

# The Effects of Reiki Treatment on Mental Health Professionals at Risk for Secondary Traumatic Stress: A Placebo Control Study

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*The purpose of this cross-sectional experimental study was to examine the effects of Reiki on risk level for secondary traumatic stress (STS) and its associated symptoms among mental health professionals. The sample (N = 67) was composed of master social work students (MSW; 61%), professional social workers (34%), and licensed professional counselors (5%). Study participants were randomly assigned to one of three treatment groups: Reiki, placebo, or control group. Dependent variables measured at pretest and posttest consisted of risk level for STS, anxiety, depression, somatic symptoms, anger, and hopelessness. Multivariate analysis of variance was conducted to determine if there was a difference between treatment groups. No significant differences were found between the Reiki, placebo, or control groups on any of the variables measured. The strengths and limitations of the research are discussed.*

**Key words:** mental health professionals; Reiki; secondary traumatic stress

## Introduction

Secondary traumatic stress (STS) is the stress experienced by individuals who are in continuous contact with a traumatizing event as a result of acting as a secondary witness to that event (Figley, 1995). Figley (1999) defined STS as “the natural, consequent behaviors and emotions resulting from knowledge about a traumatizing event experienced by a significant other. It is the stress resulting from helping or wanting to help a traumatized or suffering person” (p. 10). Researchers have reported predictors associated with STS in mental health professionals including type of service provided, nature of the work, age and years of

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experience, caseload, support from colleagues, work overload, time pressures, client characteristics, past trauma history, professional isolation, personal circumstances, spiritual beliefs, and work environment (Arvay & Uhlmann, 1995; Prosser et al., 1996; Ursano, Fullerton, Vance, & Kao, 1999; Wee & Myers, 2002). Symptoms of STS include anxiety; stress; disturbed sleep and insomnia; anger/rage; fear; social phobia; increased use of alcohol; mistrust; isolation; perceptual distortions of reality; extreme protectiveness toward loved ones; feelings of being overwhelmed, depleted, or worthless; guilt; numbness; helplessness; pervasive hopelessness; and mistrust (Arvay & Uhlmann, 1995; Cornille & Myers, 1999; Crothers, 1995; Figley, 1995; Yassen, 1995). Other general physical conditions associated with STS are increased arousal, sweating, rapid heart rate, breathing difficulties, somatic reactions, aches and pains, dizziness, and an impaired immune system (American Psychiatric Association, 2004; Yassen, 1995). Even though STS is recognized as an occupational hazard, current research reports few incidences among mental health professionals, but the existing studies are limited to specific populations with small sample sizes (Benoit, Veach, & Leroy, 2007; Bride, 2007; Simon, Pryce, Roff, & Klemmack, 2005). Moreover, the evidence provided by these studies indicates that mental health professionals working with traumatized individuals are at risk for STS (Boscarino, Figley, & Adams, 2004; Bride, 2007; Nelson-Gardell & Harris, 2003; Simon et al., 2005).

Mental health professionals affected by STS may experience an array of trauma symptoms including fear, depression, anxiety, stress, anger, irritability, intrusive thoughts, physiological arousal, and hopelessness (American Psychiatric Association, 2004; Arvay & Uhlmann, 1995; Bride, 2007; Cornille & Myers, 1999; Figley, 1995; McCann & Pearlman, 1990; Yassen, 1995). Debriefing has been the recommended therapeutic approach to treat STS (Arvay, 2001); however, the scientific community is scrutinizing this widely used method (Naturale, 2007). Research indicates that debriefing may cause more harm than benefit (Phipps & Byrne, 2003; Regehr, 2001). Regehr also reports that individuals participating in debriefing groups who listen to the descriptions of others' traumatic experiences may develop STS. Other recommended interventions for STS are preventative and include discussing the risks of developing STS with individuals working with trauma clients, peer support, and supervision (Naturale, 2007). McCann and Pearlman (1990) recommend a comprehensive approach to address the individual's needs, including his or her spiritual, emotional, and physical components.

