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Movement and Mindfulness: A Formative Evaluation of a Dance/Movement and Yoga Therapy Program with Participants Experiencing Severe Mental Illness

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Abstract This article provides a process/formative evaluation of the program *Movement and Mindfulness*, a body-based program designed and implemented for use with an outpatient psychosocial rehabilitation facility. The *Movement and Mindfulness* program offered stress-reduction, coping skills, and pro-social behavior for people experiencing severe mental illness using dance/movement therapy and yoga therapy-based techniques, as well as traditional group counseling and the Eastern concept of mindfulness. A formative evaluation was carried out during a 20-week period, involving an experiential curriculum focused on self-regulation and self-awareness. This study used qualitative methods including interviews, surveys, and verbal group feedback for data collection and analysis. The results provide examples of psychological and physical shifts that had occurred for the participants during the course of the program. Participants' clinical observations revealed amelioration in pro-social behaviors, stress management, and communication skills. Numerous hypotheses emerged to be tested in future studies at the interface of *Movement and Mindfulness* programs.

Keywords Formative program evaluation · Severe mental illness · Dance/movement therapy · Yoga · Mindfulness · Intercultural differences (in framing of mental disease/in understanding mentally ill or alike)

Introduction

As an individual working in the field of healthcare for well over a decade, the majority of my experience with psychiatric illnesses occurred in the developing world, in a less conventional setting than a psychiatric hospital or rehabilitation

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facility. I was educated about successful mental health treatment in a free yoga therapy clinic in the heart of Bangalore, India. There I fell in love with the idea of using the body through the movement of yoga to heal the mind. After years of study and eventual relocation back to the United States, my pursuit of body-based psychotherapy led me to dance/movement therapy. Since I first began exploring movement as a healing modality, my understanding of yoga's direct impact on mental health has been reaffirmed by my subsequent study of dance/movement therapy. The relationship between yoga and dance/movement therapy is an important factor in the design of the program described in this article. It is hoped that through this evaluation of the combined use of yoga and dance/movement therapy, there may be recognition of these methods as vital components of recovery for individuals experiencing persistent or severe mental illness (SMI).

The major goals of *Movement and Mindfulness: Skills of Stress Reduction and Relaxation* were to increase skills of (1) stress management, (2) coping, (3) relaxation, and (4) communication among the participants. A significant portion of the program focused on reducing interpersonal tension, intolerance of others, and the tendency towards isolation. The overall desire was to unite the philosophy, spirituality, and physicality of yoga with the expressive and creative elements of dance/movement thereby to assist participants in replacing automatic emotional reactions to stressful situations with mindfully chosen responses. Specifically, yoga offered the participants an individual exploration of inner sensations with simultaneous participation in a group. Additionally, the program offered appropriate movement interventions designed around the development of social ties.

Indian culture views mental illness as an imbalance caused by premature spiritual awakening (Vrinte, 2002). The belief is that family and community should respect the mentally ill by providing ample support, kindness, and tolerance to those who are experiencing psychotic symptoms (V. Govardhan, personal communication, 1997). This idea is supported by current research in social neurobiology, which suggests that individuals with severe psychiatric and behavioral disorders often have difficulties in establishing and maintaining relations (Porges, 2005; Siegel, 1999). Through the creation of supportive, empathic emotional relationships that encourage authenticity and direct communication within the community, people experiencing severe mental illness can improve their ability to function and relate. In the Indian yoga tradition, the hope is that with the support of both family and community, the experience of psychosis could eventually be transformed into a balanced, if not enlightened, state of being. In fact, according to a 16-country international study of schizophrenia by the World Health Organization (WHO), those living in developing countries actually have a better rate of recovery than those diagnosed in industrial nations such as Europe and the United States (Hopper & Wanderling, 2000; Sartorius, Gulbinat, Harrison, Laska, & Siegel, 1996). Available research does not offer a clear explanation for why or how this difference exists, but it seems reasonable to suggest that this difference may be due to the fact that most developing nations integrate the mentally ill into society, while industrial nations typically keep them isolated. It appears that integration is accomplished through the maintenance of social connections and through offering opportunities to perform useful community-based tasks (Jablensky, 2000; Karno & Jenkins, 1993;

Warner, 2007). Interestingly, one need not look very far within Indian folklore to find examples of sages and *rishi-s* who rose to greatness after profound experiences with madness (Saraswati, 1984).

I first discovered the cultural tradition of encouraging mindful compassion, social respect, and acceptance when I studied in India, and later found it again through my exploration of dance/movement therapy in the United States. Although this paper discusses an evaluation that took place at an outpatient extended care psychosocial rehabilitation program, the formal integration of both yoga and dance/movement therapy into the design of the program evolved from my work with residents and staff of two suburban Chicago homeless shelters. As a Chicago Area Albert Schweitzer Fellow, I offered body-based counseling services and wellness workshops that provided expressive movement experiences combined with in-depth exposure to the traditional elements of yoga and Eastern concepts of mindfulness. The style of yoga utilized in the programs was based in the Shivananda and Satyananda Saraswati *hatha* yoga lineage, however, my personal background in yoga also included formal training in both *asthanga* and *kundalini* yoga. Program participants were offered structured movement and psychoeducational services combined with expressive and creative processes in order to emphasize both choice-making and pro-social experiences. Through this opportunity, I observed homelessness, oppression, and the relationship between social contact and psychological wellbeing. This awareness informed the theoretical framework of *Movement and Mindfulness*, a movement-based program utilizing a sociocultural perspective to address relational aspects of mental illness and social isolation. Sociocultural theory, which draws heavily on Vygotskian approaches to human development, is based upon the concept that "higher order functions develop out of social interaction" (Tharp & Gallimore, 1988, p. 6). This is also one of the guiding principles of dance/movement therapy. Dance/movement therapists use an interactive process of movement to support the development of healthier and more effective ways of communicating and socializing.

Current Research

Yoga and Dance/Movement as Complementary Therapies

For several decades, dance/movement therapists have incorporated other movement disciplines beyond dance into their professional practice. Martial arts, such as Tai Chi, Karate, and Qi-Gong, have been explored in both dance/movement therapy research and practice (Barak-Bluntner, 1999; Goldstein, 1978; Loupe, 1986; Scudder, 1993; Spector, 1981). Eastern philosophical and spiritual concepts have also been integrated into the body-mind exploration of dance/movement therapy, such as mindfulness, Buddhism, and Zen (Furlager, 2007; Perkins, 1998; Risher, 1991). Presently, fewer than a dozen research examples address the combination of dance/movement and yoga and all are limited to graduate theses.

