners themselves. In Cluster III (Solicitous Partnering, 29%) patients and their partners reported many solicitous responses but few punishing and distracting responses. In Cluster IV (Conflicted Partnering, 13%) both partners reported high levels of solicitous, punishing, and distracting responses. The four clusters differed significantly on all outcomes: e.g., Cluster II patients reported greater pain on all indices; partners in Cluster IV reported the most caregiver strain and least marital satisfaction. The results provide evidence for subgroups of couples with unique behavioral patterns of pain support and point to the role of congruence between partners' perceptions in promoting adjustment. Recognizing these patterns may prove useful for customizing treatment for chronic pain.

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D072

ENGAGING BUSINESSES IN HIV PREVENTION: FEASIBILITY AND PROCESS EVALUATION

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Policy recommendations from the Centers for Disease Control and Prevention support HIV prevention in businesses, but few businesses have conducted HIV prevention programs. Displaying HIV prevention materials in businesses may increase community perceptions that safer sex is normative, cue safer sex behavior, and reach individuals not seeking interventions. We explored the feasibility of recruiting businesses for HIV prevention interventions, and evaluated factors influencing intervention sustainability. We approached 51 randomly selected businesses in Hillcrest, San Diego, and invited business owners to display discreetly wrapped condoms and HIV-testing brochures, provided free-of-charge for 3 months. Businesses of all types were approached, and 30 (59%) agreed to participate; 20 agreed to display condoms and brochures, and 10 agreed to display brochures only. We visited businesses at least once weekly for 3 months to count and restock condoms and brochures. We conducted baseline, mid-program, and post-program interviews with business owners, and an online customer survey. Business owners (mean age=46, 80% male, 77% White), reported a median of 5 employees and 36 walk-in customers per day. The 20 businesses displaying condoms distributed a median of 47.4 per month. The 30 businesses displaying brochures distributed a median of 1.1 per month. At post-program, 54% of businesses indicated agreement to pay for all, or part of a 1-year supply of condoms and/or brochures. Of businesses displaying condoms, 94% indicated agreement to continue participating with the discreet condom packaging used in this program, but only 33% indicated agreement to continue with plain condom packs. Of the 52 customers responding to the online survey, 94% and 96% agreed, respectively, that it was a good idea for businesses to distribute condoms and brochures. Consistent with the Behavioral Ecological Model, these results suggest that HIV prevention in businesses is feasible, and that policy and economic incentives could attract and sustain business participation.

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D073

AIDS PREVENTION INTERVENTIONS IN BUSINESSES: THE IMPORTANCE OF BUSINESS CULTURE

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Community businesses with walk-in customers offer a promising venue for AIDS prevention interventions. By displaying AIDS prevention materials, businesses may cue safer sex behavior and discussions, and promote community perceptions that HIV-prevention is socially normative. To recruit businesses for AIDS prevention efforts, interventions need to be tailored to business-specific culture. We conducted a content analysis of cultural norms among 30 randomly selected businesses participating in an AIDS prevention program. Businesses of diverse types participated by displaying discreetly-wrapped condoms and/or HIV testing brochures for 3 months. Content analysis of open-ended interview items from 30 business owners were conducted at the midpoint of the program. Content analysis of progress notes from once weekly visits to businesses were also conducted. These assessments resulted in 8 business-specific cultural norms that appeared critical for ensuring business owners' participation in AIDS prevention efforts. 1. Businesses must make a profit and public health assistance must avoid costing businesses time, customers, or money; 2. Space to display health materials may cost businesses money; 3. Businesses will be more enthusiastic if their assistance results in increased revenue; 4. Partnering with local universities is usually viewed positively; 5. For most, avoiding perceptions of being an AIDS activist protects the business reputation; 6. Keeping condoms and brochures well-stocked, and using attractive, discreet packaging increases business satisfaction and customer participation; 7. Continued business participation is more likely if business owners observe customers taking the health product(s); 8. Businesses may be more enthusiastic to participate if other local businesses are participating. These business-specific cultural norms are consistent with the Behavioral Ecological Model and policies promoted by the Centers for Disease Control and Prevention, and they may guide the development of more sustainable AIDS prevention interventions in business settings.

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D074

BIRTH CONTROL NEEDS OF FEMALE JAIL INMATES

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Unintended pregnancies comprise 41% of all pregnancies and 31% of all live births. Low-income and underserved populations of women (e.g., prisoners) are more likely to practice nonuse of contraception and have higher rates of unintended pregnancies. Few studies have directly assessed the birth control preferences of the female prisoner population. We surveyed 188 women who were currently incarcerated at one of five jails across a single state in the southeastern U.S. Participants were predominantly non-white (61.7%), single (82.5%) women of child-bearing age (M=36.8 years, SD=8.8). Women reported an average of 3.2 (SD=2.2) pregnancies which resulted in 2.2 (SD=1.5) live births. While 63.6% of women reported access to a healthcare provider prior to jail, only 25.5% reported access to an OB/GYN and only 57.5% believed that they would have a healthcare provider after release from jail. About half of women reported a history of a sexually transmitted disease. A third of women (33.3%) reported a tubal ligation, 7% reported a hysterectomy, and 17.4% reported the onset of menopause. Most women had previously used the male condom (74.1%), birth control pills (66.5%), or withdrawal (38.9%), but only 63.5% reported using birth control "almost all the time" during sexual intercourse and 7% reported no previous use of birth control. Most women (76.9%) intended to have sex with a man after release from jail, but only 38.5% planned on becoming pregnant in the future. Women intended to use the male condom (58.3%), birth control pill (9.7%) or withdrawal (8.6%) as their primary birth control method after jail, but only 72.4% intended to use birth control during every instance of sexual intercourse. Women leaving jail appear to be at high risk for unintended pregnancies and rely on partner-dependent or unreliable forms of birth control. Providing access for more effective and user-independent forms of birth control (e.g. IUDs, depo provera) prior to release from jail could help prevent unintended pregnancies in this group of high risk women.

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D075

SMOKING KNOWLEDGE AND BEHAVIOR IN THE U.S.: SOCIODEMOGRAPHIC, SMOKING STATUS, AND GEOGRAPHIC PATTERNS

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Background: Smoking is the leading cause of preventable death in the U.S. and has been clearly linked to several dire, highly-publicized health consequences; however, research suggests that knowledge of the associated risks of tobacco use may not be evenly distributed within the population.

Objectives: Analyses of data from the National Cancer Institute's Health Information National Trends Survey (HINTS 2003) characterize current knowledge of cancer prevention and smoking risk in the adult US population and identify sociodemographic, smoking status, and geographic factors associated with knowledge.

Design: SUDAAN was used to calculate population estimates and confidence intervals. Geographic Information System (GIS) isopleth maps were generated to examine the geographic distribution of smoking behavior and knowledge.

Results: More accurate beliefs about smoking risks were reported by respondents with some college education (OR=1.76) and those with college degrees (OR=2.13) compared to those with less than a high school education. Former (OR=2.53) and never smokers (OR=3.26) reported more accurate risk beliefs than current smokers. Knowledge of lung cancer mortality was lower among females (OR=.38), older adults (OR[age] 65–79=.69; OR[age] 80+=.48) and non-Hispanic Blacks (OR=.64). GIS analyses revealed lower knowledge of smoking risk and higher use of tobacco products in the regions of the country with highest tobacco production and highest tobacco-related mortality.

Conclusions: Disparities in tobacco-related knowledge, morbidity, and mortality, underscore the need for continued development and targeted delivery of effective prevention and treatment interventions to reduce the population burden of tobacco-related disease.

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D076

AMBIVALENCE AS A MEDIATOR OF PERSUASIVE HEALTH APPEALS AND THE RELATIVE EFFECTIVENESS OF DIFFERENTLY FRAMED MESSAGES IN REGARDS TO "RISKY" HEALTH DECISIONS

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The current study provided an experimental examination of perceived risk, ambivalence, and information processing in regards to the relative effectiveness of persuasive health appeals. Specifically, we predicted that "risky" health behaviors (e.g., screening behaviors that are associated with heightened perceptions of risk for discovering illness) would be associated with mixed or conflicted (i.e., ambivalent) attitudes. Moreover, we anticipated that this ambivalence would impact information scrutiny and the overall persuasion effectiveness of health appeals targeted at these types of behaviors. In line with these predictions, it was observed that those screening behaviors that are associated with heightened risk perceptions, do in fact elicit ambivalent attitudes. Moreover, our findings indicated that attitudinal ambivalence, as measured both subjectively and objectively, completely mediates the relationship between perceived risk (for the targeted medical condition) and persuasion effectiveness (i.e., attitude favorability towards the targeted health behavior). Furthermore, we examined the role of information processing on message-framing, wherein we observed that "risk" participants increased message scrutiny with loss-framed messages, consequently reporting greater behavioral intentions upon receipt of high quality loss-framed messages. Taken together, these findings have important implications for persuasion theory, as well as for the development and implementation of effective health appeals. For example, these findings suggest that interventions using framed appeals will be more effective if they specifically target populations in a manner that is consistent with their perceptions of risk, as this will increase optimal health outcomes and health-promoting decisions. Furthermore, this research more generally highlights the need for examinations of ambivalence in the persuasion context, and more specifically, in relation to health decision-making where such mixed or conflicted attitudes are likely to abound.

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D077

DO USERS OF COMPLEMENTARY AND ALTERNATIVE MEDICAL PROVIDERS FAIL TO GET RECOMMENDED MAMMOGRAPHY?

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The use of Complementary and Alternative Medical (CAM) is increasing in the United States and has been the subject of considerable attention. Part of this attention is driven by the need of conventional medical providers to understand how CAM use affects the health of their patients and the effectiveness of the medical care they provide. This study used insurance claims information from 92,612 women in 2003 and 2004 to compare the use of a screening mammography between users and nonusers of CAM. The results of our examination showed users of CAM to be more likely to be up-to-date in their use of mammography than those with no visits to a CAM provider, both before and after adjustment for women's use of conventional primary care. CAM use does not appear to be a barrier to mammography use. CAM providers were associated with a greater increased likelihood of mammography use among women who did not also see a conventional primary care provider than among women who did. CAM providers may facilitate use of mammography for women who do not visit conventional primary care providers—rates of mammography use among women who do not see conventional primary care providers even those seeing CAM providers were however low less than 30% for those with no CAM use and less than 50% for those seeing CAM providers suggesting this as a group in need of special efforts to promote screening use.

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D078

ADOLESCENT PHYSICAL ACTIVITY AND SMOKING: A MODERATED-MEDIATION ANALYSIS OF GENDER DIFFERENCES VIA SPORT COMPETENCE BELIEFS AND DEPRESSIVE SYMPTOMS

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Research supports an inverse relationship between physical activity (PA) and smoking in adolescents. It is unclear though, why PA affects adolescent smoking, and whether there are gender differences in the effects. We sought to answer these questions in a two wave study with a two group structural equation model (SEM) proposing the effects of PA and team sport participation (being on an official high school team roster) on adolescent smoking are indirect via the effect of PA and team sport on sport competence beliefs (SCB), SCB on depression symptoms (DS), and DS on smoking. We also proposed the effect would be stronger for males than females.

Participants were 384 adolescents (55% male, 96% Caucasian) aged 15–18 at baseline, from a suburban South Eastern Pennsylvania high school, taking part in a two year cohort study (n=406) of the relationship between health habits and smoking. The analysis in this study included data from both waves.

The two group SEM fit the data well, Chi square=28.53, p=.38, CFI=1.00, RMSEA=.02, WRMR=.76. There were no significant direct effects for PA or team sport on smoking. However, results supported a significant indirect effect; team roster membership had a significant negative indirect effects on smoking via sport competence beliefs and DS, but only for boys (Beta indirect=−.05, z=−2.12, p=.03, 95%CI=−.104, −.004).

Consistent with previous research, the findings of this study suggest that team sport participation may provide the greatest protection against adolescent smoking. However, the effects may depend upon gender, being most beneficial for males. Also consistent with past research, these results suggest the importance of the subjective interpretation of team sport participation, and DS in the relationship between adolescent activity involvement and smoking. They also suggest the need for research on what features of the team sport environment protect against smoking in adolescence.

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D079

COGNITIVE, EMOTIONAL, AND INTERPERSONAL CORRELATES OF MAMMOGRAPHY SCREENING IN SISTERS OF BREAST CANCER PATIENTS

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Sisters of breast cancer (BC) patients are at increased risk for developing BC due to their family history as well as relative closeness in age to the sister with BC. Although regular mammography screenings (MS) are important for sisters of BC patients, little attention has focused specifically on this group of women. The aim of the current study was to examine the relationship of cognitive factors (perceived risk of BC, response efficacy of MS), emotional factors (BC worry, trait anxiety), and interpersonal factors (involvement in sister's BC care, satisfaction with the sister relationship) to MS in sisters of BC patients. Sisters were recruited by first obtaining informed consent from BC patients that had been treated at the Moffitt Cancer Center to contact their sisters regarding participation in the current study. Participants were 120 healthy sisters from 89 different families who were an average of 52 years of age. The majority had partial college education or greater (82%), were non-Hispanic (94%), White (95%) and married (72%). The BC patients were an average of 3.7 years post diagnosis, were diagnosed with stage 0 (9%), I (46%) or II (45%) BC, and received radiotherapy only (35%), chemotherapy only (26%), or chemotherapy with radiotherapy (39%). Sisters had an average of 4.39 MS (range 0–10) in the past five years. Sisters who had more than five MS in the past five years were classified as having only five for analysis purposes. Greater response efficacy was associated with greater MS ($p<.01$) whereas greater anxiety and greater involvement in sister's BC care were associated with decreased MS ($p<.05$). No other relationships were significant. Since sisters of BC are at increased risk for BC it may be important to intervene with these women to ensure that the additional time taking care of their sisters does not ultimately decrease their care for themselves. In addition, these women could be targeted to increase their response efficacy of MS and decrease their general anxiety to promote more regular MS.

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D080

THE ROLE OF SPIRITUALITY, LOCUS OF CONTROL AND FATALISM IN AFRICAN AMERICAN COLORECTAL CANCER SCREENING ATTITUDES

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Colorectal cancer (CRC) remains the third most frequently diagnosed cancer in the United States, and the second most frequent for African Americans. Despite evidence that early detection can significantly improve disease prognosis, rates of screening in the American population, and particularly in the African American population, remain low. Thus far, interventions designed to increase screening behaviors amongst African Americans have been largely ineffective. Whereas fatalism, locus of control and spirituality, have emerged as important predictors of post-diagnosis behavior in the African American population, their potential role in promoting CRC screening behavior remains largely unknown. The current study assessed these factors in 106 African American individuals who met recommended screening guidelines, but had not undergone CRC screening. It was predicted that individuals who considered themselves in control of their health, both actively and spiritually, and believed that one could survive the detection of cancerous cells, would be more likely to consider screening for CRC. Importantly, and in contrast to expectations, only fatalistic beliefs were significantly associated with screening attitudes ($p<.01$). It was established that those individuals who held more fatalistic beliefs, such as viewing cancer as untreatable and terminal, were significantly less likely to consider adopting CRC screening behavior. The remaining factors, spirituality ($p=.632$) and locus of control ($p=.149$), did not demonstrate a significant relationship. It therefore appears that those factors important in predicting post-diagnosis health behavior may not be critical in predicting CRC screening behavior. An understanding of those factors that are significantly associated with CRC screening attitudes is essential to the development of more effective interventions and the consequent promotion of positive health practices in the African American community.

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D081

SMOKING INITIATION AND PROGRESSION FROM ADOLESCENCE TO YOUNG ADULTHOOD

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Of adults ever smoking regularly, most initiated smoking during adolescence and progressed to a regular habit by 18. Research suggests race differences in smoking, with rates highest for Caucasians (CN) followed by Hispanic (HC), and lowest for African American (AA) youth. These differences, though, tend to diminish in adulthood. We assessed race differences in smoking initiation and progression. We proposed that compared to CN, AA and HC adolescents would be less likely to initiate early, and progress early, but that differences would disappear thereafter. We were also interested in factors fostering, and protecting against smoking initiation and progression generally.

Participants were 998 Northern Virginia adolescents (age 14 at baseline) completing seven waves of a longitudinal study of bio-behavioral smoking predictors. We analyzed data in a two-part semi-continuous growth model with separate developmental trends for high school (HS) and young adulthood, assessing in one model the effects of predictors on initiation (binary) and progression (continuous).

Compared to CN youth, neither AA nor HC adolescents were more likely to initiate at baseline or during HS. However, AA youth were 47% less likely than CN youth to initiate during young adulthood. Further, being HC and AA was associated with less smoking at baseline. There were no other race differences. As expected, peer and household smoking, and alcohol and marijuana use predicted smoking initiation and smoking at higher levels. Depression symptoms were associated with HS smoking progression. GPA, though, was associated with a 72% reduction in the odds of baseline initiation and 25% reduction during HS. Club participation was also associated with decreased progression during HS.

The race findings were somewhat consistent with past studies, with AA and HC youth less likely to smoke at higher levels during HS. However, we also found that AA youth were less likely to initiate in young adulthood. Further, although several covariates predictably increased the risk of smoking initiation and progression, the one consistent protective factor was GPA.

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D082

THE EFFECT OF PHYSICAL ACTIVITY ON SMOKING BEYOND HIGH SCHOOL: A LATENT GROWTH CURVE MEDIATION MODEL THROUGH GLOBAL PHYSICAL SELF CONCEPT AND PEER SMOKING

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A previous cross-sectional study found that global physical self-concept (GPSC) mediates the relation between physical activity (PA) and team sport participation, and adolescent smoking. However, it is unclear whether those effects would persist beyond high school into young adulthood. Moreover, as peer smoking is a key correlate of adolescent smoking, it is another potential mediating mechanism; it is possible that adolescents involved in team sport, an environment eschewing smoking, will be less likely to affiliate with peers who smoke, therefore less likely to smoke. Expanding upon the findings of past research, we tested these possibilities in a four wave latent growth curve model (LGCM), assessing indirect paths from 12th grade PA and team sport participation to baseline smoking and smoking trend through peer smoking and GPSC in a sample of 985 young adults (age 18 at baseline). The LGCM fit the data quite well, chi square=110.94, p=.0001, CFI=.98, RMSEA=.03, WRMR=.69. As expected, both team sport and PA had significant negative indirect effects on baseline smoking through GPSC. However, only team sport had a significant negative indirect effect through peer smoking. Only one variable had a significant indirect effect on smoking trend. GPA had a significant negative effect on smoking trend via peer smoking and then baseline smoking level. The findings of this study are consistent with the past cross-sectional findings, suggesting that GPSC indeed mediates the relationship between PA and smoking. The findings also suggest an alternative pathway through peer smoking. Engaging in alternative environments precluding smoking, such as team sport, may indeed protect by reducing exposure to smokers. Moreover, although not initially hypothesized, GPA is a key predictor of reduced smoking beyond high school.

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D083

EFFECTS OF SALIENCE AND COHERENCE ON CRC SCREENING INTENTIONS

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Although 90% of colorectal cancer (CRC) cases are preventable if detected early, CRC remains the second leading cause of cancer-related deaths (CDC, 2007). Understanding the factors that influence preventive health behaviors is important in low-income, ethnically diverse groups as these groups have lower screening rates. Factors such as social influence and perceived salience of health behaviors are important for decision making (Myers et al., 1994). Salience and coherence refer to the belief that a behavior (e.g., being screened for CRC) is a valid course of action and relevant to everyday life, and therefore is an important predictor of screening intention. Subjects were 153 individuals (29.4% Latino, 33.3% African American, and 37.3% European American) over the age of 50 living in low-income zip codes. A 2-item family influence scale and a 4-item salience/coherence scale were correlated with five measures of CRC screening intention (6-item general intention scale and four test-specific intentions for a fecal occult blood test-FOBT, double-contrast barium enema, sigmoidoscopy, and colonoscopy). In the combined sample, family influence was significantly correlated with general screening, FOBT, and colonoscopy intention (r's=.18 to .23); however, within the ethnic groups, only for African Americans did the correlation between family influence and FOBT intention remained significant (r=.38). Salience/coherence was a stronger correlate of CRC screening both in the combined sample and in the ethnic subgroups. In the combined sample, salience/coherence was significantly related to all five screening intention measures (r's=.21 to .51), and this pattern was consistent for European Americans (r's=.24 to .67). For both African Americans and Mexican Americans, salience/coherence remained significantly correlated with general intentions (r's=.44 and .36, respectively) and FOBT intentions (r's=.44 and .42, respectively). These findings underscore the importance of testing health behavior models within ethnic groups to better understand relevant influences and tailor interventions to change important health behaviors.

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D084

IT'S NOT JUST SMOKING – CONSIDER THE OTHER STUFF, TOO: RISKY HEALTH BEHAVIORS AMONG SMOKERS AND NONSMOKERS

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Tobacco use may get the most attention from providers and researchers, but it is not the only health risk smokers face. And since less than 3% of smokers permanently quit each year, efforts to improve the health of this population may need to be expanded to include more non-tobacco-related risk behaviors. Targeting this population for intervention would be especially warranted if smokers were more likely to engage in other risk behaviors than their nonsmoking counterparts. To better understand the health risks of smokers versus nonsmokers (former and never users), we compared these groups across a range of self-reported risk behaviors. 2,513 adults (261 current smokers, 651 former smokers, and 1590 never smokers) were recruited from 5 healthcare organizations around the U.S. to participate in an online dietary intervention study. Participants were surveyed online at baseline and asked about a variety of health-related behaviors. Although former and never smokers' behavior did not differ, current smokers' behavior was significantly different from both former smokers and never smokers. Current smokers were less likely to meet the minimum '5-a-day' fruit and vegetable goal ($p<.001$ compared to former and never smokers), more likely to be physically inactive than former ($p<.01$) or never smokers ($p<.001$); less likely to wear a seatbelt than former ($p<.01$) or never smokers ($p<.001$); less likely to get a routine physical examination than former ($p<.001$) or never smokers ($p<.01$); and less likely to floss their teeth than either nonsmoking group ($p<.001$). While quitting smoking is crucial, our results demonstrate it is not the only risky behavior smokers need to change. We propose that health promotion efforts targeted to smokers should focus more broadly than on just quitting smoking.

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D085

GENETIC TESTING FOR HEREDITARY BREAST AND OVARIAN CANCER AND EMOTIONAL DISTRESS: A META-ANALYTIC REVIEW

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Predictive BRCA1/BRCA2 gene mutation testing identifies women at risk for breast and ovarian cancer. However, health experts have been concerned about the potential for distress upon learning one's mutation status. Some prior studies find increased emotional distress in women identified as mutation carriers; others find no change in distress. Those who learn they are not carriers typically experience a decrease in distress. Outcomes for testers with inconclusive results have been inconsistent. We conducted a meta-analysis of research on emotional consequences of BRCA1/BRCA2 genetic testing. All published articles and dissertations (k=16) assessing changes in state anxiety or cancer-specific distress from pre-testing to post-provision of test results were included. Samples were primarily female. Standardized mean gain effect sizes were calculated for mutation carriers, noncarriers, and those with inconclusive results in studies assessing distress over a short (0–4 weeks), moderate (5–24 weeks), or long (25–52 weeks) period of time between testing and psychological assessment. Moderating effects of country of study and cancer history were also analyzed. Results indicated that carriers' anxiety and cancer-specific distress increased shortly after result provision, but later returned to pre-testing levels. Anxiety in noncarriers and those with inconclusive results decreased shortly after receiving test results, and later returned to pre-testing levels; their cancer-specific distress decreased steadily over time. Geography but not cancer history moderated distress. Anxiety in American noncarriers decreased from pre-testing to a time moderately after result provision; anxiety in noncarriers in Australia and Europe did not change. These findings suggest that BRCA1/BRCA2 genetic testing does not increase distress for most testers. Future research should examine other emotional, cognitive, and behavioral outcomes that may be affected by testing, as well as the experiences of understudied subgroups.

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D086

HEALTH BEHAVIORS OF AUSTRALIAN COLORECTAL CANCER (CRC) SURVIVORS COMPARED WITH NON-CANCER POPULATION CONTROLS

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Introduction: A better understanding of health behavior after a cancer diagnosis is important, as these behaviors may impact physical functioning, disease recurrence, development of second primary cancers, and risk of other chronic diseases. For the first time, this presentation prospectively describes selected health behaviors (smoking status, alcohol intake and physical activity) and body mass index at pre-diagnosis, 6 and 12 months post-diagnosis of a large, population-based sample of CRC survivors, and compares the findings with a matched population group.
Methods: Study samples were drawn from the Queensland, Australian population. Data were collected by telephone interview as part of the published longitudinal CRC and Quality of Life Study (CRCQOL; n=1250) and the population based Queensland Cancer Risk Study (QCRS; n=6277). Both studies used identical items to collect data on sociodemographic characteristics and lifestyle behaviors.
Results: A large change in physical activity levels for CRC survivors was identified, with patients being much less likely (adjusted odds ratio=0.46, 95% confidence interval=0.34–0.62) to have been inactive or insufficiently active pre-diagnosis compared to 12 months post-diagnosis. In relation to the QCRS comparison group, at 1 year follow-up CRC survivors were more likely to be: underweight (odds ratio=2.14, 95% confidence interval=1.38–3.31); a former smoker (OR=1.44, 95% CI=1.26–1.63); a low-risk (OR=1.25, 95% CI=1.09–1.44) or high-risk drinker (OR=1.70, 95% CI=1.43–2.03); and insufficiently active (OR=1.57, 95% CI=1.34–1.83) or sedentary (OR=2.76, 95% CI=2.39–3.19). However, they were significantly less likely to be a current smoker (OR=0.68, 95% CI=0.54–0.85).
Conclusion: It is necessary to understand the health behaviors of cancer survivors, and use this information to develop targeted behavioral interventions to help them manage the adverse consequences of disease.

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D087

INITIAL INDOOR TANNING EXPERIENCE PREDICTS FUTURE BEHAVIORAL PATTERNS

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There is growing concern with indoor tanning (IT) use in the US. Case-controlled studies have reported significant positive associations between IT and melanoma. We have identified tanning types (event and regular) that differ in tanning history, predictors and frequency. This project explores whether initial tanning experience predicts future tanning patterns. 264 adults who report IT were given a survey assessing current IT pattern and frequency and information about their first IT event including their age, location (home or salon), payment method, tanning reason, unpleasant events (e.g., feeling uncomfortable), unpleasant physical consequences (e.g., burns) and positive physical consequences (e.g., mood improvement). The relationship of age of first IT experience to current tanning pattern was significant ($F(2,253)=3.68$, $p<.05$), with current non-tanners starting IT at a significantly older age ($M_{AGE}=17.4$) than regular tanners ($M_{AGE}=15.6$). Chi-square tests were then applied to the relationship of tanning patterns to initial tanning experiences and consequences. Regular tanners were more likely at their first session to attend with their mother ($\chi^2=24.74$, $p<.001$) or attend to prepare for a vacation (e.g., spring break, etc) ($\chi^2=7.56$, $p<.05$). Event or non-tanners were more likely to attend with a friend ($\chi^2=8.15$, $p<.05$), report a 1st session problem ($\chi^2=11.40$, $p<.01$), or report a physical problem consequence of indoor tanning ($\chi^2=9.32$, $p<.01$). Event tanners were more likely to report tanning in preparation for the prom ($\chi^2=6.75$, $p<.05$), and non-tanners were more likely to report feeling claustrophobic at their first session ($\chi^2=13.67$, $p<.01$). These results are potentially important for prevention efforts aimed at individuals considering indoor tanning. For example, interventions should be conducted on high school students, include mothers and focus on critical events such as pre-vacation tanning plans in order to prove more efficacious at preventing long-term regular IT habit development.

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D088

CHANGING RESISTANT HEALTH BEHAVIORS: USE OF A MOTIVATIONAL INTERVIEWING APPROACH TO REDUCE INDOOR TANNING BEHAVIOR IN COLLEGE FEMALES

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Skin cancer rates continuing to rise in young people and health researchers have identified the reduction of intentional UV exposure, such as the usage of indoor artificial UV tanning beds/salons, as an important area of cancer prevention. Frequent usage, defined as use of more than 10 times per year, of indoor tanning is reported in approximately 15–20% (Hillhouse, 1999) of young adult females and has been linked by epidemiological evidence to an exponential increase in melanoma risk (Westerdahl et al., 2000). While a few interventions exist targeted toward reducing UV exposure in young people, there is a dearth of prevention programs designed specifically for reducing indoor tanning in this high risk group of frequent indoor tanners. In the current study, we tested the efficacy of two novel skin cancer intervention programs that incorporate principles of Motivational Interviewing (MI) based on the work of Miller and Rollnick (2002). The first is a peer delivered intervention that incorporates cognitive-behavioral skills information and graphic personalized feedback regarding indoor tanning behaviors and beliefs. The second intervention included mailing the personalized graphic feedback form to participants. Fifty-two frequent indoor tanners were drawn from an undergraduate course and randomly assigned to condition (22 in peer intervention, 15 in mailed feedback, and 15 in control). Participants were measured at baseline and reassessed four months later.
Results indicated significantly less reported indoor tanning in the peer counseling group when compared to the control group on indoor tanning use tendencies. Participants in the mailed feedback condition also reported less indoor tanning compared to control but these mean differences were non-significant. Taken together, these results indicate support for peer based indoor tanning interventions to reduce high risk indoor tanning in young adult females, therefore reducing their risk for future skin cancers.

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D089

PATTERNS AND PREDICTORS OF COMPLIANCE WITH SUNSCREEN USE RECOMMENDATIONS IN AN OUTDOOR RECREATION SETTING

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Health authorities advise adults to use sunscreen with SPF 15+, apply 30 minutes before sun exposure, and reapply every 2 hours. Compliance (sunscreen [yes/no], SPF, initial application time, reapplication [yes/no]) was examined in 4,837 alpine skiers and snowboarders interviewed on chair lifts at 28 North American ski areas in 2001 and 2002. Time started skiing/snowboarding was considered the onset of sun exposure. Prior sunburning, other sun protection, self-efficacy, skin cancer importance, weather conditions, UV intensity, sun sensitivity, demographics, equipment, and skill were measured. Overall, 49.8% of adults wore sunscreen with SPF 15+. Of these, 72.8% applied it 30 minutes before sun exposure; 19.8% reapplied it after 2 hours. Combined, 15.3% were in total compliance and 46.4% complied with none of the advice (15+ & 30 min. before [31.6%], 15+ only [11.2%], 15+ & 30 min. before & reapplication [4.4%], 15+ & reapplication [2.0%]). Total compliance was lowest during inclement weather ($p<.0001$), by males (8.1%, $p<.0001$), when skin cancer was unimportant (2.7%, $p<.0001$), with low sun sensitive skin (7.9%, $p<.0001$) and among 18–25 year olds (7.2%, $p<.0001$), and higher when adults used sunscreen lip balm (21.6%, $p<.0001$) but unrelated to other sun protection ($p>.01$). Advice to use SPF 15+ sunscreen may have reached many outdoor recreation enthusiasts through commercial advertising or public health messages. Compliance with the apply 30 min. before exposure advice may be due to winter sports preparation patterns. Reapplication is infrequent despite long periods outdoors and should be promoted in prevention communication. Future communication must convince males and young adults to comply with sunscreen advice. Promotions that elevate the importance of skin cancer may improve compliance.

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D090

IMPACT OF LIVE WELL! LIFE BEYOND CANCER ON LIFESTYLE CHANGE AMONG CANCER SURVIVORS

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INTRODUCTION: There is an urgent need for research and programming to support an active lifestyle and healthy eating among cancer survivors particularly after they complete treatment and leave the support of the cancer care system. METHODS: Live Well! Life Beyond Cancer was piloted at five centers nationwide in March and April 2007. The intervention was a six week, community-based program for cancer survivors that included exercise, nutrition, and education and support related to their medical and emotional needs post-treatment. Participants met for two hours each week. Pre- and post-test written questionnaires were completed on site and included the International Physical Activity Questionnaire and a fat-related dietary habits questionnaire. A 3 month follow-up questionnaire was mailed. RESULTS: A total of 67 survivors of breast (n=32), blood (n=9), gynecologic (n=7), lung (n=6), colorectal (n=5), and other (n=7) cancers participated. Mean time since completion of treatment was 11 months. More than one-third (39%) were overweight, and 21% obese. Before the intervention, 22% reported low levels of physical activity, and at 3 months, only 11%. There was a trend for increase in walking and moderate- and vigorous-intensity physical activity at 6 weeks post-intervention, and at 3 months, total activity was significantly greater with a mean increase from pre-test levels of 682 minutes per week (SE =256, p=0.01, paired t-test). The largest minutes per week gain was observed in moderate-intensity activity (mean=436, SE=155, p=0.008, paired t-test). There was an improvement overall and across all but one subscale in fat-related dietary habits. The greatest change was made in the modification of meats, such as eating chicken baked or broiled. CONCLUSION: After completion of the Live Well! six week intervention, cancer survivors increased physical activity and improved fat-related dietary habits. These findings warrant further investigation with a larger sample and control group.

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D091

BELIEFS ABOUT BREAST CANCER RISK-REDUCING BEHAVIORS IN BREAST CANCER PATIENTS COMPARED TO HEALTHY CONTROLS

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Research shows that people often engage in a variety of behaviors they believe will reduce their risk of cancer and/or its recurrence. This study examined how breast cancer survivors' beliefs and engagement in behaviors to reduce breast cancer risk compared to those of age- and geographically-matched women with no history of cancer. Behaviors assessed were praying, exercising, limiting food intake, eating 5 or more servings of fruits and vegetables per day, and eliminating alcohol intake. Participants were asked whether or not they believed these behaviors would reduce the risk of cancer recurrence (survivors) or occurrence (controls) and whether or not they had engaged in the behaviors in the past month. It was hypothesized that survivors would be more likely to believe these behaviors to be efficacious in reducing cancer risk and more likely to engage in these behaviors than controls. Participants were 137 survivors (M=57 years; SD=9.3) who were 3 years post-diagnosis and 137 controls (M=55 years, SD=11.3). Results showed that survivors were more likely than controls to believe that limiting food intake ($\chi2=9.69$, $p\leq.05$), praying ($\chi2=10.63$, $p\leq.05$), and exercising ($\chi2=3.81$, $p\leq.05$) would be effective in reducing cancer risk. In contrast, actual rates of limiting food intake, praying, and exercising did not differ significantly between breast cancer survivors and controls ($ps>.57$). Findings suggest that breast cancer survivors are more likely than women without cancer to believe in the risk-reducing properties of certain behaviors; however, these stronger beliefs do not appear to translate into greater practice of these behaviors. Future research should investigate why beliefs about risk-reducing efficacy are not associated with reported behaviors and attempt to identify other variables that motivate practice of behaviors perceived to reduce cancer risk.