Reiki is an energy therapy modality acknowledged by the National Center for Complementary and Alternative Medicine (2002). Reiki is based on the belief that, when spiritual energy is channeled through a Reiki practitioner, the spirit is healed, which in turn heals the physical body (Miles & True, 2003; Natale, 2010). It is presently used in many hospitals throughout the country as an adjunct therapy to treat physical illness and facilitate well-being (Barnett, Chambers, & Davidson, 1996; Natale, 2010; Nield-Anderson & Ameling, 2000). Research suggests that Reiki may be an effective intervention for a variety of problems that are

listed in the *Diagnostic and Statistical Manual of Mental Disorders IV* (DSM-IV-TR; American Psychiatric Association, 2004) and have associated descriptive features characteristic of individuals affected by STS (Mackay, Hansen, & McFarlane, 2004; Olson & Hanson, 1997; Shore, 2004; Tsang, Carlson, & Olson, 2007; Wardell & Engebretson, 2001). Research on Reiki has suggested its effectiveness for a number of physiological states associated with STS including elevated heart rate (Mackay et al., 2004), blood pressure (Mackay et al., 2004; Wardell & Engebretson, 2001), and level of cortisol (Wardell & Engebretson, 2001) and with subjective outcomes such as anxiety, stress, and depression (Shore, 2004); fatigue (Tsang et al., 2007); and pain (Olson & Hanson, 1997). However, to date, no specific research has been conducted on the effect of Reiki on STS or its associated symptoms, including anxiety and stress, depression, anger, hopelessness, and somaticism, among mental health professionals. In this study it is hypothesized that mental health professionals at risk for STS symptoms will be positively influenced by Reiki treatment.

Reiki research is relevant to the mental health profession because a core characteristic of mental health practice is to maintain a holistic perspective on the paradigms influencing and determining people's lives. Recent statistics reported by the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention (CDC) indicate that there is an increased use of complementary and alternative medicine (CAM) in mainstream America (Barnes, Powell-Griner, McFann, & Nahin, 2004). The data in this report were obtained from the 2002 National Health Interview Survey of 31,044 noninstitutionalized and randomly selected adults (Barnes et al., 2004). Findings indicated that 62 percent of adults used some form of CAM for health reasons during the previous twelve months (Barnes et al., 2004). Most respondents to the CDC survey (55%) believed that the use of CAM combined with conventional medicine would help in their recovery (Barnes et al., 2004). Furthermore, because Reiki is a low-risk, nondirective, and noninvasive form of intervention, it is being offered in a number of health care settings such as Harvard University, Columbia University, and the George Washington University Medical Center (DiNucci, 2005).

Energy therapies are defined by the National Center for Complementary and Alternative Medicine (NCCAM; 2002) as a method of healing involving the conduction of healing energy through the hands of a practitioner into the client's body with the purpose of restoring homeostasis in the system to induce health. Energy therapies are classified by the NCCAM (2004) as putative energy fields. Examples of energy therapies are Reiki, healing touch, Qigong, and homeopathy.

Ecological theory proposed by Germain (1977) and Germain and Gitterman (1987, 1995) focuses on the ongoing transactions between a person and the environment. When this transaction is meaningful and constant, the person and the environment change until the person adjusts to the environment. According to ecological theory, the person and the environment are continuously reshaping each other under the influence of time and historical and social contexts. The relationship between a person and a particular environment becomes the

person:environment unit. The degree of adaptation is related to growth and development in the person:environment unit. Ecological theory views the person:environment relation holistically; the continuous adaptation may vary from a favorable goodness of fit, in which continuous growth is achieved, to a minimal goodness of fit or unfavorable fit, in which neither of the parties has growth opportunities (Germain & Gitterman, 1995).

Adaptation can be negatively influenced by life stressors that may cause excessive strain on a person's management of resources. Life stressors include traumatic events and any experience that disrupts the existing fit (Germain & Bloom, 1999). A life stressor may present itself when a mental health professional listens to clients' traumatic experiences. When the mental health professional is unable to adapt and master the situation, an unfavorable fit may occur, and the risk for STS increases. In ecological theory, stress is defined as the internal response to a life stressor and is characterized by a troubled emotional and/or physiological state. A negative presentation of stress is demonstrated through the arousal of anxiety, guilt, anger, fear, depression, and helplessness (Germain, 1980, 1991), which are symptoms of STS (Yassen, 1995).