Bernard (1978) described a program closely resembling some aspects of *Movement and Mindfulness*. Physical yoga exercises, breathwork, and relaxation,

along with dance/movement therapy, were used to assist acutely psychotic patients with their physical alignment. However, only the abstract was available and no further information about the existence of a program evaluation was offered. It is also unclear if the program had been piloted or only proposed. Weinrich (1987) combined dance/movement therapy and yoga, and illustrated this use within a population experiencing cocaine addiction. This theoretical and clinical study focuses exclusively on the spiritual aspects that the two movement modalities contributed to the addiction recovery process. More recently, Borskey (2007) investigated the trend of therapists being trained in both yoga and dance/movement therapy. The study focused on the integration of yoga and dance/movement therapy into the clinical work with patients and yoga students. Borskey used a grounded theory method to analyze the data. The results of the study revealed several complementary therapeutic aspects of the use of both modalities in practice. According to Borskey (2007), the content of collected data from interviews with therapists utilizing both modalities in their practices revealed the following:

> [Yoga and dance/movement therapy] both address the fact that emotions are dealt with in practice; they address the issue of knowing the body/body awareness, observation skills, and anatomy; dance/movement therapy speaks to the issue of verbalizing the emotional process; and yoga provides a method of self-care for the therapist as well as a way to bring more people to the movement experience. (p. 102)

Daly (2002) implemented a group at an outpatient substance abuse clinic to explore the connection between dance/movement therapy and *hatha* yoga. The author discussed overlapping principles of the two disciplines, such as movement as metaphor and the use of opposition as means to improve impulse control and self-awareness. Williams-Kief (2003) proposed a combined yoga and dance/movement therapy model to increase self-esteem in adolescent girls who were attending partial hospitalization programs. She developed a treatment model from the study of existing literature pertaining to self-esteem issues of this population and the relationship between yoga and dance/movement therapy. Her research offered recommendations for possible future application of the model.

Another unique study of dance/movement therapy and yoga involved meditation and mantra as important practices used to enhance empathy and presence for mental health professionals (Stewart, 1998). This was a heuristic study about the use of yoga techniques as a source of self-care for expressive mental health professionals. Two additional thesis abstracts exclusively mentioned the clinical use of *pranayama*, or breath control, in therapeutic practice (Jacobson, 2004; Lustman, 1999), while another examined dance/movement therapy and the *chakra* system, an ancient yoga concept explaining energy dynamics within the human body (Stamm, 2005). Based upon the exploration of current literature and research that links the use of yoga with dance/movement therapy, I have determined that notable works on the subject are scarce, in particular studies that evaluate the efficacy of such programs. Further research containing clear descriptions of the applied combination of the two movement modalities, as well as evaluation of the efficacy of such programs, appears to be a needed and worthwhile endeavor.

Yoga and Mental Health

Yoga Research

Yoga therapy is defined by the International Association of Yoga Therapists (IAYT) as: "the process of empowering individuals to progress toward improved health and well-being through the application of the philosophy and practice of yoga" (IAYT, 2007). The use of yoga to treat mental illness and disease dates back nearly 8,000 years. Although yoga is not traditionally considered a form of psychotherapy, it has been shown to have a significant positive psychological impact on many of its practitioners. Most clinical investigations and published studies on the health benefits of yoga have been conducted over the past 80 years, in India; however, within the past decade, empirical inquiry into the effectiveness of yoga has greatly increased worldwide. Today, yoga is widely recognized as a beneficial component of biomedical and behavioral health, and has been used with a variety of clinically diverse populations. Populations include those experiencing depression, anxiety, trauma, schizophrenia, phobias, addictive and substance abuse disorders, grief, and insomnia (Broota & Dhir, 1990; Brown & Gerbarg, 2005; Duraiswamy, Thirthalli, Nagendra, & Ganagadhar, 2007; Janakiramaiah et al., 2000; Pilkington, Kirkwood, Rampes, & Richardson, 2005; Shannahoff-Khalsa, 2004; Spaeth, 2003; Vedamurthachar et al., 2006). In recent years, yoga research involving the successful treatment of anxiety has received significant public and clinical attention (Gupta, Khera, Vempati, Sharma, & Bijlani, 2006; Malathi & Damodaran, 1999; Ray, Mukhopadhyaya, & Purkayastha, 2001). Currently, Dr. Bessel van der Kolk is receiving attention for his research on the use of yoga in the treatment of post-traumatic stress disorder (PTSD). In a recent interview in Integral Yoga Magazine (2009), van der Kolk explained:

> PTSD causes memory to be stored at a sensory level– in the body. Yoga offers a way to reprogram automatic physical responses. Mindfulness, learning to become a careful observer of the ebb and flow of internal experience, and noticing whatever thoughts, feelings, body sensations and impulses emerge are important components in healing PTSD. (para. 14)

Yoga and Severe Mental Illness

There exists a growing body of research that explores the benefits of using yoga, meditation, and/or other Eastern body-based interventions in clinical facilities serving psychiatric populations (Davis, Strasburger, & Brown, 2007; Elkins, Rajab, & Marcus, 2005; Kozasa et al., 2008; Weiser, Kutz, I., Kutz, S., & Weiser, 1995). Some studies have shown that there are significant improvements in mood and anxiety symptoms of psychiatric patients after participating in yoga or meditation (Davis et al., 2007; Kozasa et al., 2008; Lavey et al. 2005), and modest improvements were revealed in a 4-month study of yoga therapy as an add-on treatment in patients experiencing schizophrenia (Duraiswamy et al., 2007). Visceglia (2007) described her extensive clinical experience working with schizophrenic patients, as well as the benefits of yoga therapy for this population.

Like van der Kolk, her assessments are based upon the idea that noticing and tolerating physical sensations can offer a solid foundation for making sense of mental experiences. "Practicing yoga enables some people with schizophrenia to begin to articulate the confusing experiences of their inner worlds, the first step toward mastery over them" (Visceglia, 2007, p. 97).

The principal reason for any yoga practice is that it improves one's life. Yoga assists by building a strong, flexible body and mind capable of attuning to the surrounding environment, while simultaneously regulating the internal state of the body. These skills both develop and sustain mental and physical wellbeing. Equally, dance/movement therapy offers both insight and lifestyle changes as one becomes aware of one's own difficulties in relating to others, and learns to express or accept oneself. Therefore, it seems natural to combine the two modalities, offering myriad possibilities for healing with a variety of client populations.

Program Evaluation in Dance/Movement Therapy and Yoga

There is a dearth of published program evaluations of body-based yoga and dance/movement therapy programs. Although the studies reviewed suggest that aspects of dance and movement are vital components of self-regulation and pro-social behavior, not enough research has been done to test the effectiveness of movement-based therapeutic programs. To date, there are only two dance/movement therapy research articles based on program evaluations, and only a few more exist on clinical uses of yoga or other body-based movement programs.

Program Evaluation and Dance/Movement Therapy

Koshland, Wittaker, and Wilson (2004) designed the *PEACE Through Dance/Movement Program* using dance/movement therapy group processes to assist in violence prevention with elementary school children. Their program evaluation was thorough, producing a clear picture of the impact of the program, as well as offering empowering results for the field of dance/movement therapy. Hervey and Kornblum (2006) described an evaluation of the effectiveness of Kornblum's own body-based violence prevention program conducted with second grade students in the Madison, Wisconsin public school system. For the evaluation of *Disarming the Playground,* Hervey and Kornblum used a mixed method approach, comprised of quantitative assessment of all students participating in the sample, while also collecting interviews and creative expressive data from a smaller subset of students. Similar to the *Movement and Mindfulness* program, Kornblum was the creator and facilitator for *Disarming the Playground,* and also gathered the research data. The article suggests that outside investigators would be helpful in providing future objective assessments.

Program Evaluation and Yoga

As previously mentioned, there is also a scarcity of articles on program evaluation involving other therapeutic movement modalities. There exists less than half a

dozen articles that mention program evaluation involving yoga or similar movement-based therapy interventions. Derezotes (2000), in his evaluation of a yoga and meditation training with adolescent sex offenders, offered some similarities to the *Movement and Mindfulness* program. One such noteworthy aspect was that this particular program stressed the importance of caring relationships. Derezotes underscored the importance of implementing the program in a warm and caring interpersonal environment. He offers an exceptional example of how stress reduction through the use of yoga, meditation, and the modeling of supportive interpersonal environments may offer challenging therapeutic populations, such as adolescent sex offenders, an opportunity to heal.