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D092

PREDICTORS OF LONG-TERM ABSTINENCE AMONG COLLEGE QUIT & WIN PARTICIPANTS

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Background: Helping young people to quit smoking is a national priority. Quit & Win contests are easy to implement and may be an important strategy to encourage cessation among young smokers on college campuses. We describe the implementation and evaluation of a multi-campus Quit & Win contest targeting 2-year and 4-year Minnesota colleges and identify predictors of long-term abstinence among contest participants.

Methods: In November 2006, Quit & Win contests were conducted on three 2-year and four 4-year colleges targeting students who smoked on 10 or more days per month. Participants completed a baseline survey and provided a urine sample prior to November 1st. Individuals who quit during November (and provided a sample validating self-report) were eligible for a $3000 prize. Free nicotine replacement therapy (NRT) was provided to all participants. A mixed-mode web/phone survey assessed abstinence 6-months after enrollment.

Results: Participant were 23.7±6.8 year of age, 61% female, 16.3% non-white, and smoked an average of 12.5±7.8 cigarettes per day on 28.0±4.8 days per month (N=484; 2-year n=294, 4-year n=190). Response rate to the 6-month survey was 81%. The abstinence rate (by ITT) during the month of November was 51%. This dropped for each following month to 17% by April 2007. In a multivariate model, only enrollment at a 2-year (vs. 4-year) school (OR 1.34, 95% CI 1.02–1.76) and baseline intention to stay quit even without winning a prize (OR 1.45, 95% CI 1.03–2.05) predicted long-term abstinence.

Conclusion: Initial success in quitting during the contest period is followed by substantial relapse. Intention to stay quit even without wining a prize predicted long term abstinence and indicates the need for interventions to bolster intrinsic motivation among contest participants. Quit & Win programs may be a particularly effective strategy to encourage abstinence at 2-year institutions.

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D093

CHURCHES MAY REDUCE THE LIKELIHOOD OF SMOKING, ETS EXPOSURE, AND INCREASE THE LIKELIHOOD OF SMOKING CESSATION AND MAINTAINING SMOKING BANS AT HOME: A REPORT ON CALIFORNIANS OF KOREAN DECENT

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Background: This study presents the influence of church attendance on smoking prevalence, continued smoking (or not), ETS exposure, and prevalence of household rules on smoking among adult Californians of Korean descent (Funded by an NIH grant to C. Richard Hofstetter #1R01CA105199-01A1, National Cancer Institute).

Methods: Data were drawn from telephone interviews (N=2830) developed from a random probability sampling of listed persons in California with Korean surnames during 2005–2006. 86% of attempted interviews were completed of which 85% were conducted in Korean. Multivariate logistic regressions were used for analysis.

Results. Nearly half of all respondents had been exposed to cigarettes (49.0%), and 41.9% of these reported current smoking by CDC criteria (currently smoke and have smoked 100 cigarettes during life). Church attendance was negatively associated with current smoking status, continued smoking (cessation), ETS exposure, and reported smoking bans in the home.

Conclusions: Churches appear to be connected to smoking behaviors. Interventions should target Churches as sources that disseminate messages about health behaviors, like smoking, to Koreans.

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D094

A COMPARISON BETWEEN PARENTS' AND CHILDREN'S REPORTS OF PARENTING PRACTICES

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Introduction: Gateway drug use can be a precursor to higher-level drugs. Parenting practices play an important role in adolescents' use of drugs, as may adolescents' perceptions of their parents' parenting practices. This study compared reports from parents and their adolescent regarding parents' parenting behaviors and to examine how these reports differentially predict gateway drug use.

Methods: The sample consisted of 252 Latino adolescents participating in a community trial. Participants were recruited from San Diego high schools near the US-Mexico border. Sequential regressions were used to test two predictive models of drug use that differed only in the source of the same parenting variables. One model included parents' reports about their own behavior and the other included adolescents' reports about their parents' behavior. Four blocks were entered into both models: demographics, parenting, school influence, and peer influence.

Results: Youth averaged 15.9 (sd=1.2) years and males accounted for 49.4%. 69.1% of participants used gateway drugs. The full parents' model explained 39.8% of the variance in adolescents' gateway drug use and the parenting block was not significant. The full adolescents' model explained 41.4% of the variance, and the parenting block was significant ($p<0.05$). Acculturation (+), size of social network (−), and peer modeling (+) were significant predictors of gateway drug use in both models. Parental involvement in school (−) and parental yelling (+) emerged as significant parenting variables only in the adolescent's model.

Discussion: Results revealed differences in parent and child reports of parenting behaviors and that only adolescents' reports of parenting contributed to significantly explained variance in gateway drug use. Peer influence was a significant predictor in both models along with acculturation. Future studies should involve more precise measures and determine the possible differential validity of parent vs. adolescent assessment of parenting practices.

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D095

SPIRITUALITY'S EFFECTS ON BEHAVIORAL INTENTIONS TO UNDERGO COLORECTAL CANCER SCREENING

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Screening rates for colorectal cancer (CRC) are very low, especially within the African American and Mexican American communities. There are several barriers to CRC screening for different ethnic groups. These may include: fear of cancer, reliance on self-care, and inadequate provider-patient communication. Another potential predictor of screening is spirituality. Spirituality has been linked with mortality and physical health. However, no research has previously examined the relationship between spirituality and intention to obtain CRC screening. The purpose of the present study was to determine whether spirituality beliefs were related with behavioral intentions to undergo CRC screening and to determine whether the associations are similar within ethnic subgroups. Participants were 154 San Diego residents. Before the potential participant was asked to participate, the research assistant confirmed that he or she met the criteria (age, ethnicity, living within the zip code, and English speaking). The participants filled out questionnaires designed to assess their spiritual beliefs and intention to obtain CRC screening. Correlations were computed to examine the association between spirituality beliefs and one's intention to get screened for CRC. Results from the overall group indicated that higher spirituality was significantly associated with higher intention to obtain FOBT screening, $r=.239$, $p<.01$. However, this association did not hold for all ethnic subgroups. When ethnic groups were analyzed separately, only the African American subgroup showed a significant association between spirituality and intention to obtain the FOBT, $r=.321$, $p<.05$. These results underscore the importance of examining ethnic groups separately to better understand the factors that influence health behaviors. Differences across ethnic groups suggest that tailoring interventions for specific ethnicities might produce a greater impact on health behaviors.

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D096 Meritorious Student Poster

COLORECTAL CANCER SCREENING INTENTIONS AMONG ETHNIC GROUPS: IMPLICATIONS FOR TAILORED INTERVENTIONS?

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Research shows that screening plays an integral role in preventing colorectal cancer (CRC), however, national screening rates are low. Further, there are ethnic disparities in CRC screening, yet little research has been conducted with low-income people and ethnic minorities. Research shows that factors such as risk appraisals, worries/fears, perceived susceptibility, and consideration of future consequences (CFC) are related to screening intention. Participants were evenly matched by gender and included 53 African Americans, 57 Caucasians, and 45 Mexican Americans all living in low-income zip codes in San Diego. Five intention measures were a 6-item general intentions scale and four test-specific measures: fecal occult blood test (FOBT), double contrast barium enema (DCBE), flexible sigmoidoscopy (FS), and colonoscopy. For Caucasians, worries/fears were significantly negatively associated with FOBT ($r=-.426$) and general ($r=-.265$) intention; while, perceived CRC susceptibility was positively related to DCBE, FS, and colonoscopy (r's =.29 to .41) intention. For African Americans, worries/fears was significantly negatively associated with: FOBT ($r=-.311$), DCBE ($r=-.365$), FS ($r=-.282$), colonoscopy ($r=-.309$), and general ($r=-.390$) intention; further, perceived CRC susceptibility was also significantly negatively associated with: DCBE ($r=-.424$), FS ($r=-.313$), colonoscopy ($r=-.297$), and general ($r=-.444$) intention. African Americans were the only ethnic group whose risk appraisal was significantly correlated with general screening intention ($r=-.352$), and whose CFC was significantly correlated with FOBT and general (r's=.35 to .39) intention. None of the factors of interest were significantly related in the Mexican American sample. Interestingly, for Caucasians, perceived susceptibility was positively associated with screening intention; however, for African Americans, a negative association arose. These findings highlight the importance of tailoring health prevention messages to encourage CRC screening among diverse ethnic populations.

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D097

COLLEGE SMOKERS AT STUDENT HEALTH SERVICES: SMOKING PREVALENCE, ADVICE TO QUIT, AND INTEREST IN INTERVENTIONS

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The prevalence of cigarette smoking among college students is higher than the national average. College students may not consider themselves smokers, and associated health effects may not yet be realized. Little emphasis has been given to the types of interventions that would be of interest to college smokers. The aims of this study were (1) to estimate the prevalence of smoking among patients at student health services, and (2) to conduct a smoking needs assessment by assessing the extent to which students have interest in smoking cessation, have ever received professional advice to quit, have interest in professional cessation help, and which types of assistance would be of interest.

Students seen at Health Services (N=355) students completed a brief, anonymous survey during their visit between May and August of 2007. Results indicated that 21.2% of students smoked cigarettes within the past month. Of the smokers, more were women (54.1%), and college seniors (29.7%). Additionally, 43.2% of smokers reported that they had received professional advice to quit. One-half of smokers reported interest in quitting, however only 18.9% were interested in professional help or cessation resources. Of seven intervention options listed, student smokers were most interested in personalized consultation such as assessment and advice (13.5%), followed by medication (9.5%), nicotine replacement (9.5%), self-help materials (6.8%), individual counseling (5.4%), telephone hotlines (2.7%), and group counseling (1.4%). In conclusion, more attention is needed on intervening with clinical populations of college smokers. Fewer than half of smokers seen at student health recalled being advised to quit smoking by a health care provider. Most smokers were not interested in tobacco intervention, although professional consultation was the preferred method. Future research is needed on increasing the frequency of provider interventions among student smokers who are seen in health services.

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D098

SELF-EFFICACY AND SCREENING EFFICACY FOR COLORECTAL CANCER (CRC) SCREENING IN LOW-INCOME CAUCASIAN, AFRICAN, AND MEXICAN AMERICANS

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Colorectal Cancer (CRC) is preventable with early detection, but is the third most commonly diagnosed cancer and second-ranked cause of cancer deaths in the United States. CRC incidence and mortality rates differ as a function of ethnicity and SES. Multiple factors have been associated with the low compliance rates for CRC screening guidelines in the general population. Self-efficacy for CRC screening and CRC screening efficacy are two factors that have been linked with screening compliance rates. The aim of the present study was to examine the associations between CRC screening intentions and self-efficacy for obtaining screening and perceived screening efficacy in low income Caucasians, African Americans, and Mexican Americans. Participants (n=155; 49% male; mean age=58.3 years) completed a 4-item self-efficacy scale tailored to CRC screening (Cronbach alpha=.76), 3-item CRC screening efficacy scale (alpha=.57), 6-item general CRC screening intentions scale (alpha=.82), and intentions regarding 4 specific CRC screening tests. Correlational analyses indicated that CRC screening efficacy was significantly associated with the general screening intentions scale and intentions regarding all 4 specific screening tests in African Americans (r's=.367 to .591) and Mexican Americans (r's=.355 to .473), but was associated with only 1 of 4 specific screening test intentions for Caucasians (r=.288). In contrast, self-efficacy for obtaining screening was significantly associated with all 5 screening intentions measures in Caucasians (r's=.321 to .639), but only with the general screening intentions scale in African Americans (r=.319), and with only 3 of the intentions measures for Mexican Americans (r's=.316 to .415). These findings underscore the importance of tailoring screening intervention programs (e.g., to increase self-efficacy beliefs for CRC screening among Caucasians, and to increase belief in the efficacy of CRC screening among African and Mexican Americans).

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D099

PREDICTORS OF ALCOHOL AND TOBACCO USE IN LATINO ADOLESCENTS

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Background: Adolescent alcohol and tobacco use increases risk for harm and sets the stage for risk behaviors that may persist into adulthood. Latino adolescents are among those most at risk for using alcohol and tobacco. The purpose of this study was to identify predictors of Latino adolescents' alcohol and tobacco use.

Methods: The sample consisted of 252 Latino adolescents with latent tuberculosis infection participating in an INH adherence trial. Participants were recruited from San Diego high schools near the US-Mexico border. A predictive model based on the Behavioral Ecological Model (BEM) was used to separately predict alcohol and tobacco, using sequential logistic regressions. Four blocks were entered: demographics, parental influence, school influence, and peer influence.

Results: The average age of participants was 15.9 (SD=1.2) years; 49.4% were male. About 70% (69.4%) reported ever using alcohol and 18.7% reported ever using tobacco. The full predictive models for alcohol and tobacco significantly explained 42.9% and 39.4% of the variance, respectively, and both models met goodness of fit criteria. Peer modeling of alcohol use (OR=2.45, CI=1.46–4.13), skipping school (OR=2.47, CI=1.08–5.63), and parental consistency in contingency management (OR=0.82, CI=0.69–0.98) were significant predictors of alcohol use. Peer modeling of tobacco use (OR=2.70, CI=1.46–4.96), peer modeling of alcohol use (OR=1.89, CI=1.10–3.25), age (OR=1.47, CI=1.02–2.12), and size of peer network (OR=0.63, CI=0.42–0.96) were significant predictors of tobacco use.

Discussion: Peer modeling emerged as a key risk factor for both alcohol and tobacco use. However, the size of the peer network was protective for tobacco use, but unrelated to alcohol. Consistent parental contingency management was protective only for alcohol. Differences in predictors for alcohol and tobacco and the significant explained variance by both full models, suggest generalizability of the BEM. Results also suggest that peer and parenting factors be altered for prevention purposes.

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D100

AVOIDING REACTANCE: THE UTILITY OF ULTRAVIOLET PHOTOGRAPHY, PERSUASION, AND PARENTAL PROTECTIVENESS IN IMPROVING THE EFFECTIVENESS OF A UV EXPOSURE INTERVENTION

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Mothers of young children (N=151) participated in an ultraviolet (UV) intervention designed to change attitudes related to UV-safe behavior. The intervention consisted of a brochure on UV-safe behavior, an information card pertaining to the dangers of UV exposure as well as the prevention of photoaging and skin cancer, UV photography, and a persuasive message. The intervention materials provided participants with information about reducing their UV exposure and increasing UV protection. The information was presented in conjunction with either a forcefully persuasive oral message, an open-ended dialogue with the experimenter, or without persuasion. The women's willingness and intention to seek UV exposure, their intention to protect themselves, their perceived vulnerability to negative consequences, and their willingness and intention to protect their children and allow their children to obtain UV exposure were assessed. The use of UV photography for half of the intervention participants provided concrete evidence of UV damage.

Overall, results suggest the importance of using UV photographs as well as a forcefully persuasive message to boost intervention effectiveness. Without the "proof" provided by the UV photo, participants who received a forceful message exhibited comparatively unsafe UV attitudes consistent with psychological reactance. Results also supported the effectiveness of invoking parental protectiveness in motivating mothers to change their own UV-risk behavior and to be more vigilant about protecting themselves and their children. Thus, public health interventions seeking to reduce skin cancer may improve adherence by utilizing parental protectiveness, and an informational yet persuasive message combined with UV photography.

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D101

CLUSTER PROFILES FOR SMOKING PREVENTION IN MIDDLE SCHOOL STUDENTS: INTERNAL AND EXTERNAL VALIDITY

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Recent reviews of school-based substance abuse prevention programs have reported limited evidence of efficacy. School-based smoking prevention programs have typically been identical for all students. Tailoring prevention materials to focus on important individual-level variables is a promising idea. This paper describes the empirical basis for the development of a new tailored intervention for the prevention of smoking in middle school students. Cluster analysis was performed on the responses to the Pros and Cons of Trying Smoking and the Situational Temptations to Try Smoking among N=161 6th-grade students who were in the Acquisition-Precontemplation stage (nonsmokers with no plans to try smoking). Four clusters were identified: (1) Most Protected from smoking (N=90; 56%); (2) High Risk to try smoking (N=14; 9%); (3) Ambivalent about staying smoke-free (N=40; 25%); and (4) Risk Denial about trying smoking (N=17; 11%). Comparable profiles have been identified in previous research across age groups (elementary, middle and high school), populations (US, UK, and Israel), and substances (tobacco, alcohol, and other drugs) in other samples of non-users and have been predictive of subsequent use/uptake. There were significant differences ($p<.01$) between the clusters across eleven Processes of Prevention with moderate to large effect sizes (eta-squared=.09 to .17) with process use highest for the Most Protected cluster and lowest for the High Risk cluster. There were also significant medium- to large-sized differences found on Self Control (eta-squared=.12) and Family Support (eta-squared=.20), with the Protected cluster scoring the highest. Life Satisfaction did not differ across cluster profiles. These results have served as the empirical basis for designing a computer-tailored intervention to prevent smoking in middle school aged adolescents.

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D102

ASSESSING THE ROLE OF FAMILY IN AFRICAN AMERICAN MEN'S PREVENTIVE HEALTH BEHAVIORS: A QUALITATIVE PILOT

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Family influence has long been overlooked in research on African American men's health screening behavior despite the fact that family interventions have been known to produce favorable outcomes in diet, nutrition, and exercise. African American men have the highest age adjusted mortality rate and bear the burden of many health problems in the United States. In this focus group study, Social Influence Theory, Systems Theory, and the Health Belief Model were used to better elucidate the relationship between significant family members and African American men's health behaviors. Study investigators identified a convenience sample of men and women from three African American churches in Maryland, Pennsylvania, and Florida respectively (Men n=15, Women n=17). Women were asked about their perceptions of men's health seeking and the men were asked about their perceptions about themselves and other men. The analysis of data for this project was completed using the transcribed audio recordings of the focus groups and the hand-written notes taken at each focus group. This study provides evidence for the importance of family influence on African American men's health seeking behaviors.

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D103

SMOKING BEHAVIORS OF WOMEN AND MEN IN A SMOKING CESSATION CLINICAL TRIAL DURING PREGNANCY

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To improve cessation outcomes during pregnancy a clinical trial is enrolling both pregnant women and expectant fathers who smoke. Eligibility criteria require participants to be 18 years old, smoke cigarettes, speak English, and live with a partner. Participants are low income adults from rural areas in the Midwest referred from a Medicaid managed care health plan. Very little is known about men who enroll in cessation studies during pregnancy because they are rarely included in such interventions. The present study examines baseline characteristics related to smoking of men (n=94) and women (n=105) enrolled in this ongoing trial. Men are 26.6 y/o, 86% Caucasian, 57% are married, 73% have a high school education, and 83% are employed, while women are 24.0 y/o, 91% Caucasian, 44% are married, 69% have a high school education, and 46% are employed. Men began smoking daily at age 15.3 with women starting at age 15.2; Men smoke more cigarettes per day than women 16.2 vs. 11.2 ($p<.0001$); have slightly more past year quit attempts: men 2.0 and 1.7; 81% of women compared to 58% of men indicate wanting to quit smoking during the pregnancy ($p=.0004$); Men indicate more confidence than women in their ability to quit ($p=.004$); The average Fagerstrom score for men was 6.1 compared to 4.7 for women, with 43% of men compared to 19% of women having scores of 7 or greater ($p=.002$). A measure of support for quitting smoking found no gender differences in perceived positive interaction support, but men perceived significantly higher negative interactions than women ($p=.03$). In summary, these low income rural men have an interesting yet challenging tobacco use profile for smoking cessation during pregnancy. They smoke more, have less readiness to quit and greater nicotine dependence. However, they are making past year quit attempts and have greater confidence in their ability to quit than women. These findings provide information that can be useful in planning future cessation treatment for men during pregnancy.

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D104

CLUSTER SUBTYPES FOR THE PREVENTION OF ALCOHOL ACQUISITION: INTERNAL AND EXTERNAL VALIDITY

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Recent reviews of school-based substance abuse prevention programs have reported limited evidence of efficacy. School-based prevention programs are typically identical for all students. Tailoring prevention materials to focus on individual characteristics is a promising alternative. This paper will describe the basis for the development of a new tailored intervention for the prevention of alcohol acquisition in middle school students. A cluster analysis was performed on 6th grade students (N=208) who were in the Acquisition Precontemplation stage (not using alcohol, not planning to in the next six months). The input was responses to the Pros and Cons of Drinking scales and the Situational Temptations to Try Drinking total score. Four clusters were identified: (1) Most Protected from alcohol use (N=119); (2) High Risk to use alcohol (N=24); (3) Ambivalent about staying alcohol free (N=34); and (4) Risk Denial about alcohol use (N=31). These four profile were identified in previous research across age groups (elementary, middle and high school), populations (U.S., U.K., and Israel), and substances (tobacco and other drugs) in other samples of non-users: There were significant differences ($p<.01$) between the groups across the ten Processes of Prevention with moderate to very large effect sizes (eta-squared=07 to. 29) with process use highest for the Protected subgroup and lowest for the High Risk group across the 10 processes. In contrast, for the Resistance scale, the High Risk group was much higher in Denial/Minimization, (eta-squared=.23). Significance differences were also found on Life Satisfaction, Self Control, and Family Support, with the Protected group scoring the highest on all three scales. These four profiles have served as the basis for designing a computer-based intervention to prevent alcohol use by adolescents.

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D105

U.S. AND FRANCE FRUIT AND VEGETABLE CONSUMPTION PATTERNS IN ADOLESCENTS: AN INTERNATIONAL COMPARISON

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Objective: To observe fruit and vegetable consumption and its relationship to body mass index (BMI) by analyzing health surveys from the U.S. and France and identifying factors that may explain differences.

Methods: Examined 12–19 year old adolescents in two nationally-representative surveys that assess food intake, via 24-hour diet recalls, and demographics. Respondents comprise 2,257 from the U.S. National Health and Nutrition Examination Survey, and 347 from the French Nutrition Barometer Survey. Standard linear regression models and t-tests of both simple and predictive marginal means were run employing SUDAAN.

Results: American children appear to consume fruits and vegetables less often than French adolescents (0.72 vs. 1.33 times/day fruits; 1.07 vs. 1.76 times/day vegetables). American boys consume fruits and vegetables the least (0.69 times/day fruits; 1.01 times/day vegetables), while American girls and French boys consume a higher amount (0.76 vs. 1.28 times/day fruits; 1.14 vs. 1.65 times/day vegetables). French girls consume fruits and vegetables most often (1.39 times/day fruits; 1.87 times/day vegetables). A higher percentage of American children are at risk for overweight or overweight than French children (33.51% vs. 6.37% girls; 33.25% vs. 9.48% boys). Regression analyses showed that high BMI is negatively associated with vegetable and fruit and vegetable intake for U.S. children of both genders. A significant relationship between BMI and consumption frequency for French youths was found for females ($p=.03$).

Conclusions: These results support our hypothesis that French children tend to eat fruits and vegetables more often than U.S. children and that a greater percentage of U. S. children are overweight. This study proves to be an important first step in determining some of the influential factors that may affect various populations' consumption of fruits and vegetables.

Key Words: fruits, vegetables, adolescents, U.S., France, BMI

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D106

PARADOXICAL EFFECTS OF ANTICIPATED REGRET ON HPV VACCINATION

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INTRODUCTION: Although anticipated regret of infection and disease strongly encourages vaccination, we examine the possibility that regret about harms from the vaccination itself may have the opposite consequence for vaccination decisions.

METHODS: Participants were 750 caregivers for female adolescents aged 10–18 from southeastern North Carolina (22% were African American and 72% white). A telephone questionnaire assessed HPV regret (anticipated regret if not vaccinating one's daughters led her to develop an HPV infection that could lead to cervical cancer) and disinhibition regret (anticipated regret if vaccinating one's daughters caused her to become more sexually active). Outcome measures were self-reported HPV vaccination behavior and intentions. Data were analyzed using regression analyses that controlled for age, income, education, race, sex, and cervical disease history.

RESULTS: Caregivers who reported greater HPV regret were more likely to have vaccinated their daughters against HPV ($OR=1.51, p<.05$). Among caregivers who had not vaccinated their daughters, higher intentions to vaccinate were associated with higher HPV regret ($\beta=.53$, $p<.05$) but lower disinhibition regret ($\beta=-.16, p<.05$). Both higher HPV regret and lower disinhibition regret were also associated with believing the vaccine was more beneficial if received at younger rather than older ages and that laws requiring mandatory vaccination were good. The two regret measures were uncorrelated.

DISCUSSION: Our findings suggest that anticipated regret can increase or reduce vaccination behavior, depending on whether regret focuses on potential harms of the infectious agent or the vaccine itself (i.e., action or inaction). Furthermore, the larger effect appears to come from anticipated regret of not vaccinating. Understanding anticipated regret may aid in designing programs encouraging HPV vaccination of adolescent girls.

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Citation Poster D107

CLINICAL EVENTS IN THE PROSTATE CANCER LIFESTYLE TRIAL: 5-YEAR FOLLOW-UP RESULTS

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Previous research has demonstrated that prostate cancer patients participating in a 1-year diet and lifestyle intervention show reduction in Prostate Specific Antigen (PSA) levels and inhibition of LNCaP cell growth compared to controls at the end of one year and have fewer prostate cancer-related clinical events at the end of two years. However, the effect of these lifestyle changes on clinical events beyond two years is unknown. The aim of this study was to examine clinical events in the Prostate Cancer Lifestyle Trial (PCLT) over a 5-year period. The PCLT was a randomized controlled clinical trial with 93 early stage prostate cancer patients (mean age=66 years, Gleason<7, PSA between 4 and 10 ng/ml) who had opted for active surveillance. The intervention consisted of a low-fat, whole foods vegetarian diet, 20–30 minutes per day of exercise, one hour per day of stress management, and one weekly group support session. The control group received usual care. By the five-year follow-up, 47% of control and 38% of experimental patients received conventional prostate cancer treatment. Of these patients, the median time to treatment for the control group (23 months) was significantly shorter than that of the experimental group (42 months, $p<.05$), and there were no significant group differences in recurrence. Among the patients who remained treatment-free, there were no significant differences between groups in PSA change at the end of 3, 4, or 5 years. Finally, there were no significant group differences in other clinical events (e.g., cardiac, other cancer) or mortality at any time point, and there were no deaths due to prostate cancer. In conclusion, early stage prostate cancer patients who opt for active surveillance may be able to safely delay conventional treatment by making comprehensive changes in lifestyle.

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D108

BUT HOW WILL I FEEL AFTERWARDS? CHANGES IN QUALITY OF LIFE FROM BEFORE TO AFTER PROPHYLACTIC OOPHORECTOMY AMONG WOMEN AT ELEVATED RISK FOR BREAST AND OVARIAN CANCER

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Risk-reducing salpingo-oophorectomy (RRSO) has become the standard of care for women under the age of 40 with high risk for ovarian cancer, yet little is known about how RRSO affects women's quality of life. The present study assessed changes in quality of life from before surgery to 2 months after surgery among 66 Caucasian women at elevated risk for breast and ovarian cancer. We measured general health perceptions, depression, anxiety, perceived risk of breast or ovarian cancer, cancer worry and thought intrusions, perceived stress, and menopausal symptoms. The mean age of the women in the sample was 48. and they had an average of 16 years of education. Paired t-tests revealed a significant decrease in state anxiety, but not trait anxiety. Cancer worry, perceived ovarian cancer risk, and breast cancer risk, also decreased significantly after surgery. There was a significant increase in menopausal symptoms, but the mean severity of these symptoms after surgery corresponded to a response between "slightly" and "moderately." In contrast, there was no significant change in general health perceptions, which remained "very good", and depression, or perceived stress reports, which remained consistent with community norms. Interestingly, the decreases in perceived ovarian and breast cancer risk were not significantly correlated with decreases in cancer worry or STAI anxiety. RRSO is associated with significant reductions in perceived cancer risk and anxiety but not changes in general health perceptions, depression, or perceived stress. Menopausal symptoms did increase but only to a level between slightly and moderately severe. These preliminary findings will help surgeons inform patients about what to expect emotionally and physically after RRSO.

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D109

VARIATIONS IN MEAL PATTERNS OF YOUNG AFRICAN AMERICAN ADULTS ARE ASSOCIATED WITH THEIR HYPERTENSION RISK PROFILES

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No hypertension (HTN) prevention programs exist for young African Americans (AA) at risk for early onset of HTN. Developing nutrition guidance relevant to these young adults requires learning about the meal patterns distinguishing those with and without preclinical risk factors for HTN. To understand the meal patterns of these two groups, we conducted in-depth interviews with AAs (17–20 years old, n=58, 30 females) selected from parent projects examining hemodynamics under stress of normotensive adolescents. High risk participants (HRP, n=29, 15 males [M]) had 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). Low risk participants (LRP, n=29, 13 M) had screening SBP<108 mm Hg, BMI between 15th and 85th percentiles, and change in UNAV (mEq/hr) from baseline to post stress >0. Participants described usual eating habits in audiotaped interviews, later transcribed and coded. Generally, LRP dinners were home-cooked, included vegetables and were eaten with family. HRP dinners rarely included vegetables and were typically fast food or convenience items, such as frozen sausages or instant noodles. LRP routinely made healthier lunch and drink choice, e.g. ham sandwich and chocolate milk over of pizza and soda. LRP ate more snacks and more often chose healthy snacks, such as fruit, cereal, or yogurt. The meal patterns of LRM and HRM were the most distinct. LRM ate away from home least and were most likely to eat vegetables and drink milk or water. HRM were least likely to prepare meals, most likely to consume convenience foods and sweetened beverages, and resisted eating vegetables (unless prepared with butter and cheese). These findings underscore the challenge of designing relevant interventions that can succeed in modifying meal patterns of young AA who are most vulnerable to the early onset of HTN.

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Citation Poster
D110

CHALLENGES OF COMMUNITY-BASED RESEARCH UNVEILED IN THE BEAUTY SHOP STROKE EDUCATION PROJECT

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Background: Many researchers are recognizing the importance of community-based educational research. However, there are unique obstacles to performing rigorous scientific research in the community setting. Stroke awareness is limited among African Americans which justified finding a new way to educate. We describe some of the challenges that were faced in an innovative project designed to educate African American women about stroke in the beauty shop.

Methods: Thirty volunteer beauticians from Atlanta and Cincinnati were trained regarding stroke warning signs, risk factors, and plans of action. After clients were surveyed at baseline, they were educated by their beauticians. Knowledge retention was tested at 6 weeks and 5 months. IDs were assigned to each client and maintained throughout the study to de-identify the surveys, per HIPAA. Completed surveys were sealed and returned by the clients. Both clients and beauticians each received $5.00 per survey completed.

Results: At baseline, 386 clients were surveyed, and 312 clients completed the final survey. To make arrangements to collect completed surveys, the study coordinator often had to call beauticians 3–5 times and 25–50% of the surveys were not ready on the agreed upon dates. Considering the surveys were de-identified, the only way to match successive surveys was by ID and reported demographics. Unfortunately, despite multiple descriptions of the study protocol, some beauticians did not remember to check IDs when handing out surveys, and in some cases surveys were distributed to women who had not previously participated. Also, some clients appear to have inconsistently reported their demographics from one survey to the next.

Lessons Learned: Community volunteers often don't understand the importance of verifying data. Financial incentives may unduly influence volunteers to complete surveys with inappropriate subjects.

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D111

IMPROVING CARDIOVASCULAR HEALTH IN PRIMARY PREVENTION : THE EDUCOEUR INTERDISCIPLINARY RANDOMIZED CONTROLLED TRIAL

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Objective: Determine if an interdisciplinary intervention combining medical, pharmacological, nutritional, physical activity and psychosocial approaches can lead to greater cardiovascular risk reduction than usual care or specialized clinics in patients at high risk of cardiovascular disease. Methods: 124 patients with at least two CV risk factors were randomized to usual care (UC: N=41), specialized clinics (SC: N=41) or to the interdisciplinary Educoeur program (IEP: N=42). The IEP includes: 1) an individualized treatment program established according to the patients' risk factors and 2) a weekly cardiovascular preventive group treatment program of 12 weeks along with periodical follow-ups for two years. The primary end point is the CV risk reduction as measured by PROCAM at 6 and 24 months. In the IEP, 42 patients have completed 6 months of the Educoeur program. Results: At 6 months, pre (T1) and post (T2) treatment program changes demonstrate significant improvements: CV risk (T1=7.95±5.84; T2=5.68±4.69 $p \leq 0.001$), weight (T1=95.7±23.2; T2=92.0±21.8 $p \leq 0.001$), waist circumf. (T1=106.6±18.7; T2=102.5±17.2 $p \leq 0.001$), SBP (T1=137±17; T2=125±14 $p \leq 0.001$), DBP (T1=86±10; T2=79±8 $p \leq 0.001$), cholesterol (T1=5.26±1.22; T2=4.64±1.19 $p \leq 0.001$), LDL (T1=3.06±0.94; T2=2.65±0.85 $p \leq 0.001$), triglycerides (T1=1.99±1.18; T2=1.56±0.84 $p \leq 0.01$), VO2Max (T1=27.78±7.76; T2=29.28±7.91 $p \leq 0.001$), METS-hr/wk (T1=15.88±17.57; T2=25.18±20.55 $p \leq 0.01$), Kcal (T1=2887.3±926.63; T2=2387.5±751.92 $p \leq 0.001$), saturated fat (T1=37.04±16.11; T2=23.5±12.37 $p \leq 0.001$), fibres (T1=28.02±12.36; T2=33.08±11.68 $p \leq 0.01$), depression (T1=8.93±6.67; T2=4.64±4.15 $p \leq 0.001$),mental health (T1=46.48±9.23; T2=49.7±7.28 $p \leq 0.001$), hostility (T1=18.55±7.43; T2=16.05±7.1 $p \leq 0.001$), anxiety (T1=7.52±5.46; T2=5.52±4.2 $p \leq 0.05$). Conclusion: The Educoeur interdisciplinary program is effective in reducing CV risk in patients. Patients demonstrate improved cardiovascular health, dietary habits, physical fitness and psychological symptoms.