Psychoneuroimmunology (PNI) is the interdisciplinary scientific field that studies how an individual's personal framework of emotions, beliefs, and spirituality relate to the environment and how this dynamic results in positive or detrimental physical changes in the body (Cohen & Herbert, 1996). Psychoneuroimmunology seemingly locates the underlying mechanisms of disease and connects emotional and psychological states of being to the biological system. The interest of PNI in studying the mind-body connection, how the mind-body interaction affects individuals' lives, and how attention to levels of stress facilitates healing has resulted in empirical research that suggests that stress may have an impact on physical, mental, and emotional well-being (Cohen & Herbert, 1996).

Literature suggests that Reiki may have an influence as an intervention that can positively affect a number of physical symptoms:

- decreased pain in chronic illness, cancer, and muscle and bone disorders (Olson & Hanson, 1997);
- increased quality of life in cancer patients (Olson, Hanson, & Michaud, 2003);
- decreased fatigue and anxiety in cancer patients (Tsang et al., 2007);
- decreased depression, stress, and anxiety and increased feelings of hope in volunteers (Shore, 2004; Wardell & Engebretson, 2001);
- decreased diastolic blood pressure and heart rate in healthy adult volunteers (Mackay et al., 2004);
- increased memory-related activity in Alzheimer patients (Crawford, Leaver, & Mahoney, 2006).

Research suggests that Reiki is not effective as an adjunct to standard rehabilitation procedures for sub-acute stroke patients (Shiflett, Nayak, Bid, Miles, & Agostinelli, 2002), may not influence stress and anxiety in women undergoing breast biopsy (Potter, 2007), did not improve symptoms of fibromyalgia (Assefi,

Bogart, Goldberg, & Buchwald, 2008), did not reduce physiological symptoms of stress and anxiety in healthy college students (Bowden, Goddard, & Gruzelier, 2011), and did not improve symptoms of depression, anxiety, or well-being in patients treated for prostate cancer (Beard et al., 2011).

The strength of the current empirical investigation of Reiki lies in the intention of researchers to follow strict scientific standards. Data were collected using validated instruments and standard physiological and psychological measurements. Researchers in some studies on Reiki used random assignment to control and comparison groups, and the statistical methods chosen appear to have been appropriate; however, many limitations and methodological flaws remain that need to be addressed in future Reiki research. Recommended modifications include the following:

- determination and implementation of a specific standardized Reiki protocol
- controlled selection of the Reiki practitioner
- control for residual and potential placebo Reiki effects
- larger sample sizes
- control procedures implemented throughout the research process
- control for potential confounding treatments

Furthermore, because no Reiki study has been replicated, there is no consistent evidence that Reiki has any effect on the psychological or physiological conditions studied. Thus, the major gap in the existing knowledge base is caused by limitations in the Reiki literature that prevent researchers from showing any consistent effects. This study will examine the effect of Reiki on mental health professionals at risk for STS using randomized controlled conditions. Outcomes will be measured as changes in symptoms that research has identified as common in persons affected by STS, including anxiety, depression, anger-hostility, somatic symptoms, and hopelessness.

### **Methodology**

Research suggests that Reiki relieves anxiety, stress (Wardell & Engebretson, 2001), and depression (Shore, 2004). However, to date, no specific research has been conducted on Reiki to determine its effectiveness in relieving STS and its common symptoms. In this study it is hypothesized that Reiki will have a positive effect on mental health professionals who meet the inclusion criteria for being at risk for STS. This study was approved by the institutional review board (IRB) at Louisiana State University. All current standards for the protection of human subjects were followed.

This study used a purposive nonprobability sample. Recruitment for the study started in January 2010 and ended in May 2011. The recruitment process employed multiple avenues to contact mental health practitioners, including use of an e-mail list of licensed social workers in one state in the Deep South, contact with mental health agencies, and word of mouth.

Participants who responded to the invitation were screened to determine if they met the inclusion criteria for the study. Inclusion criteria included identification of a moderate to high risk of STS as determined by the Professional Quality of Life scale: Compassion Satisfaction, Burnout, and Compassion Fatigue/Secondary Trauma subscales (ProQOL R-V; Stamm, 2009). Participants were informed that if they met inclusion criteria they would be contacted within a week to schedule appointments for four Reiki treatment sessions, one treatment per week, on the same day of the week and at the same time. Respondents who were not at moderate to high risk for STS were not included in the study sample. Additional exclusion criteria included having received a Reiki treatment or other energy modality in the past month and pregnancy.