A unique yoga program evaluation was conducted with kindergarten through third grade children in special education, who were involved in a school-based yoga program. Together, Palgi (2007) and the participating children planned, designed and monitored a participatory action project that promoted relaxation, including yoga and meditation, to help increase awareness of internal states and to improve abilities of self-regulation. Palgi chose a participation action model in order to foster expression and free inquiry. According to Palgi, this encourages a child's independent action initiation and "builds an atmosphere of talking about feelings and ideas, which facilitates further development of perspective taking and creates a way to communicate effectively" (p. 331). Palgi's participatory action research offered noteworthy benefits and an interesting perspective on involving participants in the evaluation process.

Two other studies described the development and evaluation of movement programs for the elderly. Li et al. (2001) evaluated Tai Chi for use in a U.S. community-based falls prevention program. Chen, Tseng, Ting, and Huang (2007) reported the development and evaluation of a yoga exercise program for older adults in Asia. Based on the lack of diversity in these studies, it is not clear how these findings would generally apply to other populations.

In yet another program involving a movement and body-mind-spirit model for crisis intervention with individuals who have experienced trauma (C. Chan, T. Chang, & Ng, 2006), the facilitators worked to develop inner strength and emphasis on the meaning-making process for residents of Hong Kong following the SARS pandemic. Eastern spiritual teachings and physical expressions such as Tai Chi, Qi-Gong, yoga, mindfulness meditation, and psycho-education were used to build strength and foster emotional changes. As in India, the participants were encouraged to seek group support and "to strengthen their social network with family members and friends" (p. 25). Chan et al. (2006) also mentioned the importance of selfless devotion to volunteering as a means to transform "self-pity into a path of recovery" (p. 26). Of the present examples, only three are evaluations of programs designed and implemented for western cultures. There are no published examples of program evaluation concerning body-based work with psychiatric or SMI populations.

The Need for Evaluation

There is no published research on the combined use of yoga and dance/movement therapy in the treatment of SMI. More specifically there is a need for evaluations on

yoga and dance/movement therapy programs to evaluate the efficacy of combining these approaches with SMI populations. It is hoped that through the examination of the *Movement and Mindfulness* program, clear examples of how these two movement modalities work effectively to support the psychosocial goals of the participants will be revealed.

Methodology

Design of the Program Evaluation

A formative evaluation was carried out of the *Movement and Mindfulness* program over a 20-week period. The design of the evaluation was solely qualitative in nature. Data, in the form of interviews and surveys, were collected during the fourth, eighth, twelfth, sixteenth, and twentieth weeks. Due to the specific scope of the original proposal, as well as limited resources, a control group was not used in the design of the evaluation, and it is a limitation of this study. The program was designed around dance/movement therapy and body-based yoga/mindfulness interventions to assist individuals in developing insight, as well as lifestyle changes, as they became aware of their own difficulties in relating to others and expressing or accepting themselves. Each session involved experiences focused on self-regulation and self-awareness, using dance/movement therapy, yoga therapy-based techniques, traditional group counseling, and the Eastern concept of mindfulness. Personal self-expression and communication through movement were greatly encouraged throughout the course of the program.

In the beginning, the program emphasized basic yoga activities over more expressive processes in order to build comfort and safety with movement. As the group felt more comfortable with movement, more dance/movement therapy techniques were added and eventually became the predominant activity. Structured experiences consisted of movement or experiences generally led by the facilitator. Examples of structured experiences included: (1) chair-based yoga postures, such as the *pawan muktasana* series, (2) *pranayama*, or breathing techniques, such as *nadi shodhana*, or alternate nostril breathing, (3) the *defense*, or *dimensional scale,* and (4) the *diagonal scale*. The diagonal scale is a full-bodied movement sequence that explores an individual's diagonal reach within a self-contained invisible cube. Rudolf Laban, an influential movement theorist from the early twentieth century, developed both the diagonal and defense scale from his exposure to survival techniques in the martial arts (Bartenieff, 2002). The group's use of the diagonal scale involved experimentation with different *efforts*, or movement qualities, along with corresponding made-up sound effects. Rhythm, balance, and playfulness were utilized throughout the practice.

The *pawan muktasana* series, a therapeutic preparatory practice used for opening up joints and relaxing the muscles, consisted of both dynamic and static motions that focused on increasing joint mobility, improving physical strength and balance, as well as assisting in the development of proprioception and kinesthetic awareness. As the facilitator, I initially led the group yoga experiences and then, gradually,

participants were asked to explore more creative, expressive movements. Examples of creative movement included in the program were: (1) mirroring activities, such as movement practiced in the introductory expressive process *say-your-name-do-a-movement*, (2) traditional dance/movement therapy processes, and (3) the addition of sound effects created by the participants to accompany structured movement, as mentioned earlier within the diagonal scale. Participants were asked to identify emotional qualities of physical motion and then to assign verbal sounds to the sequences.

Setting and Demographics

The project was designed and implemented for a suburban county psychosocial rehabilitation program in the midwest region of the United States. This particular facility offers outpatient longterm and extended care rehabilitative services, socialization programs, and group activities to adults with a history of mental illness. The overarching mission of the rehabilitation program is to promote self-confidence, and to teach social and independent living skills. Of the 166 clients from the facility, ten individuals participated in the dance/movement and yoga therapy program, and eight agreed to participate in the program evaluation process. Overall, weekly group attendance averaged from five to seven participants. The group was largely Caucasian and female. There were two male participants and two women of African-American descent. The ages ranged from late 20's to early 60's. Diagnoses of group members included major depressive disorder, schizophrenia, schizoaffective disorder, and bipolar disorder. According to several of the fulltime clinical staff, the majority of individuals who comprised the stress-reduction group were viewed as "not typically social or outgoing." Many experienced overt and disruptive internal stimulations, such as auditory or visual hallucinations, as well as severe anxiety symptoms. Nearly all of the participants were also dually diagnosed with substance abuse disorders. All participants, as well as the clinical counselors who were involved with the case management of the participants, were asked to participate in the study. Each participant was informed about the ethical process of disguising personal information and knowingly signed informed consents.

Procedure

Data Collection

The program evaluation sought to understand the following: (1) the participants' use of movement-based coping skills in their daily lives, and (2) the effect of the group experience on the individuals' abilities to manage stress and improve interpersonal communication skills. Qualitative information was sought in the form of four open and closed-ended question surveys and a dozen in-depth individual interviews conducted with eight of the ten participants and four clinical counselors. In addition, as the evaluator, I had access to the "My Recovery Application" form, which was developed by the facility to reinforce group experiences. This form asked the

participants to list "one thing I will try because of what I learned in group today" followed by a three-line space in which to answer.

Surveys. The surveys asked the participants to recall some features of the material that they had learned in the group. These surveys were distributed approximately every 4 weeks, and participants were offered an opportunity to share their experiences verbally and in a written format. The purpose of each survey was to better understand the participants' changing needs and perceptions from the evolving group experiences. In addition, the answers to the questions provided a view of how group experiences were translated into everyday social processes.

Since more than a third of the entire *Movement and Mindfulness* program curriculum was didactic in nature, these surveys were particularly helpful in gaining understanding about the participants' aptitudes for retaining the material. Creative expressive options, such as drawing or doodling, were offered as response possibilities. In an effort to encourage choice-making, there were no limits on the methods by which a participant could respond.