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D112

A NOVEL APPROACH TO STROKE EDUCATION IN AFRICAN AMERICAN WOMEN: THE BEAUTY SHOP PROJECT

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BackgroundStroke is the leading cause of adult disability and the third leading cause of death in the United States. Furthermore, more strokes and stroke deaths occur in women than men. African American women bear an even larger burden, as they have almost twice the risk of stroke when compared to caucasion women and close to five times the risk in younger age groups. Unfortunately, public awareness of stroke warning signs is poor. Therefore, there is a clear need for new, creative strategies for educating the public, and specifically, African American women.

Methods:Community champions were recruited in Cincinnati and Atlanta who approached beauticians primarily serving African American women and asked them to participate in the project. Beauticians were educated about stroke warning signs and risk factors, who then educated their clientele during their appointments. Stroke knowledge gained by this method was measured via pre and post intervention surveys. Financial incentives for the client and beautician were provided. Both clients and beauticians each received $5.00 per survey completed. Stroke warning signs were taught using the "FAST" (Face, Arm, Speech, Time) method.

Results:Thirty beauticians were educated about stroke during a training luncheon. Feedback was overwhelmingly positive. Knowledge significantly improved regarding stroke warning signs. This improvement was sustained for at least five months.

Lessons Learned:The beauty shop is an untapped locale for stroke education, and is ideal for reaching African American women. Education regarding stroke risk factors remains a challenge that warrants further study.

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D113

MAJOR FOODS CONTRIBUTING TO SATURATED FAT AND CALORIC INTAKE IN A HYPERCHOLESTEROLEMIC POPULATION

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Background: A diet low in saturated fat is recommended for patients with elevated low density lipoprotein (LDL) cholesterol for coronary heart disease prevention. The objective of the current study was to identify major foods contributing to saturated fat and caloric intake in a hypercholesterolemic population.

Methods: Dietary data were collected between 1998 and 2001 using a 7-day dietary recall among 581 participants in a trial of dietary counseling for hypercholesterolemia from a primary care setting. Baseline data were used for this investigation. The top 10 major foods contributing to saturated fat (grams/day), and caloric intake (kcal/day) were identified from the dietary recall for each participant.

Results: Mean age was 46 years. Fifty-eight percent were female, 89.3% were white, and 51% had a college degree or more education. The average body mass index (BMI) was 28 kg/m^2. Average total blood cholesterol level was 245 mg/dl, LDL-cholesterol level was 166 mg/dl. Average daily caloric intake was 2085 kcal, with 13% of calories derived from saturated fat. Major foods contributing to saturated fat included regular cheese, mixed dishes with regular cheese, beef, donuts, chocolate, cream, ice cream, potato chips/corn chips; meat, and peanut oil. These foods contributed 36% of the total saturated fat intake. Major foods contributing to caloric intake included bread; oils from olive, peanut, and canola; soft drinks, casseroles, peanuts, French fries/fried potatoes, beef, mixed dishes with regular cheese, cereals, and chocolate candy. These foods contributed 26% of the total calories.

Conclusions: A diet with less than 7% saturated fat content and weight loss is recommended for patients with hypercholesterolemia. Public health recommendations regarding cholesterol reduction that target reduction of specific foods such as cheese, beef, donuts, chocolate, and ice cream, might have great impact since these foods accounted for 36% of saturated fat intake in this large primary care sample.

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D114

RELIGIOUS MESSAGES MAY DIMINISH THE USE OF ALCOHOL: A REPORT ON WOMEN IN CALIFORNIA OF KOREAN DECENT

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Religious Messages may Diminish the use of Alcohol: A Report on Women in California of Korean DecentAbstractBackground: This research identifies the social and behavioral factors within churches that correlate with alcohol consumption, among female adult Californians of Korean descent (Funded by an NIH grant to C. Richard Hofstetter #1R01CA105199-01A1, National Cancer Institute).
Methods: Data were drawn from telephone interviews with female adults (N =550) developed from a random sampling of listed persons in California with Korean surnames during 2007. 80% of attempted interviews were completed of which 85% were conducted in Korean. Multivariate logistic regressions were used for analysis.
Results: The Influence of religious leaders' messages on choosing to drink alcohol diverged by the reported salience of religion, respondents who view religion as more salient were influenced by messages were nominal religious members appear to be unaffected. In addition, more orthodox Christian believers (conservative view of scripture) were less likely to consume alcohol than progressive Christian adherents. Among respondents who reported prior consumption of alcohol religious leaders' messages appear to limit volume of intake while orthodoxy appears to have no effect.
Conclusions: Religious messages appear to be connected to alcohol consumption. Interventions should target Churches as sources that disseminate messages about health behaviors, like alcohol consumption, to Koreans.

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D115

THE ROLE OF AFFECT AND LONELINESS IN QUALITY OF LIFE

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Researchers have shown that combined factors demonstrate stronger pathways to health outcomes than isolated factors (Denollet, 2005). The presence of negative affectivity paired with the inability to express those negative emotions contributes significantly to cardiovascular disease, increased morbidity and mortality, and decreased response to treatment (Schiffer et al., 2006), while positive affect appears to provide a buffer against disease (Cohen & Pressman, 2006). Our study examined how loneliness (UCLA Loneliness Scale; Russell, 1996, α=.92), positive affect and negative affect (Positive and Negative Affect Schedule; Watson, Clark, & Tellegen, 1988, α=.89 and α=.88) were associated with quality of life (QOL; Medical Outcomes Study 36 item Short Form Health Survey; Ware & Sherbourne, 1992, α=.60–.85) in a sample of college students in North Texas. Participants (n=125, 75% female) self-identified as European–American (54%), African–American (26%), Latino(a) (9%) and other (11%), with an average age of 20.9 (SD=4.0). Significant correlations were identified between our independent and dependent variables. Four models predicting psychological QOL, each with age and gender controlled, were examined using multiple regression analysis. Lower levels of loneliness (β=−0.15,t=−2.05,p<.05) and negative affect (β=−0.44,t=−6.48,p<.001), but higher levels of positive affect (β=0.40,t=6.14,p<.001) were associated with emotional well-being (adjusted R^2=.56, F(5,119)=32.10,p<.001). Lower levels of negative affect (β=−0.33,t=−4.28,p<.001) and higher levels of positive affect (β=0.45,t=6.07,p<.001) were associated with vitality (adjusted R^2=.44, F(5,119)=20.65,p<.001). Lower levels of loneliness (β=−0.25,t=−2.54,p<.05) and negative affect (β=−0.24,t=−2.57,p<.01) were associated with better mental health related role functioning (adjusted R^2=.16, F(5,119)=5.79,p<.001). Understanding the complex relationship among positive and negative attributes and behaviors allows clinicians to tailor treatment methods to reduce the risk of disease onset.

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D116

DIABETES PREVENTION AND MANAGEMENT INTERVENTION

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Purpose: The purpose of the Diabetes Prevention and Management (DPM) intervention, based on Learning/Chronic Care Model, was to improve self-management behaviors and self-efficacy for diabetes management. Design: The DPM intervention comprised individual (one-on-one) & group self-management education sessions with a health educator and follow-up phone calls which occurred 1–2 weeks after the self-management session. Subjects: 417 patients with diabetes at a federally qualified health center in Texas. Measures: Self-management practices, goals setting, barriers to changing behavior, self-efficacy, and social support. Results: Mean age was 51.1 plus/minus 11.5 years; the majority were females (69.5%), Hispanic/Latino (66%), and uninsured (95%). Mean number of visits was 8.91 plus/minus 5.57 with higher visits by females; hypertension was higher among African Americans & A1c was higher among African Americans and Hispanic patients. The focus on goal setting, action planning, and problem solving led to high patient setting of goals i.e., 62.3% of patients set at least one goal with a health educator, 17%—2 goals, and 13.3%—3 goals. The most common goals chosen by patients included nutrition, exercise, blood glucose management, and weight management. Of those goals that were sustainable, 70% of patients kept up their behavior change for 6 months post initial goal setting in a random sample of 100 patients. Although all clinical parameters showed some improvements, intervention significantly reduced A1c levels by<1%, especially among Hispanic patients. Findings suggest self-management education is effective in improving clinical outcomes. Conclusion: Health education provided a promising practice for changing behavior among individuals with diabetes.

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D117

USING MOTIVATIONAL INTERVIEWING TO INCREASE PHYSICAL ACTIVITY IN SEDENTARY CHILDREN

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Sedentary behaviour is a strong risk factor for overweight and obesity as it tracks from childhood to adulthood. Early intervention aiming at increase physical activity is therefore important in obesity prevention. The research question at hand is how to design attractive interventions. Motivational interviewing (MI) represents an interesting technique for behaviour change. However, to our knowledge, it has not been tested to increase level of physical activity in sedentary, normal weight children.
Twelve sedentary children accepted an invitation to participate together with their family. The families met a specially trained therapist on two occasions, at which MIs were held, examining the family's activity habits, plus had telephone contact on two occasions. Two group sessions including all participating families were also held. Activity levels were assessed at start and after six months, using ActiWatch accelerometers. Two main outcomes were assessed; the total activity level (ACT; mean counts per minute [cpm]) and the time spent in inactivity (TSI; min/d<100 cpm).
After six months, ACT increased from 507 cpm to 583 cpm (p=0.05) and TSI decreased from 175 min/d to 133 min/d (p<0.01). There was a strong, inverse correlation between initial TSI and change in TSI (r=0.75, p<0.01). The present, short-term study shows a clear increase in ACT and adecrease in TSI following a brief MI intervention and two group session. It is important that the most sedentary children increased their activity the most. Most other MI-interventions use more than two sessions. The subjects were not in an addiction situation, nor were they ill (i.e. obese), which may be useful for their ability to change. The lack of a control group weakens the study, but data from a study using the same technique shows that in sedentary children the effect of repeated accelerometer assessments and seasonal changes are very small (<10 cpm in ACT). Longer follow-up and larger cohorts will be needed to verify these findings.

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D118

PILOT STUDY OF AN INDIVIDUALLY TAILORED EDUCATIONAL PROGRAM BY MAIL TO PROMOTE HEALTHY WEIGHT IN CHINESE–AMERICAN CHILDREN

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Developing programs that focus on preventing obesity and promoting healthy lifestyles in early childhood is essential to avoiding long-term, adverse comorbidities. However, few interventions have been previously reported or applied to Chinese–American children. This study tested the feasibility and impact of an individually tailored intervention using printed and mailed educational materials to promote healthy behaviors and healthy weight management in Chinese–American children (age 8–10).

Fifty-seven children and their families enrolled in this pre- and post-test study (1 and 6 month). Standardized instruments were used to measure the children's usual food choices and knowledge of nutrition, amount of time spent engaging in physical activity and knowledge of physical activity needs, and sedentary activities. Mothers completed measures regarding their levels of acculturation and knowledge about their children's nutritional intake and physical activity. Baseline data provided the basis upon which recommendations were made to mothers, along with materials tailored to their children's diet and physical activity needs. Twenty-nine (53%) children were boys, and 20 (35%) children had BMI great than 85th percentile. Mixed-effects models revealed improvement after the intervention in children's usual food choices ($p<.001$), amount of time spent engaging in physical activity ($p=.02$), and their knowledge of nutrition and physical activity ($p=.02$). Overweight children deceased their BMI significantly at 6 month follow up ($p=.005$).

Our results support the efficacy of mailed educational materials. Healthcare providers should promote awareness of childhood obesity, in part by including parents in their children's healthcare visits and providing parents and children with specific recommendations regarding children's weight status, dietary intake, and levels of activity and inactivity.

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D119

NUTRITION EDUCATION AIMED AT TODDLERS AND ANIMAL TRACKERS FOR CHILDREN AGES 2–4 (NEAT AT2): A TAILORED PROGRAM FOR HIGH NEED LATINO FAMILIES IN SOUTH SAN DIEGO

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NEAT AT2 is a collaboration of UCSD School of Medicine, Division of Community Pediatrics, South Bay Community Services, Chula Vista Elementary, South Bay Union and National School Districts, and is funded by the First 5 Commission of San Diego County. NEAT AT2 provides a free 10 week program utilizing evidence-based curricula, NEAT and Animal Trackers (AT—the motor skills/physical activity component), to improve nutrition and the development of motor skills to encourage active play in children. Following the 10 weekly sessions, educators conduct home visits at 1, 2, 3, and 6 months. Prior to implementation, the multidisciplinary research group at UCSD, along with the AT team, translated all curricula into Spanish and adapted elements to improve cultural competency and age appropriateness. To date, 113 families (primarily mothers and step mothers) participated in classes. The vast majority of families identified as Latino (98%) with 88% reporting Spanish as the primary language spoken at home. Results from program surveys at baseline revealed a need for improvement in healthy eating and physical activity. More than half of participating children reported watching more than 2 hours of TV per day, more than what is recommended by the American Academy of Pediatrics. Only 45% of caregivers reported participating in physical activity for at least 20 minutes at a time, 3 or more days per week. On average, caregivers reported eating 4.2 portions of fruits and vegetables per day, less than what is recommended by the USDA. Knowledge of portion size, general health facts and the Food Guide Pyramid was also low. The NEAT AT2 program provides lessons addressing all of these areas. Early responses to our "Parent Exit Survey" indicated families rated the program high on "enjoyment," "helpfulness," and would "recommend the program to a friend." (On a scale ranging from 1–5, means respectively were: 4.93, 4.95, and 4.99.)

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D120

STRUCTURAL EQUATION MODELING SHOWS DIFFERENCES IN BODY SATISFACTION BETWEEN AFRICAN AMERICAN MEN AND WOMEN

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The goals of this project were to: 1) assess gender differences in obesity status and body weight satisfaction among African American men and women, and 2) test a conceptual model for predicting body satisfaction based on age, perceived weight, current and preferred BMI, level of physical activity, diet, and prior weight loss techniques used in the past 12 months. 763 African Americans adults (534 women and 229 men) completed a self-administered survey. The mean BMI for men and women were 26.68±4.28 and 26.57±5.81, respectively. Based on the BMI classification, 38% of respondents were classified as normal, 36% as overweight, 23% as obese category, and 4% as underweight. A larger proportion of men were in the overweight category than women ($p<.05$, OR 1.72). Significantly more women (50%) than men (27%) were dissatisfied or very dissatisfied with their weight ($p<.05$). Furthermore, more women (70%) had tried to lose weight in the past 12 months than men (45%). Structural equation modeling was used to test the conceptual model for predicting body satisfaction and results provide support for provisional acceptance of the model for both males and females. The majority of regression weights in the model were noteworthy and significant indirect effects exits between current weight and body satisfaction (mediated by preferred weight and weight perception). For example, weight perception was strongly predictive of body satisfaction for both groups ($b=0.52$ for males and $b=.69$ for females). The model explained 53% of variance in body satisfaction for females and 25% for males. This study supports the need to develop gender-specific weight loss programs for African Americans.

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D121

DO LIFESTYLE BEHAVIORS PREDICT CHANGE IN BMI OVER 2 YEARS IN ADOLESCENTS?

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Background: Obesity is increasing in prevalence among adolescents. Diet, physical activity (PA) and sedentary behaviors are the primary behaviors that affect energy balance. However, the few prospective studies of the relationships among these behaviors and changes in body mass index (BMI) provide inconsistent results. Purpose: To determine whether diet, PA, and sedentary behaviors explain BMI changes over 2 years in adolescents.

Participants: Data were collected from 660 adolescents (mean age at baseline=12.7, 53% female, 59% white, mean BMI at baseline=24.7) who took part in a 2-year trial to improve PA, sedentary and diet behaviors. Participants' height and weight were directly measured at baseline and 24 months. Participants wore accelerometers for 7-days as an objective measure of physical activity and sedentary behavior (counts<100). Participants completed 7-Day PA recalls, three 24-hour food recalls (which assessed percent of calories from fat, total calories, fruit and vegetable intake, and fiber), and self-reported time spent engaging in 9 sedentary behaviors at baseline and 12 months. Sex-specific linear regression models assessed the relation of behaviors at 12 months to 24 month BMI, adjusting for baseline BMI and demographics (age, ethnicity, and parent education).

Results: For girls, total reported sedentary time (beta=.05, $p=.03$) and light activity from accelerometers (beta=−.06, $p=.02$) at 12 months predicted BMI at 24 months (change $R^2=.01$, $p=.03$). There were no significant predictors for boys.

Conclusion: Sedentary time and light activity were predictors of 24 month BMI for girls, but associations were small. No associations were found for boys. Limitations in measurement of behaviors likely interferes with the ability to explain changes in BMI.

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D122

A PHYSICAL ACTIVITY AND NUTRITION PROGRAM FOR PRE-K CHILDREN AT YMCA CENTERS

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Evidence suggests that the family is an important influence on promoting healthy behaviors. Parents serve as powerful role models for improving health-related behaviors and as a major source of reinforcement. The purpose of this study was to conduct an evaluation of pre-K children's dietary and physical activity (PA) habits outside of the school setting. Families were asked to track their child's behaviors in 5 areas on a weekly basis with the goal of improving in one of the following components: 1) increase fruit and vegetable consumption; 2) increase low-fat dairy intake; 3) decrease soda consumption, 4) decrease fast food visits; and 5) increase PA. Families completed baseline surveys and reported weekly on each component.

A total of 39 families with children ages 2–5 years completed both baseline and weekly reports for each targeted component for an 8-week period. Baseline reports indicated the following: 6.5 weekly servings of fruit and vegetables; 12.4 weekly servings of low-fat dairy; 1.2 weekly soda servings; 1.2 weekly fast food visits; and 267.0 weekly minutes of PA. Significant increases were observed with both fruit and vegetable consumption ($p<0.01$) and low-fat dairy intake ($p<0.01$). Findings for servings of soda, fast food consumption, and minutes of PA were not statistically significant, suggesting that more emphasis needs to be placed on these component areas.

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D123

MOTIVATORS AND BARRIERS TO A HEALTHY DIET AMONG MEXICAN AMERICANS BY LEVELS OF ACCULTURATION

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Purpose: To examine barriers and motivators to healthy dietary habits among Mexican Americans in Texas by different levels of acculturation. Design: Cross-sectional study of 207 Mexican Americans in Texas recruited through faith based organizations. Measures: Acculturation was measured by the Acculturation Rating Scale for Mexican Americans (ARSMA), nutritional behavior by the subscale of Health Promotion Lifestyle Profile, Motivation for healthy diet was measured by nine motivators for a healthy diet, and Barriers to healthy diet included nine barriers that prevented them from eating a healthy diet. Results: Mean age and number of years lived in the US was 44.5 and 13.5 years respectively. The majority of the respondents were female (57.1%), 1st generation immigrants (78.4%), currently married (71.6%), had a high school education or less (86%), and overweight or obese (77%). The top three barriers to healthy diet were: busy lifestyle (31%), family would not eat it (26%), and healthy food is expensive (25%). The top three motivators for a healthy diet included to prevent diseases (74%), lose weight (63%) and become a better role model for kids (58%). Motivation positively correlated with barriers ($r=.43$, $p<.01$) indicating Mexican Americans who perceived more barriers to a healthy diet also needed more external motivators for dietary changes. Respondents with higher orientation to Mexican culture reported more number of motivators for a healthy diet. Females had better dietary habits than males ($p=.01$). Respondents with healthy dietary habits and a lower BMI perceived fewer barriers to healthy diet. Conclusion: Barriers and motivators for a healthy diet influence dietary habits and weight that can be influenced by educators.

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D124

USE OF SUNGLASSES IN PUBLIC OUTDOOR SETTINGS IN HONOLULU, HAWAII

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Cataracts are the leading cause of blindness worldwide and approximately 20.5 million Americans (17.2%) over the age of 40 have a cataract in at least one eye. Wearing sunglass may reduce the risk of cataracts and skin cancer in the periorbital area. With a tropical climate and over 7.5 million annual visitors, Hawaii is a salient location to study the use of sunglasses. To assess the prevalence and predictors of wearing sunglasses in public outdoor recreation settings we observed individuals (n=5,183) on sunny days at beaches, parks, and public pools. The inter-rater reliability between two trained observers was excellent (Cohen's kappa=0.83). Overall, 33.0% of people wore sunglasses. Bivariate analysis revealed that wearing sunglasses was more prevalent at pools (35.1%), among adults (38.9%) and by those wearing hats (46.6%) and shirts with sleeves (34.6%). No significant differences in sunglasses use were found by gender or use of shade. In a multivariate logistic regression, age, hat use, shirt use, and location remained significant. Given that only a third of those observed wore sunglasses, efforts are needed to promote their use in order to reduce the morbidity and public health costs associated with the development of cataracts.

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D125

EXPLORING ORAL HEALTH STATUS AND ACIDOGENIC CHARACTERISTICS OF FOOD INTAKE AND MEAL PATTERNS IN LOW-INCOME WOMEN EARLY IN PREGNANCY

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Oral health is an essential aspect of general wellbeing throughout life. Low income pregnant women with poor oral health and oral diseases coupled with acidogenic dietary patterns can lead to premature low birth weight babies, pre-eclampsia, ulcerations of the gingival tissue, pregnancy granuloma, and tooth erosion. The purpose of this study was to explore oral health status and maternal acidogenic dietary patterns in early pregnancy. Using a descriptive design, three 24-hour dietary recalls were conducted on non-consecutive days over two weeks. Participants (n=13) were between 19–31 years of age (mean=24 y/o), 5–9 weeks pregnant at time of initial screening (mean=7 wks), were uninsured or underinsured and 54% reported an income of less than $20,000/year. 61.5% of women reported visiting a dentist within the past year, 38.5% either did not recall the last dental visit or had not seen a dentist in the past 2 years. All women reported brushing daily, however only 3 reported flossing daily. 3 women reported tooth pain and 1 reported gum pain. None reported difficulties with chewing or swallowing. 6 of the women had inadequate intake of calcium and Vitamin C, 2 nutrients important for maintaining oral health. 5 women reported vomiting 1–2 times a day and vomited up to 2 cups each time. Over the 3 separate dietary recalls per woman, 62% of foods eaten during snacks had high acidogenic content (carbonated and/or sweetened beverages, processed starches, fresh fruits, and slow dissolving sugar products) in contrast to 4% of foods consumed during meals. Women in this study had increased susceptibility to periodontal disease, plaque formation and dental caries, particularly women with low intake of vitamin C. These women had an increased risk for developing systemic infections, therefore increasing their risk for developing adverse pregnancy outcomes. Health care professionals need to assess pregnant women for oral health problems, dietary intake patterns, and oral health behaviors and provide referrals to appropriate dental health professionals.

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D126

TYPE OF PHYSICAL ACTIVITY AND DEPRESSION SYMPTOMS IN ADOLESCENTS: A LATENT CLASS ANALYSIS

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Research supports an inverse relation between adolescent physical activity (PA) and depression symptoms (DS). It is unclear though whether all PA is equally protective or some PA types even increase the risk of DS. Further, it is unknown whether there are unobserved (latent) classes of adolescent DS, with the effects of PA types differing by latent class. We sought to better understand this relation with a sample of 325 11th grade adolescents (54% male, 96% Caucasian) aged 16–19, from a suburban South Eastern Pennsylvania high school.

Participants reported engaging in 72 different physical activities, comprising group/team, individual skilled, outdoor exercise (e.g., running), indoor exercise (aerobic dance), work, recreational, and winter and other extreme sport activity. We also attained team sport rosters for the school year 2006–2007. Predictors were hours per week of each PA type, and number of teams in the school year. We controlled for gender, age, sport competence beliefs (SCB), and BMI.

We conducted a latent class analysis with Mplus 4.21 software to identify the number of latent subpopulations of adolescent DS. LCA identified 3 classes: low, moderate, and high DS. Greater weekly hours of other extreme sport activities (e.g., skateboarding) was associated with an increased odds of high compared to low (OR=1.32) and high compared to moderate (OR=1.25) DS. A standard deviation (SD=2.6) increase in SCB, on the other hand was associated with an increased odds of low (OR=4.96) and moderate (OR=4.85) compared to high DS. Hours weekly work activity (e.g., gardening) was also associated with greater odds (OR=1.07) of moderate compared to high DS. Only outdoor exercise differentiated moderate low DS, increasing the odds of low compared to moderate DS (OR=1.03).

These findings indicate that different PA types may be associated with different latent subpopulations of depression symptoms, suggesting the need to assess PA type along with DS heterogeneity in future studies.

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D127

FACTORS ASSOCIATED WITH THE OVERESTIMATION OF SUBSTANCE USE BY TEENS

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Despite decreases in drug use among adolescents since 1997, an alarming number of adolescents continue to engage in alcohol, tobacco, and marijuana use. Adolescents engage in activities they view as normative for their group, and many adolescents overestimate how normal it is to use drugs. While correcting those overestimates of substance use has been a cornerstone of intervention efforts, surprisingly little is known about the factors related to overestimation of use. This study explores theorized factors related to overestimation including an adolescent's own drug use (false consensus effect), having prominent interpersonal examples of drug use such as parental use or best friend use, depression, and demographic variables such as gender and ethnicity, and depression. As part of a larger study, 2224 high school students, predominately of Mexican descent (64%), completed a survey in 2006. Students were categorized as accurate in their estimation of their peers' drug use, as slight over estimators, or large overestimators. Being a slight or a large over estimator were both related to substance use in regression analyses after controlling for gender, ethnicity, SES, generation in the US, and Spanish language use. The variables associated with being a large overestimator were also assessed, controlling for the student's own drug use as well as the other listed covariates. Gender, parental use, best friend use, and depression were associated with large overestimation. Further studies are needed to address causality, but these results suggest promising new avenues for intervention efforts.

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D128

COMMERCIAL AND CEREMONIAL TOBACCO USE AMONG AMERICAN INDIAN ADOLESCENTS IN CALIFORNIA

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American Indian (AI) adolescents have a higher smoking prevalence than any other ethnic or racial group in the U.S. To develop interventions and policies that curb the high rates of smoking among AI adolescents, it is important to be cognizant of the sacred role of tobacco in many traditional AI cultures. This study conducted surveys of AI adolescents in California to identify the general and culturally specific risk and protective factors for their tobacco use (N=86, mean age=15.3 years, 60% female, 35% living on reservations). Commercial tobacco use was quite prevalent; 52% were ever-smokers and 24% had smoked in the past month. Respondents reported attending AI cultural events including Pow Wows (95%), funerals or wakes (60%), sweat lodges (46%), drum groups (37%), and Roundhouse dances (23%). Tobacco was used in traditional ways at all of these events (reported by 33–90% of respondents who attended these events). Tobacco was used in non-traditional ways primarily at Pow Wows (17%) and Roundhouse dances (20%). Only 16% of the respondents stated that they knew "a lot" about the ceremonial uses of tobacco, and most of the respondents who attended events were unsure what type of tobacco (commercial or traditionally grown) was used at the events. About half of the respondents reported that someone who lived with them smoked. Additionally, 50% reported that one or more of their close friends smoked cigarettes. Social influences of friends and family who smoke can influence, smoking initiation, access to cigarettes, and exposure to secondhand smoke. Results indicate that many AI adolescents are exposed to recreational and ceremonial tobacco use, yet they have not been fully educated about the sacred and ceremonial use of tobacco. This lack of traditional knowledge may make them more vulnerable to social and media influences to use commercial tobacco in recreational and addictive ways.

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Citation Poster

D129

ADDING EXPIRED AIR-CARBON-MONOXIDE FEEDBACK TO BRIEF STOP SMOKING ADVICE – EVALUATION OF COGNITIVE AND BEHAVIORAL EFFECTS

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Background: Despite progress in tobacco control, smoking rates have ceased to fall in many countries and new approaches are needed. One suggestion is to use biomarker feedback as an addendum to smoking cessation interventions to increase their efficacy. This study sought to evaluate a novel intervention that added tailored biomarker feedback (expired air carbon-monoxide, CO) to brief stop smoking advice. Design: Smokers participating in a larger study were randomized to either the control (N=79; brief advice+leaflet) or treatment condition (N=81; brief advice+leaflet+CO feedback). Demographic characteristics were assessed at baseline and cognitive measures (perceived threat and efficacy, intention to stop) at baseline and one day later, immediately after the intervention. Behavioral outcomes (smoking cessation behaviors) and intention to stop were assessed via telephone interview 6 months later. Results: Compared with the control group, the intervention led to bigger increases in perceived threat ($t(151)=2.3$, $p=.023$) and intention to stop smoking ($t(151)=2.9$, $p=.004$) in the short term but at follow-up there were no significant group differences in intention to stop and having attempted or succeeded to quit smoking. However, log-linear analysis revealed a significant 3-way effect of smoking prevalence, self-efficacy and group (Likelihood ratio $\chi2(1)=4.9$, $p=.027$): only in the intervention but not control group were high self-efficacy levels associated with cessation (Fisher's exact test, $p=.026$). Smokers with high-self-efficacy were more likely to have stopped in the intervention than control group (Fisher's exact test, $p=.078$).

Conclusions: This novel intervention reduced smokers' perceptions of invulnerability resulting in greater motivation to stop smoking. Yet, the effect seems short-lived and does not necessarily lead to action but rather is modified by self-efficacy. More research is needed to develop ways for increasing self-efficacy in order to translate the momentum gained by interventions into concrete behavioral outcomes.

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D130

BUDGETING FINANCIAL COSTS OF LONGITUDINAL DATA COLLECTION WITH HIGH SCHOOL ADOLESCENTS

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Budgeting costs for longitudinal studies is often a difficult portion of any grant writing endeavor. The importance of maintaining reciprocal relations between study participants and researchers hinges on proper funds for data collection over the duration of proposed research. Virtually no data exists that investigates the costs associated with a longitudinal research project. Often times budget personnel are left to their best estimates of project costs based on previous studies. While this has proven sufficient in the past, it is important to gauge study activities and costs accurately so that shifting of budget items is minimized and study objectives are met without budget restrictions. This paper explores the costs associated with Project RED, a three year longitudinal study of adolescents in Southern California High Schools. A 23 page survey on drugs, alcohol and acculturation was implemented once a year with a cohort of 2224 students at 8 High Schools. Reviewing budget records of data collection procedures such as consent and assent collection, survey implementation, school and student recruitment techniques, and participant incentives provides accurate cost estimations of data collection per student. Suggestions on how to utilize free resources, such as school sporting event tickets as incentives, are proposed to help projects consider other methods for incentives while saving budget costs for other areas of study. Results include cost-per-student figure of data collection, recruitment and retention techniques, and lessons learned that will help future grant proposals avoid unexpected costs that could hinder attainment of study objectives.

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D131

THE ASSOCIATION BETWEEN MATERNAL DEPRESSIVE SYMPTOMS AND UNPLANNED PREGNANCY

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Considering the negative health outcomes associated with unplanned pregnancies it is important to identify risk factors associated with such pregnancies. The purpose of this study was to examine the extent to which symptoms of depression predict pregnancy planning. Our sample consisted of 386 pregnant women who were recruited from Maternal Health Centers across the state of Iowa and the UIHC OB clinic. These women completed a demographics questionnaire, the Contextual Assessment of the Maternity Experience Questionnaire, and the Beck Depression Inventory. A logistic regression analysis was performed to determine the predictors of unplanned pregnancy after controlling for sociodemographic factors (age, education, marital status, living with partner, number of children living in the home, income, and ethnicity) and obstetric history variables (parity, number of full term pregnancies, and number of abortions). The results showed that when important demographic factors and obstetric history variables were controlled for, women experiencing depressive symptoms during pregnancy were more likely to report that their pregnancy was unplanned ($OR=1.05$, $p<.05$). Also, women who were not living with their partners ($OR=4.70$, $p<.01$) and women who had experienced abortions ($OR=1.91$, $p<.05$) were also more likely to report having an unplanned pregnancy. Our findings suggest that family planning clinics and interventions aimed at reducing unplanned pregnancy should target women who are depressed, women who do not live with their partners, and women who have had abortions. This research was supported by NIMH Grant MH-59103 and NIMH-COR Grant MH-16891.

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D132

SEXUAL RISK BEHAVIOR ASSOCIATED WITH CO-ADMINISTRATION OF METHAMPHETAMINE AND OTHER ILLICIT DRUGS

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High rates of HIV infection and other sexually transmitted diseases have been reported among gay and bisexual methampethamine (MA) users; however, few studies have examined the behavioral effects of MA combined with other illicit drug use (referred to here as MA co-administration). This study describes patterns of MA co-administration and examines the association between co-administration and sexual risk behavior in a sample of 321 HIV+ MA-using men who have sex with men (MSM). The majority of participants were Caucasian, never married, had some college or less, earned less than $20,000 per year, and met DSM-IV criteria for MA dependence. Sixty-five percent reported using MA in combination with another illicit drug in the past two months. Drugs most frequently used with MA were: marijuana (43.7%); GHB (14.0%); amyl nitrates (i.e., poppers) (10.8%); cocaine (8.6%); and ecstasy (8.6%). Primary reasons for co-administration varied by drug; marijuana (to "take the edge off/balance out the MA"); GHB (to "experiment"); poppers (to "enhance sexual experience"); cocaine and ecstasy (to achieve a "better high"). HIV+ MSM who reported MA co-administration in the past 2 months reported significantly more unprotected anal and oral sex and a greater number of casual, anonymous, and paid sex partners as compared to men who reported no co-administration. In a multivariate logistic regression with co-administration as the binary outcome, number of anonymous partners was significantly associated with co-administration, even after controlling for the amount of MA used ($OR=2.3$, 95CI, 1.3,4.1). More research is needed to understand the role of co-administration as it relates to high-risk behaviors and HIV/STI transmission among MA-using MSM.