The researchers randomly assigned treatment conditions using three differently colored pebbles: orange corresponded to Reiki treatment, white corresponded to the placebo condition, and blue corresponded to the control group. Thirty-three pebbles of each color were put in a paper bag and mixed. The researcher pulled a random pebble from the bag and the participant was assigned to treatment according to the color of the pebble. Once the pebble had been selected it was discarded.

Participants were assigned to one of the three treatment groups: (1) the treatment group that received four Reiki treatments once every week for four weeks (fifty-minute sessions); (2) the placebo group that followed the same protocol as the treatment group except that it received no Reiki; and (3) the control group, whose participants were informed that they would be receiving distance Reiki, but received no treatments.

Treatment participants met with the practitioner at scheduled times. All Reiki was administered by one of the researchers who has twelve years of experience as a Reiki master practitioner. The practitioner followed an established Reiki protocol to ensure that treatments were uniformly administered. For the treatment group, sessions started with the participant lying on his or her back, fully clothed, with a cloth over the eyes. The practitioner started at the head and worked toward the feet, keeping hands approximately 1.5 to 2.0 inches away from the body. The participant then turned over to the stomach and the practitioner again worked from the head to the feet. The treatment lasted fifty minutes and included an explicit twenty-point protocol. Copies of the specific twenty-point Reiki protocol utilized in the study are available from the primary author.

All treatments were administered at the same location, in the same room, and under the same environmental conditions. The room was a quiet space with no visual or auditory distraction. No debriefing took place after the session.

For the placebo group, the practitioner greeted the participants and directed them to the treatment table. After covering the participant's eyes with a piece of cloth, the practitioner stood next to the table and moved every 2.5 minutes, following the treatment protocol but without placement of hands. No debriefing took place after the session.

Secondary traumatic stress, defined as the onset of symptoms due to exposure to others' trauma, and its associated symptoms are the dependent variables for this study. Symptoms of STS include fear, anxiety, depression, hopelessness, anger, and somatic symptoms (American Psychiatric Association, 2004; Figley, 1995). Data to measure changes in STS were collected using the Professional Quality of Life: Compassion Satisfaction and Compassion Fatigue/Secondary Trauma subscales (ProQOL R-V; Stamm, 2009).

The ProQOL R-V is a thirty-item self-report, using a Likert-type scale developed to assess STS, burnout, and compassion satisfaction. Each subscale has ten items with a range of scores between 0 (*never*) and 5 (*very often*). It measures the experiences of the participants in the previous month. Coefficient alphas for each of the subscales are compassion satisfaction alpha (.88), burnout alpha (.75), and STS alpha (.81; Stamm, 2009).

For this study, only the Compassion Fatigue/Secondary Trauma subscale (Stamm, 2009) was used. Stamm does not recommend the use of cutoff scores; however, to create categories, she offers percentiles for general applicability and screening purposes: high (25%), medium (50%), and low (25%). The average score on the Secondary Trauma subscale in the ProQOL R-V is 23 ( $SD = 6$ ,  $\alpha = .80$ ). Stamm reported that about 25 percent of individuals in the health profession score below 43 and another 25 percent score above 57. Again, according to Stamm, a score higher than 23 indicates a moderate risk for STS and a score higher than 57 indicates a high risk of being affected by STS.

Anxiety is a common symptom of STS and is defined as an unpleasant feeling of fear or state of intense apprehension, tenseness, inability to relax, nervousness, shakiness, or jumpiness (Kellner, 1987). Changes in anxiety were measured using the Symptom Questionnaire (SQ). The SQ is a ninety-two-item self-report instrument utilized to assess anxiety, depression, somatization, and anger-hostility. It is sensitive to changes experienced by participants and assesses participant experience in different time frames: how he or she feels right now, today, or in the last week. For the purpose of this study, the participants responded to how they felt in the last week.