Interviews. The open-ended questions utilized in the interviews were formulated based upon examples from literature on program evaluation and the author's previous experiences with program design and implementation with other populations. Two differing sets of questions were developed for use with the client-participants and the clinical counselor-participants.

Additionally, clinical observations were made and recorded throughout the *Movement and Mindfulness* program in the form of informal session reports and audio files. Recording the interviews was both necessary and convenient for clients who struggled to express themselves on written evaluation forms. It also provided clients an opportunity to speak comfortably with the interviewer, thus avoiding the distraction of note taking.

Data Analysis

The formative evaluation of the *Movement and Mindfulness* program was a qualitative study based in thematic analysis. According to Mertens (2005), thematic analysis is a recursive approach to data analysis. For this evaluation process, data was collected and repeatedly analyzed, while consistently considering the context surrounding each phenomenon or behavioral shift being observed. The transcribed interviews and written material were color-coded for easy reference to the participant comments and to identify repeating themes in the data. Throughout the 20-week program, data was sorted and compiled into categories that directly addressed the goals of the evaluation. The evaluator frequently referred back to the previously collected data as new information about the participants' experiences developed. Nonverbal data, such as doodles and drawings, were appraised for changes in expressive content. The following themes were identified in the data:

1. Best and least liked aspects of the program
2. Creative versus structured movement experiences
3. Coping skills

a. Stress management
b. Improved relaxation and decreased anxiety
c. Improved understanding of self and other
d. Improved awareness of thoughts and feelings

4. Independent skill use
5. Differences between the movement group and other program groups
6. Suggestions for future programs

In addition, data collected from the clinical staff described their observations of skill use, changes in behavior as a result of participation in the program, as well as whether or not program goals were met. This data, coupled with the clients' direct responses, proved to be very helpful in evaluating the effectiveness of this program.

Findings

In this section, predominant themes that surfaced in the interviews and written evaluations are presented and discussed. Because many participants offered unique, insightful, and compelling answers, some of their words are included to illustrate the themes discovered. For the most part, the client participants appeared interested, engaged, and fully invested in the process of sharing their experiences with the evaluator. Findings from the interviews conducted with the four clinical staff members will also be discussed.

General Findings

The overall impression of the program was very positive. Common answers included: "It was good fun," "I really liked it a lot," and "It was my favorite class." The initial surveys indicated that the participants exhibited a strong desire to recall and describe their physical movement experiences. Their descriptions corresponded accurately with the activities of the curriculum's beginning stages. Structured activities for developing core strength, balance, tension-release, and slowing down, as well as for pairing breath with movement were all described in the earliest data collections. The later interview responses focused less on physical movement and more on feelings and affects resulting from participating in the group. Throughout the entire evaluation, the only consistent negative comments made by the participants were complaints about the size of the room.

Creative and Structured Movement Experiences

Several participants responded early that the process of sharing and mirroring movement was a bit of a challenge. Due to the diagnoses of these participants, it makes sense that structured movements, versus creative movements, would appeal to individuals attempting to rehabilitate into society while recovering from psychosis. In an effort to maintain control, they may have been initially less likely to experiment with the abstract feeling or fantasy states that are necessary for

expressive movement exploration. However, of the eight client participants interviewed, seven mentioned the creative introductory movement experience *say-your-name-do-a-movement* as a vital component to their experience. Although more than a couple individuals admitted it was "hard for me to come up with a movement," the majority described the experience as "freeing" and "not rigid."

Best Liked Experiences

In many of the interviews, various participants repeated terms such as: "freedom," "comfortable," "peaceful," and "not self-conscious." Of the eight client participants, all but one mentioned the *diagonal scale,* and each had distinct reasons for why they enjoyed it the most. An older participant who had struggled with hemiparesis offered: "I liked the diagonal scale… it makes you reach out." At the commencement of the program, several participants were reticent about the idea of *dancing*, although they were fine with the movement labeled *yoga*. One woman who initially rejected the idea of dance for therapy explained in the interview that she liked the diagonal scale because it was a "routine that we could practice… and then with the music, I was relaxed enough to do something where I didn't look like a total geek." She further explained: "I was incorporating the stuff we did, but making it my own… I was like scat-dancing." Overall, the majority of the group agreed that their ability to move freely without feeling self-conscious or judged was a valuable experience, and whether they embraced the idea of dancing or doing yoga, the group eventually accommodated dance/movement as an acceptable and enjoyable group process.

Least Liked Experiences

Two individuals mentioned physical fatigue as a least favorite aspect of participation in the movement group. One woman recalled a single session when music-making props were used to explore individual and group rhythms, and explained, "I was uncomfortable with the music stuff'cuz [sic] it's feeding into my you-have-no-sense-of-rhythm feeling." However, on the whole, the least liked aspect of the group was the limiting size of the room, as it offered little space for larger movement experiences.

Improved Coping Skills

During the interview, participants were asked to recall the skills they believed they had gained from the group experience and if they were being used in everyday life. Through this process, several problem areas among the participants were recognized within the data. Common life issues identified by participants included: physical and mental tension, difficulty sleeping, poor interpretation of nonverbal communication, difficulty identifying personal and social boundaries, and chronic anxiety associated with real and perceived social stress. Categories of coping skills used to deal with these problems were identified as: stress management, improved relaxation,

decreased anxiety, improved understanding of self and other, and improved awareness of thoughts and feelings.

Stress Management

Everyone reported feeling more relaxed during and after the group. One man added that he felt simultaneously "relaxed and re-energized," which he directly correlated with a recent improvement in sleep. Two of the eight participants described a new awareness of finding relaxation through the process of practicing slow movements. One woman described a feature in her life as "going, going, going, at a really high speed" and admitted feeling fearful about slowing down. Learning how to relax helped her feel safe to do so. Two other women reported gaining a sense of comfort and personal empowerment from aspects of the group experiences. One woman who was confined to a chair throughout the 20-week program due to physical limitations, explained, "I felt more power, that I can sit and do the same thing as someone standing." She added that feeling included in the group helped her feel empowered to manage a stressful interpersonal home life.

Improved Relaxation and Decreased Anxiety

All of the participants confirmed that the work of this program had improved their ability to relax. For the purpose of this evaluation, the experience of relaxation was defined as the reduction or absence of personal physical or mental tension based upon the use or experience of a particular intervention. Alternatively, stress management, which is also based in developing skills of relaxation, differs from relaxation alone because the management of stress elicits benefits beyond the immediate moment (such as improved sleep or self-esteem). Five of the eight participants shared specific ways in which the group skills helped them, personally. Both Laban's defense, or dimensional scale and *nadi shodhana pranayama* (or alternate nostril breathing), were identified as major tools for relaxation. A man in his mid-twenties described his use of the defense scale: "I was all stressed out and unhappy and after I did [the scale] I was like okay, if this is the way it is, then this is the way it is. It gave me time to absorb [my issue]." The group experience of nonjudgmental activity coupled with scale practice was also connected to the sensation of relaxation: "like when we all did our diagonal scale, I felt part of a group and relaxed doing it… because we were all doing it together and not thinking that I know this jazz step better than you!" Also, the woman who was confined to her chair described her movement processes as "peaceful" and "free" and further explained: "I felt uplifted because my mind was distracted by doing all the movements… and my blood flowed better and cleared my mind because I was doing something enjoyable."