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D133

A TELEPHONE-DELIVERED, RISK-REDUCTION INTERVENTION FOR HIV-SEROPOSITIVE RURAL MSM: PRELIMINARY INTERVENTION OUTCOMES

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Problem Addressed: Many rural persons living with HIV/AIDS continue to engage in high HIV-transmission risk behaviors. However, very little (if any) research has conceptualized, implemented, and evaluated culturally-appropriate risk reduction interventions for this vulnerable population. This research reports preliminary findings from a pilot RCT evaluating two telephone-delivered, HIV risk-reduction interventions designed specifically for HIV-infected rural men who have sex with men (MSM).

Methodology: Twenty MSM were recruited through AIDS service organizations in rural areas of six U.S. states (81% Caucasian, mean age= 42.1 years) and were randomly assigned to a two-session integrated Motivational Interviewing and Skills-Building (MI+SB) intervention or a two-session Skills-Building-only (SB-Only) intervention. Participants completed self-report measures of sexual behaviors, risk-reduction information, motivation to avoid risky sex, and risk-reduction behavioral skills at pre-and post-intervention.

Key Findings: MANCOVA (controlling for age, annual income, and ethnicity) found that MI+SB participants ($n=10$) significantly increased their use of condoms during intercourse occasions compared to SB-only participants ($n=10$), $F(1,16)=5.3$, $p<.05$. Importantly, participants' increase in condom-protected intercourse occasions was not the result of participants engaging in more sex. There were no significant differences between groups in knowledge, motivation, and behavioral skills.

Conclusions: Preliminary findings from this pilot RCT suggest that telephone-based interventions that combine motivational interviewing with skills-building exercises may constitute an effective means to reduce risky sexual behaviors in rural persons living with HIV/AIDS.

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D134

CONTINUED RISKY SEXUAL BEHAVIOR IN HIV-INFECTED RURAL PERSONS

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Problem Addressed: Many characteristics of rural environments prevent HIV-infected rural persons from engaging consistently in safer sexual practices. Continued risky sexual behavior in this group is problematic because it can: (1) spread HIV from HIV-seropositive to HIV-seronegative persons; and (2) expose HIV-seropositive persons to other STDS or new strains of HIV that are less responsive to current treatments. Accordingly, characterizing rates of, and reasons for, risky sexual behaviors in this group is requisite to the development and implementation of culturally-contextualized risk- reduction interventions for sexually active HIV-infected rural persons.
Methodology: 58 HIV-seropositive persons (60% MSM; 72% White; mean age=44.5 years) living in small towns and rural areas of 22 U.S. states were recruited through AIDS service organizations. All participants reported at least one occasion of unprotected vaginal or anal intercourse during the past two months. Participants completed self-report measures of sexual behaviors, condom use practices, contextual factors related to risky sex, alcohol/substance use behaviors, and STD histories.
Key Findings: 44% of participants had a "primary" sexual partner who was HIV-seronegative; 30% did not know the HIV-serostatus of their primary sexual partner. Thirty percent of participants did not discuss HIV prevention, while 19% never encouraged safer sex on the part of their sexual partners. 60% of participants used condoms inconsistently during vaginal or anal intercourse during the past two months. 51% of participants met their current sexual partners on the Internet and 41% cruised for sex in public areas at least once during the past 60 days. 54% of participants had pubic lice and 33% had herpes and/or gonorrhea during their lifetime. The average participant used alcohol on 11 days and marijuana on 12 days over the past two months. In addition, participants reported using cocaine (10%) and Viagra (16%) during the past month.
Conclusions: High rates of continued risky sex underscore the need for tailored risk reduction interventions for rural persons living with HIV/AIDS.

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D135

SEXUAL HEALTH MESSAGES IN WOMEN'S MAGAZINES

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In 2005, the CDC reported that 27% of new HIV/AIDS diagnoses occurred in people ages 45 and older. Magazines serve as primary sources of health information for many and can model healthy sexual behaviors, but do they? A qualitative content analysis was conducted to investigate the prevalence of sexual health messages in women's magazines representative of four age groups (i.e., adolescents, 13–24 yrs.; young adults, 25–34 yrs.; adults, 35–44 yrs.; older adults, ≥45 yrs.) across a one year time span. Age groups were based on CDC reporting criteria. The eight highest-circulating magazines aimed at women were selected for analysis. A coding form was developed and four independent coders analyzed each magazine. Pilot testing was completed to establish baseline inter-rater reliability and a fifth coder reconciled discrepancies. Of the 88 magazines examined, 315 advertisements (n=55; 17.5%) or articles (n=260; 83%) were analyzed for their sexual content. The young adult magazines contained the most (i.e., 61%; n=192) material with sexual content, while the older adult magazines contained the least (i.e., 3%; n=10).
The majority of the content in all magazines was entertainment-oriented (58%) with the exception of the adolescent magazines which actually contained more information-oriented material ($\chi 2=20.3$, $p=.00$). Prevention messages were lacking in all magazines. For instance, of the 315 sexual messages examined, only 14.6% contained messages that encouraged safer sex practices. Out of the 10 sexual messages in the older adult age group, only one message encouraged readers to become educated about safer sex, however, it did not reference methods of prevention (e.g., condoms). Further, within the older age group, no messages regarding the importance of getting testing were provided. Our results indicate that magazines targeting older adult women appear to lack relevant sexual health information. Despite the increasing incidence of HIV in people over 45, the top magazines targeting these women are not providing sufficient safer sex messages.

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D136

SEROSORTING AND INCREASED RISK FOR HIV AMONG MSM

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Objective: The purpose of the current study was to assess whether or not men who have sex with men (MSM) who limit their unprotected anal sexual partners to those who are of the same HIV status (serosort) differ in their risk for HIV transmission than MSM who do not serosort.
Methods: Cross-sectional surveys administered at a large gay pride festival in June 2006 were collected from MSM. Logistic regressions were used to identify predictors of serosorting.
Results: Participants were self-identified as HIV negative MSM (N=628), about one third of whom engaged in serosorting (n=229). Men who serosort were more likely to believe that serosorting offered protection against HIV transmission, perceived themselves as being at no relatively higher risk for HIV transmission, and had more unprotected anal intercourse partners. Over half the sample reported their frequency of HIV testing as yearly or less frequently and the average last HIV test among participants was 14.5 months ago; these findings did not differ between serosorters and non-serosorters. Additionally, MSM who serosort reported an average of four sexual partners in the last six months.
Conclusions: Men who identify as HIV negative and serosort are no more likely to know their HIV status than men who do not serosort and are at higher risk for exposure to HIV. MSM who serosort reported both unprotected anal sexual partners and infrequent testing, thus, many MSM do not know their HIV status. However, these MSM base sexual decision making on their perceived HIV status and their partner's perceived HIV status. CDC recommends HIV testing before new sexual relationships; although this proposal is well intentioned it is unlikely to occur among MSM who serosort given the high rates of sexual partners. As such, interventions targeting MSM must address the limitations of using HIV testing as a prevention strategy and relying on their own and their partner's HIV status as a way to reduce HIV transmission. Finally, interventions must address additional pitfalls of serosorting: acute HIV infection, increased sexually transmitted infection exposure, and dishonesty during HIV status disclosure.

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D137

HPV VACCINE PROVISION AND CONCERNS AMONG MEDICAL PRACTICES IN THE RURAL SOUTH

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Introduction: Although the human papillomavirus (HPV) vaccine has been licensed since June 2006, low availability in traditionally underserved areas may be a barrier to prevention. We examined patterns of HPV vaccine provision and concerns regarding provision in the rural South.
Methods: In summer 2007, we interviewed staff from medical practices in four rural North Carolina counties with very high rates of cervical cancer. Of 55 practices enrolled in the state vaccine program, which supplies free vaccines for uninsured and underinsured children, staff from 38 completed the full interview. An additional 3 practices provided data on HPV vaccine provision but not concerns.
Results: 30 of 41 practices had provided HPV vaccine to patients. Only 15 of 30 carried privately purchased vaccine for people who do not qualify for free, state-supplied vaccine. Practices providing the HPV vaccine reported fewer concerns related to provision than practices not providing the vaccine (4.7 vs. 7.7, $p<.01$). Inadequate reimbursement for the HPV vaccine and too high a cost to patients not eligible for the state-supplied vaccine were concerns for most practices (27 and 28 of 38 practices, respectively). Other commonly mentioned concerns include up front costs of ordering and stocking privately purchased HPV vaccine and the burden of determining insurance coverage.
Discussion: Although all practices were eligible to receive the free, state-supplied HPV vaccine, over 25% did not carry it. Cost of the HPV vaccine, for providers and patients, may be a barrier to access of the HPV vaccine in rural areas.
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D138

A PILOT INTERVENTION TRIAL TO PROMOTE SEXUAL HEALTH AND STRESS MANAGEMENT AMONG HIV+ MSM

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The development of effective sexual risk reduction interventions for HIV+ people remains an urgent public health priority. Existing programs are time intensive and have shown only limited efficacy for HIV+ MSM. We will report findings from a pilot intervention trial designed to facilitate sexual risk reduction among HIV+ MSM. Participants (N=80; 25% African–American) were randomized to an immediate or delayed intervention condition. Grounded in behavioral science theory and formative research, the intervention included two group sessions that addressed motivational, behavioral skills, and transmission information tailored to HIV+ MSM, along with stress management training. Assessments of sexual risk antecedents, unprotected sex, and stress management indices were obtained at baseline and at a 3 month follow-up (94% completion across conditions). Workshop satisfaction ratings (M=3.8 out of 4.0) and exit interviews indicated high levels of enthusiasm for the program. Compared to the delayed treatment counterparts, intervention recipients reported greater HIV transmission knowledge ($p<.001$), higher self-efficacy to disclose HIV status ($p<.01$), and stronger intentions to refuse unprotected sex at the 3 month follow-up ($p<.07$). Intervention recipients also reported higher coping self-efficacy ($p<.01$) and lower perceived stress ($p<.05$). Although sexual behavior analyses were underpowered, initial analyses indicated a trend towards fewer episodes of unprotected oral, anal, or vaginal sex ($p<.06$) among intervention recipients. Differences in number of sexual partners and other sexual risk indices were in the expected direction but did not achieve statistical significance. Findings provide evidence of intervention feasibility and acceptability and suggest that our brief intervention can be successful in modifying sexual risk behavior antecedents and enhancing stress management skills. A sufficiently powered RCT is needed to test the impact of our intervention on HIV risk behaviors.

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D139

SHOULD AGE AND GENDER BE CONSIDERED WHEN TARGETING FOR PHYSICAL ACTIVITY PROMOTION?

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Some physical activity (PA) studies are conducted on the assumption that age and gender are important factors to consider in message content targeting, but empirical evidence is scant. An evaluation of age and gender differences in PA social cognition, therefore, seems a necessary first step in order to justify a targeting approach. The purpose of this study was to compare the mean values and correlations of a population sample, divided by age groups and gender, on theory of planned behaviour (TPB) beliefs and PA while controlling for other sociodemographic and health factors. Based on the paucity of existing work, these analyses were considered exploratory. Participants in the study were a random sample (N=6,739) of adults (M age=49.65, SD=16.04) who completed measures of socio- and health- demographics, theory of planned behaviour beliefs chosen from prior meta-analytic elicitation research, and self-reported PA (behavioural risk factor surveillance survey). The treatment of TPB beliefs included both an evaluation of the respective aggregate (to represent attitude, subjective norm, and perceived control), a multivariate R of these aggregates, and each individual belief. Participant groups were created by gender and age over ten year periods from 18 to 85 years of age. Results of mean analyses using analysis of covariance identified greater perceived control (specifically beliefs about fatigue, lack of time, cost and social support) over PA for seniors than young and middle-aged adults ($\eta 2>.025$). Belief-behaviour correlations using chi-square tests for independent samples, however, were not different across age and gender in 24/26 tests ($q<.19$). In summary, PA beliefs are relatively invariant across age and gender with the exception of mean levels of perceived control which are lower among younger adults than older adults. Factors such as early parenthood and career demands were considered the likely reasons for differences. Content targeting by age and gender in PA promotion, at least in terms of TPB beliefs, may not be necessary.

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D140

TEMPORAL DISCOUNTING AND CHANGES OVER TIME IN RELATIVE IMPORTANCE OF COSTS AND BENEFITS OF A SPECIFIC PLAN TO EXERCISE

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Temporal stability of intentions is a good predictor of long-term maintenance of exercise behavior, but the underlying mechanisms are not known. We begin with an investigation of the way in which intentions change for a specific plan to exercise. Based on a temporal discounting account, we predicted that attitudes would deteriorate and intentions would weaken as a planned bout of exercise became more imminent. Participants (N=110) made plans to exercise a week in advance, and reported costs and benefits, attitudes and intentions regarding this plan. Over two hours prior to this planned bout of exercise, they re-evaluated this plan. Between baseline and just prior to exercise, attitudes and intentions deteriorated considerably. These effects were partially attributable to changes in the degree to which the benefits of exercising as planned outweighed the costs. The importance of avoiding the costs increased over time ($\beta=.20$, $F(1,287)=26.42$, $p<.001$); the importance of gaining the benefits decreased over time ($\beta=-.10$, $F(1,297)=15.68$, $p<.001$). Specifically, the degree to which the benefits outweighed the costs decreased over time ($\beta=-.22$, $F(1,278)=28.09$, $p<.001$). Attitudes deteriorated more when the benefits of exercising became less important than the costs ($\beta=.25$, $F(1,53)=4.41$, $p=.04$). A substantial proportion of participants (63.6%) exercised as planned. Changes in intentions were significantly associated with odds of exercising (Adj. OR=10.18, 95% CI: 1.76, 59.06, $p=.01$). Furthermore, the changes in the difference in reported importance of costs and benefits predicted odds of exercising (OR=5.17, 95% CI: 1.68, 15.88, $p=.004$). We conclude that the time delay between when a plan to exercise is made and the time at which exercise is to take place influences the odds that an intention will be successfully acted upon because of changes in the relative importance of costs and benefits of exercising as planned.

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D141

PREDICTION OF LEISURE-TIME WALKING: AN INTEGRATION OF SOCIAL COGNITIVE, PERCEIVED ENVIRONMENTAL, AND PERSONALITY FACTORS

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Walking is the primary focus of population-based physical activity initiatives but a theoretical understanding of this behaviour is still elusive. The purpose of this study was to integrate personality, the perceived environment, and planning into a theory of planned behaviour (TPB) framework to predict leisure-time walking. It was hypothesized that the perceived environment and walking relationship would be mediated through the TPB. Planning was hypothesized to act as a mediator of intention and walking relations. Further, we hypothesized that the perceived proximity to recreation infrastructure, planning, and conscientiousness would moderate the intention-walking relationship. Participants were a random sample (N=358) of Canadian adults who completed measures of the TPB, planning, perceived neighbourhood environment, and personality at Time 1 and self-reported walking behaviour two months later. Results using structural equation modelling showed a moderate fit of our model [$\chi 2$ (183)=716.32; $p<.01$; CFI=.95]. Structural effects showed that walking is largely predicted by intention (standardized effect=.42) with an additional contribution from proximity to neighbourhood retail shops (standardized effect=.18) (R2=.25). Intention was predicted by attitudes toward walking and perceived behavioural control (R2=.62). Effects of perceived neighbourhood aesthetics and infrastructure on walking were completely mediated through the TPB. Regression analysis showed that the intention-walking relationship was moderated by conscientiousness and proximity to neighbourhood recreation facilities but not planning [Fchange (3,337)=2.95, $p<.05$; R2 change=.02]. In summary, walking behaviour is theoretically complex with independent predictors spanning from traits to the environment. Interventions may best be addressed at a population level by facilitating strong intentions in a receptive environment even though personality differences may persist.

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D142

COMPARING PSYCHOSOCIAL PREDICTORS OF PHYSICAL ACTIVITY ADOPTION AND MAINTENANCE

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Most health behavior models do not distinguish between determinants of behavior adoption and maintenance. Understanding the psychosocial constructs that predict physical activity (PA) adoption versus maintenance would allow for more precise targeting of these constructs in PA promotion programs. This study compared psychosocial predictors of PA adoption and maintenance among 205 initially sedentary adults enrolled in a home-based PA promotion trial. Psychosocial variables were measured at 6 months (at which point 52% of participants remained inactive and 48% were regularly active) and used to predict 12-month PA status (an indicator of PA adoption among those inactive at 6 months and an indicator of PA maintenance among those active at 6 months), as measured by the 7-Day Physical Activity Recall. Six-month PA status moderated the relationships between 6-month measures of home access to PA equipment ($p=.057$), self-efficacy ($p=.051$), and perceived satisfaction with PA outcomes ($p=.051$) and 12-month PA status. Simple effects analyses revealed that home access to PA equipment was predictive of PA adoption (OR=1.64, $p<.05$), but not PA maintenance (OR =.88, ns), whereas self-efficacy and perceived satisfaction were predictive of PA maintenance (OR=2.67, $p<.01$; OR=2.08, $p<.05$), but not PA adoption (OR=1.25, ns; OR=.82, ns). Results suggest that these psychosocial variables may operate differently in predicting PA adoption versus maintenance. It may, therefore, be important to emphasize using available home equipment as a person is adopting PA and to increase emphasis on self-efficacy and perceived satisfaction with the outcomes of PA for someone attempting to maintain a recently adopted PA program.

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D143

WHAT INFLUENCES SATISFACTION WITH BEHAVIOR CHANGE?: AN EXAMINATION OF THE LONGITUDINAL ASSOCIATIONS BETWEEN PEOPLE'S WEIGHT LOSS EXPERIENCES AND SATISFACTION

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Recent theoretical work suggests that people's satisfaction with behavior change is a critical determinant of maintenance (Rothman et al., 2004). Evidence in smoking cessation (Baldwin et al., 2006) and weight loss (Finch et al., 2005) has provided some support for this theoretical proposition, however there is a lack of empirical evidence regarding what influences people's satisfaction with behavior changes they make (e.g., weight loss behaviors). The purpose of the current research was to determine whether there are experiences associated with weight loss (e.g., feedback from others, weighing oneself) that longitudinally relate to people's satisfaction systematically, and whether the strength of the relations changes at different points during people's weight loss efforts. Participants (n=349) were people enrolled in an 8-week weight loss program who were followed for 16 months after the program. People's satisfaction and 10 different weight loss experiences were measured at the end of the program and then at eight points during the 16-month follow-up. To determine which experiences are related to satisfaction over time, separate longitudinal mixed models were fit with each experience as a predictor of satisfaction. Controlling for people's current weight change, nine of the experiences were significantly related to satisfaction (ps<.0001) and the models accounted for 10–32% of the within-person variance in satisfaction. Subsequent models indicated that some experiences (e.g., weighing oneself) were more strongly related to people's satisfaction earlier in their efforts to lose weight than later (ps<.05). The results suggest that some experiences associated with weight loss may influence whether people are satisfied with their weight change, and the strength of the influence can depend on whether it is early or later in people's efforts to lose weight. Theoretical and practical implications for maintenance will be discussed.

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D144

DOES PERSONALITY MODERATE THE EFFECT OF IMPLEMENTATION INTENTIONS ON PHYSICAL ACTIVITY?

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Implementation intentions (II) have shown some effectiveness as a post-intentional intervention for health behaviour change. Results of II have been mixed, however, when used as a sole intervention for physical activity (PA) and one possibility for this heterogeneity in findings may be from underlying moderators. Personality traits of extraversion (E) and conscientiousness (C) have been shown to moderate the PA intention-behaviour relationship and it has been suggested that II may be a useful strategy for less C or E people to translate initial intentions into behaviour. By contrast, II may be a more natural occurrence for those high in these traits based on their tendency towards goal-directed action and facilitative social environments respectively. Thus, the purpose of this study was to evaluate the effect of an II intervention on PA and investigate whether E or C moderated this effect. It was hypothesized that a null effect for II on PA may occur, but personality would moderate the effect with low E/C individuals increasing PA in the II condition more than those high in C/E. Participants were undergraduate students (N= 178) who completed measures of PA intention, behaviour (Godin Leisure-Time Questionnaire) and extraversion and conscientiousness (NEO-FFI) followed by randomization to either the II intervention or a control group (proceeded by a two week follow-up). Results, using analysis of covariance controlling for baseline scores, showed no difference in intention and PA by condition ($p<.05$). Further, E, C, and baseline intention or PA did not moderate the findings ($p<.05$). In conclusion, these results found II ineffective in changing short-term PA and personality did not moderate the findings. The effect of personality on the intention-behaviour gap may thus be more motivational than organizational. Future research may benefit from an expansion to a community sample, objective assessment of PA, and continued evaluation of the effectiveness of II to augment motivational interventions.

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Citation Poster
D145

BINGE EATING IN OVERWEIGHT INDIVIDUALS WITH TYPE 2 DIABETES SEEKING WEIGHT LOSS TREATMENT

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Binge eating (BE) is common among individuals with type 2 diabetes, however the relationships between BE and other health-related behaviors and health parameters are not well established. These relationships were examined in Look AHEAD, a multicenter RCT examining the long-term effect of intentional weight loss interventions on CVD outcomes in overweight individuals with type 2 diabetes. Methods: At study entry, participants (n=5145; mean age=58.7±6.8 years) were weighed and completed self-report measures of BE, smoking status, alcohol use, mood and physical health. Results: Participants who endorsed BE were younger, heavier, and more likely to be female than those who did not endorse BE (p's<.01). They reported significantly fewer alcoholic drinks per week (1.1±2.7 vs. 1.4±3.3, p=.02) and lower rates of binge drinking (2.9% vs. 5.1%, p=.02) than non-binge eaters, but did not differ in current smoking status. Participants who reported BE had more depressive symptoms (7.8±5.5 vs. 5.2±4.7, p<.0001), reported worse general health (43.4±9.4 vs. 47.8±8.7, p <.0001), and were taking more medications than individuals who indicated no BE (5.8 ±3.1 vs. 5.5±3.0, p=.03); however, there were no differences between the groups on HBA1c (7.3% vs. 7.3%) or diabetes treatment (67.6% oral medications without insulin vs. 68.3%). Conclusion: Overweight individuals with type 2 diabetes who reported BE had more depression and worse self-reported physical health than non-binge eaters but reported consuming less alcohol. Glycemic control and diabetes regimens were nearly identical in those who reported BE and those who did not.

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D146

PARENTAL REPORTED PHYSICAL ACTIVITY AND THE SYMPTOMS OF ATTENTION-DEFICIT HYPERACTIVITY DISORDER IN CHILDREN

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Attention-Deficit Hyperactivity Disorder (ADHD) is the most diagnosed developmental disorder in childhood. Pharmacological interventions are the most common forms of treatment; however, since the alleviating effects of medication are not universal, researchers have suggested physical activity as an adjuvant therapy. The purpose of this study was to investigate the prevalence of physical activity and therapeutic physical activity practices in children with ADHD; and to explore the relationship between physical activity and ADHD symptoms. Participants included 101 parents, mostly from Canada, who have a child with ADHD and were recruited through collaboration with the Learning Disabilities Association by mail and online internet parent forums. Of the parents, 71.3% of their children were males and 28.7% were females, with a combined mean age of 9.29. Parents were asked to complete a questionnaire pertaining to their child's medical history, Connors' scale of ADHD symptoms, physical activity behaviors and practices. Results indicated that 76% of the children did not meet Canadian recommended physical activity guidelines, and 52% of the parents do not use physical activity as a therapy. Significant bivariate correlations between hyperactivity and total strenuous physical activity ($r=.23;p<.05$), as well as therapeutic physical activity ($r=-.21;p<.05$) were found. Moderated multiple regressions demonstrated that parents who do not use physical activity as a therapy showed a negative relationship between meeting physical activity guidelines and oppositional behavior ($\Delta F_{(1, 90)}=4.21,p<.05;\Delta R^2=.04$). It was concluded that a large proportion of children with ADHD do not meet recommended physical activity guidelines and parents who do not use physical activity as a therapy have children who display worse symptoms of oppositional behavior. Future research should include further investigation into the physical activity practices of child ADHD populations, specifically focusing on strenuous and national recommended doses of physical activity with ADHD groups that do not use physical activity as a therapy.

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Meritorious Student Poster

D147

THE EFFECTS OF EATING STYLE AND PORTION SIZE ON THE ACCURACY OF DIETARY SELF-MONITORING

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Dietary underreporting is common in self-monitoring, particularly among overweight women (e.g., Lichtman et al., 1992). The aims of this study were to examine (1) the role of eating style and weight status in dietary underreporting and (2) portion size as a mechanism underlying dietary underreporting. Overweight and gorgers were expected to underestimate energy intake (EI) compared to normal weight and non-gorgers, respectively. Overweight gorgers were expected to underestimate EI compared to all other groups and were expected to underestimate large meals to a greater extent than all other groups. All groups were expected to underestimate large compared to regular meals. Methods: The study was a 2 (gorger vs. non-gorger) by 2 (overweight vs. normal weight) between groups design. Gorging was defined as<2 meals per day with seven hours between waking and first meal. Accuracy of dietary self-monitoring was determined using the Goldberg equation and the ratio of reported energy intake to energy expenditure (EI:EE). Accuracy of meal size estimates was recorded at two laboratory visits. Results: Participants were 76 women, ages 19–50. Groups did not differ by age, education, ethnicity, or income. The Goldberg equation categorized 93.4% of participants as underreporters. There were no differences in reported EI by weight status. Gorgers reported less EI than non-gorgers [$F(1,72)=6.82$, $p=0.01$] despite greater energy needs. Gorgers also had a lower EI:EE score than all other groups [$F(1,72)=21.74$, $p<0.01$], indicating greater underreporting. All groups overestimated small and large meals. Regular meals were less accurately estimated than large meals. Discussion: Underreporting was greater among gorgers. However, portion size did not explain underreporting. Further research is needed to understand mechanisms of dietary underreporting in order to improve dietary assessments and interventions.

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D148

GENDER DIFFERENCES IN THE EFFECT OF BODY MASS INDEX ON DEPRESSIVE SYMPTOMS IN ADOLESCENTS: A MEDIATION ANALYSIS THROUGH GLOBAL PHYSICAL SELF-CONCEPT

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This present study tested a mediation model in which Body Mass Index (BMI) affects adolescents' depressive symptoms through Global Physical Self- Concept (GPSC). We also tested how Socioeconomic Status (SES) and Physical Activity (PA) affect these relationships. The research also specifically examined how these relationships differ by gender. We hypothesized that female adolescents would show a greater amount of depressive symptoms than adolescent males. We also proposed that adolescent male's self-concepts will not be as negatively affected by a high BMI because while girls tend to view their bodies as aesthetic and decorative boys view their bodies as active and functional. The participants were 292 public high school students from a Northeastern region of the United States. The results proved to be significant showing a correlation between adolescent females BMI and GPSC. The results also suggest that adolescent GPSC is a predictor of depressive symptoms for both genders and those depressive symptoms could be reduced if the right steps are taken in intervening with variables such as parental involvement and encouraging physical activity.

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D149

INVESTIGATION OF FAT TALK IN AMERICAN ADULTS: RESULTS FROM THE PSYCHOLOGY OF SIZE SURVEY

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This cross sectional survey (Slim-Fast's™ Psychology of Size) of 4014 adult women men, assessed likelihood of hearing fat talk, the tendency for females to berate their bodies socially, and pressure to join in. Participants were 45 years of age (SD=16) and most were Caucasian (83%). They were given descriptions of three body-talk scenarios and asked to rate (on a 5-point scale) the likelihood of each and perceived pressure to speak in a similar way. Two separate RM-ANOVAs were conducted on ratings of likelihood and perceived pressure to fat talk with gender as the between-subjects variable and group body-talk (negative, self-accepting, or positive) as the within-subjects variable. For perceptions of likelihood to fat talk, results demonstrated a main effect for the type of body-talk scenario, $F(2, 4011)=177.0$, $p<.001$, as well as a gender by scenario interaction, $F(2, 4011)=103.1$, $p<.001$. Perceived pressure to fat talk yielded a main effect for the type of body-talk scenario, $F(2, 4011)=11.2$, $p<.001$, and a gender by scenario interaction, $F(2, 4011)=31.5$, $p<.001$. Post hoc analyses showed that both men and women reported a greater likelihood of experiencing fat talk situations and perceiving greater pressure to join in compared to self-accepting body-talk. Females also reported more pressure to join fat-talk scenarios compared to positive body-talk, yet males reported greater pressure to engage in positive-talk scenarios compared to fat-talk scenarios. Hierarchical regression analyses for women suggested that 28 percent of the variance in pressure to engage in fat talk was accounted for by race, age, body mass index, and particularly likelihood of hearing fat talk in their social circles (21% of variance), $R2=.278$, $F(1, 1993)=109.7$, $p<.001$. Caucasian, Hispanic, and Asian women reported more pressure to fat talk compared to African, Native American, and biracial women. Results suggest that adult women are more likely to find themselves in fat talk situations and feel pressure to participate in them situations than are adult men.

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D150

PREDICTIVE VALIDITY OF PSYCHOPATHOLOGY IN THE MEDICAL OUTCOME OF GASTRIC BYPASS SURGERY

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Nearly 64,000 Americans chose gastric bypass surgery in 2005 as an option to treat obesity and its comorbidities. Although psychological evaluations are the norm in surgical pre-screening, it is unclear if psychological variables predict successful surgical outcome. This retrospective chart review of female military beneficiaries, who received the surgery at Womack Army Medical Center in Ft. Bragg, NC, was conducted to determine whether presence of psychopathology was a contraindication to gastric bypass surgery. The mostly Caucasian (69.6%) and African American (20.3%) sample consisted of 69 female patients who were 38.39 years of age (SD=7.98). Psychopathology was measured by the Restructured Scales of the MMPI-2 including: Demoralization, Somatic Complaints, Low Positive Emotions, Cynicism, Antisocial Behavior, Ideas of Persecution, Dysfunctional Negative Emotions, Aberrant Experiences, and the Hypomanic Activation scales. Surgery outcome was determined by utilizing the Bariatric Analysis and Reporting Outcome (BAROS) score that was a composite score encompassing percentage of excess weight loss and improvement/resolution of comorbidities. All of the RC scales were regressed onto the BAROS score to determine their validity in predicting a successful post surgical medical outcome. The Adjusted R2=−.074, F (9, 59)=.478, p=.884, suggesting these psychological variables did not predict a successful medical outcome. However, a paired t-test between pre-surgery BMI (44.94) and post-surgery BMI (29.16), t (69)=28.662, p<.001 (two-tailed), suggested significant weight loss providing further support that gastric bypass is an effective surgical intervention in the treatment of obesity. These findings suggest that measures of psychopathology/personality may not be sufficient in predicting medical success in gastric bypass patients in populations of psychologically healthy candidates. Other screening methods which measure health behaviors, behavioral compliance, IQ, and eating disorders may be more relevant when assessing and selecting patients for surgery.

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D151

BARRIERS TO AND UTILIZATION OF MENTAL HEALTH CARE: A COMPARISON OF OVERWEIGHT/OBESE AND HEALTHY-WEIGHT MEDICAL PATIENTS

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Although mental health services have proven effective in addressing a range of weight-related difficulties, those who are overweight and obese underuse such services. Despite an increased focus on the treatment of the overweight and obese among mental health clinicians and researchers, scant data exists on mental health service use and barriers to mental health care among this population. The purpose of this study was to investigate the relationship between weight and 1) perceived treatment need; 2) unmet treatment need; 3) barriers to treatment; and 4) past mental health service use. Participants (N=201; BMI range=17 to 47) were recruited from a primary care clinic to complete mental health utilization questionnaires. Consistent with hypotheses, individuals of higher BMI were more likely to report the need for mental health care and a higher frequency of mental health service use over the past six months. Contrary to predictions, weight was not related to an unmet treatment need or barriers to mental health treatment. These results suggest that while the overweight and obese have a higher need for mental health services, this need is not left unaddressed. Nevertheless, mental health service delivery models may need to be modified for overweight and obese individuals. This and other implications are discussed.

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D152

BASELINE EVALUATION RESULTS FROM THE 5-4-3-2-1 GO! OBESITY PREVENTION CAMPAIGN

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This paper reports on baseline results from a randomized community trial to evaluate the impact of the 5-4-3-2-1 Go! social marketing campaign in Chicago on community and family obesity risk behaviors. The study is grounded in a theoretical model informed by Social Cognitive Theory, which posits that social modeling of healthy living will encourage emulation and stimulate social change leading to reduced obesity risk behavior, and has the following specific aims:

Aim 1: To identify direct effects of 5-4-3-2-1 Go! messages on parental food choice, parent and child use of community resources, and parent and child TV and other screen time.

Aim 2: To identify the moderating effects of social capital, community food access and availability, availability of community resources, family nutrition and physical activity norms, and individual readiness to change.

Aim 3: To determine the mediating effect of social cognitions (knowledge, attitudes, beliefs) on the relationship between 5-4-3-2-1 Go! messages and intended outcomes.

Parents were randomly assigned to 5-4-3-2-1 Go! exposure and no exposure conditions. Exposure condition parents received material about the campaign message at time of interview and were directed to community 5-4-3-2-1 Go! resources. No exposure parents had the opportunity to receive the message through post-baseline community exposure.

The paper reports on observations from over 600 predominantly low-income parents of young children. Data were drawn from an in-person survey conducted in 6 inner-city Chicago neighborhoods, and include food choice and frequency, physical activity, use of community resources, social capital, media use and exposure to food advertising, and effects of exposure to the 5-4-3-2-1 Go! message among treatment group members. The paper concludes with plans for ongoing longitudinal data collection and analysis in study year 2.