Depression is a common symptom of STS and is characterized in the DSM-IV-TR (APA, 2004) as an altered mood that includes loss of pleasure and feelings of weariness, lack of worth, sadness, and failure. Associated symptoms include a reduced ability to concentrate, desperation, inferiority, inappropriate guilt, crying spells, pessimism or hopelessness, loss of energy, thoughts of death or dying, loss of interest in things, and feelings that life is bad. Changes in depression were measured using the SQ.

Anger, another associated symptom of STS, is defined as an emotional state that may vary in intensity from mild irritation to fury and rage (Kellner, 1987). In the SQ, used to measure anger, the terms *anger* and *hostility* are interchangeable, referring to irritability, annoyance, hatefulness, fury, hot temper, infuriation and rage, belligerence, and resentfulness (Kellner, 1987). Somatic symptoms, also

common to STS, are defined as pain that is not attributed to a physiological cause. They are believed to have psychological origins and indicate that the mind is having an effect on the body (American Psychiatric Association, 2004). Some common somatic symptoms are headaches, stomach pain, muscle pain, nausea, rapid heartbeat or pounding, and general weakness (Kellner, 1987). Changes in somatic symptoms were measured by the SQ.

The SQ reliability estimates were assessed, and the test-retest coefficients were .71 for anxiety, .95 for depression, .77 for somatic symptoms, and .82 for anger (Kellner, 1987). Corcoran and Fisher (2013) reported that the validity of the SQ was determined with a variety of samples in which scores were shown to discriminate between psychiatric patients and normal individuals in eleven different studies. Additionally, they reported that the SQ is able to discriminate between different groups of psychiatric disorders, psychosomatic disorders, and physical disease.

Hopelessness is a common symptom of STS. For this study, hope is defined as an individual's perception that his or her goals can be met and as his or her ability to plan activities that promote the achievement of those goals (Snyder et al., 1996). Snyder and colleagues represent this ability to create action in the two subscales included in the State Hope Scale (SHS): Goal-directed Determination and Planning to Meet Goals.

The SHS is a six-item, self-report, Likert-type scale with a range of scores from 1 (*definitely false*) to 8 (*definitely true*). The SHS has reported excellent reliability, a coefficient alpha of .93 for the total scale, and a coefficient alpha of .91 for both subscales (Snyder et al., 1996). Snyder and colleagues also report that the SHS has good construct validity in correlation with the Dispositional Hope, State Self-Esteem, State Positive Affect, and State Negative Affect scales.

Baseline data were gathered one week before the intervention for all three groups: treatment, placebo, and control. Post-test data were collected one week after the last Reiki or placebo treatment. Participants, including the control group, were asked to meet with the researcher to complete the post-test measurements, debrief, and answer questions. The control and placebo groups were offered one Reiki session after post-test measurement.

A power analysis was conducted to determine sample size. A sample size of 60 was determined to attain a power of .65 with a medium effect size ( $r = .30$ ) at a .05 significance level (Rubin & Babbie, 2001). This results in a 35 percent chance of making a Type II error.

Descriptive statistics were used to summarize demographic information of the sampled population including gender, age, race, living arrangement, household income, level of education, student versus professional, and area of social work practice.

A multivariate analysis of variance (MANOVA) was used to test the study hypothesis. In the case of the proposed study, STS, depression, anxiety, anger, somatic symptoms, and hope were the variables that were used to determine changes between treatment groups.



## Results

A total of ninety-seven potential participants responded to the pre-test questionnaires; seventy-nine of those participants met inclusion criteria for the study. In total, sixty-seven participants who met the criteria completed the study (85% response rate).

Of the sixty-seven participants, 93 percent were female, 85 percent were Caucasian, and 9 percent were African American. The mean age was 34 years (range of 22 to 74). A total of 51 percent of respondents were social work professionals, 42 percent were social work student interns, and 5 percent were licensed professional counselors (LPCs). A total of 39 percent practiced with children and families, 24 percent practiced with adults, and 17 percent practiced in a medical setting. Twenty-two participants (33%) were in the Reiki treatment group, twenty-one (32%) were in the placebo group, and twenty-four (35%) were in the control group (see Table 1 for additional details regarding the demographic characteristics of participants).