Improved Understanding of Self and Other

Seven out of the eight participants reported improved interpersonal relationships, as well as improved social connections within the group. Specifically, the aspect of

sharing was repeated throughout the interviews, as well as in the earlier evaluations. Participants conveyed that sharing and mirroring movements in order to nonverbally describe internal experiences created a sensation of trust among the group members. "I enjoyed being able to do other people's movements because then that gives you a different movement [to try] and a different perspective… kind of like you can see how [others] are doing that day." Another person expressed a similar notion: "I was able to look at the situation from the other person's standpoint… because you never know what people know or what they are experiencing at that exact moment… and now I feel I can cut them a little more slack or something… more than I may have in the past." The same participant also commented on the importance of gaining awareness and expanding her personal kinesphere: "I am not sure about other people, but I tend to be in this one spot right here and the yoga movement kind of makes you explore, so you widen your bubble in a way."

Improved Awareness of Thoughts and Feelings

Some participants described the ability to identify, as well as to shift potential emotional states through the use of music, movement, and mindfulness. A woman diagnosed with schizophrenia beautifully described a revelation from her group experience on one of the written evaluation forms: "I can be creative in my movements. I can put my emotions into movements… and then put [them] into music to relax and feel positive." In contrast, during the in-depth interviews, most of the group members expressed reticence to admit that the group experience specifically improved their ability to share thoughts and feelings. At most, several individuals commented that they were more aware of their physical movements, as well as skills they could use to reduce stress. However, during a separate line of questioning, one participant succinctly described an inner awareness experience while practicing the effort qualities in the diagonal scale: "Yeah, 'cuz [sic] you can switch from lilting fluffy waves and fairy dust into punching, strong, powerful… and also emotions from relaxed to defensive." When asked how this experience could help her outside of the group, she replied, "Well if it took you that fast to get into an icky place, it can take just as fast to get you out… to a soft fluffy place." She continued, "and if your body is connected to everything else… and if you have skills to relax yourself physically, then your mind will also follow." According to several accounts provided by the clinical staff, this particular participant's interactions with others improved tremendously as a result of her time spent in the group.

Independent Skill Use

All of the participants reported using some aspect of yoga and dance/movement therapy techniques on their own. Half of the group members either mentioned they purchased or rented yoga videos, or plan to do so in the near future. The yoga technique used most frequently outside of the group was *nadi shodhana pranayama*, while the defense and diagonal scales were also practiced independently. One

participant was so vocal about his appreciation of the group that a clinical staff member asked him to share what he learned in the *Movement and Mindfulness* program with a separate rehabilitation group within the facility.

Differences Between the Movement Group and Other Program Groups

All of the participants initially compared the movement group to a Dialectic Behavioral Group (DBT) offered regularly at the same facility. Similarities consisted of the application of philosophical and mindfulness concepts, as well as the "small and interactive" nature of both groups. A group member stated that "trust" was easier to build in both of the groups because of the small size and the ability to connect with all the group members. In contrast, one participant said the DBT group "bugged" him because they offered skills that were not practical. He continued to explain that DBT taught self-help concepts but provided no experiential learning, which he surmised led to his disinterest and inability to pay attention. Overall, the biggest difference most individuals mentioned was the overuse of didactic groups in the facility, as opposed to more experiential learning, as found in the movement group. The latter proved more successful, according to the eight participants interviewed.

The participants in the *Movement and Mindfulness* group also compared the group to other yoga groups that were previously facilitated at the same program. The majority of the individuals who participated in both programs said the former yoga groups offered limited modifications for individuals with certain disabilities, whereas the *Movement and Mindfulness* group was modified to meet all abilities and levels. The woman confined to her chair explained: "This was the first [yoga group] that I have really enjoyed… yours is like yoga dancing and the other instructors were just yoga…so I guess there is a big difference." A visual comparison of the *Movement and Mindfulness* group with other programs offered at the same facility is provided in Table 1.

Interviews with the Clinical Staff

Four clinical staff members also contributed to the program evaluation. Their views were particularly helpful because they were able to view the client participants' behavior in settings other than the movement group. Additionally, three of the four clinical staff participated regularly in the *Movement and Mindfulness* group, and offered the program evaluation compelling comparisons to other groups offered in the same facility. All of the clinical staff members provided rich and complex details regarding the effectiveness of the program, but it is impossible to include it all within the scope of this article. Instead, four general categories were identified: (a) observation of participants' skill use, (b) changes in participants' behavior as a result of participation, (c) whether or not program goals were met, and (d) identifiable differences between the *Movement and Mindfulness* group and other groups in the same facility.

Table 1 A comparison between typical program groups and the dance/movement and yoga therapy group

Psychosocial rehabilitation program	Movement and mindfulness
Classical teaching, didactic learning, visual, and auditory information exchanges	Experientially-based learning, visual, auditory, somatic, and kinesthetic information exchanges
Formal, often large groups	Fun, active, small, and intimate group
Passive participation	Inclusive participation
Prior yoga programs offered limited modifications for individuals with certain disabilities	Dance/movement and yoga therapy group was modified to meet all levels and abilities
Theatre-style learning environment	Circle-based group environment
Linear pyschoeducation, challenging to maintain continuity when distracted	Built-in continuity, easy to pick up where left off
Verbal processing only	Creative expression and verbal processing

Data taken from interviews with clinical staff and program participants

Observation of Skill Use

All clinical staff members interviewed stated that they observed the participants utilizing the skills garnered from the movement group. Although the clinical staff members were unable to directly witness clients' use of skills outside of the facility, they did report that their clients often talked about how they used elements of the program in other settings. Interestingly, many of the participants brought their newly attained skills into other groups by way of offering to *teach* the non-participants what they had learned. The *nadi shodhana pranayama* breathing technique was actively used and shared with others, as witnessed by the clinical staff. It seems understandable that a breathing technique would be used independently more often than other movement techniques since the breathing practice may not elicit public attention.

Clinical staff also reported new behaviors that may have been a direct result of skill use. For example, a staff member was discussing a behavior shift in one of the participants: "I definitely see that she feels more confident and I think discovering herself in her space [referring to *kinesphere* use, or movement in her personal space (Newlove & Dalby, 2004)] has definitely made her realize that confidence… she can now socialize with others more effectively." Other client participants also displayed a variety of behavioral shifts that the clinical staff correlated with participation in the movement group. More examples will be discussed in the following section.

Changes in Behavior as a Result of Participation

As mentioned in the demographics section, this group of participants did not have a history of being particularly social or outgoing. Many experienced disruptive symptoms of psychosis and anxiety, making it a challenge to connect with others or to form trusting bonds. Because of these factors, many of the clinical staff expressed that they had initial doubts about the participants' abilities to effectively participate in the *Movement and Mindfulness* group. Interestingly, the most significant change

witnessed by the clinical staff among the group members reflected improved interpersonal interactions. According to the four clinical staff members, the most apparent change was the development of a strong social bond between participants, as well as improved social interactions outside of the group. Although the clinical staff reported that the entire group displayed improved pro-social behavior, two particular individuals from the group were consistently mentioned as examples. It was reported that the first individual, referred to as Lynn, experienced extreme difficulty with self-regulation in social settings and was often disruptive in other psychosocial groups. However, following participation in the group, staff members described Lynn's change as "more reserved" and "more appropriate," attributing this shift to the possible discovery of better forms of self-expression. A staff member described the result of the behavior shift that took place: "[Lynn] now feels more confident that she can socialize with others more effectively, both in how she presents herself, and in how she responds to others." In addition, another clinical staff member reported that Lynn previously talked about being overwhelmed by environmental stimuli, and now, after participation in the group, she has been able to "self-soothe, calm down and center herself."