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D153

MMPI-2 VALIDITY, CLINICAL, AND REVISED CLINICAL SCALES IN INDIVIDUALS SEEKING BARIATRIC SURGERY

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Psychological screening prior to bariatric surgery routinely includes objective assessment of personality and psychopathology. Studies suggest that 22% to 43% of psychologists regularly administer the MMPI-2 as part of bariatric assessment. Despite its widespread use, little is known about the response patterns on MMPI-2 in individuals seeking bariatric surgery. This study investigated MMPI-2 responses of 116 obese individuals (84.5% female; >95% Caucasian) undergoing pre-surgical evaluation. Results indicated that a sizeable number (n=21; 18.1%) responded to validity items in a manner suggestive of symptom underreporting, with validity profiles characterized by a high L (T>60), low F (T<50), and high K (T>60). This percentage is over four times the rate reported in the literature for populations of normal individuals (4.3%) and nearly twice the expected rate for psychiatric patients (10.5%). Participants were classified as "underreporters" or "valid reporters" based on the above criteria. All Clinical Scale and Revised Clinical (RC) Scale means were below the clinical cut-off of T=65, suggesting minimal reporting of psychopathology in both groups. T-tests revealed that the scores of underreporters on the majority of Clinical and RC Scales were significantly lower (p<.01) than those of the valid reporters. Exceptions included Clinical Scales 3, 5, 6, 9, and RC Scale 6, which were not significantly different. The highest (yet still subclinical) elevations for the valid reporters were on Clinical Scales 3, 1, and 2 and on RC Scale 1. The highest elevations for the underreporters were on Clinical Scales 3, 2, and 5 and RC Scales 6 and 1. These results underscore the importance of closely assessing bariatric surgery candidates' approach to the evaluation, given that nearly 1 in 5 may underreport symptoms. Research with larger samples is needed to expand knowledge about typical MMPI-2 profiles of bariatric surgery candidates. Prospective study of the relationship between pre-surgical MMPI-2 profiles and surgical outcomes is also warranted.

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D154

EXAMINING PSYCHOSOCIAL FACTORS THAT PREDICT CHANGES IN ADOLESCENT PHYSICAL ACTIVITY BETWEEN 10TH AND 11TH GRADE USING STRUCTURAL EQUATION MODELING

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Although cross-sectional studies have identified psychosocial factors that predict physical activity levels during adolescence, variables related to change in physical activity during this period are less well understood. To address this research gap, the present study followed adolescents across 1 year to determine whether changes in depressive symptoms, physical self-concept, or exercise enjoyment were related to changes in physical activity. Participants consisted of 345 adolescents, ages 15–18 at baseline (53% male, 96% Caucasian). The Center for Epidemiological Studies Depression scale (CES-D), Global Physical scale of the Physical Self-Description Questionnaire (GP-PSDQ), and Physical Activity Enjoyment Scale (PACES) were administered in 10th and 11th grade. Minutes of moderate to vigorous physical activity per week (MVPA) was also assessed at both time points with a past-year recall instrument. A path analysis model, tested with structural equation modeling (SEM), simultaneously examined the cross-sectional associations among the variables assessed in 10th grade and the longitudinal associations between residual changes in the 11th grade measurements of the variables. The hypothesized model fit the data well (Satorra-Bentler scaled $\chi 2(df=12)=27.90$, $p<.01$, CFI=.97, NNFI=.94, RMSEA=.07). MVPA, GP-PSDQ, and CES-D decreased over time (p's<.01), whereas PACES increased (p=.02). In 10th grade, PACES was positively associated with MVPA ($p<.05$), whereas paths from CES-D and GP-PSDQ to MVPA were not significant. Changes in CES-D from 10th to 11th grade were negatively related to changes in MVPA ($p<.05$), whereas changes in GP-PSDQ and PACES were not associated with changes in MVPA. Despite the importance of exercise enjoyment for physical activity when measured cross-sectionally, change in number of depressive symptoms was the strongest predictor of change in physical activity over time.

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D155

CAN WE MODEL THE HABIT FORMATION PROCESS?

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Behavior change interventions often implicitly aim to establish habits. In order to inform interventions it is important to have a working model of the habit formation process. In all theories of habits, repetition of behavior in consistent contexts is key to the development of automaticity. This study asked individuals to perform an initially novel behavior on a daily basis, to examine the relationship between repetition and automaticity, the time taken to form a habit and the effect of missed opportunities to perform the behavior. No previous studies have examined the development of 'real world' habits. Volunteers (96 students) chose an eating or exercise behavior to carry out in approximately the same setting, every day for 12 weeks. They completed the Self-Report Habit Index (SRHI) daily, to track the development of automaticity, and recorded whether they carried out the behavior. The majority of participants (82) provided sufficient data for analysis, and 50 showed a gradual increase in automaticity over the study period. Explicit rewards were not required for habit development. Nonlinear regressions fitted an asymptotic curve to each individual's automaticity score across days. The model fitted adequately for 58 individuals, of whom 37 had a good fit. More consistent performance was associated with better fit. Time to form a habit (defined as days to asymptote) varied widely, but the average was 70 days. Participants who missed an opportunity to perform the behavior reduced their automaticity by less than one point, showing little impact of an omission on habit development. In conclusion, we were able to model the habit formation process and generate parameters for each individual's habit-formation curve. Because the model fitted so many participants we are confident that it reflects a generalized habit formation process. This model could be a useful tool for researchers because it provides parameters that are easily interpreted and can be used to compare individuals. Understanding how habits develop should make it possible to give better advice to people trying to establish new healthy behaviors.

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D156

CORRELATES OF DEPRESSIVE SYMPTOMS IN YOUTH AT RISK FOR TYPE 2 DIABETES

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Depressive symptoms in adolescents have been associated with later obesity (Goodman & Whitaker, 2002), but less is known about the relationship between depressive symptoms and risk of obesity in youth. The purpose of this study was to examine the relationships among clinical risk factors, health behaviors and depressive symptoms in youth at risk for type 2 diabetes (T2D).

This study was a cross-sectional secondary analysis of baseline data from inner-city 7th graders participating in a school-based intervention who were at risk for T2D, based on a family history of diabetes and BMI≥85th percentile (n=202; mean age=12.3, 53% girls;, 48% Black, 47% Hispanic, 5% White or other). Data included self-report questionnaires on depressive symptoms, health behaviors, and clinical data, including BMI, HOMA (an indicator of insulin resistance), and insulin levels.

Youth who reported higher levels of depressive symptoms were more likely to have higher levels of HOMA (r=.18), BMI (r=.24), and insulin (r=.20, all $p<.05$). In addition, higher depressive symptoms were associated with negative health behaviors, including poorer dietary intention (r=.16), food choices (r=.15), and dietary knowledge (r=.14, all $p<.05$), as well as less support for physical activity (r=.38), and poorer self-efficacy for diet (r=.32) and physical activity (r=.23, all $p<.001$). Clinically significant levels of depressive symptoms (Child Depression Inventory score >13) were evident in 31% (n=59) of the sample. Youth with high scores had significantly greater BMI, less support for physical activity, and lower self-efficacy for diet and physical activity (all $p<.05$) than those with scores in the acceptable range. These findings suggest that depressive symptoms in youth at risk for T2D are associated with obesity and poorer health behaviors. Since depressive symptoms may impact the ability to engage in healthy behavior changes, the evaluation and treatment of depressive symptoms should be considered in preventive interventions for youth at risk for T2D.

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D157

SKIPPING MEALS AND ALCOHOL CONSUMPTION: THE REGULATION OF ENERGY INTAKE AND EXPENDITURE AMONG WEIGHT LOSS PARTICIPANTS

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Research suggests that specific eating patterns (e.g., eating breakfast) may be related to favorable weight status. This investigation examined the relationship between eating patterns (i.e., skipping meals; consuming alcohol), daily energy intake and expenditure, and weekly weight loss during a weight loss program. Fifty-four overweight or obese adults (BMI> 27 kg/m^2) participated in a self-help or therapist-assisted weight loss program. Daily caloric intake from breakfast, lunch, dinner, alcoholic beverages, total daily energy intake, total daily energy expenditure, physical activity, and weekly weight loss were assessed. On days that breakfast or dinner was skipped, or alcoholic beverages were not consumed, fewer total daily calories were consumed compared to days that breakfast ($t=2.24$, $p=.03$), dinner ($t=2.8$, $p=.01$), or alcoholic beverages ($t=9.3$, $p<.00$) were consumed. On days that breakfast or alcohol was consumed, daily energy expenditure and duration of exercise was higher compared to days that breakfast or alcohol was not consumed (all ps ≤.05). In this investigation, weight loss program participants appeared to compensate for excess energy intake from alcoholic beverages and meals with greater daily energy expenditure and longer exercise duration.

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D158

CHILD TEMPERAMENT, PARENT AFFECT, AND FEEDING IN NORMAL AND OVERWEIGHT PRESCHOOL CHILDREN

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Despite overwhelming evidence showing that parent emotional affect impacts parenting directives and child outcomes, little research has focused on the influence of parent affect on feeding as a mechanism in shaping children's eating patterns. Utilizing an instrument characterizing parent strategies and problems associated with feeding preschool children fruit and vegetables, the inter-relationship between parent affect, child temperament, and strategies and problems were examined. A total of 639 Head Start parents from two sites (Alabama & Texas) completed questionnaires. Measured height and weight determined child body mass index. Structural equation modeling was used to evaluate a feeding model depicting the mediating effects of parent affect on the relationship between child temperament (CT) and feeding strategies and problems. Results showed both a direct and indirect relationship between child inhibitory control (one aspect of CT) and feeding strategies, with the indirect relationship through parent positive affect. Similarly, child negative affectivity (another aspect of CT) was directly related to perceived problems in feeding and indirectly related to feeding problems through parent negative affect. When the model was tested separately in overweight children, no indirect effects of temperament on strategies and problems were observed. However, the total direct and indirect effects of CT on both strategies and problems were significant and larger in the overweight group. The results of this study show the importance of child temperament in the parent/child feeding relationship, regardless of the weight of the child. Results also suggest that parent affect helps to explain the link between child temperament and feeding strategies and problems in normal weight children; however, parent affect may not play the same role with overweight children. Findings from this study highlight the importance of child temperament and parent affect on feeding outcomes in low-income families.

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D159

MORBID OBESITY, PSYCHIATRIC COMORBIDITIES, AND BARIATRIC SURGERY IN A VETERAN POPULATION

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There is increasing interest in bariatric surgery as a treatment for morbid obesity in the veteran population. PTSD and other psychiatric comorbidities have been shown to be associated with increased health-risk behavior, medical morbidity, and mortality. In this cross-sectional study, we assessed various dimensions of coping, affect regulation, and dietary behavior in 162 morbidly obese veterans being considered for bariatric surgery at the San Francisco VA Medical Center. The study sample was divided into three groups: 1) patients with a diagnosis of PTSD (n=34), 2) those with other psychiatric diagnoses (OPD) (n=71), and 3) patients with no psychiatric diagnoses (NPD) (n=57). The mean body weight for the overall sample was 346.5 lbs (SD=58.7 lbs) and did not differ across the three study groups. Their mean age was 52 years (SD=8 years) and mean education level was 14 years (SD=2.4 years). The prevalence of self-reported binge eating was 44% (15/34) in the PTSD group, 63% (45/71) in the OPD group, and 30% (17/57) in the NPD group. On the NEO Personality Inventory-R, the PTSD group scored significantly lower than the other two groups on Agreeableness, a personality dimension that has been shown to be associated with medical adherence ($F=6.14$, $p<.003$). On the Eating Disorder Inventory-2, the PTSD group scored significantly lower than the other two groups on Impulse Regulation ($F=10.62$, $p<.001$) and on Interoceptive Awareness ($F=10.42$, $p<.001$). The results of this observational study support the need for prospective longitudinal investigations of emotional regulation and other dimensions of personality and coping in morbidly obese veterans with PTSD who are being considered for bariatric surgery and other treatments for morbid obesity.

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D160

BODY IMAGE AND SYMPTOMS OF DISORDERED EATING IN WOMEN WHO EXERCISE FOR FOOD-RELATED AND NON-FOOD-RELATED MOTIVES

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The prevalence of body image disturbance and eating disorders has increased dramatically among young women in recent years. Exercise is one health behavior that has consistently been associated with body image and symptoms of disordered eating. Although the link between exercise, body image, and disordered eating patterns is likely influenced by a complex constellation of factors, one's motives for engaging in exercise have been proposed to be a particularly important consideration in this relationship. Consequently, the purpose of the present study was to examine differences in body image and symptoms of disordered eating in women who exercise for food-related and non-food-related motives. Consistent with procedures used by Hubbard et al. (1998), 525 young women (M age=19.4 years) were classified as either food-related (FR; n=386) or non-food-related (NFR; n=139) exercisers. Each participant completed a battery of questionnaires assessing various dimensions of body image, symptoms of disordered eating, and exercise participation. Multivariate analyses revealed that women endorsing FR motives for exercise reported significantly higher ($p<0.01$) exercise participation, social physique anxiety, physical appearance anxiety, exercise dependence symptoms, and drive for thinness as well as significantly lower physical attractiveness self-efficacy relative to women reporting NFR exercise motives. The magnitude of the effect sizes accompanying the mean differences varied across measures ranging from small ($d=.34$) for exercise participation to large ($d=1.43$) for drive for thinness. These findings suggest there may be a relationship between FR motives and risk for experiencing body image disturbance and symptoms of disordered eating in young women. Accordingly, motives for exercise participation should be carefully considered in physical activity promotion efforts targeting young women.

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D161

THE EFFECTS OF FLEXIBLE VERSUS RIGID DIETARY CONTROL WHILE DIETING

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Considerable research has implicated dieting in the development of eating and weight problems (Lowe, 1993; Polivy & Herman, 1985), although recent experimental evidence suggests that dieting reduces eating pathology (Presnell & Stice, 2003). As a potential explanation for the divergent findings, cross-sectional research suggests that different types of dietary control may result in differential effects. Rigid dietary control, characterized by a strict approach to eating, is associated with greater binge eating and a higher BMI in comparison to flexible dietary control, which is characterized by a more graduated approach (Westenhoefer et al., 1999).

In the present study 84 females (M age=19.15, SD=4.45) were asked to diet as usual for weight loss purposes during a four week period. Contrary to previous findings, regression analysis indicated that flexible control was predictive of greater bulimic symptoms ($B=.11$, $p<.05$) over the dieting period, whereas rigid control was not ($p=.41$). Neither factor was associated with frequency of binge eating or compensatory behaviors, but flexible control predicted increases in weight and shape concerns. Specific dieting strategies associated with flexible control included skipping lunch, eating less at mealtimes, and decreased fat consumption whereas rigid control was associated with eating several small meals, eating more vegetables, taking diet supplements, and cutting out sugar.

These findings suggest that the different types of dietary control may not map onto actual dieting behaviors in a manner consistent with the theoretical constructs, which may help explain why flexible rather than rigid control predicted bulimic symptoms. This effect was primarily driven by the increase in weight and shape concerns among those who employed more flexible dietary control. Future studies should investigate the relation between types of dietary control, actual dietary behavior, and their effects on eating pathology using more frequent assessments. Such information may help identify those at risk for problematic eating, and have important implications for prevention and treatment efforts.

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D162

EXERCISE AND CALORIC INTAKE:MODERATING ROLE OF NEGATIVE AFFECT

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Studies have shown both decreased and increased caloric intake following acute bouts of exercise. Increased intake is largely observed in overweight individuals. One possible explanation for increased intake in overweight individuals is that exercise negatively impacts their mood, thus prompting behaviors (e.g., eating) aimed at improving mood. Although research supports a mood-enhancing effect of exercise in normal weight individuals, worsened moods following exercise have been observed among the overweight.

The present study examined whether overweight, sedentary individuals increased their caloric intake after an acute bout of exercise and whether mood change influenced the relationship between activity and caloric intake. Hypotheses were tested in a repeated measures design where overweight, sedentary individuals (N=68) completed 2 conditions:3-minute step test (Exercise) and 3-minute nature video (Sedentary). Snack foods were presented 10 minutes after each condition. Mixed-effects regression modeling revealed that caloric intake did not significantly differ by condition (t=−.45,p=.65), after controlling for covariates. However, moderational analyses revealed that negative affect change interacted with condition to predict caloric intake (t=−2.33,p=.02). Simple effect analyses revealed that participants who reported increased negative affect during the Exercise condition ate more calories in the Exercise condition compared to the Sedentary condition (t=−2.23,p=.03). Post-exercise change in negative affect was also positively correlated with perceived exertion during exercise (r=.38,p=.002). Results suggest that increased negative affect following an acute bout of exercise was associated with increased snack food intake. That a short bout of exercise is associated with mood deterioration and increased caloric intake for some overweight, sedentary individuals is concerning. Further research examining the interplay of behavioral and physiological mechanisms is warranted to understand caloric overcompensation following exercise in overweight, sedentary individuals.

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D163

IS POSITIVE REAPPRAISAL ASSOCIATED WITH ABDOMINAL FAT?

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Psychological stress is associated with greater abdominal fat, an important predictor of coronary heart disease. In this study, we examined the relation of two types of positive reappraisal to abdominal fat. Cognitive reappraisal, which involves positively reframing negative experiences in order to regulate emotion, has been related to lower stress reactivity. Self-compassion includes reframing negative self-appraisals to reduce self-criticism and rumination, both of which promote stress arousal. Forty-six non-diabetic overweight and obese women (61% White) with BMIs ranging from 25 to 40 (M=31.2±4.5) completed the Emotion Regulation Questionnaire (ERQ; Gross and John, 2003) to assess cognitive reappraisal and the Self-Compassion Scale (Neff, 2003). Abdominal fat was measured in three ways: 1) ratio of waist to hip circumference; 2) ratio of android to gynoid fat tissue as assessed by dual-energy X-ray absorptiometry; and 3) amount of subcutaneous adipose tissue (SAT) and estimated visceral adipose tissue (VAT) as assessed by ultrasonography. Partial correlations controlling for age and BMI were computed. Greater use of cognitive reappraisal was significantly related to lower waist-hip ratio (r=−.42, p<.01), lower android-gynoid ratio (r=−.39, p<.01), less SAT (r=−.31, p<.05), but not VAT. Greater self-compassion tended to be related to lower waist-hip ratio (r=−.28, p=.07) and less SAT (r=−28, p=.07), but not android-gynoid ratio or VAT. Cognitive reappraisal and self-compassion may help mitigate the effect of psychological stress on abdominal fat. Future research should determine whether improved emotion regulation can reduce abdominal fat among overweight individuals.

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D164

DETERMINANTS OF PHYSICAL ACTIVITY ADOPTION VERSUS MAINTENANCE AMONG MIDDLE-AGED ADULTS: DISENTANGLING THE ROLES OF INTERNAL AND EXTERNAL MOTIVATION

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Research suggests that the distinction between internal (i.e., intrinsic) and external (i.e., extrinsic) motivations offered by Self-Determination Theory is useful for explaining physical activity behavior. However, most of the studies in this area focus on the adoption of regular physical activity. Whether internal and external motivations predict physical activity maintenance is less well understood. The current study (1) examined differences in internal and external motivations across stages of physical activity change and (2) determined whether internal and external motivations differentially predict physical activity adoption and maintenance. A sample of 332 healthy adults, ages 35–65 (61% female, 89% Caucasian) reported internal (IN) and external (EX) motivations through the Behavioral Regulation in Exercise Questionnaire at baseline. Stage of behavior change (i.e., precontemplation, contemplation, preparation, action, maintenance) was measured using the Stages of Exercise Change Questionnaire at baseline and after 3 months. ANCOVAs compared IN and EX among subjects who were in different stages of change at baseline. Logistic regression models tested IN and EX as predictors of physical activity adoption and maintenance after controlling for age, gender, income, and health status. At baseline, IN increased, F(4,275)=4.46, p=.002, whereas EX decreased, F(4,275)=4.67, p<.001, across the stages of behavior change. Over time, individuals with higher IN (OR=1.19, p=.006) and EX (OR=1.46, p=.002) at baseline were more likely to adopt a regular physical activity behavior pattern than individuals with lower scores for these factors. In contrast, higher EX was associated with a decreased likelihood of physical activity maintenance over time (OR=.79, p=.036). Results suggest that external motivations appear to be beneficial for physical activity adoption and detrimental for physical activity maintenance.

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D165

BINGE EATING IN OBESE ADULTS IN A WEIGHT MANAGEMENT PROGRAM

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Obesity is a national epidemic and there is significant focus on researching strategies for successful weight loss and maintenance. One issue complicating successful weight loss and maintenance is binge eating. Previous research indicates a relationship between binge eating and both weight loss and depression. In addition, a few prior studies indicate a relationship between binge eating and physical activity (PA). This study examined the relationships among binge eating, depression, weight loss, and PA across four time points. Participants (n=148) were obese adults enrolled in a nine month comprehensive weight management program focusing on rapid weight loss (three months) followed by maintenance (six months). Binge eating, depression, weight, and self-reported PA were examined at baseline, three, six, and nine months. There was a positive relationship between binge eating and depression in participants with both no or mild depression, r=.403, p<.001, and moderate to severe depression, r=.506, p<.001. Both depression, $F(3,300)=43.719$, p<.001, and binge eating, $F(3,300)=56.556$, p<.001, declined over time. There was a decline in the number of participants meeting criteria for severe binge eating from 69% at baseline to 26% at nine months, $\chi 2(1)=14.079$, p<.001. Participants who met criteria for severe binge eating at baseline but not at nine months lost more weight between baseline and three months, $F(1,74)=4.16$, p=.045, and were more successful at maintaining weight from three to nine months, $F(2,148)=6.94$, p=.001, compared to participants who continued to meet criteria for severe binge eating at nine months. Neither PA nor gender covaried with any variable examined; race was included as a covariate with weight. Results suggest that a comprehensive weight maintenance program which does not specifically target binge eating can be successful in reducing binge eating and improving mood, which improves weight loss and maintenance outcomes.

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D166

PARTICIPANT-INITIATED CHANGES IN FIBER OR SATURATED FAT ARE ASSOCIATED WITH CHANGES IN OTHER DIETARY COMPONENTS

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Objective:Healthy behaviors often co-occur. The objective of this study was to identify what percent of individuals made clinically significant self-initiated increases in dietary fiber or decreases in saturated fat intake over a 1-year period and then to examine accompanying changes in other dietary components.

Methods:Participants (n=452, 50% female) were from an observational study of seasonal changes in blood lipids. Three 24-hour diet recalls were collected at baseline and 1-year and then averaged. Change was calculated by subtracting 1-year from baseline. Participants were categorized by daily fiber intake (decreased:<−8 g, unchanged: −8 through 8 g or increased: > 8 g) or by percent of calories from saturated fat (decreased: <−3%, unchanged: −3% through 3% or increased:>3%). Analysis of variance was conducted to examine whether change in fiber and saturated fat was associated with change in other dietary components.

Results:At baseline, average daily fiber intake was 16.31 grams, and percent of calories from saturated fat was 11. Over 1 year, 10% of subjects increased their fiber intake, 82% made no changes, and 8% decreased fiber intake. Participants who increased fiber had greater increases in calories ($p<.01$), decreases in saturated fat ($p=.03$), decreases in protein ($p=.02$) and increases in carbohydrate ($p<.01$), than those who decreased or did not change fiber intake. For saturated fat, 22% increased, 59% made no change, and 19% decreased intake. Participants who decreased saturated fat had greater decreases in calories ($p<.01$), increases in fiber ($p=.03$), decreases in total fat ($p<.01$), increases in protein ($p=.03$) and increases in carbohydrate ($p<.01$) than those who increased or did not change saturated fat intake.

Conclusions:Only 10% of participants increased their fiber intake, while 19% decreased saturated fat intake. Reducing saturated fat intake, but not increasing fiber, may improve the likelihood of reducing calories, but both changes appear to be associated with similar positive concomitant diet changes.

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D167

PROSPECTIVE RELATION OF THE POWER OF FOOD SCALE AND EATING AND WEIGHT-RELATED VARIABLES FOLLOWING RESIDENTIAL OBESITY TREATMENT

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The Power of Food Scale (POF; Lowe, in press) is a new measure assessing susceptibility to eating in response to environmental food cues, a construct referred to as appetitive responsiveness. This construct correlates with eating-related variables, such as disinhibition and emotional eating. In this study, we examined whether the POF Scale is associated with additional eating and weight-related variables, and is predictive of weight-related outcomes following brief residential obesity treatment in a sample of 60 individuals participating in a comprehensive weight and lifestyle change program (M length of stay=22 days). Mean BMI was 40.5 (SD=11.1) at baseline and 35.7 (SD=10.8) at 6 months. At baseline, POF was significantly associated with BMI ($r=.28$, $p<.05$), depressive symptoms ($r=.38$, $p<.01$), binge eating ($r=.73$, $p<.001$), lower weight-related self-esteem ($r=.39$, $p<.01$), and greater distress at work ($r=.31$) and in public ($r=.28$) as a result of weight gain (p's<.05). In the prospective analyses, baseline POF scores significantly predicted greater depressive symptoms and lower weight-related self-esteem at 6 months, controlling for baseline levels of these variables. Baseline POF also predicted less frequent exercise at 6 months ($r=-.31$, $p<.05$) and marginally predicted greater non-nutritious snack food consumption $p=.06$), but was not related to 6-month BMI. This study is one of the first prospective investigations of the POF Scale in a morbidly obese sample. Results suggest that high appetitive responsiveness at the start of treatment may be a risk factor for behaviors that may eventuate in weight gain, as well as depressive symptoms and lower self-esteem following treatment, despite weight loss. Future research should examine whether this construct predicts weight regain at longer-term follow-up, whether obesity treatment can modify high POF, and if such modifications can improve treatment outcomes.

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D168

DICHOTOMY IN BODY IMAGE PERCEPTIONS OF AFRICAN AMERICAN WOMEN

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INTRODUCTION: High numbers of African American women are overweight or obese. This has been attributed, in part, to poor health habits and cultural influences on body image perception. PURPOSE: This study used measured body mass index (BMI=kg/m^2) and body image self-reports to determine the relationship between BMI and body image perception (perceived and desired). METHOD: Anthropometric measures of BMI and Pulvers' culturally relevant body image, physical activity, dietary habits and SES questionnaire data were collected for 249 African American women in Houston. RESULTS: Women (M=44.8 yrs, SD=9.4) had higher education (53% college graduates) and were overweight (M=35.1 kg/m^2, SD=9.4). On average, they perceived themselves as smaller (M=29.5 kg/m^2, SD=6.8) and desired to be even smaller (M=27.2 kg/m^2, SD=7.1). Compared to measured BMI, 28% perceived themselves accurately, 50% perceived themselves as smaller, and 22% perceived themselves as larger ($\times 2$ (16)=97.4, $p<0.01$). Only 14% desired their measured BMI, 62% desired a smaller BMI, and 25% desired a larger BMI ($\times 2$ (12)=52.0, $p<0.01$). Although 23% of the sample had a BMI greater than 35, none desired to be that weight. Normal weight women tended to prefer an overweight or obese body, while obese women tended to prefer a normal weight. Simultaneous regression models showed that age (Beta=−0.14, $p<0.01$) and measured BMI (Beta=.361, $p<0.01$) were the only significant predictors of perceived BMI, and measured BMI (Beta=−0.22, $p<0.01$) was the only significant predictor of desired BMI. DISCUSSION: Results suggest dichotomous distortion in body image among African American women for both perceived and desired body images. Focus is needed to improve satisfaction with normal weight as desireable for health and beauty. Findings also suggest that age plays a role in body image perception. Work supported by NCI (NIH) 1R01CA109403.

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D169

REASSESSING STUBBORNNESS: HOW STAGE OF CHANGE COUNTERINTUITIVELY PREDICTS READINESS FOR CHANGE IN WEIGHT MANAGEMENT PROGRAMS FOR AFRICAN–AMERICANS

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History has used the stages of change (SOC) to dub contemplators the "indecisive" skeptics who are less efficient than their action-oriented counterparts in altering problem behaviors, despite some evidence to the contrary. This study seeks to dispel the myth that contemplators are more obstinate than actors or maintainers by comparing their weight changes and progression through the SOC in a community-based weight-management program. Participants were 55 African–American women enrolled in a 13-week treatment program with a mean age of 40 (SD=9.08) and mean starting weight of 209.72 (SD=32.87) lbs. SOC was assessed with the Stage of Change Algorithm (SCA:O'Connell & Velicer, 1988) and the University of Rhode Island Change Assessment Scale (URICA:McConnaughy, DiClemente, Prochaska, & Velicer, 1989). As expected, SCA measured at baseline negatively correlated with percentage of weight lost between baseline and post-treatment ($r=-.30$,$p<.05$). Post-hoc tests from a one-way ANOVA ($F_{(2,52)}=3.07$,$p=.06$) revealed that contemplators (M=4.77%,SD=5.20) lost a significantly larger percentage of their weight than actors (M=1.96%,SD=3.54) and maintainers (M=*1.50%*,SD=3.55). As for progression through the SOC during treatment, the difference between the action stages subtotal and the pre-action stages subtotal of the URICA was calculated to designate one's action-orientation. A one-way ANOVA showed that no single stage's change in URICA over time was greater than another stage's change ($F_{(2,34)}=.530$,$p=.59$). The differences in percent weight lost between SOC groups may be at least partly attributed to the guidance that behavior treatments offer contemplators, who likely welcome the direction that these offer. Actors and maintainers may resist it in favor of their established paradigms. Future research could examine how "recycling" actors (those who begin and finish treatment in action stages but regress to contemplation at some point) compare with their "maintaining" action-staged counterparts on behavior change.

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D170

INTEGRATING SOCIAL COGNITIVE AND SELF-DETERMINATION THEORIES TO UNDERSTAND PHYSICAL ACTIVITY BEHAVIOR PATTERNS IN THE ACTIVE BY CHOICE TODAY (ACT) TRIAL

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The integration of Social Cognitive Theory (SCT) and Self-Determination Theory (SDT) provides a theoretical framework for understanding long-term behavior patterns by enhancing intrinsic motivation and behavioral skills. Previous research has shown this integration is especially pertinent when conceptualizing how to increase physical activity (PA), and is being applied in the present study through a randomized, school-based trial (Active by Choice Today; ACT) in underserved adolescents (low income, minorities). Research suggests gender plays an important role in moderating the relationship between SCT and SDT constructs and PA. This study evaluated the relationship between constructs from SCT and SDT (positive self-concept, motivation, self-efficacy), gender and levels of moderate-to-vigorous PA (MVPA, as measured by 7-day accelerometry) in 681 (376 females, 304 males) ACT participants at baseline for the first two cohorts of the trial. It was hypothesized that a positive relationship between interpersonal scales (positive self-concept for PA, motivation for PA, and self-efficacy for PA) and higher levels of MVPA would be found across gender. As expected, significant positive correlations were found overall between MVPA and positive self-concept for PA ($r=0.14$, $p<.01$), motivation for PA ($r=0.16$, $p<.01$), and self-efficacy for PA ($r=0.11$, $p<.01$). However, when correlations were examined after stratifying for gender, only boys demonstrated significant associations between MVPA and self-concept for PA ($r=0.19$, $p<.05$), motivation for PA ($r=0.21$, $p<.01$), and self-efficacy for PA ($r=0.11$, $p=.05$). The results from this study suggest that SCT and SDT constructs are related to MVPA (especially in boys) at baseline and should be considered in future interventions. Longitudinal results will be available upon the completion of the ACT trial and will allow for a more thorough assessment of the relationship between SCT and SDT constructs, gender, and long-term behavioral patterns.

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Citation Poster
D171

THE FAILURE OF THERAPIST ASSISTANCE AND STEPPED-CARE TO IMPROVE WEIGHT LOSS OUTCOMES

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Objective: This investigation was designed to examine whether: 1) individuals could successfully lose 5% of their body weight with minimal assistance, 2) weight loss would be improved by the addition of therapist assistance, and 3) individuals unsuccessful at losing 5% total body weight during the minimal assistance phase (with or without therapist assistance) would benefit from a weekly weight loss group.

Research Method and Procedure: Fifty-four overweight or obese adults (BMI>27 kg/m^2) initially participated in a 14-week self-help (SH) or therapist-assisted self-help (TASH) weight loss program. Participants who were unsuccessful at losing 5% total body weight were stepped-up to a three month, group-based behavioral weight loss program (BWLP) with weekly weigh-ins.

Results: While 57% of the participants were successful at losing 5% of their total body weight (lbs.) during the minimal assistance phase ($M=10.6$; $SD=11.5$; $p<.01$), treatment outcome was not improved by the addition of therapist assistance. For individuals who were unsuccessful at losing 5% of total body weight during a minimal assistance phase, the addition of a group-based BWLP did not improve their weight loss. There was virtually no weight change from baseline through the end of the BWLP group (baseline: $M=207.2$, $SD=29.1$; post-minimal assistance: $M=207.3$, $SD=30.1$, post-BWLP: $M=207.1$, $SD=33.1$).

Discussion: During the minimal assistance phase, participants lost, on average, 5.2% of their total body weight and nearly 60% reached their 5% weight loss goal. However, weight loss was not improved with therapist assistance. Individuals stepped-up to a 12-week BWLP group were remarkably unsuccessful at losing weight ($M=.15$ lbs). Consistent with a stepped-care perspective, it is clear that some individuals can be quite successful at losing weight with a minimally intensive intervention. However, other individuals are unlikely to benefit from a greater intensity intervention.