The dependent variables for the study were level of STS and its associated symptoms of anxiety, depression, somatization, anger-hostility, and hopelessness. The dependent variables did not differ at baseline among the three groups (Reiki, placebo, and control). The level of STS was measured throughout by the PROQOL R-V (Stamm, 2009); the scores for this scale range from 0 to 50. All participants in the study scored within the moderate level for STS with a range of 24 to 38 points ( $M = 27.07$ ,  $SD = 3.35$ ).

Levels of anxiety, depression, somatic symptoms, and anger-hostility were measured by the SQ (Kellner, 1987). The scores for each subscale ranged from 0 to 23 points. For the dependent variable anxiety, participant averages were within the moderate range ( $M = 10.03$ ,  $SD = 4.53$ ). For the dependent variable depression, participant averages were within the normal or low range ( $M = 6.19$ ,  $SD = 4.37$ ). For the dependent variable somatic symptoms, participant averages were within the moderate range ( $M = 11.22$ ,  $SD = 4.60$ ). For the dependent variable anger-hostility, participant averages were within the normal or low range ( $M = 5.90$ ,  $SD = 4.61$ ).

Hope was measured by the SHS (Snyder et al., 1996). The scores in this scale range from 6 to 48, where higher scores indicate higher levels of hope. Participant averages were within the higher range for hopefulness ( $M = 36.96$ ,  $SD = 12.84$ ).

Bivariate correlations were conducted to examine relationships between the dependent variables. A Pearson's  $r$  correlation was conducted to determine the relationship between variables. Results revealed a positive correlation between risk level of STS and anxiety that was statistically significant ( $r = .425$ ,  $N = 67$ ,  $p < .01$ ). Other significant positive correlation was found between risk level of STS and depression ( $r = .446$ ,  $N = 67$ ,  $p < .01$ ), anxiety and depression ( $r = .577$ ,  $N = 67$ ,  $p < .01$ ), anxiety and somatic symptoms ( $r = .510$ ,  $N = 67$ ,  $p < .01$ ), anxiety and anger-hostility ( $r = .314$ ,  $N = 67$ ,  $p < .01$ ), anxiety and hopelessness

Table 1 Demographic Characteristics of Study Participants (*N* = 67)

	<i>N</i>	Percentage
Gender		
Female	62	93
Male	5	7
Ethnicity		
Caucasian	57	85.1
African American	6	9.0
Other	4	6.0
Age <sup>a</sup>		
20–30	35	53
31–40	14	21.2
41–50	8	12.2
≥51	9	13.6
Living arrangement		
Married	25	37.3
Single/never married	24	35.8
Separated/divorced	11	16.4
Widowed	1	1.5
Living with partner	6	9.0
Household income <sup>b</sup>		
<\$25,000	19	29.7
\$25,001–\$50,000	14	21.9
\$50,001–\$75,000	11	17.2
\$75,001–\$100,000	9	14.1
>\$100,000	11	17.2
Highest level of education		
College	34	50.7
Master's	30	44.8
PhD	3	4.5
Professional/student <sup>c</sup>		
Social work professionals	34	50.6
Student interns	28	41.8
Licensed professional counselors	3	4.5
Area of practice <sup>d</sup>		
Family & child	26	39.4
Adult	16	24.2
Medical	11	16.7
Private practice	5	7.6
Other	8	12.1
Treatment condition		
Reiki	22	33.0
Placebo	21	32.0
Control	24	35.0

<sup>a</sup>Age of one participant unknown.<sup>b</sup>Household income of three participants unknown.<sup>c</sup>Professional/student status of two participants unknown.<sup>d</sup>Area of practice of one participant unknown.

( $r = -.306$ ,  $N = 67$ ,  $p < .05$ ), depression and somatic symptoms ( $r = .345$ ,  $N = 67$ ,  $p < .01$ ), depression and anger-hostility ( $r = .505$ ,  $N = 67$ ,  $p < .01$ ), and somatic symptoms and anger-hostility ( $r = .283$ ,  $N = 67$ ,  $p < .05$ ). Significant negative correlations were found between risk level of STS and hopefulness ( $r = .255$ ,  $N = 67$ ,  $p < .05$ ), somatic symptoms and hopefulness ( $r = .303$ ,  $N = 67$ ,  $p < .05$ ), and anger-hostility and hopefulness ( $r = -.353$ ,  $N = 67$ ,  $p < .05$ ). All remaining correlations were not significant.