The second individual, referred to as Sharon, displayed personality characteristics that were opposite to Lynn's. Instead, Sharon's personality was described as "withdrawn and painfully shy," often avoiding eye contact and social interaction beyond a select few from the facility. She would never offer her opinions and rarely would she willingly participate in the group discussions. A clinical staff member reported, "[Sharon] is very quiet and very shy, but within the last month, I've seen that in other groups she is actually volunteering and speaking—not the Gettysburg Address or anything, but offering her own input, and that would have never happened before." Three of the four clinical staff members spoke directly about Sharon's change, and attributed it to the *Movement and Mindfulness* group providing opportunities for other forms of self-expression. Although she was not typically verbal, it appears that the experience of being validated for her expressive contributions in the movement group offered her the confidence she had previously lacked in other settings.

Other behavioral shifts of participants that were witnessed by the clinical staff consisted of improved self-reflection, increased self-esteem, and improved physical abilities, such as an increased range of motion and mobility. Table 2 offers a visual description of participants' coping problem examples, interventions, and the specific program goals that were addressed.

Meeting Program Goals

When asked, all of the interviewed clinical staff members reported that they believed the program goals were effectively addressed. In addition, the clinical staff provided myriad examples of stress management, coping and relaxation skills being used by participants within the group, as well as outside of the group setting. Most notable was the clinical staff members' excitement about witnessing improved communication skills and pro-social behavior among the participants. Individually, members of the clinical staff offered their own opinions about why they felt this

Table 2 Program goals addressed based on direct feedback from the participants

Coping problem examples	Interventions	Program goals addressed
Anxiety symptoms labeled as sensations of quickness, speed, motoring, and an uncertainty of cessation "*I feel like I have just been going, going, going at really high speed and I was getting scared wondering what would happen if I [stopped].*"	Slow, meditative movement performed with breath awareness; Movement experiences that focus on the sensation of weight/connection to gravity "*I slowed down and I think if I did that more… I wouldn't be so scared.*" "*I like being grounded… the ground supporting you… to get your thoughts slowed down and to concentrate.*"	Coping skills Stress management Promotion of independent skill use
Low self-esteem, poor body image, lack of self-confidence "*Normally I don't talk to people… if they sit down I don't say anything.*"	Fostering a nonjudgmental environment that offered options for movement modifications and emphasized personal expression "*I felt uplifted because my mind is [sic] distracted by doing all the movements… I felt more power that I can sit and do the same thing as someone standing.*"	Coping skills Relaxation Improved communication among participants
Poor physical mobility, difficulty engaging equally in peer activities "*I am usually pretty shy because of my weight and I don't like people looking at me.*"	Modification of movement, focus on inclusion and equality among participants "*You were free to move without feeling self-conscious or that other people were judging you because of the way you were moving if maybe you had a limitation or something.*"	Coping skills Stress management
Poor interpretation of non-verbal communication; Distorted thinking, paranoia, lack of social skills "*I let people weird me out…I'm easy pickings.*"	Learning objectivity through basic movement observation and assessment "*I was kind of able to look at the situation from the other person's standpoint… you never know what people are experiencing at that exact moment… so [I] now cut them a little more slack or something.*"	Stress management Promotion of independent skill use Improved communication among participants

Table 2 continued

Coping problem examples	Interventions	Program goals addressed
Increased mental and physical tension, poor sleep, depression "*I notice that when I clench and grind my teeth I get a headache…*"	Learning body awareness through meditative movement; Practicing the experience of tension identification and release through therapeutic yoga movements "*It lowers my stress and helps me relax, which is an important skill… I felt less anxious… I'm more aware of my capabilities.*"	Stress management Relaxation Promotion of independent skill use
Lack of personal boundaries, isolated, defensive, poor self-regulation during social stress "*Certain people I should know to leave alone.*"	Learning to modulate movement through the use of diagonal scale; Learning kinesphere awareness; Practicing breathing techniques for improving self-modulation; Using movement to develop the sensation of safety in the body "*Like when we all did our diagonal scale I felt part of a group and relaxed doing it because we were doing it together…I guess I [also] learned that breathing plays a big role in how I get tense.*"	Coping skills Stress management Promotion of independent skill use Improved communication among participants

group had the success it did. Nearly all of them attributed the success to the interactive and experientially-based curriculum. The following section will address recommendations for future psychotherapeutic movement programs with individuals experiencing SMI.

Discussion

According to the research, the *Movement and Mindfulness* program provided individuals experiencing symptoms of SMI a variety of tools to improve wellbeing and social functioning. However, due to the small sample size and the qualitative nature of the investigation, results of this study are only suggestive, not conclusive, and perhaps coincidental.

Due to the fact that the participants described mostly positive experiences in the data, this could be attributed to their receiving a significant amount of individual attention from the facilitator. Achieving the same level of individual attention in a larger group setting would be a challenge, but not impossible. Also, the novelty aspect of participating in a new and different group may have also significantly contributed to the positive feedback. Perhaps evaluating a series of 20-week program cycles would more accurately reflect whether the results were genuine, or skewed by a desire for unique experiences. Additionally, many of the participants of *Movement and Mindfulness* were chosen to participate in the group by their individual counselors. To avoid biases, future program evaluation should include a control group and a random sampling as a second step, if feasible.

The *Movement and Mindfulness* program should be duplicated and evaluated in other rehabilitation settings with similar populations, in order to correctly assess the effectiveness of the program. The results provide many hypotheses for further research in the area of dance/movement therapy, yoga, and mindfulness-based programs. The following elements seem important to consider in future programs:

(a) *Emphasis on communication, group support, trust, and safety*: Throughout the evaluation, the participants mentioned the importance of learning to communicate in new and effective ways. This was only possible in a supportive group setting that fostered both safety and trust. In addition, if expressive movements are new to the client population, the data reflects that participants may need to first find comfort in a movement process. This may be achieved by offering simplified yoga before fully investing in dance/movement, in order to establish safety and trust for later stages of expressive sharing. Within the scope of this evaluation, the participants initially rejected the idea of dance. It is this evaluator's opinion that the use of yoga allowed participants to feel more confident in movement, so that dance therapy could later access deeper social qualities of the movement process. Yoga also offered the participants an individual exploration of inner sensations while simultaneously participating in a group format. Because the majority of SMI participants were initially reluctant to socialize openly, yoga as an additional step was necessary before fully incorporating dance/movement therapy into the curriculum. The two

movement modalities beautifully complemented the therapeutic somatic process and have the potential to offer similar results for other groups and other populations.

(b) *Group confidence*: Fostering universality in the group provided opportunities for participants to feel equanimity and balance, regardless of physical limitations or ability levels. A clinical staff member labeled this experience as "We're in this together" and attributed this group sensation to an empowered sense of freedom that permitted individuals to drop social inhibitions, and explore new experiences and behaviors. As a result, participants gained personal confidence and discovered new ways of being in relationships.