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Meritorious Student Poster
D172

INFLUENCE OF WEIGHT LOSS GOAL ON 24-MONTH WEIGHT LOSS AND WEIGHT LOSS BEHAVIORS IN OVERWEIGHT WOMEN

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Behavioral interventions have been shown to result in 10% body weight reduction; yet, overweight adults report desired weight losses of 20% to 30% of initial body weight (e.g. Jeffery et al., 1998; Foster et al., 2001). Whether unrealistic weight loss goals influence weight loss and related behaviors is unclear. This study examined the influence of participant selected weight loss goals on weight loss, diet, and physical activity across 24 months. Participants were 170 overweight, sedentary women (BMI=32.6±4.2 kg/m^2; Age=38.2±5.4 years). Weight, energy intake, and physical activity were assessed at 0, 6, and 24 months. Participants were categorized in three groups based on their percent weight loss goal (%WLG20:<20%; %WLG20-30: 20-30%; %WLG30: >30%). Goal weight loss was 14.9±3.2 kg (17.0%) for %WLG20, 24.7±3.0 kg (25.8%) for %WLG20-30, and 38.7±7.3 kg (37.3%) for %WLG30 ($p<0.001$). Achieved weight loss at 6 months was 8.6% for %WLG20, 11.1% for %WLG20-30, and 9.5% for %WLG30 ($p<0.04$). Weight loss at 24 months was not significantly different between groups (4.5%, 6.6%, and 4.9%, respectively). Energy intake at 6 months was: %WLG20=1587±666 kcal/day; %WLG20-30=1339±437 kcal/day; and %WLG30=1579±549 kcal/day ($p\leq0.02$). Energy intake at 24 months was: %WLG20=1678±959 kcal/day; %WLG20-30=1402±624 kcal/day; and %WLG30=1719±1009 kcal/day ($p<0.09$). Physical activity at 6 months was 1837±1318 kcal/week, 2153±2403 kcal/week, and 1565±1019 kcal/week ($p<0.22$), and at 24 months was 1434±1112 kcal/week, 1597±1361 kcal/week, and 958±666 kcal/week for %WLG20, %WLG20-30, and %WLG30 ($p<0.01$), respectively. Goal weight loss may impact weight loss success at 6 months, but this relationship may diminish after a 24-month intervention. These findings may be influenced by diet and physical activity adoption and maintenance. Thus, it is important to further understand factors that impact the setting and achievement of weight loss goals in overweight adults and recognize the role of diet and physical activity in achieving these goals.

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D173

CONTRIBUTION OF WEIGHT PERCEPTIONS TO WEIGHT LOSS EFFORTS

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Only 25–35% of overweight and obese individuals engage in evidence-based weight loss efforts. Little is known about what motivates individuals to attempt weight loss. This study assessed weight perceptions of adult men and women and their association to weight loss efforts. Baseline anthropometric and survey data from hospital employees (287 men, 612 women) participating in Step Ahead, a randomized trial of an environmental intervention for obesity prevention at a health care system, was included in the analysis. An individual item assessed weight perception (underweight, just right, slightly overweight, very overweight). Dichotomous variables (yes/no) measuring previous and current evidence-based (use of physical activity and healthy eating approaches) weight loss efforts were created from questions asking about specific weight loss strategies. Body mass index (BMI) was calculated from baseline height and weight measures. Statistical analysis included descriptive bivariate frequency distributions and logistic regression models, weighted to account for the sampling frame. The BMI distribution resembled that of the general population for both genders. Forty percent and 28% of men and 70% and 46% of women reported previous and current efforts to lose weight, respectively. BMI and weight perception were strongly associated, with 48% of persons with BMI≤24.9, 81% of persons with BMI 25.0–29.9 and 86%of persons with BMI=>30.0 perceiving themselves as slightly or very overweight. Women were more likely to perceive excess weight compared to men among each BMI category ($p<.0001$). Greater weight perception was associated with younger age and higher education in both genders. Among women, being Caucasian also was associated with greater weight perception. Controlling for age and education, the association between BMI and weight loss efforts was attenuated by greater weight perception among both genders. Research is needed to understand gender differences in weight perceptions. Future obesity control and prevention efforts should target weight perceptions, especially among men.

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D174

DURATION OF CULINARY ARTS SCHOOL TRAINING IS ASSOCIATED WITH INCREASED SCORES ON MEASURES OF EATING DISORDERS BEHAVIORS

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Previous research demonstrates that individuals at risk for problematic eating behaviors and body image may gravitate towards careers that are related to food, such as dietetics or culinary arts. It is unclear if the duration of participation in such food-related career training is associated with increases in eating disordered behaviors. The present purpose was to investigate whether the duration of participation in culinary arts school training was related to increases in reported problematic eating patterns. A cross-sectional study design was utilized in which 107 culinary arts students (average age=23.28; percent female=43.9) enrolled in schools in the Los Angeles metropolitan area served as participants. Measures included the number of months students had been engaged in culinary arts training and the Eating Disorders Inventory (EDI) which assesses behavioral and psychological traits associated with anorexia and bulimia nervosa. The EDI includes 8 different subscales: drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, and maturity fears. Results indicated that students were enrolled and average of 10.04 months at time of survey. Pearson r correlations for females indicated there were positive associations between training duration and drive for thinness ($r=.35$, $p<.05$), bulimia ($r=.40$, $p<.01$), body dissatisfaction ($r=.38$, $p<.01$), ineffectiveness ($r=.44$, $p<.01$), introceptive awareness ($r=.37$, $p<.01$), and maturity fears ($r=37$, $p<.05$). Results suggest that duration of culinary arts training is associated with higher scores on measures of eating disordered behavior for females. Possible theoretical explanations for these associations are discussed.

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D175

PARENTING STRESS (PS), PHYSICAL ACTIVITY (PA) AND NEW MOTHERS' BMI FIRST YEAR POSTPARTUM

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Weight that is not lost by 1 yr after birth is often the point at which women become overweight. To better understand factors associated with overweight during the 1st yr postpartum, we examined associations of PS (Parent Stress Index, Abidin,1995) and PA (24 hr. activity recall −1 wk. & 1 wkend day) with BMI in 58 1st time mothers (X Age 26 y, Range 18–37 y; Education: 21%≤HS, 33%≤2 yrs. col., 24%≥3 yrs col., 22% grad. or prof. sch.; Black(B)=43%, X BMI=31; White(W) X BMI=26). We hypothesized that more PS and less PA would be associated with higher BMI, and that associations would be different for Bs and Ws. Univariate correlations showed that greater parenting competence and spousal support were associated with more moderate activity (MA, $rs=.28$, $ps<.03$). Child adaptability (AD) was associated with more vigorous activity (VA, $r=-.28$, $p<.04$). PS scales were not associated, but light activity (LA, $r=.35$, $p<.01$), MA ($r=-.26$, $p<.05$)and VA ($r=-.24$, $p<.07$) were associated with BMI. Bs reported more total LA ($t=2.14$, $p<.04$), less MA ($t=-2.18$, $p<.03$), less household based wkend MA ($t=-3.14$, $p<.01$) and less exercise based VA ($t=-1.89$ $p<.06$). Bs also reported greater baby distractibility (DI,$t=1.88$, $p<.06$), less baby AD ($t=3.75$, $p<.01$), and more child related PS ($t=2.31$, $p<.02$). Using all subjects in a linear regression model to predict BMI, 29% of the variance was explained ($p<.01$). Mothers' age, race, education and avg. MA were significantly associated ($ps<.03$)with BMI. Using Bs only in the model, 48% of the variance was explained ($p<.02$), with mother's age, avg. MA and report of baby DI significantly associated ($ps<.05$). In a Ws only model, 48% of the variance was explained ($p<.01$) with mothers' education, avg. MA, report of isolation and baby AD significantly associated ($ps<.04$)with BMI. Amount of MA appears to be associated with BMI for these new mothers. However, type of PS and PA was differentially associated with BMI depending on whether mothers were B or W. These results suggest the need to consider the race of the new mother when identifying weight loss strategies.

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D176

WOMEN'S LIVED EXPERIENCE AND MEANING OF BARIATRIC SURGERY

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Surgical weight loss has become prevalent as a means of weight reduction. To date no published research exists examining the patient's lived experience of this life altering surgery. The purpose of this study was to illuminate the lived experience and meaning of bariatric surgery in women using an interpretive qualitative research design. Using typical case sampling, 4 women aged 40–54 who were 1–4 yrs post-surgery were purposefully selected and agreed to participate. Three 60–90 minute semi-structured conversational interviews were conducted per participant. Trustworthiness was addressed through triangulation, negative case analysis and peer debriefing. Data were analyzed using constant comparison methodology. A fourth interview serving as a member check was conducted post analysis. Cognitive dissonance theory served as the theoretical lens for data interpretation. The experience of bariatric surgery was described by the women in this study as a means for finding congruence between their actual and desired self concept. Four themes emerged. "It Consumes Your Every Thought" was constructed to portray the role of familial, cultural, and personal expectations that contributed to the pervasive incongruence between participants' self concept and their physicality prior to surgery. "I Don't Want to be Fat Anymore" addresses the physical, emotional, and interpersonal changes experienced prior to surgery in which they were driven by their dissonance to opt for surgery. "I Knew There Was a Thin Person Inside Me" describes the changes participants experienced post surgery and the value and meaning of those changes as they experienced relief of the dissonance between their physicality and their self concept and a sense of validation of who they had always felt they were and wanted to be. The final theme, "I'd Do it Again in a Heart Beat", portrays the meaning the participants attributed to the sacrifices, inconveniences, and post surgical risks in which post surgical difficulties were gladly tolerated for the sake of attaining congruence of self concept and self expectations.

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D177

EXAMINING THE RELATIONSHIP OF DRUG CRAVING AND RELAPSE

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Investigators generally agree that craving is a feature of addiction, but continue to explore and debate it as a predictor of relapse. Understanding the relationship between craving and relapse is important because it could lead to improved identification of and interventions for patients at risk for relapse. The purpose of this review was to examine published studies that assessed the relationship between craving and relapse, and to evaluate how different definitions and measurements of craving and relapse affect the evaluation of this relationship. A review by Tracy (1994) reported that there was no consensus for defining craving and that the relationship between craving and relapse was unclear. This review updates Tracy's review by providing a comprehensive investigation of the relationship across a range of substances.

The review identified 46 studies examining the relationship between craving and consumption of cigarettes, alcohol, cocaine, heroin/opiates, and other drugs. Across and within studies, the results were often mixed, but craving more often predicted consumption under two conditions. First, many retrospective studies found a significant relationship between craving and consumption when interviews/questionnaires asked specifically about the experience of craving and when craving was listed as one of the multiple precipitants of use/relapse as opposed to open-ended responses. One conclusion is that craving may not be recalled at all or recalled as a salient cause of relapse unless people are cued with the option. Second, concurrent/prospective studies were more likely to find a significant relationship between craving and use when the gap between assessing craving and relapse was shorter than one month. Another conclusion is that craving predicts consumption, but only for a short time following craving. This review suggests that researchers should continue to refine the measurement of craving/relapse and evaluate variables affecting the relationship. Methodological limitations, the various definitions of craving and relapse, and the challenges of evaluating this relationship are discussed.

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D178

AN INNOVATIVE GROUP-BASED APPROACH TO REGULAR PHYSICAL ACTIVITY PARTICIPATION AMONG WOMEN: PRELIMINARY FINDINGS

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Participating in sufficient amounts of physical activity (PA) to meet public health recommendations is regrettably a common challenge for many women. Subsequently, effective programming to help motivate women to independently maintain PA has become an important research focus to attenuate this problem. Therefore, an innovative approach was used to target women who start and stop PA exploring the feasibility and initial effectiveness in increasing self-worth, quality of life, and PA. Fifty five women, with a mean age of 46.89±11.33 yrs, met inclusion criteria for this 8-month PA-focused book club that met 2–4 days per month. After reading 5 books, a 60-page packet written by the investigator, participating in weekly discussions, and completing homework related to gaining knowledge and skills to help view PA as part of their lives, positive preliminary changes resulted. Significant increases were found for average daily step count (n=28) (4001±2989 to 5905±874; F(5, 135)=4.798, p=.006), 7-day recall (n=34) (2651±719 to 2799±721; t(33)=2.887, p=.007), and self worth (n=34) (2.83 ±0.73 to 3.13±0.61; t(33)=−2.963. p=.006). No significant differences in quality of life were found. While longitudinal randomized studies are necessary, preliminary findings from this pilot indicate a PA book club utilizing education and social support to help women obtain skills for successful PA participation without a specific exercise prescription may provide a favorable solution for regular PA participation.

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D179

ACTIVE TRANSPORTATION USE BY SUFFICIENTLY AND INSUFFICIENTLY ACTIVE FIRST-YEAR UNIVERSITY STUDENTS

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Participation in physical activity (PA) by first-year university students declines compared to high school levels. However, no transition research has examined the use of active transportation (AT) in examining this PA. Different forms of AT (i.e., walking, cycling) may characterize first-year PA. We compared the use of AT between sufficiently active and insufficiently active first-year students as well as gender differences in the use of AT. Data were collected from 235 first-year university students aged 17–21 years ($n_{females}$=160) 8-weeks after the start of the first term via a web-based survey. Total PA and transportation method to and from university for the prior 4-week period were assessed. Participants were dichotomized into sufficiently active individuals (n=102), who met the Canadian PA guidelines of greater than 3 kilocalories per kilogram of body weight per day (KKD; M_{KKD}=5.16, SD=1.40), or insufficiently active individuals (n=133; M_{KKD}=1.29, SD=0.88), who did not meet guidelines. Sufficiently active individuals were more likely to use AT compared to insufficiently active individuals ($\times^2$=6.86, df=1, N=235, p<.01). Males were more likely to use AT than females ($\times^2$=6.38, df=1, N=230, p<.05). No significant association existed between activity level and gender (p >.05). Discussion focuses on whether AT could be a factor in achieving recommended levels of PA among first year university males and why females might favor other types of PA over AT. Future research might consider how the sufficiently active genders distribute types of activity (including AT) to achieve PA guideline levels.

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D180

USING SELF-DETERMINATION THEORY TO UNDERSTAND ADOLESCENT PHYSICAL ACTIVITY PARTICIPATION

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Current average levels of physical activity among adolescents put them at risk for obesity, diabetes, and heart disease. Understanding what drives adolescents' participation in physical activity may lead to strategies to correct this situation. Self-Determination Theory (SDT; Deci & Ryan, 1985) suggests that three psychological needs (competence, autonomy, and relatedness) may influence physical activity participation. SDT also suggests that the influence of these needs on physical activity may be explained by intrinsic motivation (IM).

Methods: Participants were 88 healthy adolescents, ages 14–16 (56.7% male; 71.6% Caucasian). Competence, autonomy, relatedness, and intrinsic motivation were assessed using validated measures. Physical activity was assessed in three ways: 1) participants reported whether or not they were currently physically active (yes/no; "activity status"); 2) they reported their participation in school sports (yes/no); and 3) participants completed a three-day physical activity recall (3DPAR). Aerobic fitness (VO2 max; cycle ergometer) was adjusted for participant weight. Regression techniques tested hypothesized relationships (controlling for gender and ethnicity). Mediation was tested using guidelines established by Baron and Kenny (1986).

Results: Competence, autonomy, and relatedness were each associated with fitness and activity status. In addition, relatedness and competence were associated with sports participation, and competence was associated with the 3DPAR. There was some evidence for mediation by IM, indicating that individuals who experienced greater autonomy and relatedness associated with exercising also had higher fitness as a function of IM. The relationship between competence and the 3DPAR was also mediated by IM (all ps<.05).

Conclusions: The results consistently support the role of competence as a predictor of both fitness and physical activity, although results for autonomy and relatedness were less conclusive. There was also tentative evidence of the mediating role of IM in the association between psychological needs and fitness and physical activity.

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D181

LONG-TERM EFFECTS OF WALKING AND YOGA INTERVENTIONS ON PHYSICAL ACTIVITY IN MIDDLE-AGED WOMEN

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In spite of the well-documented health benefits of physical activity, the majority of middle-aged women in the U.S. remain sedentary or relapse to inactivity. Unfortunately, factors that contribute to changes in physical activity behavior in this population remain understudied. The present study examined the long-term effects of 4-month walking and yoga interventions on physical activity levels in middle-aged women. Women (N=163, M age =49.9, SD=3.6) previously enrolled in a 4-month randomized controlled trial involving walking, yoga, and a control group completed a follow-up mail-in survey two years following the end of the trial. The survey included a battery of psychological and physical activity measures, including measures of menopausal symptoms and menopause-related quality of life. An intent-to-treat, mixed-model 3 (condition)×2 (time) repeated measures ANOVA indicated that the control and walking participants increased their physical activity (ds=.47 and .23, respectively) while yoga participants reported little change (d=.07). Physical activity at 2-year follow-up was associated with fitness level, percent body fat, self-efficacy, physical activity, physical self-worth, life satisfaction, and menopause-related quality of life at the end of the trial in bivariate analysis, however, only physical activity (β=.51, p<.001) and life satisfaction (β=.28, p<.01) at the end of the trial explained unique amount of variance in physical activity two years later. The association with barriers self-efficacy approached statistical significance (β=.19, p=.06). The overall model accounted for 34.4% of variance in self-reported physical activity at 2-year follow-up. The results suggest that maximizing physical activity gains, enhancing self-efficacy, and capitalizing on the personal relevance physical activity has for enhancing quality of life in the course of an intervention is critical for maintaining physical activity in the long term.

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D182

PHYSICAL FITNESS AS A MEDIATOR OF AGE-RELATED CHANGES IN TEMPORAL REPRODUCTION

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According to multiple researchers, physical fitness may mediate age-related declines in cognitive processes(Dustman et al., 1983; Colcombe and Kramer 2003). Lewis and Miall (2006) have suggested that temporal processing of durations less than 1 second is automatic and engages motor processes, while timing of longer durations engages cognitive processes. The purpose of this study was to determine whether high physically-fit older adults were better than low-fit when reproducing timing of durations in the cognitive range. 24 older (M=73.07) and 25 younger (M=20.79) right-handed adults completed a temporal reproduction task. On each trial, participants heard two 1000 Hz tones separated by an empty interval marking one of five standard durations (300, 650, 1000, 1350, or 1700 ms). They reproduced the standard with two keyboard taps. The dependent measure of accuracy was normalized error. We calculated VO2 peak using Jackson & Ross's (1990) NASA/JSC physical activity scale (PA-R) for the older adults. To nullify gender discrepancies, we converted VO2peak score within each gender subgroup to a Z score; participants were then classified as high or low-fit based on a median split of these values. A repeated measures mixed ANOVA was conducted to examine how fitness level affected performance within the older adult group. We found a main effect of Group, ($F(1,49)=6427.96$, $p<.001$). Young adults showed the least error (M=.997) followed by high-fit older adults (M=.989) and, finally, low-fit older adults (M=.863). There was also a significant Duration×Group interaction, $F(7,159)=5.94$, $p<.001$. These data indicate that physical fitness mediates age-related deficits in timing performance of cognitive durations.

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D183

SUBSTANCE USE AMONG FORMER ATHLETES

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Substance use behavior among collegiate athletes has been studied (Nattiv & Puffer 1991; Martens, et al., 2006), but athletes are a small part of the student population. Half of college students participated in high school athletics, while only 15% play collegiate sports (Nelson, et al., in press). Little is known about the health behavior of former athletes as they transition to college.

This study examined high school and college substance use among former high school athletes (FA) and non-athletes (NA). Participants included 6,154 female and 3,081 male undergraduates ages 18–25 (M=20.9 yrs; SD=2.1) attending 119 U.S. colleges in the 2001 Harvard School of Public Health College Alcohol Study. Data were analyzed using SAS PROC GENMOD stratified by sex and adjusted for age, race/ethnicity, and Greek membership. College use was adjusted for high school use.

Both male and female FA binge drank more during high school, (male 31 vs 21%; OR=1.5; CI=1.2–1.7; p<.001; female 31 vs 20%; OR=1.6; CI=1.4–1.8; p<.001) and college, (male 53 vs 39%; OR=1.3; CI=1.1–1.7; p<.01; female 49 vs 33%; OR=1.4; CI=1.2–1.6; p<.001) than NA. Both male and female FA were less likely than NA to smoke cigarettes in high school (male 11 vs 18%; OR=0.5; CI=0.4–0.7; p<.001; female 16 vs 19%; OR=0.8; CI=0.7–0.9; p<.01). Female FA were more likely to smoke cigarettes in college than NA (29 vs 24%; OR=1.4; CI=1.2–1.6; p<.001). No differences in smoking were observed among males (25 vs 27%; OR=1.1; CI=0.9–1.3; p=ns), although male FA were more likely to chew tobacco (10 vs 4%; OR=2.0; CI=1.5–2.8; p<.001). Further, male and female FA were more likely to smoke marijuana than NA (male 21 vs 17%; Odds Ratio (OR)=1.3; CI=1.0–1.6; p<.05; female 17 vs 14%; OR=1.3; CI=1.1–1.5; p<.01), despite equivalent levels of use during high school (male 11 vs 13%; Odds Ratio (OR)=0.8; 95% confidence interval=0.6–1.1; p=ns; female 10 vs 12%; OR=0.9; CI=0.7–1.0; p=ns).

FA may be at particular risk for adopting substance use behavior in college. Further investigation of the environmental, social, and intrapersonal mechanisms for these relationships and avenues for prevention is warranted.

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D184

CHANGE EFFECTS OF ADIPOSITY, FUNCTIONAL PERFORMANCE, EFFICACY, AND PHYSICAL ACTIVITY ON FUNCTIONAL LIMITATIONS IN OLDER WOMEN

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Habitual physical activity and self-efficacy have been reliably associated with fewer functional limitations in older adults; however, whether these associations are independent of physiological and functional performance influences is not known. To explore this question, we prospectively examined the effects of physical activity, efficacy for mobility, functional performance, and body fatness on changes in perceived limitations over 24 months. Older women (N=187; M age=67.55 years) completed a battery of functional performance tasks, body composition assessment and self-report assessments of activity, self-efficacy, and perceived limitations. Standardized residual change scores were computed for all measures with the functional performance score using a composite score to reflect average change across all 5 tasks. Initial correlation analyses revealed significant associations between changes in perceived limitations and changes in whole body fat mass, functional performance, mobility efficacy, and activity. Older age was significantly associated with greater perceived limitations. Subsequent hierarchical multiple regression analyses revealed an overall significant regression equation ($F(6,180)=6.52$, $p<.01$; $R^2=.18$) with changes in functional performance ($\beta=.21$) and mobility efficacy ($\beta=.21$) accounting for significant variation ($p<.01$) in perceived limitations whereas changes in whole body fat mass approached significance ($\beta=-.12$; $p=.08$) and changes in physical activity ($\beta=.11$) and age ($\beta=-.10$) had no significant effect. Our findings suggest that greater perceived limitations are due to decrements in psychological, physiological, and functional components. Physical activity interventions, which target these outcomes and provide mastery experiences, may serve to prevent or attenuate these declines in functional limitations and warrant further investigation.

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D185

EMOTIONAL EXPRESSION IN BREAST CANCER SUPPORT GROUPS AND EMOTIONAL INFORMATION AVAILABLE IN OBSERVATIONAL AND TEXT-BASED CODING SYSTEMS

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Supportive Expressive Therapy (SET) improves psychosocial outcomes in breast cancer patients, but has not been differentiated from community support group models based on emotional content. We compared SET and The Wellness Community (TWC) support groups using observational coding of videotapes and human- and computer-based coding of text transcripts. Participants were 45 women with primary breast cancer, randomized to TWC ($N=20$) or SET ($N=21$) support groups that met for 16 weekly sessions. Four sessions were coded for emotional content by trained coders using Specific Affect Coding (Gottman & Krokoff, 1989) modified for breast cancer (Giese-Davis et al.,2006), and Linguistic Inquiry and Word Count (LIWC; Pennebaker & Francis, 1997). Interrater reliability for SPAFF was assessed using Cohen's kappa with 89% of coding reaching .60 or greater. Transcripts were also coded twice and reached acceptable interrater reliability ($M=.78$;Range=.48–.97). We compared percents of primary negative affect, positive affect, defensiveness, constrained anger, and neutral affect between therapy modes and assessment modalities using nonparametric statistics. Results indicated that SET groups expressed more primary negative affect (W_s (2,$N=41$)=135.00, $p<.05$) and defensiveness (W_s (2, $N=41$)=132.00, $p<.05$), compared to TWC groups. Less defensiveness (F_r (3, $N=21$)=21.9, $p<.001$) and constrained anger (F_r (3, $N=21$)=7.8, $p>.05$) were detected in text transcripts than in videotapes suggesting important emotional content may be lost in the absence of behavioral cues. SPAFF and LIWC primary negative affect scores in transcripts were significantly positively associated ($r_s=.66$, $p=.001$), supporting limited convergent validity. This study established that SET and TWC differed on emotional content in theoretically-consistent ways and demonstrated limitations of text-based analysis in detecting emotional content in interactive group therapy.

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D186

USING REGRESSION RESULTS FOR INTERVENTION: AN EMERGING ISSUE FOR MAMMOGRAPHY AND RACE/ETHNICITY

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Multivariable regression analyses identify groups at-risk of lower cancer screening, who are then targeted for intervention. Non-White racial/ethnic groups are traditionally at-risk for lower screening, both in crude and adjusted analyses. Most often, adjusted analyses slightly reduce strength of an unadjusted association, but the direction of association is unchanged. However, recent papers on mammography have found a "reversal" between crude and adjusted odds ratios for African–American and Hispanic women. That is, African–Americans and Hispanics have unadjusted odds ratios lower than Non-Hispanic Whites, but have adjusted odds ratios that "reverse" and are higher than for White women, at statistically significant levels. Implications of such reversals are ambiguous at best.

We analyzed the 2004 Behavioral Risk Factor Surveillance System and the 2005 National Health Interview Survey, for women aged 40–80. Reversals occurred for recent mammography for African–American and Hispanic women. For example, the BRFSS unadjusted odds for African Americans (OR=.99, 95%CI=91–1.09) became significant compared to Non-Hispanic Whites (AOR=1.42, 95%CI=1.28–1.57). For Hispanics, the unadjusted odds (OR=.77, 95%CI=.69–.86) also became significant (AOR=1.41, 95% CI=1.23–1.61).

Analyses were done to identify which multivariable covariates accounted for the reversals, based on percent change in the odds ratios. For African–Americans, household income and age were the two primary variables. For Hispanics, having health insurance, income, education, and age were the primary variables.

These results suggest that associations between race/ethnicity and certain covariates strongly confound the relationship between race/ethnicity and mammography. The "holding all else equal" assumption of multivariable analyses therefore produces unintentionally deceptive results, as shown by the reversals. Situations in which to use unadjusted versus adjusted analyses needs to be discussed in regard to planning cancer screening interventions.

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D187

WILLINGNESS TO RECEIVE GENETIC INFORMATION: A COMPARISON OF COLON CANCER CASES AND RELATIVES

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Introduction: Recent developments in genetic testing allow us to detect individuals with Lynch syndrome (LS), or Hereditary nonpolyposis colorectal cancer, an autosomal dominant germline mutation that results in an increased susceptibility to colorectal and other types of cancer. Genetic testing to identify those with LS mutation, and other types of genetic syndromes, may help lower risk by encouraging preventive behaviors and surveillance. We conducted a pilot study of colon cancer cases and relatives of cases enrolled in the Seattle Colorectal Cancer Family Registry to determine their willingness to receive such genetic information, to whom they anticipate disclosing genetic information, and if receiving genetic test results might influence their future prevention behaviors. Methods: These aims were assessed using a 14-item, 4-point (Strongly agree to Strongly disagree) survey developed by the research team. A sequential sample of colon cancer cases (n=45) and relatives of cases (n=102) were surveyed during a 50-minute phone interview as part of a larger population-based study examining the genetic epidemiology of colorectal cancer. Results: Both cases (93%) and controls (94%) reported a willingness to receive genetic information. Nearly all participants would tell their doctor the results of a genetic test (98% of cases; 94% of relatives) and all married participants would tell their spouses. Cases (76%) anticipated being less likely than relatives (87%) to change their cancer screening behavior after receiving genetic test results (p=.02). Conclusion: Study results suggest both colon cancer cases and relatives are interested in learning the results of genetic tests, disclosing information about their status, and encouraging behavioral changes that may reduce cancer risk.

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D188

RESISTANCE TRAINING AND HEALTH: OUTCOMES AND TRANSLATIONAL RESEARCH

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A Healthy People 2010 objective is to increase the prevalence of resistance training from 10% to 30% of adults. This study assessed the disease prevention potential and ecological and social cognitive factors for middle age to older adults as well as performing translational research pertinent to markedly increasing resistance training's prevalence. Medline searches found that brief (~30 min), whole body resistance training protocols performed 2–3/wk in 'lab-gyms' can increase strength and muscle mass and, hence, decrease the risk of sarcopenia, normalize blood pressure in high normal people, improve vascular health; reduce oxidative stress, insulin resistance, intra-abdominal fat; increase resting metabolic rate in men, reduce loss of bone mineral density, improve work capacity,and is now a component of supervised cancer, Type 2 diabetes, and disability prevention and treatment. Translational research with 1644 participants in a YMCA showed the viability of resistance training in a usual setting. During a 10-week initiation program participants completed 92% of sessions, increased strength by ~35%, decreased systolic BP by ~4.0 mm Hg, gained ~1.5 kg of fat free mass, and decreased body fat by 2%. Potentially, access for resistance training is good. Over 2600 YMCA's in the US, serving a wide cross-section of people, have resistance training facilities. In the US there are over 29,000 health clubs with about 42 million members. Middle-age to older adults also report on time surveys ample leisure time. However, in order to realize the vast disease and disability prevention of resistance training, the deficiencies found in resistance training research need to be addressed including few studies adapting SCT constructs to promote resistance training and improve outcomes, and few long-term theoretically based, translational studies focused on maintenance of resistance training with minimal supervision.

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D189

TRAINING LAY HEALTH EDUCATORS IN THE DELIVERY OF A COGNITIVE BEHAVIORAL INTERVENTION: IS IT FEASIBLE?

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To translate interventions proven efficacious in clinical trials for use in diverse community settings, the design must be culturally relevant, practical, and cost effective. As a result,lay health educators (LHEs) are increasingly called upon to promote health among populations at increased risk for poor health outcomes. The LHE model has proven effective in promoting engagement in healthy behaviors, but few programs have used lay individuals in the delivery of cognitive behavioral interventions. Friendship Circles for Health is a theory-based and culturally relevant program with the overall goal of reducing cervical cancer among Latina immigrants via increase in Pap smear rates and reduction of HPV infection risk through partner communication. This program is being tested through a group randomized trial. As part of this program, LHEs undergo extensive training on behavior change, cognitive-behavioral strategies, theoretical models, basic health information as well as research design. We have used a comprehensive approach to training that involves three phases: (1) investigators teach the components of the program using principles of adult education; (2) the LHEs practice the new skills through role playing with each other and with non-participants; and (3) the LHEs are videotaped in a real-life situation with non-participants. During the first phase, investigators provide LHEs with detailed intervention manuals and cover all the topics in the manual. Then, LHEs are tested on the content of learned material. If they score less than 85%, individual sessions are held to address weaknesses. In the third phase, videotaped sessions are reviewed with the LHE, and this step is repeated until both the LHE and the investigators feel comfortable with the LHE's performance. Booster training will occur throughout the project, and LHEs constantly receive feedback on their performance. This presentation will focus on the training development and implementation as well as challenges and lessons learned.

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D190

PROVIDING HEALTHCARE BY PHONE: CHARACTERISTICS OF PATIENTS WHO ARE DIFFICULT TO REACH FOR TELEPHONE COUNSELING

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Telephone counseling shows promise to improve adherence in patients with chronic medical conditions. They may be particularly effective, acceptable, and economical for underserved patients. However, for telephone care to be effective, it is critical to reach patients. The goal of this analysis is to determine demographic and other predictors of patients who are difficult to reach. The study is conducted within the framework of a randomized trial testing the effectiveness of phone counseling in adults with hypertension. Participants are screened during a routine health care visit and enrolled if they have 2 uncontrolled BP readings over the past 2 health care visits and do not meet the exclusions. Approximately 1 month after enrollment, they have a baseline visit and are then randomized 2:1 to receive either phone care (PC) or usual care (UC). Those in PC receive 6 monthly phone counseling sessions about diet, medication and exercise. Those in UC receive treatment as usual with no phone counseling. We included all participants who were randomized and should have completed the 6 phone calls as of 9/17/07 (N=79). Wilcoxon rank-sum tests compared the number of call attempts required to reach participants with various characteristics. Participants who did not complete high school require fewer phone attempts to complete the monthly calls than those with high school or higher education ($p<.03$). Married participants were easier to reach than divorced, separated or widowed participants ($p<.02$). Retired participants may be easier to reach than unemployed or employed participants ($p=.052$). Older participants require fewer attempts to complete the phone calls compared to younger participants (Spearman correlation $r=-0.26$; $p<.02$). These results suggest that telephone-based counseling may be easier to conduct among those who are older, married, and have less than a high school degree. More time and resources as well as other methods may be needed to motivate and reach patients with other characteristics for such care.

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D191

ENROLLING LOW-INCOME, LOW-LITERATE HISPANIC PATIENTS WITH TYPE 2 DIABETES MELLITUS IN A RANDOMIZED CONTROL TRIAL: CHALLENGES AND SUCCESSES

Mary Jo White, MS, MPH and Milagros C. Rosal, PhD

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Recruitment and retention of minorities in randomized clinical trials (RCT) is crucial to address a variety of health disparity issues. However, recruitment is challenging, especially when targeting individuals with limited or no formal education and non-English-speaking groups. While there is no one proven strategy, individualized approaches that are time-consuming and specifically tailored for the targeted population and their cultural nuances have had different degrees of success.

Hispanics constitute 15% of the population in the United States and bear approximately 22% of the burden of the prevalence of type 2 diabetes mellitus (T2DM). In addition, a high proportion of Hispanics with T2DM have poor glycemic control, high prevalence of complications, with worse outcomes among low-literate and non English-speaking Hispanics.

Studies are needed to improve diabetes outcomes in these groups. However, little is known about strategies that can facilitate successful recruitment of Hispanic patients into clinical trials. This study describes strategies used, challenges faced and solutions found in screening and recruiting a sample of Hispanic patients into a randomized control trial of a culturally-tailored and literacy-sensitive diabetes self-management intervention. This clinical trial is being conducted at five community health centers. Multiple system, provider and patient barriers were encountered and addressed throughout the screening and recruitment processes, and protocol revisions were made when needed. Lessons learned and recommendations for future research will be described.