A one-way MANOVA was conducted to determine the effect of treatment (Reiki, placebo, or control) on the risk of STS and its associated symptoms of anxiety, depression, anger-hostility, somatization, and hopelessness. Results revealed no significant statistical differences among the treatment groups on the dependent variables, Pillai's  $\Lambda = .135$ ,  $F(12, 254) = 1.531$ ,  $p = .113$ ,  $\eta^2 = .067$ . Observed power to detect the effect was .81. There were no significant differences in any of the dependent variables among the three treatment groups (Reiki, placebo, and control).

## Discussion and Conclusions

The central hypothesis of this study was that there would be significant differences in STS, anxiety, depression, somatization, anger-hostility, and hopelessness among the Reiki, placebo, and control intervention groups. Findings were expected to contribute to the evolving field of Reiki research and to the field of STS by testing a new model of intervention.

The results reported do not provide support for the research hypothesis, and no significant differences in risk level for STS and its associated symptoms were found. Thus, Reiki treatment was found to be ineffective for this sample of mental health professionals with moderate STS and associated symptoms.

Previous evidence indicated that Reiki treatment may have a positive effect as an intervention to decrease pain and anxiety in cancer patients (Tsang et al., 2007); decreased depression, stress, and anxiety and increased feelings of hope in adult volunteers (Shore, 2004; Wardell & Engebretson, 2001); and decreased pain and increased quality of life in cancer patients (Olson et al., 2003). However, this positive effect was not found among mental health practitioners in the current study. Reiki treatment did not appear to influence levels of STS and associated symptoms among the professionals who participated in the study. This null finding is supported by other research that found Reiki to be ineffective at reducing stress and anxiety in women undergoing breast biopsy (Potter, 2007), ineffective at reducing physiological symptoms of stress and anxiety in healthy college students (Bowden et al., 2011), and ineffective at improving symptoms of depression, anxiety, or well-being in patients treated for prostate cancer (Beard et al., 2011).

Thus, the current study suggests that Reiki treatment, under the conditions of this particular investigation, should not be considered among the best practice intervention options for mental health professionals with moderate STS and its

associated symptoms of anxiety, depression, somatization, anger-hostility, and hopelessness. Recommended interventions for STS are comprehensive, including the spiritual, emotional, and physical components of the person, and preventative, such as discussing the risks of developing STS with individuals working with trauma clients, peer support, and supervision (McCann & Pearlman, 1990; Naturale, 2007).

A significant limitation in Reiki research is that outcome studies are limited in number; they are primarily exploratory, utilize small sample sizes, and have not been replicated (Miles & True, 2003; Natale, 2010). However, since the first empirical Reiki trial (Wetzel, 1989), Reiki researchers have attempted to empirically investigate its effectiveness. It is in this light that study limitations and strengths will be explored.

The sample size in this study was too small to accurately detect small effects. Study participants ranged from the moderate to normal range for all dependent variables except hope, leaving little room for change among these dependent variables. Thus, truncated pre-test results potentially hindered the possibility of finding any differences among groups at posttest. Moreover, demographic findings in this study suggest that sample characteristics may have acted as a support, or buffer, to decrease the risk of STS and its associated symptoms. Forty-two percent of participants were social work student interns, and the overall median age of the sample was thirty years. Research indicates that younger age and fewer years of experience increase vulnerability to STS (Bride, 2004); however, the younger population in this study consisted of students who were undertaking their internships with a field supervisor and a school liaison who assume some responsibility for student actions and well-being. Thus, students may not have carried the full responsibilities of the job home with them at the end of the day. Additionally, education has been reported as a protective factor for STS (Newell & MacNeil, 2010; Trippany, White Kress, & Wilcoxon, 2004). With over half of participants (51%) having an advanced mental health degree, and 42 percent working on an advanced degree, education may have influenced study outcomes.

This study used an experimental placebo control design, with random assignment to one of three treatment groups (control, placebo, or Reiki treatment). Participants were blinded to treatment condition, and data were collected using validated psychological instruments. Thus, relatively high internal validity was expected. Moreover, the current best practices knowledge on Reiki has limitations and methodological flaws that this research attempted to address.