(c) *Learning styles*: Many of the participants reported significant differences between *teaching-groups*, such as other psychosocial groups, and *active-groups*, like the *Movement and Mindfulness* program. Nearly all of the participants mentioned that traditional didactic methods often created boredom because of the expectation to sit, listen, and learn. Persons with SMI, like the general population, learn through myriad styles, but the challenge of their learning needs is compounded by their symptoms. Groups predominantly using talk therapy may unintentionally limit the participation of individuals who struggle with verbal communication. Providing opportunities to learn through the use of movement offers individuals experiencing SMI an alternative and interesting form of communication and expression, as well as a sense that they too have something worthy and valid to contribute to the group process. The addition of body-based experiential learning can be an effective adjunct to other methods used in psychosocial rehabilitation groups.

(d) *Modifications*: The success of the group depended heavily on the ability of all the participants to feel fully invested in the process. Ideally, future yoga or dance/movement-based groups should avoid limiting participation only to individuals who are physically capable. In fact, incorporating open inclusion with appropriate modifications models tolerance, promotes diversity and assists in the creation of equality and universality among the members. One caveat is that modifications may only be successful if implemented by a professional trained in both disciplines.

(e) *Follow up services*: Learning new coping skills and permanently incorporating them into behavior requires repetition. Subsequent groups should be implemented, or periodic refresher courses should be offered.

Conclusion

According to the evaluation results, this movement-based psychotherapeutic program offered participants practical life skills not readily available in their other psychosocial rehabilitation groups. Results from the evaluation indicate a strong interest of the client participants in having supplementary movement-based groups within future psychosocial rehabilitation programming. The clinical counselors and social workers reported improvement in the participants' relational behavior during

one-to-one sessions, as well as in other rehabilitation groups. The evaluation data revealed that the participants benefited significantly in their paths towards recovery, as evidenced by improvements in self-esteem and confidence, improved ability to self-regulate, improved social relationships, and enhanced use of effective communication skills. Participants also displayed enhanced stress management and coping skills, as well as practiced new options for coping with problems through the development of insight into patterns of behavior.

This evaluation also provided information about specific mindfulness, dance/movement or yoga therapy skills that were being used and/or appreciated by the group members. The method of combining these approaches strengthened the outcome, as described in the data collected from the post-program interviews. It appears that the combination of dance/movement and yoga therapy offered participants opportunities to improve intrapersonal experiences and interpersonal relationships. The effects of this process included improved self-regulation, as well as improved awareness about personal control with stress reduction. Specifically, the emphasis on breath awareness and mindful directive-based movement, such as yoga, seemed to ease the participants' concerns about the prospect of "dancing," while providing participants comfort in verbally describing and acclimating to internal experiences created by the act of moving. Peggy Hackney, a movement theorist who is best known for her work with Laban/Bartenieff Movement Analysis (LMA), in her book *Making Connections* (2002) describes a similar integration of methods. She called the relationship a "lively interplay of inner connectivity and outer expressivity" (p. 214). Based on the results of this evaluation, the combined use of yoga and dance/movement therapy techniques support the process of connecting internally to the experience of self and consequently improved the ability to effectively express oneself with the surrounding world. Despite the participants' initial remarks about discomfort with the idea of "dance," all group members reported enjoying movement expression activities and felt better connected to, and understood by, their group peers. It seemed that the time spent on developing inner ease with movement and sensation supported the development of genuine expression with others—the basis of dance/movement therapy.

Based upon the participants' and clinical staff's responses in the data, the combination of the yoga and mindfulness aspects into a dance/movement therapy process was well suited for use with this particular SMI population. This feedback will contribute significantly to the design of similar body-based programs in the future, as well as offer a resource for dance/movement therapists interested in combining other movement modalities into their practices.

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References

Barak-Bluntner, N. (1999). *Tai Chi and dance/movement therapy: An experiential group with adolescents who have used drugs*. Unpublished master's thesis, Lesley College, Cambridge, MA.

Bartenieff, I. (2002). *Body movement: Coping with the environment*. New York: Routledge.

Bernard, A. (1978). *Yoga and dance therapy*. Unpublished master's thesis, Lone Mountain College, San Francisco, CA.

Borskey, A. (2007). *Interactions of dual training and practice in dance/movement therapy and yoga: An interview study*. Unpublished master's thesis, Drexel University, Philadelphia, PA.

Broota, A., & Dhir, R. (1990). Efficacy of two relaxation techniques in depression. *Journal of Personality and Clinical Studies, 6*(1), 83–90.

Brown, R., & Gerbarg, P. (2005). Sudarshan Kriya yogic breathing in the treatment of stress, anxiety, and depression: Part I–neurophysiologic model. *The Journal of Alternative and Complementary Medicine, 11*(1), 189–201.

Chan, C., Chan, T., & Ng, S. (2006). The strength-focused and meaning-oriented approach to resilience and transformation (SMART): A body-mind-spirit approach to trauma management. *Social Work in Health Care, 43*(2), 9–36.

Chen, K., Tseng, W., Ting, L., & Huang, G. (2007). Development and evaluation of a yoga exercise programme for older adults. *Journal of Advanced Nursing, 57*(4), 432–441.

Daly, L. (2002). *Discovering the self: Connections between dance/movement therapy and hatha yoga*. Unpublished master's thesis, Pratt Institute, Brooklyn, NY.

Davis, L., Strasburger, A., & Brown, L. (2007). Mindfulness: An intervention for anxiety in schizophrenia. *Journal of Psychosocial Nursing & Mental Health Services, 45*(11), 23–29.

Derezotes, D. (2000). Evaluation of yoga and meditation trainings with adolescent sex offenders. *Child and Adolescent Social Work Journal, 17*(2), 97–113.

Duraiswamy, G., Thirthalli, J., Nagendra, H. R., & Gangadhar, B. N. (2007). Yoga therapy as an add-on treatment in the management of patients with schizophrenia: A randomized controlled trial. *ACRA Psychiatrica Scandivica, 116*, 226–232.

Elkins, G., Rajab, M., & Marcus, J. (2005). Complementary and alternative medicine use by psychiatric inpatients. *Psychological Reports, 96*(1), 163–166.

Furlager, A. (2007). *Coming home: Mindfulness practice and embodiment in resolving trauma*. Unpublished master's thesis. Columbia College, Chicago.

Goldstein, K. (1978). *An approach to movement related to dance movement therapy*. Unpublished master's thesis, Lesley College Graduate School, Cambridge, MA.

Gupta, N., Khera, S., Vempati, R. P., Sharma, R., & Bijlani, R. L. (2006). Effects of yoga based lifestyle intervention on state and trait anxiety. *Indian Journal of Physiology and Pharmacology, 50*(4), 428–436.

Hackney, P. (2002). *Making connections: Total body integration through Bartenieff fundamentals*. New York: Routledge.

Hervey, L., & Kornblum, R. (2006). An evaluation of Kornblum's body-based violence prevention curriculum for children. *The Arts in Psychotherapy, 33*(2), 113–129.

Hopper, K., & Wanderling, J. (2000). Revisiting the developed versus developing country distinction in course and outcome in schizophrenia: Results from ISoS, the WHO collaborative follow up project. *Schizophrenia Bulletin, 26*(4), 835–846.

Integral Yoga Magazine. (2009, Summer). *Yoga and post-traumatic stress disorder: An interview with Bessel van der Kolk, MD*. 12–15.