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D192

ADAPTING A PEDIATRIC OBESITY INTERVENTION FOR LOW INCOME FAMILIES

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Background: Thirty percent of American children are obese or overweight and minorities and low income groups are at higher risk. Evidence-based (E-B) pediatric obesity interventions are efficacious, but are time-intensive and costly. We previously found that an E-B intervention can be delivered in a community setting, but that low income families drop out at a higher rate than others.

Specific Aim: Our aim was to assess the feasibility of delivering a pediatric obesity intervention adapted for low income families.

Methods: With a descriptive and pre-post design, we delivered an intervention that retains key parts of an E-B pediatric obesity intervention, combining telephonic and in-person support to reduce intervention time burden and adapting materials for a 5th grade reading level. Medicaid-insured families with at least one overweight child age 4 to 11 were eligible. We analyzed retention, satisfaction, family behavior change, and weight/BMI measures.

Results: 27 families (30 children) participated; 65% were Black; 63% of children were male. Most families (89%) completed the intervention and reported: child watches less TV and is more active (both 83%); family eats fewer high (83%) and more low (100%) calorie foods; shopping (94%) and food preparation (83%) habits changed; most learned to enjoy new foods (78%) and were very satisfied with the program (94%). Grocery receipts in a subset of 10 families showed a decrease from 63% to 52% of high calorie/low nutrition food purchases compared to total food purchases. Child weight loss was not a primary outcome due to the project's short duration (2 months), but children were taller at program's end (mean=+.5 inch; $p=.004$) while weight did not change (mean=−1.6 lbs; $p>.05$), an indication that the intervention may help stabilize weight trajectory as children grow taller.

Summary: Our adapted intervention successfully retained Medicaid-insured families, resulted in self-reported activity, food purchase and eating habits changes and was well-received by families. The intervention may help stabilize weight increases compared to height over a short period of time.

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D193

PAIN MANAGEMENT IN PRIMARY CARE SETTINGS: A CRITICAL REVIEW OF PUBLISHED INTERVENTIONS

Kristen T. Crafton, MA,[1] Abbie Beacham, PhD,[1] Aiesha Skinner, MA[1] and Tony Intoccia, PsyD[2]

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Nearly 80% of primary care (PC) visits are prompted by acute/chronic pain symptoms which are often managed solely by the primary care provider (PCP). Patients with chronic pain are often complex and present with high levels of medical and psychological comorbidities. Management of psychological/behavioral factors inherent to pain can be particularly challenging to PCPs. Few outcome studies informing clinical translation of pain treatment protocols in PC have been published. RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) criteria are designed to allow clinicians and researchers to evaluate interventions with "strong potential for translation" into clinical practice. We utilized RE-AIM to evaluate published pain interventions targeting PC patients. Database searches with MEDLINE, CINAHL and PsycINFO with keywords Primary Care and Pain yielded 3764 hits. The search was narrowed to citations with Humans, Adults and Treatment Outcome plus search term Psychology yielding 49 citations for review. Studies were categorized as: A) Treatment Outcome w/ Control (n=6), B) Treatment Outcome w/o Control (n=1), C) Correlational/Descriptive (n=16) and D) Other (n=1). A total of 25 citations were excluded from review due to other areas of primary focus. Category A studies were reviewed using RE-AIM Criteria. Reach could not be calculated for any of the reviewed studies. Collectively, attrition ranged from 17% to 37%. Interventions, varied in type and intensity, targeted primarily psychosocial outcomes (e.g., pain anxiety, coping), pain severity and disability but effect sizes were not reported. Intervention "agents" varied widely including physiotherapists, general practitioners and psychologists. Outcomes showed few positive effects at post-intervention but patients had better "general health" and lower specialty utilization at 12-mo follow-up. Notably, although PC patients were targeted, interventions were not consistent with PC session format. Investigation of PC-based interventions consistent with PC models of care with longer follow-up is warranted.

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Saturday
March 29, 2008

Symposium #19 10:00 AM–11:30 AM 4001

CHANGING BEHAVIOR AMONG OLDER ADULTS: DISCUSSION OF RESEARCH CHALLENGES AND SOLUTIONS

Barbara Resnick, PhD, CRNP, FAAN, FAANP,[1] Senaida Fernandez, PhD,[2] Loriena A. Yancura, PhD[4] and Claudio R. Nigg, PhD[3]

[1]Nursing, University of Maryland, Baltimore, MD; [2]Medicine, Columbia University, New York, NY; [3]Public Health Sciences, University of Hawaii at Manoa, Honolulu, HI and [4]Family & Consumer Sciences, University of Hawaii at Manoa, Honolulu, HI.

Summary: While the basic ethical principles guiding research are the same for older and younger adults, the normal age changes and psychosocial and physical factors that impact older adults have a major influence on the theories utilized to drive behavior change, as well as research design and measurement issues. Theories that are general in nature, and those that focus on disease management seem to be particularly useful among older individuals. Design issues of concern in older adults focus on consent and follow up, and measurement challenges occur related to relevancy and ability to complete tools developed for adults in general. Participation in this symposium will increase awareness of the many issues and challenges related to research with older adults, and participants will be exposed to techniques to overcome these challenges and facilitate the advancement of the science in the care of older adults.

Presentation 1: A number of commonly used behavior change theories will be compared and contrasted. We will highlight theories that are particularly applicable for older adults and successful use of specific theories will be highlighted.

Presentation 2: The audience will be proveded tools to use to help with the consent process and the management of missing data. Specifically, the Evaluation to Sign Consent (ESC) will be introduced with evidence of reliability and validity provided. In addition, we illustrate the use of weighted estimating equations to analyze missing data in research studies that include older individuals.

Presentation 3: An overview of methods used to establish reliability and validity of measures used with older adults. Will discuss common methods used to adapt measures for use with older adults, and methods used to establish the psychometric properties of assessment instruments, which were originally developed and validated using younger populations, for use with older adults.

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Symposium #19A 4002

CHANGING BEHAVIOR AMONG OLDER ADULTS: DISCUSSION OF RESEARCH CHALLENGES AND SOLUTIONS

Barbara Resnick, PhD, CRNP, FAAN, FAANP,[2] Senaida Fernandez, PhD,[1] Claudio R. Nigg, PhD[3] and Loriena A. Yancura, PhD[4]

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Over the past two decades there has been an increased recognition of the need to include older adults in research. Although the basic ethical principles guiding research are the same for older and younger adults, the normal age changes and psychosocial and physical factors that impact older adults have a major influence on the theories that are useful to drive behavior change, as well as the design and measurement issues in conducting research. In behavior change research it has become evident that theories that are general in nature, such as self-efficacy theory, and those that focus on disease management seem to be particularly useful among older individuals. Design issues of concern in older adults focus on consent and follow up, and measurement challenges occur related to relevancy and ability to complete tools developed for adults in general. Participation in this symposium will increase awareness of the many issues and challenges related to research with older adults, and participants will be exposed to techniques to overcome these challenges and facilitate the advancement of the science in the care of older adults.

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Symposium #20 10:00 AM–11:30 AM 4003

CO-MORBID PAIN AND OBESITY: IMPLICATIONS FOR TREATMENT AND RESEARCH

John J. Sellinger, PhD,[1,2] Patricia Rosenberger, PhD,[1,2] E. Amy Janke, PhD[3,4] and Robert D. Kerns, PhD[1,2]

[1]Psychology, VA Connecticut Healthcare System, West Haven, CT; [2]Psychiatry, Yale University, New Haven, CT; [3]Hines VA Hospital, Hines, IL and [4]Argosy University, Chicago, IL.

Summary: The co-prevalence of chronic pain and obesity has been found to be as high as 30%. Research has identified reductions in quality of life, physical function, and increased disability among individuals with these co-morbid conditions. The relationship between pain and obesity is multifaceted, and includes factors attributable to both the individual and the healthcare system. This symposium will highlight research that has explored the relationship between pain and obesity from several angles. The first presentation will discuss the relationship of chronic pain and overweight/obesity to health behaviors, quality of life, and patient satisfaction with healthcare. Results from qualitative and quantitative investigations will highlight patient and healthcare system barriers to treating pain and obesity, including perceived barriers to physical activity and dietary change, personal shame, and patient interactions with providers. The second presentation will discuss the negative reciprocity between chronic pain and obesity in terms of the treatment for each. Data from a clinical trial of cognitive-behavior therapy for chronic low back pain will be presented, with emphasis placed on the relationships found between patient body mass index (BMI) and several treatment outcomes, including physical pain ratings, quality of life, and disability. Conversely, findings from an investigation of a VA weight management program will highlight the relationship of chronic pain to engagement, completion, and outcomes within this program. The final presentation will detail results from a prospective, longitudinal study on arthroscopic knee surgery. The relationships found among measures of obesity, preoperative pain status, and postoperative pain outcomes will be highlighted. The ongoing debate over BMI versus body shape as the best index of obesity in health outcomes research will also be addressed in this presentation. The overall implications of these findings for clinical practice and research will be reviewed and discussed.

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Symposium #20A 4004

OBESITY AND PAIN IN KNEE SURGERY PATIENTS

Patricia H. Rosenberger, PhD,[1] Robert Kerns, PhD,[1] Peter Jokl, MD[2] and Jeannette Ickovics, PhD[3]

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This presentation will discuss the relationship between obesity and pain in patients electing to undergo arthroscopic knee surgery, a common surgical procedure, with recent annual estimates in the United States totaling over 636,000 cases per year. Knee pain is a primary reason why patients seek arthroscopic knee surgery. Obesity interfaces with pain in knee surgery patients, both in the development of knee pain which may lead to surgery, and in influencing postoperative pain outcomes. Preoperatively, obesity may impact pain through direct and indirect pathways. For example, research supports that obesity is associated with the development of osteoarthritis, which in turn produces joint pain. Postoperatively, obesity may be associated with higher pain levels over time. Results of a prospective, longitudinal study on arthroscopic knee surgery outcome are presented, examining the relationship between obesity and pre- and postoperative pain. The study recruited 180 patients electing to undergo meniscectomy from two university-affiliated sports medicine clinics. Study participants completed both preoperative and multiple postoperative assessments through one year postoperatively. Results of correlational analyses indicated that body mass index was associated with preoperative knee pain severity and pain interference with daily functioning. Mixed model repeated measures analyses supported that postoperatively, obese patients (BMI>30) reported greater pain severity over time, but not pain interference. In contrast, patients with larger waist circumferences reported both greater pain severity and pain interference over time.

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Symposium #20B 4005

OBESITY & PAIN: PATIENT EXPERIENCES & HEALTH BEHAVIOR CORRELATESE.

Amy Janke, PhD

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Objectives: To explore health and treatment experiences of overweight/obese individuals with pain and examine whether they report fewer health-promoting behaviors, increased risk behaviors, decreased QOL, and reduced satisfaction with provider interactions.
Methods: Semi-structured interview and survey-based methods. Participants with BMI≥25 and average pain intensity ≥4 on a scale of 0–10 during the past 3 month were invited to participate. Interviews focused on patient beliefs, treatment experiences, and personal history of weight and pain. Survey data included health history, subjective experience of pain, QOL, and frequency of health behaviors (e.g., smoking, alcohol use, physical activity, dietary consumption).
Results: Participants identified system and personal barriers to treating co-morbid pain and weight. Perceived barriers to regular physical activity and diet modification included high levels of pain, fear of injury, limited access to exercise aids, limited knowledge, depression, and shame about current weight/pain. Participants indicated that care providers rarely educated them about appropriate diet and exercise. Participants reported fewer health-promoting behaviors and an increase in health risk behaviors. For example, participants described reduced engagement in physical activities and pleasant activities, limited social interaction, decreased fruit and vegetable intake, and increased intake of alcohol and high-calorie snack foods. Most stated they knew appropriate weight loss strategies, but wanted more support from providers. In contrast, few described self-management strategies to cope with pain, taking medication was their primary pain coping behavior. Participants expressed mixed feelings about the potential impact of weight loss on pain.
Conclusions: Patients with co-occurring pain and overweight/obesity perceive multiple system and personal barriers to effective weight and pain management. The additive impact of concurrent pain and obesity may result in altered engagement in health behaviors along with reduced QOL. These findings inform clinical practice and research efforts targeted at this common co-morbidity.

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Symposium #20C 4006

CO-MORBID PAIN AND OBESITY: OBSTACLES FOR TREATMENT OUTCOME

John J. Sellinger, PhD,[1,2] Marc Shulman, PsyD,[1,2] Alicia A. Heapy, PhD,[1,2] Patricia H. Rosenberger, PhD[1,2] and Robert D. Kerns, PhD[1,2]

[1]Psychology, VA Connecticut Healthcare System, West Haven, CT and [2]Psychiatry, Yale University, New Haven, CT.

Objectives: To examine the effects of obesity on pain treatment outcomes, and conversely, the effects of pain on patient engagement and success in an outpatient weight loss program.
Methods: The first study analyzed data from an ongoing clinical trial of a CBT intervention for chronic low back pain. Participants who have completed the intervention were divided into two groups based on BMI− normal/overweight (BMI<30) and obese (BMI>30). Groups were compared on measures of mood, pain stages of change, pain ratings and behavior, and disability. In the second study, data from a soon to be completed investigation of predictors of engagement and outcome in an outpatient weight loss program will be analyzed. The predictor variables of interest for this presentation include pain ratings, locations, and kinesiophobia (fear of painful re-injury with activity).
Results: The first study found no significant differences between the normal/overweight and obese groups at the outset of treatment. However, significant differences were found in the improvements these groups made during treatment. When compared to the obese group, the normal/overweight group showed significantly greater improvements on the Bodily Pain and Physical Functioning scales of the SF-36, and on overall disability ratings on the Roland Morris Disability Scale. Additional findings from the second study will be discussed in an attempt to shed light on the converse effects of pain on engagement and success in an outpatient weight loss program.
Conclusions: Compared to their normal and overweight peers who are in pain, obese individuals show fewer improvements in physical functioning, pain-related limitations, and overall disability following a cognitive-behavioral pain intervention. These persistent limitations can further complicate weight loss efforts, and serve to worsen the negative reciprocity between pain and obesity. Further evaluation of the relationship pain has with treatment engagement and outcome in a weight loss program will be discussed.

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Symposium #21 10:00 AM–11:30 AM 4007

THE CURRENT AND FUTURE STATE OF CANCER DISPARITIES

Amelie Ramirez, Master's/doctorate, public health, UT SPH,[1,7] Kenneth Chu, PhD, organic chemistry, UCLA,[2] Judith S. Kaur, MD, University of Colorado Health Sciences Center, Denver,[4,8] Edward E. Partridge, MD, UAB School of Medicine[5,9] and Moon S. Chen, Master's degree, public health, Tulane, doctorate, health education, Texas Woman's University[3,6]

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Summary: Despite advances in technology and medicine, disparities continue to exist in the burden of cancer and disease among certain minorities, compared to the rest of the U.S. More than two-dozen groups of scientists, researchers and clinicians across the nation are working together to better understand cancer and health disparities by studying in-depth science, genetics, risk factors, and the interchange between environment, exposure, and access to resources that affect disease prevalence and outcome. These are the National Cancer Institute's 25 Community Networks Programs.

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Symposium #21A 4008

REDES EN ACCIóN: FINDING NEW WAYS TO REDUCE HEALTH DISPARITIES AMONG HISPANICS

Amelie Ramirez, Master's/doctorate, public health, UT SPH

Epidemiology and Biostatistics, University of Texas Health Science Center at San Antonio, San Antonio, TX.

Hispanics/Latinos, a traditionally underinsured population with low education and income levels, are disproportionately impacted by chronic diseases and many types of cancer, including cervical, liver and gallbladder, as evidenced by statistical reports that compare Hispanics/Latinos to other groups. But fewer Hispanics enter health professions and fewer dollars support those who do, so innovative ways to boost Hispanic health are a vital priority.

Redes En Acción, a National Cancer Institute-funded Community Networks Program, is finding new ways to reduce the unequal impact of cancer and disease. The Redes network has more than 150 researchers and six regional coordinating centers in the U.S.

Redes is arming itself with the following methods and programs, some already implemented or planned for implementation, to reduce health disparities in Hispanics:

1) Develop and evaluate new research, data-gathering and scientific methods and behavioral interventions to attack Hispanic/Latino health disparities. Redes members are doing things like developing reports that will serve as a framework to develop interventions or taking lead roles in the Hispanic Community Health Study/Study of Latinos (SOL), the largest long-term epidemiological study of health and disease in the Hispanic/Latino populations ever funded by the NIH.

2) Build collaboration with grass roots leaders, researchers, public health professionals and national partners, and disseminate key health information to medical practitioners and people with the power to shape policies.

3) Craft and distribute unique communication strategies and self-advocacy programs to empower Hispanics/Latinos to improve their own health.

4) Increase the pipeline of Hispanics/Latinos in doctoral studies.

To eliminate health disparities, Redes must establish strong partnerships with private foundations and public universities to get the word out to communities to give them the best access to materials and information to improve the quality of medical care. We must continue crafting and developing new research, training and behavioral interventions to empower communities, community groups and policymakers to fight to bridge health disparity gaps.

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Symposium #21B 4009

NEW DIRECTIONS IN THE NCI CENTER TO REDUCE CANCER HEALTH DISPARITIES

Kenneth Chu, PhD

UCLA, Rockville, MD.

The new organizational mission of the Center to Reduce Cancer Health Disparities has three goals: 1) Coordinate and strengthen the NCI cancer research portfolio in basic, clinical, translational and population-based research to address cancer health disparities. 2) Lead NCI's efforts in the training of students and investigators from diverse populations that will be part of the next generation of competitive researchers in cancer and cancer health disparities. 3) Create state-of-the-art regional networks/centers dedicated to cancer health disparities research and care through geographic program management. The talk will provide updates on each of these areas.

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Symposium #21C 4010

THE SPIRIT OF EAGLES COMMUNITY NETWORKS PROGRAM IN AMERICAN INDIAN/ALASKA NATIVE POPULATIONS

Judith S. Kaur, MD

University of Colorado Health Sciences Center, Rochester, MN.

Background: The "Spirit of EAGLES" is a national Community Networks Program funded by the National Cancer Institute (NCI, U01 114609) dedicated to reducing cancer health disparities in American Indian/Alaska Native populations. AIANs suffer excess morbidity and mortality from cancers that are rarer in the NHW population (e.g. cervix, liver, kidney and gastric cancers) while recently experiencing increasing rates of breast, colorectal and lung cancers. The recent NCI Annual Report to the Nation provided a special report on AIAN data that is the most accurate data to date on this population. Significant geographic variation is notable in AIAN communities as evidenced by the three-fold difference in colorectal cancer in the Alaska and Northern Plains regions, compared with others. That data will be a blueprint for developing comprehensive cancer control in AIAN communities.

The following methods will be utilized in the coming years to reduce the cancer burden in this population:

1. Build infrastructure around existing programs, such as the breast and cervical screening program and the diabetes programs
2. Monitor screening behaviors
3. Continue awareness programs such as Cancer 101
4. Educate the next generation of tribal leaders and researchers about cancer

Conclusions: Utilization of existing structures such as the BCCEDP will help in developing a new screening program in colorectal cancer. Models using allied health, such as nurse practitioners for screening, use of telemedicine or new technology (e.g. virtual colonoscopy) will be important to pilot and analyze. Finally, because they are combating other common diseases such as diabetes, strong partnerships with a chronic disease model within Indian Health Service and Tribal health organizations will be essential for success.

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Symposium #21D 4011

THE DEEP SOUTH NETWORK FOR CANCER COUNCIL: AN ACADEMIC-COMMUNITY PARTNERSHIP TO ELIMINATE HEALTH DISPARITY

Edward E. Partridge, MD,[1] Mona A. Fouad, MD PhD,[1] Agnes Hinton, DrPH RD,[2] Theresa A. Wynn, PhD,[1] Rhoda Johnson, PhD,[1] Isabel Scarinci, PhD MPH,[1] Claudia Hardy, MPA[1] and Freddie White-Johnson, MPPA[1]

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Purpose: The Deep South Network for Cancer Control is a community-based participatory research (CBPR) network to improve breast, cervical and colorectal screening, increase physical activity, and promote good nutrition in underserved areas of the Delta of Mississippi and the Black Belt of Alabama and urban areas of both states.

Background: Breast cancer mortality among African–American woman is higher in every Deep South state when compared to white women. The ratio of African American versus white deaths from cervical cancer ranges from 2.1 in Alabama to 4.8 in Mississippi. Mississippi and Alabama have the highest rates of obesity and overweight in the country.

Methodology: Through CBPR, the network has developed a Community Action Plan (CAP) that includes implementation of a proven nutrition intervention (Body and Soul) in local churches, establishing social support groups for a WALK campaign developed at UAB, interventions in populations in zip codes identified as low screening compliance areas by CMS and BCCEDP, and direct action organizing training to influence health disparity policy. The CAP will be implemented by Community Network Partnerships (CNP) already established in each of our targeted counties. The CNP's consist of trained CHA's, agents of change, and organizational leaders from each county.

Results: Training of regional and local staff and 551 local community health advisors is complete, CNPs have been established in the 22 targeted counties and meet regularly. A needs/assets assessment by county is completed and served as the basis for development of the CAP. Details for specific responsibility and implementation of CAP and evaluation are complete. Evaluation tools have been developed for our CAP.

Implications: CAP implementation has begun and, if successful, will form the basis for program development in other underserved areas. This program is primarily volunteer with staff support and, thus, sustainable and transportable.

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Symposium #21E 4012

ADDRESSING THE UNIQUE, UNUSUAL, AND UNNECESSARY CANCER BURDEN AMONG ASIAN AMERICANS: THE ASIAN AMERICAN NETWORK FOR CANCER AWARENESS RESEARCH AND TRAINING

Moon S. Chen, MA

Tulane, Sacramento, CA.

Asian Americans originate from countries as diverse as the continent of Asia itself, with multiple cultures, languages, and different reasons for migration to the U.S. "Asian American" thus encompasses heterogeneous populations who've experienced the highest percentage increase in growth over the last four decades. Asian Americans are in transition, with large proportions of first-generation residents who bring with them commonalities of health conditions that reflect their countries of origin, and American-born Asian Americans who share the benefits and challenges of mainstream influences. Within this mosaic, Asian Americans' cancer burden has been characterized as unique, unusual, and unnecessary. Asian Americans' cancer burden is unique as they are the first U.S. racial/ethnic group to experience cancer as the leading cause of death. Compared to non-Hispanic Whites, this cancer burden is unusual as Asian Americans suffer disproportionally from several cancers and are experiencing higher rates of increase in several cancers. However, the Asian American cancer burden may in some instances be unnecessary because tobacco use is avoidable. There also is potential in implementing culturally and linguistically competent behavioral interventions to increase screening rates and vaccinations against HPV and HBV.

The NCI-funded Asian American Network for Cancer Awareness, Research and Training (AANCART) is addressing the Asian American cancer burden in California, Hawaii, and Seattle. AANCART has ethnically and linguistically specific programs to create awareness, action, and advocacy for reducing cancer health disparities. Our approach establishes localized, ethnically-specific, baseline data for our populations and interventions to reduce those measured disparities through community partnerships, training, and tailored interventions. Addressing cancer health disparities is a journey—in the words of Lao Tzu, "The longest journey begins with a single step." We are grateful that we have walked many steps, but we haven't yet arrived at our destination. We must continue to recruit others who will walk with us.

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Symposium #22 10:00 AM–11:30 AM 4013

DISSEMINATING & IMPLEMENTING COMPUTERIZED TAILORED INTERVENTIONS NOW AND IN THE FUTURE: WHO'S REACHED AND WHO'S NOT

Kara L. Hall, PhD,[1] Matthew Kreuter, PhD, MPH,[3] Victor Strecher, PhD, MPH,[4] Kerry Evers, PhD[2] and Jon Kerner, PhD[1]

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Summary: The introduction of novel technologies contributes to exacerbating disparities due to the relatively slow diffusion of innovations, particularly to underserved populations. Overcoming such disparities is an ongoing public health and clinical practice challenge. Computerized Tailored Interventions (CTIs), with growing evidence of efficacy and effectiveness, are innovative technologies faced with barriers to reaching those who could greatly benefit from them. In August 2007, the National Cancer Institute convened a group of CTI experts from behavioral science, software development and information technology to better help the field understand the challenges of disseminating and implementing CTIs and to identify recommendations and solutions to overcoming such challenges now and in the future. Barriers to disseminating and implementing CTIs can stem from limitations at the individual or system levels. For instance, lack of internet access can limit individuals from obtaining potentially low-cost, technology driven interventions, such as web-based CTIs. Lack of resources to purchase and maintain computer hardware/software platforms can preclude public health and community organizations from delivering CTIs. Different communication delivery channels/systems may best be suited to reach different populations. Furthermore, the complexity of data collection and levels of tailoring can impact delivery system demand and participant burden, ultimately affecting intervention reach. Considerations of the service delivery contexts of industry, academia, government and NGOs in maximizing reach must be considered. Finally, dissemination and implementation research focused on CTIs is critical to our understanding of how best to expand the reach and impact of CTIs. These issues need to be considered in overcoming disparities in dissemination and implementing CTIs in diverse delivery infrastructure contexts using current and emerging technologies.

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Symposium #22A 4014

STRATEGIC DISSEMINATION OF COMPUTER TAILORED INTERVENTIONS TO ELIMINATE HEALTH DISPARITIES

Matthew W. Kreuter, PhD, MPH

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For computerized tailored interventions (CTIs) to help eliminate health disparities, they must be better integrated into existing systems and infrastructure that effectively reach and serve disadvantaged populations. Finding and collaborating with such organizations to develop CTIs and test them in real world settings should both accelerate the pace and increase the probability of effective disparity-reducing tailoring programs being adopted. This presentation proposes that the ideal partners for disseminating CTIs to eliminate health disparities will be characterized by: (1) well-established reach and access to populations affected most by health disparities; (2) positive and/or mutually beneficial relationships with those populations (3) interests, priorities or mission consistent with the objectives of the CTI; and, (4) current or potential technology infrastructure to support delivery of CTIs. While these criteria are intuitive, identifying organizations and systems that meet them can be a challenge. Specific examples of promising partners from government, public and private sectors will be described.

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Symposium #22B 4015

DISSEMINATING AND INTEGRATING CTIS IN THE FUTURE CONSIDERING EMERGING INFRASTRUCTURE AND TECHNOLOGIES

Victor J. Strecher, PhD

Center for Health Communications Research, University of Michigan, Ann Arbor, MI.

Computer Tailored Interventions (CTIs) of the future will be disseminated into a vastly different reality. Effective integration of biological, medical, consumer, and public health informatics systems will require a more sophisticated generation of researchers and developers, who possess a transdisciplinary understanding of their work. For example, advances in CTIs must parallel and link to advances made in personalized medicine. Effective, equitable dissemination of integrated informatics systems to all citizens will require a more sophisticated generation of government and business leaders, who's respective and reciprocal roles must be clear. In other words, government leaders must understand the role and direction of research support, investing in initiatives likely to have rapid impact on these increasingly connected informatics areas. Moreover, the government can help shape strategic directions of the private sector, including contractual funding to effectively bring informatics advances to underserved populations. Business leaders, in turn, will profit from their understanding of the potential connections between informatics systems.

Finally, a consumer-driven health care environment will require a more sophisticated generation of citizens, who will increasingly need to take control and care of their most important asset—themselves. Nearly all health care initiatives for the future include a less paternalistic, opaque delivery of health services. Greater autonomy in the use of tax-exempt health accounts must be supported by CTIs that enhance informed decision-making for health services, providers, health-related behavior change, and treatment decisions.

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Symposium #22C 4016

DISSEMINATING & IMPLEMENTING COMPUTERIZED TAILORED INTERVENTIONS: INDUSTRY AND GOVERNMENT PERSPECTIVES

Kerry Evers, PhD[1] and Jon F. Kerner, PhD[2]

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There are several perspectives on the best way to disseminate and implement health focused Computerized Tailored Interventions (CTIs) on a wide scale. Two of these are a private sector perspective (i.e., industry) and a public sector perspective (i.e., government). While the private sector can reach a potentially large mass of people via a variety of intermediaries or direct to consumer approaches, there will inevitably be gaps in those who are reached via this pathway. The public sector may play an important role in ensuring that those gaps are recognized and are perhaps bridged by government investments in disseminating CTIs to the underserved, thereby minimizing the disparities that are often observed with the rollout of innovative services.

Within the private sector there are two different models of dissemination: business to consumer or business to business. In the business to business model, CTIs developed by a research investigator could be licensed by a company that would make the program available for public use. In the business to consumer model, CTIs are distributed directly to the consumer.

Within the public sector, government health research agencies provide substantial funding for the development and testing of CTIs. However, to date there has been a very limited capacity to disseminate CTIs and virtually no capacity to implement them directly to individual consumers. As such, when trying to address the underserved populations, who may be missed by private sector approaches, a significant challenge for government will be to explore partnership solutions that build on the strengths of the private sector and/or the not-for-profit NGO sector.

Barriers to the dissemination of emerging CTIs such as ownership/intellectual property, value proposition, sustainability, customizability, and fragmentation will be discussed. Suggestions on how these two perspectives can compliment each other in addressing barriers and NCI's role in potential development of each model will also be discussed.

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Symposium #23 10:00 AM–11:30 AM 4017

THE GREAT DEBATE: POSITIVE PSYCHOLOGY- HOW POSITIVE SHOULD WE BE?

Suzanne M. Miller, PhD,[1] James C. Coyne, PhD,[2] Howard Leventhal, PhD,[3] Susan Segerstrom, PhD,[4] Richard G. Tedeschi, PhD,[5] Sherri Sheinfeld Gorin, PhD,[6] Allen C. Sherman, PhD[7] and Paul Jacobsen, PhD[8]

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Summary: This symposium will be structured as a debate. Two pioneering investigators will examine some of the major contributions of positive psychology, and two prominent health investigators will provide critical critiques. The "pro" side will feature Drs. Richard Tedeschi and Suzanne Segerstrom, while the "con" side will include Drs. James Coyne and Howard Leventhal. The central issue involves the extent to which recent advances in positive psychology represent substantive, important targets for health investigators. The symposium is intended to highlight the strengths and limitations of a growing area that has commanded considerable attention among behavioral researchers and the general public. Suzanne Miller will chair the symposium (co-chaired by Allen Sherman and Paul Jacobsen), and Sherri Sheinfeld-Gorin will serve as discussant. The panel includes senior investigators who have worked at the forefront of positive psychology or who have thought critically about this line of inquiry. Ground rules for the debate will be delineated prior to the meeting, following in the tradition of the previous series of "Great Debates" at SBM and the American Psychosomatic Society. This symposium is sponsored by the Cancer Special Interest Group.

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Symposium #23A 4018

DOES POSITIVE PSYCHOLOGY MAKE FOR NEGATIVE EXPERIENCES FOR CANCER PATIENTS AND THEIR FAMILIES?

James C. Coyne, PhD

Behavioral Oncology Program, Abramson Cancer Center, Department of Psychiatry, University of Pennsylvania School of Medicine, Philadelphia, PA.

How could anyone be negative about the benefits of positive psychology for enduring the experience of cancer and even thriving in the face of it? With regard to cancer, positive psychology is first a collection of claims about attitude and emotion affecting its progression and outcome. Second, it is ultimately a set of prescriptions for cancer patients and their families: how they ought to cope with cancer. Empirically relevant claims include the presumed influence of emotions on the incidence and progression of cancer, in which the immune system is said to play a mediating role. Moreover, cancer should be expected to provide a "growth experience" for cancer patients. I will review evidence relevant to these claims and the mounting data that fail to support them. Exaggerated claims about the power of positive attitude and emotional states are not limited to fringe elements who advocate fighting cancer with imagery and good thoughts, but are basic to some major psychological research programs. Prescriptive implications of positive psychology include the insistence that cancer patients adopt particular attitudes and have particular experiences in order to influence the biology of the disease. Additionally, they should accentuate positive aspects of having cancer. The flip side of these "positive" prescriptions is a set of negative judgments that declare those who die from cancer are "defeated" – losers who do not fight enough and so are paying a price for their negativity: they are responsible for their deaths. Positive psychology is thus an ideology that distorts data to sustain unscientific claims. It also provides cancer patients with unrealistic expectations and a source of self-blame for their condition. Positive psychology misdirects the efforts of patients and those who care about them to come to terms with a life-altering and often life-threatening experience. It can also become a silencing strategy aimed against patients who might otherwise burden professionals with their fears and concerns.

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Symposium #23B 4019

POSITIVE PSYCHOLOGY AND HEALTH: WHAT IS POSITIVE AND WHAT DOES IT DO?

Howard Leventhal, PhD

Institute for Health, Health Care Policy and Aging Research and Deparment of Psychology, Rutgers University, New Brunswick, NJ.

Are the substantive constituents of positive psychology emotions, attitude, expectations or strategies for managing daily life problems? We review ways of conceptualizing positive and negative affects, the ambiguous relationship of specific negative affects to health outcomes in animal studies, and the roles of positive affective experiences in health-damaging and health-promoting behaviors in human studies. In human studies, we point to selected evidence from both longitudinal and experimental (RCT) studies involving the effects of both negative and positive affective experiences on how chronically ill individuals manage illnesses such as hypertension and diabetes, and how these affective experiences affect participation in risky, health damaging behaviors. We contrast the findings relating emotion to health outcomes with findings for measures of function. We question whether positive affect is a necessary concomitant of effective function, or whether other forms of satisfaction including negative affects such as anger and irritability are central features of effective function; we raise hypotheses about the role of these affects in effective function from a life-span perspective. Underlying our position is the argument that the ease of measuring and associating positive and negative affect with health indicators does not describe the processes underlying these correlations and that there is no necessary association between many affects, as broadly conceived, with health outcomes. We close with final comments on the difference between the marketing of psychology and the development of a psychological science with differentiated concepts that address how patients optimize function when managing daily life.