Placebo effect is a serious threat to internal validity in energy modalities research. Because of the nature of Reiki and the sense of connectedness with the practitioner experienced by many participants, unintentional bonding could have acted as a placebo. Also, the environment itself—relaxation for an hour, eyes closed in a quiet and safe space—could produce positive changes independent of the Reiki treatment. Thus, participant improvements could be due to practitioner-participant bonding or to the environment instead of the actual Reiki treatment in some studies. This study controlled for the placebo effect. Participants in the

placebo group experienced the same attention to facilitate the same bonding and were in the same environment as the treatment group. They received the same protocol as the treatment group except that the practitioner did not send Reiki energy to them by doing the hand positions. Instead, the practitioner moved about a foot away from and around the treatment table, following the established Reiki protocol without the hand placements.

Selection and training of the practitioner for the present study were controlled by the fact that the researcher/provider was a Reiki master. This researcher provided all treatments. Prior research (Mackay et al., 2004; Shore, 2004) selected Reiki practitioners based on subjective impressions, reducing the internal validity of those studies and making them difficult to replicate. This study corrected for that limitation.

Research on Reiki is incipient. The current study attempted to follow rigorous scientific standards of research to allow for replicability. The rigorous design, which included a pretest and posttest and experimental, placebo, and control groups, is the primary strength of the work. As seen in the literature, inadequate inclusion of control or comparison groups is among the major threats to internal validity in the design of much of the current Reiki research.

Strategies for double masking and controlling for placebo effects have been employed in other studies. Indeed, attempts to test for and develop a double blinding/placebo control protocol for Reiki studies have been documented by Assefi et al. (2008); Shiflett et al. (2002); and Mansour, Bouche, Laing, Leis, and Nurse (1999). However, the problem with the double blinding/placebo control protocols for Reiki that have been developed is that fake practitioners mimic the Reiki positions and potentially manipulate participants' energy fields despite the absence of true Reiki. This threatens internal validity by unknowingly providing some possible treatment to the placebo group.

In the current study, the placebo group did not receive a mimicking Reiki protocol, avoiding this threat to validity. However, because of the setting for the treatment—a quiet space with no interruptions—and the influence that this space may have had on the participants in the placebo group, the inclusion of a control group in the study design was necessary to measure any possible changes due to the potential environmental influence. In this study, participants in the control condition were told they would receive distance Reiki, but no distance Reiki was provided.

The detailed description of the Reiki protocol is another strength of the current study and can be provided upon request. There was no standard Reiki protocol found prior to the current study. Establishing a universal protocol was pertinent to identifying the mechanism of action for the modality. The protocol in the current study addresses all the placements of hands as described in Reiki manuals, length of placement of the hands, sequence of progressive movements front and back, and description of physical and nonphysical contact with participants. The Reiki protocol in this study can be replicated. The establishment of this universal Reiki protocol is a significant strength of the study.

Reiki does not reduce stress levels to zero, just as it does not reduce blood glucose levels to zero; the purpose is to regain balance in the system (Wardell & Engebretson, 2001; Wetzel, 1989). Modern science requires validation with present models. Therein lies the greatest barrier to acceptance of Reiki therapy, which may require a different way of knowing. Ecological theory teaches us that concepts that challenge contemporary thought interact and influence transformation over time (Germain & Gitterman, 1995). Based on this, researchers on Reiki need to consider adding another group to the research design. That research design would consist of Reiki, placebo, control, and a fourth group that for the purpose of this recommendation will be referred to as a *free style group*. In the free style group the practitioner could act on intuition and would not be limited by standard protocol. Even though this addition to the study of Reiki would threaten replicability and decrease internal validity, it would help to clarify whether a rigorous protocol limits or enhances the effectiveness of the technique. Indeed, this addition would help to address the *black box argument* of the unknown in Reiki treatment, in which supporters claim that the standards of research do not accommodate the appropriate implementation of the technique and that they would rather accept anecdotal success as an indication of effectiveness. The free style group could provide the answer as to whether Reiki is effective when out of the containment of research. If the Reiki treatment, placebo, and control groups show no effect, and the free style group shows no effect, then the argument will need to be reconsidered. Additionally, future studies will necessitate larger and more diverse sample sizes to improve external validity.

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