International Association of Yoga Therapists. (2007, December). What is yoga therapy? An IAYT definition. *Yoga Therapy in Practice*. Retrieved from http://www.iayt.org/site_Vx2/publications/articles/IAYT%20Yoga%20therapy%20definition%20Dec%202007%20YTIP.pdf?AutoID=&UStatus=&ProfileNumber=&LS=&AM=&Ds=&CI=&AT=&Return=../../site_Vx2/about/advisory.htm

Jablensky, A. (2000). Epidemiology of schizophrenia: The global burden of disease and disability. *European Archives of Psychiatry and Clinical Neuroscience, 250*(6), 274–285.

Jacobson, S. (2004). *The effects of yoga breathing in dance/movement therapy sessions with Alzheimer's patients*. Unpublished master's thesis, Naropa University, Boulder, CO.

Janakiramaiah, N., Gangadhar, B., Murthy, P., Harish, M., Subbakrishna, D., & Vedamurthachar, A. (2000). Antidepressant efficacy of Sudarshan Kriya Yoga (SKY) in melancholia: A randomized

comparison with electroconvulsive therapy (ECT) and imipramine. *Journal of Affective Disorders, 57*(1), 255–259.

Karno, M., & Jenkins, J. (1993). Cross-cultural issues in the course and treatment of schizophrenia. *Psychiatric Clinics of North America, 16*(2), 339–350.

Koshland, L., Wittaker, J., & Wilson, B. (2004). Peace through dance/movement: Evaluating a violence prevention program. *American Journal of Dance Therapy, 2*(2), 69–90.

Kozasa, E., Santos, R., Rueda, A., Benedito-Silva, A., De Moraes Ornellas, F., & Leite, J. (2008). Evaluation of Siddha Samadhi yoga for anxiety and depression symptoms: A preliminary study. *Psychological Reports, 103*(1), 271–274.

Lavey, R., Sherman, T., Mueser, K. T., Osborne, D. D., Currier, M., & Wolfe, R. (2005). The effects of yoga on mood in psychiatric inpatients. *Psychiatric Rehabilitation Journal, 28*(4), 399–402.

Li, F., Harmer, P., McAuley, E., Duncan, T., Duncan, S., Chaumeton, N., et al. (2001). An evaluation of the effects of Tai Chi exercise on physical function among older persons: A randomized controlled trial. *Annals of Behavioral Medicine, 23*(2), 139–146.

Loupe, C. (1986). *T'ai chi ch'uan: An exploration of its psychological components in relation to dance/movement therapy*. Unpublished master's thesis, Antioch/New England Graduate School, Keane, NH.

Lustman, H. (1999). *Movement, breathing and feeling*. Unpublished master's thesis, Lesley College, Cambridge, MA.

Malathi, A., & Damodaran, A. (1999). Stress due to exams in medical students—role of yoga. *Indian Journal of Physiological Pharmacology, 43*, 218–224.

Mertens, D. (2005). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. Thousand Oaks, CA: Sage Publications.

Newlove, J., & Dalby, J. (2004). *Laban for all*. New York: Routledge.

Palgi, I. (2007). Our story of yoga: Participatory learning and action with young children. *Children, Youth and Environments, 17*(2), 329–340.

Perkins, S. (1998). *The dancing Buddha: Buddhist practices and principles and the healing art of dance/movement therapy*. Unpublished master's thesis, Naropa University, Boulder, CO.

Pilkington, K., Kirkwood, G., Rampes, H., & Richardson, J. (2005). Yoga for depression: The research evidence. *Journal of Affective Disorders, 89*(1), 13–24.

Porges, S. W. (2005). The role of social engagement in attachment and bonding: A phylogenetic perspective. In C. S. Carter, et al. (Eds.), *92nd Dahlem workshop on attachment and bonding: A new synthesis* (pp. 1–22). Cambridge, MA: The MIT Press.

Ray, U., Mukhopadhyaya, S., & Purkayastha, S. (2001). Effect of yogic exercise on physical and mental health of young fellowship course trainees. *Indian Journal of Physiological Pharmacology, 45*, 37–53.

Risher, E. (1991). *Zen and the art of dance therapy*. Unpublished master's thesis, Hunter College, New York, NY.

Saraswati, S. (1984). *Kundalini Tantra*. Bihar: Yoga Publications Trust.

Sartorius, N., Gulbinat, W., Harrison, G., & Laska, E. (1996). Long-term follow-up of schizophrenia in 16 countries: A description of the international study of schizophrenia conducted by the World Health Organization. *Social Psychiatry and Psychiatric Epidemiology, 31*(5), 249–258.

Scudder, A. (1993). *Dancing with the beast. A philosophical embodied approach to the resolution of internal conflict utilizing ki and the principles inherent in the art of Karate*. Unpublished master's thesis, Antioch/New England Graduate School, Keane, NH.

Shannahoff-Khalsa, D. (2004). An introduction to kundalini yoga meditation techniques that are specific for the treatment of psychiatric disorders. *Journal of Alternative and Complementary Medicine, 10*(1), 91–101.

Siegel, D. (1999). *The developing mind: Toward a neurobiology of interpersonal experience*. New York, NY: Guilford Press.

Spaeth, M. (2003). The recovery of spirituality in trauma, stress, and loss: A conceptual integration of analytical psychotherapy, core shamanism, and Kundalini yoga. *Dissertation Abstracts International*, *63*, 5537.

Spector, P. (1981). *T'ai chi chuan as a adjunctive movement therapy for gestalt oriented work with individuals*. Unpublished master's thesis, Antioch/New England Graduate School, Keane, NH.

Stamm, T. (2005). *The integration of the chakra energy system and dance/movement therapy*. Unpublished master's thesis. Columbia College, Chicago.

Stewart, J. (1998). *Dancing the yogic arc of life: An exploration into the nature of holistic health and healing as moving within wholeness*. Unpublished master's thesis, Lesley College, Cambridge, MA.

Tharp, R., & Gallimore, R. (1988). *Rousing minds to life: Teaching, learning, and schooling in social context*. Cambridge: Cambridge University Press.

Vedamurthachar, A., Janakiramaiah, N., Hegde, J., Shetty, T., Subbakrishna, D., Sureshbabu, S., & Ganadhar, B. (2006). Antidepressant efficacy and hormonal effects of Sudarshana Kriya Yoga (SKY) in alcohol dependent individuals. *Journal of Affective Disorders, 94*(1), 249–253.

Visceglia, E. (2007). Healing mind and body: Using therapeutic yoga in the treatment of schizophrenia. *International Journal of Yoga Therapy, 17*, 95–103.

Vrinte, J. (2002). *Perennial quest for a psychology with a soul: An inquiry into the relevance of Sri Aurobindo's metaphysical yoga psychology in the context of Ken Wilber's integral psychology*. New Delhi: Motilal Banarsidass Publishers.

Warner, R. (2007). Review of Recovery from schizophrenia: An international perspective. A report from the WHO collaborative project, the International Study of Schizophrenia. *American Journal of Psychiatry, 164*(9), 1444–1445.

Weinrich, W. (1987). *The combining of dance/movement therapy and yoga for cocaine addicts: A wholistic treatment*. Unpublished master's thesis, The Naropa Institute, Boulder, CO.

Weiser, M., Kutz, I., Kutz, S., & Weiser, D. (1995). Psychotherapeutic aspects of the martial arts. *American Journal of Psychotherapy, 49*(1), 118–127.

Williams-Kief, M. (2003) *Combining yoga and dance/movement therapy: A treatment model to increase self-esteem in partially hospitalized adolescent females*. Unpublished master's thesis, Drexel University, Philadelphia, PA.

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