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Symposium #23C 4020

POSITIVE PSYCHOLOGICAL RESEARCH: INCREASING THE SCOPE OF INQUIRY IN HEALTH PSYCHOLOGY

Suzanne Segerstrom, PhD

Department of Psychology, University of Kentucky, Lexington, KY.

There are compelling reasons to study the relationship of "positive psychology" to health, as well as misconceptions about the scope of "positive psychology". First, to study positive states such as happiness, optimism, and well-being is to study most of humankind: The vast majority of people are happy rather than unhappy, optimistic rather than pessimistic. A recent review of the ALS literature suggests that even incurable, fatal disease does not alter this proportion much. Second, positive states are not the opposite of negative states and may be just as important for health. For example, some studies show immune and health benefits of positive health expectancies, including higher cellular immune parameters under stress, longer latency to postoperative infection after heart transplant and longer time to disease progression and death in HIV. These studies unsuccessfully looked for affective mediators, but they largely focused on negative affect. New data showing a correlation between positive expectancies about law school and cellular immunity in law students indicates that the relationship is mediated by positive, but not negative, affect. Finally, does the term "positive psychology" give the wrong impression? True "positive psychologists" are like all psychologists in that they are interested in the boundary conditions and Achilles' heels associated with the constructs that they study: For example, Diener and his colleagues (2002) reported a curvilinear relationship between college happiness and income two decades later, such that self-reported happiness predicted higher income only up to the highest category ("top 10%"), which earned less than the next-to-highest ("above average"). Another example concerns several studies in which higher dispositional optimism predicted lower cellular immunity under difficult circumstances such as uncontrollability and goal conflict. This work could shed light on conflicting findings regarding the relationship of dispositional optimism to disease outcomes in HIV and cancer (and could even win the Positive Psychology Prize).

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Symposium #23D 4021

THE PROS AND CONS OF POSITIVE PSYCHOLOGY

Richard Tedeschi, PhD

Psychology, UNC Charlotte, Charlotte, NC.

The rubric of 'positive psychology' has rapidly gained substantial popularity in the field of psychology, becoming almost synonomous with an enlightened, forward-looking approach to personality and clinical psychology in particular. What accounts for this populatrity, and to what degree is it warranted?

Positive psychology may have arisen within the field due to a relative neglect of certain phenomena within psychology. However, certain phenomena that seem to connote strength and virtue had been rather thoroughly studied before the invention of the term positive psychology, e. g. locus of control, self-efficacy, and delay of gratification. Positive psychology has again, as humanistic psychology before it, begun to represent an alternative view of human nature as having certain strengths and virtues. A possible problem with positive psychology is that it sets up a dichotomy where the term positive psychology suggests an opposing 'negative psychology,' and there is a danger in setting up competing schools of psychology. We would be better off to recognize that there is simply psychology, which should integrate both positive and negative aspects of human behavior into a full picture of the complexities of human life. Certainly in clinical psychology we have been focused to a great degree on psychological disorder, but understandably so.

In the area of posttraumatic growth, I have emphasized that the majority of persons who confront trauma do well, and that many more report growth than PTSD. This would seem to put me clearly in the positive psychology camp. However, we have tried to point out that posttraumatic growth is the result of the struggle with the aftermath of traumatic events, and that people who report this growth tend to continue to struggle with distress. It is our hope that by welcoming the study of growth, strength, and positive outcomes, the field of psychology will achieve a fuller understanding of humanity in its positive and negative expressions.

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Symposium #23E 4022

DISCUSSANT ABSTRACT FOR "THE GREAT DEBATE: POSITIVE PSYCHOLOGY- HOW POSITIVE SHOULD WE BE?"

Sherri Sheinfeld Gorin, PhD

Health and Behavor Studies, Columbia University, New York, NY.

Dr. Sheinfeld Gorin, as discussant, will respond to and integrate the panelists' presentations. Her comments will include reflections on some of the major theoretical developments, methodological considerations, and empirical findings presented during the debate. She will consider the impact on cancer prevention, screening, and surveillance of both positive and negative affects. She will examine some of the proposed mediational pathways for the positive effects of optimism on habits that enhance health and enlist social support, and further detail how self-regulation is posited to affect immune function in cancer. She will consider the ramifications of encouraging "positive illusions" among cancer survivors, and the implications of viewing PTSD as both a struggle with trauma and a growth response. She will also appraise the methodologic challenges to studying a placebo effect that is often associated with positive psychology.

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Symposium #24 10:00 AM–11:30 AM 4023

THE PHYSIOLOGY OF CLOSE RELATIONSHIPS: RESEARCH ON ATTACHMENT AND BIOBEHAVIORAL COREGULATION

Darby Saxbe, MA, CPhil and Ted Robles, PhD

Psychology, UCLA, Los Angeles, CA.

Summary: The relationship between social connections and health is evident in humans and animals. Social isolation is a risk factor for poor health, while close relationships confer a number of benefits for health and well-being. One primary explanation for these benefits is that high-quality social relationships buffer the physiological effects of stress on the body. Thus, studies in the literature have focused on the effects of support from intimate partners during acute stressors in the laboratory, or even during stressful interactions between intimate partners.

However, a large animal literature and some work in humans suggest that organisms that share social connections also have the capacity to regulate each others' physiology. For example, early studies in humans examined coregulation of menstrual cycles among female roommates. Similar processes may also extend to physiological systems that are involved in stress responding, such as the HPA axis. Moreover, the quality of social relationships, as well as individual attachment style and sensitivity, may influence the degree of concordance between close partners. The purpose of this symposium is to highlight recent findings that shed light on coregulation of physiological systems in close relationships. Given that the majority of adults worldwide cohabit with a close relationship partner, such work has great relevance to mental and physical health.

Symposium co-chair Ted Robles will introduce this topic and place it in the context of both close relationship and physiological research. Co-chair Darby Saxbe will present data exploring associations between married couples' ambulatory cortisol levels and mood states. Cinnamon Stetler will present recent work suggesting that routine social contacts may have direct influences on physiology. Omri Gillath will discuss research exploring the physiological concomitants of attachment style and sensitivity. Finally, Tim Smith, a world-renowned expert on the effects of close relationship and social connections on health, will discuss the health relevance of these findings.

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Symposium #24A 4024

DAILY SOCIAL CONTACTS AND DIURNAL CORTISOL PATTERNS: A DAILY DIARY STUDY AND WITHIN-PERSON MANIPULATION

Cinnamon Stetler, PhD

Psychology, Furman University, Greenville, SC.

Social relationships have been linked with health across decades of research. Although stress buffering and health behavior models are well understood pathways for this effect, the direct effects of social contact on physiology have received less attention. Previous research in our lab suggests that the social contact necessitated by routine daily activities may help to regulate the diurnal pattern of cortisol secretion. The current study investigated the relationship between daily social contacts and diurnal cortisol secretion in two phases. In the first phase, the association was examined prospectively via daily diary assessment of social interactions and salivary cortisol. In the second phase, daily social contacts were manipulated using a within-subjects design. 53 females experienced both high and low social contact conditions in the lab while continuing to collect ambulatory data on their social interactions and cortisol levels. Data from both phases were analyzed using a mixed-models approach, such that cortisol production on days with more social contacts was compared within person to cortisol production on days with fewer social contacts. Results from the first phase suggest that more social contact is associated with steeper cortisol slopes on the current and subsequent days. Steeper cortisol slopes may indicate better HPA axis function and predict better health outcomes. Results from the second phase show that the manipulation altered social contacts but had no significant effect on cortisol slope. Within-person cortisol slope differences were greatest among participants who interacted with someone whom they typically had daily contact. Social relationships that provide daily contact may have the strongest links to cortisol rhythms. Cumulatively, these findings suggest that in addition to previously articulated pathways, social relationships may influence health via a direct effect of social contact on physiology.

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Symposium #24B 4025

WHAT ATTACHMENT THEORY AND RESEARCH CAN TEACH US ABOUT COREGULATION WITHIN COUPLES

Omri Gillath, PhD

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When describing attachment from a control-systems perspective, Bowlby (1982) used the terms sensory input and control to explain people's behavior. According to Bowlby, different individuals notice different things in the environment, and events that are seen as alarming by one individual are treated as of no account by another. That suggests that people might have different levels of sensitivity to their surroundings and to cues in their relationships. Bowlby further suggested that people differ in their ability to control their reactions to perceived threats—their ability to "turn" their attachment system on or off as they wish. Previous studies provided preliminary support to Bowlby's ideas: anxiously attached people tend to be hypervigilant with respect to threats, but seem to have difficulties suppressing their reactions once activated. Avoidant people, conversely, seem to be less sensitive to threats and seem to have the ability to inhibit their system activation. However, it is still unclear how sensitive avoidant people are (being able to deactivate reactions to threats requires noticing these threats first), and how much control anxiously attached individuals can actually employ. Physiological, cognitive, and neuroimaging data were used to assess the links between insecure attachment styles, levels of sensitivity, and controllability. Results suggest that anxious individuals are generally hypersensitive and under-controlled, whereas avoidant individuals are generally hypersensitive and over-controlled. Based on these results, a control by sensitivity interaction model of attachment is suggested, and its implications for close relationships are discussed.

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Symposium #24C 4026

FOR BETTER OR WORSE? COREGULATION OF COUPLES' CORTISOL LEVELS AND MOOD STATES

Darby Saxbe, MA, CPhil

Psychology, UCLA, Los Angeles, CA.

While the majority of adults live with a close relationship partner, little is known about whether and how spouses' momentary affect and physiology covary. This study used multilevel modeling to explore associations between spouses' mood states and cortisol rhythms in a sample of 30 married couples who sampled saliva and reported on mood states four times per day for three days. For both husbands and wives, own cortisol level was positively associated with partner's cortisol level, even after sampling time was controlled. Marital satisfaction weakened the strength of this association for wives but did not appear to play a role for husbands. Partner's negative mood was positively associated with own negative mood for both husbands and wives. Marital satisfaction fully moderated this effect for both husbands and wives, reducing the strength of the association between one's own and one's partner's negative mood state. Spouses' positive moods were not associated, whether or not marital satisfaction was considered. While spouses' saliva sampling times were positively associated, this association was not moderated by marital satisfaction. As expected, associations between spouses were stronger for mood and cortisol sampled in the early morning and evening, when spouses were together at home, than for samples taken during the workday. The results suggest that negative mood and cortisol levels are associated within couples over several days, and that marital satisfaction may buffer spouses' from the impact of their partners' negative mood or stress state.

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Symposium #24D 4027

DAILY SOCIAL CONTACTS AND DIURNAL CORTISOL PATTERNS: A DAILY DIARY STUDY AND WITHIN-PERSON MANIPULATION

Cinnamon Stetler, PhD

Furman University, Greenville, SC.

Social relationships have been linked with health across decades of research. Although stress buffering and health behavior models are well understood pathways for this effect, the direct effects of social contact on physiology have received less attention. Previous research in our lab suggests that the social contact necessitated by routine daily activities may help to regulate the diurnal pattern of cortisol secretion. The current study investigated the relationship between daily social contacts and diurnal cortisol secretion in two phases. In the first phase, the association was examined prospectively via daily diary assessment of social interactions and salivary cortisol. In the second phase, daily social contacts were manipulated using a within-subjects design. 53 females experienced both high and low social contact conditions in the lab while continuing to collect ambulatory data on their social interactions and cortisol levels. Data from both phases were analyzed using a mixed-models approach, such that cortisol production on days with more social contacts was compared within person to cortisol production on days with fewer social contacts. Results from the first phase suggest that more social contact is associated with steeper cortisol slopes on the current and subsequent days. Steeper cortisol slopes may indicate better HPA axis function and predict better health outcomes. Results from the second phase show that the manipulation altered social contacts but had no significant effect on cortisol slope. Within-person cortisol slope differences were greatest among participants who interacted with someone whom they typically had daily contact. Social relationships that provide daily contact may have the strongest links to cortisol rhythms. Cumulatively, these findings suggest that in addition to previously articulated pathways, social relationships may influence health via a direct effect of social contact on physiology.

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Symposium #25 10:00 AM–11:30 AM 4028

LEVELING THE PLAYING FIELD? URBAN DISPARITIES IN FUNDING FOR LOCAL PARKS AND RECREATION

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Summary: Background: Access to parks and recreational facilities, as well as their quality, congestion, and affordability, relates to physical activity levels, and in turn various health outcomes. Yet, park and recreational resources are often insufficient and unevenly distributed within metropolitan regions. We have limited knowledge of the factors that cause such disparities. Understanding the mechanisms that contribute to the allocation of funds for parks and recreation is thus an important step in developing effective public health policies.
Purpose: Map and analyze the distribution of federal, state, special district, municipal, and nonprofit resources allocated to parks and recreation facilities within the Los Angeles region.
Methods: A database of park and recreation expenditure from all levels of government and nonprofits was created. We computed and mapped per capita city-level indicators to identify distribution patterns and used local indicators of spatial autocorrelation to detect clusters of high or low spending. We used multivariate regression analysis to investigate the relationships between park and recreation expenditure and municipal demographic, socio-economic, fiscal and institutional characteristics.
Results: Local funding for parks and recreation resources is highly uneven (from less than $1 to over $500 per capita annually). Because most park and recreation expenditure originates at the local level, fiscally healthier cities allocate more resources to these uses. State and nonprofits funds tend to favor middle-income communities and do not equalize spending. Inner-ring suburbs with large minority populations and low-income exurban communities are most likely to suffer from low expenditure.
Conclusions: Federal devolution, increased localization of service provision, and limited intergovernmental transfers result in large intrametropolitan disparities in the distribution of resources for parks and recreational facilities, which ultimately shape the landscape of health risks for local populations.

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Symposium #25A 4029

UNDERSTANDING AND MAPPING INSTITUTIONAL IMPEDIMENTS TO WALKING AND BICYCLING TO SCHOOL: AN EVALUATION OF THE BUILT ENVIRONMENT AROUND ELEMENTARY SCHOOLS IN FOUR FLORIDA COUNTIES

Ruth L. Steiner, PhD, MBA, MCP, Ilir Bejleri, PhD, Jennifer Wheelock, BA, Gene Boles, MA, Maria Cahill, MA, Benito O. Perez, BA and Allison Fischman, BA

Urban and Regional Planning, University of Florida, Gainesville, FL.

Overweight and obesity have reached epidemic proportions among American children. The lack of physical activity is a significant contributing factor in childhood obesity . One possible venue for increased physical activity among children is the journey to school. In 1969, 48 percent of students walked or biked to school to school. By 2001 that proportion had fallen to 15 percent. Few studies have considered the role that the convenience of the school and the characteristics of the physical environment have on the potential for children to walk to school. Four counties in central Florida (Tampa Bay and Orlando) are analyzed to understand the role of environmental factors in affecting children's ability to walk and bicycle to school. Florida has established a two-mile radius around schools in which parents are responsible for getting their children to school. Preliminary results from Hillsborough County suggest that the two-mile straight-line distance around a school point is not an accurate measure of the distance children must travel to school. It must be adjusted to consider (a) the school attendance zones boundaries; (b) the actual street network distance, which decreases the land area located within the overly-permissive 2 mile walking distance; and (c) the barriers such as major roads. Also, the size of the school attendance zone is an important consideration; the more urban counties had a higher percentage of smaller school attendance zones. The process used to develop the above measures in Hillsborough County will be applied to the other three counties in the coming weeks. The comparison between the four counties, including two suburban counties, will further clarify the validity of these findings.

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Symposium #25B 4030

SCHOOL PHYSICAL EDUCATION POLICY FAILURE IN MISSISSIPPI AND TENNESSEE

John M. Amis, PhD,[1] Paul Wright, PhD,[2] Ben Dyson, PhD,[2] James Vardaman, MBA[1] and Hugh Ferry, BSc[2]

[1]Management, University of Memphis, Memphis, TN and [2]Health & Sport Sciences, University of Memphis, Memphis, TN.

This research presents findings of a study designed to investigate why some policy responses to the ongoing childhood obesity epidemic in the USA have proven to be largely ineffective. Eight case studies were created using qualitative data collected from four high schools in Mississippi and four high schools in Tennessee. These two states are consistently ranked as having some of the highest levels of obesity in the nation and have recently introduced several new policies designed to address the high rates of childhood obesity. The case studies were constructed to examine how policies designed to improve the provision for physical education (PE) were developed and subsequently enacted in schools exhibiting significant diversity along size, ethnicity, urbanicity, and economic dimensions. Data were drawn from 50 interviews with state officials, district administrators, school principals, PE and classroom teachers, counselors, and parents. Further data were collected from focus groups with students, sustained observation of relevant school-based activities, such as PE lessons, and documentary analyses of official and popular press publications. We present findings that indicate why PE policy has been ignored, misinterpreted, avoided, and/or distorted by key school-based actors. In particular, we find that administrators and PE teachers engage in sensemaking strategies that frequently preclude them from enacting policy in an effective way. Thus, we call for a different approach to future policy development. Rather than policy formulation and subsequent enactment being considered as largely independent activities, we argue instead for a dialectical process that highlights the local contextual constraints and micro-activities of relevant actors that shape the day-to-day lives of school stakeholders. In this way, policy can become more malleable and realistic, and may be enacted in ways that are locally relevant. This, we contend, will significantly enhance the likelihood of future obesity- and school-related policies being effective.

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Symposium #25C 4031

STUDIES DESIGNED TO INFORM POLICY: EXAMPLES FROM ACTIVE LIVING RESEARCH

James Sallis, PhD,[1] John Amis, PhD,[2] Ruth L. Steiner, PhD,[3] Pascale Joassart-Marcelli, PhD[1] and Susan L. Handy, PhD[4]

[1]Psychology, San Diego State University, San Diego, CA; [2]U of Memphis, Memphis, TN; [3]U of Florida, Gainesville, FL and [4]UC Davis, Davis, CA.

It has been said that researchers and policy makers live in parallel universes. Even when concerned about the same issues, the two groups rarely interact. Applied researchers can increase the likelihood their work influences, or at least informs, policy by selecting study questions and methods that will produce findings of direct relevance to policy makers. This symposium features three examples of research on specific policy topics that were funded by Active Living Research and illustrate approaches from multiple disciplines. Using qualitative case study methods in 8 schools, John Amis reports on the implementation of laws in Mississippi and Tennessee designed to improve school physical education. He recommends an innovative approach to policy implementation. Urban planner Ruth Steiner reports on the evaluation of a Florida state law designed to encourage walking and biking to school among children who live nearby. Her analysis reveals problems with the law that reduce its effectiveness. Building on findings of racial/ethnic and socioeconomic (SES) disparities in access to parks, geographer Pascale Joassart describes a study of inequalities in funding of parks in the Los Angeles region that reflect funding policies that may explain previous findings. She recommends policy changes at various levels of government that can improve access to quality parks among disadvantaged groups. All presenters will describe how they plan to communicate their findings to policy makers. Transportation planner Susan Handy, who has extensive experience with policy research conducted by transdisciplinary teams, serves as the discussant. She will recommend how researchers can enhance their policy impact by learning about the policy process, ensuring research teams have policy expertise, and partnering with non-researchers to communicate effectively with policy makers.

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Symposium #26 10:00 AM–11:30 AM 4032

THEORIES AND MECHANISMS OF TAILORED COMMUNICATIONS: APPLICATION TO DIVERSE POPULATIONS

Marci Campbell, PhD,[1] Matthew Kreuter, PhD,[3] Rachel Davis, MPH,[2] Seth Noar, PhD[4] and Linda Ko, MS[1]

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Summary: There is now a large body of research demonstrating the relative efficacy of tailored communications to promote health behavior change in a wide variety of populations and settings. Numerous studies have compared tailored messages to nontailored messages or no intervention control conditions. There is less research, however, aimed at understanding the "black box" of factors that may explain how tailored communications exert their impact. Few studies, for example, have carefully examined mediators of the effect of tailored interventions, or have compared the impact of tailored communications among diverse populations. It is critically important to increase our understanding of the variables and mechanisms underlying effective tailoring in order to better design and specify tailored communications and thus to strengthen the impact of such interventions.

The purpose of this symposium is to bring together several experts in the field of tailored communications and health promotion, in order to examine and discuss some of these issues. We will discuss theoretical underpinnings of choosing tailoring variables, the role of cultural factors in tailoring, the impact of tailoring to such variables, as well as mediation of the effect of tailored communication by cognitive processing and elaboration variables among diverse populations. These studies will serve to suggest some innovative theories and mechanisms on which to focus future studies as well as to uncover new issues and questions for tailoring research.

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Symposium #26A 4033

PROMISING NEW VARIABLES FOR MESSAGE TAILORING IN DIVERSE POPULATIONS

Matthew Kreuter, PhD

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In most studies of tailored health communication conducted to date, messages are tailored based on individual variability on constructs from theories of health behavior change. Recent studies have shown that in tailoring programs designed for diverse populations, behavioral construct tailoring can be enhanced by also tailoring messages on cultural values. Building on this new direction in tailoring research, we examined differences in African American women's reactions to narrative and didactic breast cancer messages based on their medical mistrust, cancer fatalism, cancer fear, ways of knowing, and numeracy. In a randomized experiment among 150 low-income African American women recruited door-to-door in a neighborhood with twice the state rate of late-stage breast cancer diagnosis, participants viewed one narrative and one didactic video (counterbalanced order) on one of three breast cancer topics (breast cancer risk, talking about breast cancer, the importance of mammograms). Post-exposure measures included emotional reactions, level of engagement, ease of understanding, perceived utility of the information, and video preference. Findings suggest several promising variables for tailoring cancer control messages for diverse populations.

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Symposium #26B 4034

TAILORING SEXUAL RISK REDUCTION MESSAGES FOR AFRICAN–AMERICAN STD CLINIC PATIENTS: APPLICATION OF THE ATTITUDE—SOCIAL INFLUENCE—EFFICACY MODEL

Seth Noar, PhD,[1] Christina Benac, MA,[1] Rick Zimmerman, PhD,[1] Richard Crosby, PhD,[2] Greg Snow, MD[3] and Adewale Troutman, MD[3]

[1]Communication, University of Kentucky, Lexington, KY; [2]Public Health, University of Kentucky, Lexington, KY and [3]Louisville Metro Department of Health and Wellness, Louisville, KY.

African–Americans now account for 1 out of every 2 new HIV infections even though they make up just 13% of the US population. Effective sexual risk reduction interventions are thus urgently needed to reduce new infections and correct this racial disparity. The current study reports on the first phase of a study to develop a tailored sexual risk reduction intervention for African–Americans.

293 heterosexually active African–Americans aged 18–44 (mean age: 26.93) were recruited from a large publicly funded STD clinic and surveyed using ACASI software. Participants were male (54%), unmarried (92%), had high school or less education (77%), were unemployed (54%), and had been previously incarcerated (54%). Seventy-four percent reported having a "main or steady" sex partner and 35% had additional sex partners. Despite engaging in a variety of risky behaviors, only 14% used condoms consistently with main and 25% with casual partners.

Theoretically-based measures derived from the Attitude-Social Influence-Efficacy model demonstrated good reliability in the sample (coefficient alpha: .71–92). **ANOVAS** examining condom attitudes, peer and partner norms, self-efficacy and negotiation skills across condom stages of change with both main and casual partners revealed significant differences (most at $p<.001$). Effect sizes ranged from .05–.37 (eta-squared). As expected, these theoretical factors differentiated among individuals in differing stages of change for both main and casual partners.

These data suggest determinants that can be used in designing tailored risk reduction messages for African–Americans. Implications for the use of these data to inform a tailored sexual risk reduction intervention will be discussed.

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Symposium #26C 4035

INFORMATION PROCESSING MEDIATES THE EFFECT OF TAILORED INTERVENTIONS ON FRUIT AND VEGETABLE CONSUMPTION: A MULTIPLE SAMPLE ANALYSIS

Linda Ko, MPH, Marci Campbell, PhD and Carol Carr, MA

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This study investigated information processing of tailored health communication and mediating effects on fruit and vegetable (F&V) intake among diverse participants (40% African American, 50% female) 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 intake 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 intake.

735 participants come from one of four intervention groups: control, tailored print communication (TPC), tailored telephone-based motivational interviewing (TMI), or combined (TPC+TMI). Multiple-sample structural equation models were constructed with intervention types as groups to observe differences in the parameters between intervention groups and F&V intake.

The final model fit resulted in $\chi 2$ (48, N=287)=68.86, p=0.026, CFI=0.98, TLI=0.98, and RMSEA=0.078. TPC had an indirect effect on F&V intake through message relevance. Those who perceived the message to be more relevant had more F&V intake (β=0.37, p=0.021). TMI also had an indirect effect on F&V intake through message relevance (β=0.33, p=0.012). TPC+TMI influenced F&V intake through two paths. In the first path, message relevance was associated with message trust (β=0.85, p<0. 0001) and trust was associated with message recall (β=0.26, p=0.006). More recall influenced F&V intake (β=0.27, p=0.047). In the second path, message relevance was associated with message recall (β=0.47, p<0.0001) and more recall influenced F&V intake (β=0.27, p=0.047). Thus, trust, relevance, and recall of tailored communications mediated intervention effect through these pathways.

Further research can investigate ways to enhance message relevance, trust, and recall in interventions with diverse populations.

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Symposium #26D 4036

TAILORING ON BLACK IDENTITY: THE EAT FOR LIFE TRIAL

Rachel E. Davis, MPH,[1] Josephine Calvi, MS,[4] Gwen Alexander, PhD,[3] Julia Anderson, PhD,[2] Nanhua Zhang, PhD[1] and Ken Resnicow, PhD[1]

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Numerous targeted health communications have been developed and tested for African Americans (AAs). However, few studies have explored how interventions can be individually tailored for AAs. This study evaluated whether tailoring on Black ethnic identity impacts fruit and vegetable (F&V) intake among AA adults. Participants were recruited from integrated healthcare delivery systems in Atlanta and Detroit and self-identified as AA adults. Upon enrollment, participants completed a baseline telephone survey and were randomized 2:1 into an experimental or comparison group. Both groups received three newsletters mailed at 1-month intervals that were personalized and tailored on sociobehavioral variables. However, comparison newsletters targeted a general Black audience, while experimental newsletters were tailored to one of 16 Black identity types. Of the 561 baseline participants, 469 completed a 3-month post-test telephone survey that assessed F&V, message salience, and other variables. F&V was gauged using two self-report assessments. The experimental (n=304) and comparison groups (n=164) increased intake by 1.1 and 0.8 servings per day, respectively (p=0.13). However, significant treatment effects were observed for some Black identity subgroups. Participants with an Afrocentric identity increased intake by 1.4 servings in the experimental group and 0.4 servings in the comparison group (p=0.02). Individuals scoring high on Cultural Mistrust also showed a positive treatment effect. Further, there was a significant association between number of newsletters read and perceived cultural relevance. This study suggests that Black identity is a relevant factor for behavior change for African American subgroups. Overall, this study supports the presence of an ethnically diverse African American population for which tailored interventions may maximize health message salience and program impact.

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Symposium #27 10:00 AM–11:30 AM 4037

TOWARD A COMPREHENSIVE UNDERSTANDING OF HIV TREATMENT ADHERENCE: ADDRESSING ENGAGEMENT AND RETENTION IN MEDICAL CARE

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Summary: This symposium will assemble researchers to present new findings regarding the engagement of HIV/AIDS patients in routine medical care. To date, the research literature on patient adherence to HIV/AIDS treatment has focused almost exclusively on patient adherence to prescribed antiretroviral drug regimens. Although antiretroviral adherence is a critical determinant of patient clinical outcomes, the issue of adherence to medical appointments also holds vital significance – indeed, it is a precondition for the initiation and maintenance of effective antiretroviral regimens. Available data suggest there are important challenges to patient engagement and retention in HIV care that must be addressed. Studies indicate that some individuals who test HIV positive delay entry into regular clinical care until opportunistic infections arise, which can hold deleterious implications for their personal health and the public health (since these individuals will neither initiate antiretroviral regimens nor receive secondary prevention messages in the context of clinical care). Among HIV-infected individuals who do enter into care, growing research evidence demonstrates that poor retention in care is common, and that poor retention is associated with compromised clinical outcomes and increased mortality. These concerns underscore the need for new formative research and fresh intervention approaches to promote HIV treatment adherence, broadly conceived. The three symposium speakers will therefore present cutting-edge research on the clinical implications, key determinants, and efficacious interventions associated with maintaining regular medical appointment attendance among HIV/AIDS patients. These findings will be vital for enhancing HIV/AIDS medical care, and also offer lessons for enhancing medical care in other chronic illnesses.

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Symposium #27A 4038

IMPLICATIONS OF APPOINTMENT NON-ADHERENCE IN AN HIV CLINIC COHORT

Michael Mugavero, MD,[1] Huiyi Lin, PhD,[1] Jeroan Allison, MD,[1] Thomas Giordano, MD,[2] James Willig, MD,[1] James Raper, DSN,[1] Joseph Schumacher, PhD,[1] Nelda Wray, MD,[1] Stephen Cole, PhD,[3] Susan Davies, PhD[1] and Michael Saag, MD[1]

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Background: Increased attention has focused on expanding the spectrum of HIV adherence research beyond medications to include retention in care. The clinical implications of appointment non-adherence and potential role in mediating HIV outcomes are understudied.

Methods: A retrospective study of the UAB 1917 HIV/AIDS Clinic Cohort evaluated factors associated with failure to suppress HIV viral load (VL<50 c/mL) among patients prescribed antiretroviral medications with >4 scheduled appointments over >6 months between August 2004–January 2007. A missed visit proportion (MVP) was calculated for each patient by dividing the number of missed visits by the number of scheduled visits. Staged multivariable logistic regression models were used to evaluate factors associated with failure to suppress VL and the potential mediating role of MVP.

Results: Among 1109 patients, mean age 42 years, 23% female, 46% African American (AA), 58% lacked private health insurance, mean MVP 20%, and 42% failed to suppress VL. In multivariable analyses, younger age (OR=0.74 per 10 years, 95%CI=0.64–0.86), AA race (OR=1.63, 95% CI=1.25–2.13), public health insurance (OR=1.81, 95%CI=1.35–2.43), and substance abuse (OR=1.44, 95%CI=1.03–2.00) were significantly associated with failure to suppress VL. When added to the model, MVP was significantly associated with failure to suppress VL (OR=1.82, 95%CI1.53–2.16) and appeared to play a mediating role for substance abuse (OR=1.28, 95%CI=0.91–1.81), which became statistically non-significant.

Conclusions: Appointment non-adherence was associated with failure to suppress HIV VL and may play a role in mediating HIV outcomes.

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Symposium #27B 4039

FACILITATORS AND BARRIERS TO REMAINING IN HIV CARE AMONG RECENTLY DIAGNOSED PATIENTS

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Background: Retention in HIV care is an aspect of adherence that has received relatively little study, yet poorer retention in HIV care decreases survival. Qualitative research is needed so that effective interventions can be developed.

Methods: In a sub-study of a cohort study of patients recently diagnosed with HIV infection, we invited consecutive patients diagnosed for >3 but <18 months to participate in a qualitative interview using semi-structured questions. We elicited facilitators and barriers to entering and remaining in HIV care, based both on the patients' actual experiences or their expectations. All interviews were audio recorded and analyzed for common themes according to the health belief model.

Results: 37 patients were interviewed between May and August, 2007. All had seen their physician at least once, over half were on antiretroviral medications, and most considered themselves in regular care. Analyses revealed that all patients perceived high susceptibility to and severity of progressive HIV disease. Patients recognized that remaining in HIV care was essential to prevent negative health outcomes. Maintenance of health was the most often perceived benefit of consistent care. Patient level barriers were most commonly cited as contributing to poorer retention in care, and these often included transportation and competing needs. Facilitators included internal motivation (desire for improved health) and external motivation (encouragement from family to keep appointments), and social support from key supporters. Themes at the physician level centered on the patient-provider relationship, and at the system level on accommodation and professionalism. High self-efficacy was related to adherence to appointments across levels regardless of extenuating circumstances.

Conclusions: Motivation, self-efficacy, social support, and transportation are major influences on retention in HIV care. Multi-level interventions that build these factors and reduce barriers at all levels should be developed and tested.

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Symposium #27C 4040

NAVIGATION MODELS FOR ENGAGEMENT AND RETENTION IN HIV MEDICAL CARE

Judith Bradford, PhD[1,2] and Sharon Coleman, MPH[3]

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Recent attention has focused on the potential of outreach models to assist underserved HIV-infected persons to become engaged in stable HIV medical care. Four of 10 sites funded by HRSA as Special Projects of National Significance implemented and evaluated outreach interventions similar to a patient navigation model developed for cancer care. Interventionists used outreach strategies to locate out-of-care HIV-infected persons and coached them on how to get services, provided HIV education, taught them about communicating with providers, and accompanied them to appointments. These "navigation-like" interventions were associated with reduction in structural, financial and personal barriers, improvement in mediators, and improved health outcomes were observed over 12-months. Structural barriers to HIV care and provider engagement were associated with health outcomes. Fenway Community Health (FCH) in Boston conducted a supplemental study to examine why HIV+ patients were lost to follow up (LTF). 495 HIV+ patients LTF between 2001 and 2004 were identified through chart review; of 352 located, 179 were interviewed (51%). Reasons for discontinuing care included moving to a different area, dissatisfaction with primary care provider (perception of decreased respect and support), and reception staff who exhibited rude or inappropriate behavior toward patients. Respondents expressed concerns about quality of care, insensitivity of the organization and staff, perceived lack of confidentiality, and accessibility issues. 14% of LTF patients would have been eligible for navigation if it had been available. Subsequent FCH projects are now adapting navigation to reduce LTF and enhance engagement and retention in care among methamphetamine using men who have sex with men and transgender patients. Key components of these interventions include navigator-client relationship building, addressing barriers with a focus on stigma, provider-patient communication, and engagement with needed medical and mental health care.

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