

AN INVESTIGATION OF SECONDARY TRAUMATIC STRESS
AND RELATED VARIABLES IN PROFESSIONAL
COUNSELING GRADUATE STUDENTS

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by

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ABSTRACT

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by

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The current investigation explores the presence of secondary traumatic stress, which is defined as the potentially negative impact of working with clients who have experienced traumatic events, in a sample of professional counseling students. The relationship between secondary traumatic stress and emotional empathic tendency was explored. In addition, the potential for secondary traumatic stress to be associated with poorer reports of general perceived health status was also explored.

CHAPTER I

INTRODUCTION

General Background and Definitions

The majority of previous investigations have focused on the physiological and psychological responses to the traumatic event of the person who experienced or witnessed the trauma directly; however, recent investigations have suggested the potential for psychological impact on those who provide psychological, medical, or volunteer services to trauma survivor (Bride, 2007a). According to the American Psychiatric Association, a traumatic event experienced or witnessed is defined as involving “actual or threatened death or serious injury, or a threat to the physical integrity of self or others” (American Psychiatric Association, 2000, p. 467). Traumatic events may include physical or sexual abuse, violent crime, war, terrorism, natural disasters, or accidents (American Psychiatric Association, 2000). Posttraumatic stress disorder encompasses the clinically disruptive symptoms, which may follow exposure to an extreme traumatic stressor (American Psychiatric Association, 2000). Current estimates suggest that in the general population of the United States approximately 50% to 70% of people report having experienced or witnessed at least one traumatic event in their lifetime (Kessler, Sonnega, Bromet & Nelson, 1995; Kessler, et al., 2005). Although current estimates of trauma survivors are high in the general population, the population which psychological professionals are likely to encounter has reported even higher rates of exposure to trauma (Bride, 2007a). Of those seeking mental health services,

approximately 94% have experienced at least one traumatic event in their lifetime and of these approximately 42% of clients met the diagnostic criteria for PTSD in the year prior to assessment (Switzer et al., 1999). Given these estimates, psychological professionals have a high likelihood of professional contact with clients who have experienced psychological trauma. Given the prevalence of traumatic experiences in the general population and more specifically in those persons seeking mental health services, investigation into the potential impact of providing mental health services to those who have experienced traumatic events has become necessary.

The relatively recent concepts of compassion fatigue (Figley, 1995a), secondary traumatic stress (Figley, 1995a) and vicarious traumatization (McCann & Pearlman, 1990) have highlighted the need for investigation into the personal impact of professional caring for those who are suffering physically and emotionally. The terms compassion fatigue, secondary traumatic stress, and vicarious traumatization are often used interchangeably in current trauma literature investigations (Sabin-Farrell & Turpin, 2003); therefore, each term should be discussed and defined briefly. Figley (2002a) suggests that the effective and useful therapeutic tools of caring, empathy, and emotional involvement can also cost the clinical professional in terms of their own psychological well-being. Even as clinicians focus on objective and beneficial treatments for clients, clinicians may not avoid the downside of compassion necessary in the human services they render and the acts of compassion may come at a cost to the clinician (Figley, 2002a). Compassion fatigue is defined as the “feeling the stress, and even the fatigue, of compassion in the line of duty” (Figley, 1995a, p. 15). The experience of compassion fatigue, as defined above by Figley (1995a), may not be limited to providing professional

help to those who have experienced exposure to traumatic events. Compassion fatigue or “the cost of caring” (Figley, 1995a) is likely to occur in other environments outside of professional fields involving care for those who have been exposed to trauma. Yet experiences of compassion fatigue have primarily been investigated in those who professionally care for survivors of traumatic experiences. Moreover, the terms compassion fatigue and secondary traumatic stress are used interchangeably in trauma literature and the field of traumatology. In trauma literature, compassion fatigue and secondary traumatic stress encompass the same concept, namely “the stress resulting from helping or wanting to help a traumatized or suffering person” (Figley, 1999, p. 10). Figley (1995a) defines secondary traumatic stress as “the natural consequent behaviors and emotions resulting from knowing about a traumatizing event experienced or suffered by a person”(p. 7). In addition, secondary traumatic stress “reduces the capacity (of the caregiver) in being empathetic and increases bearing the suffering of clients” (Figley, 1995a, p. 7). Although the terms compassion fatigue and secondary traumatic stress are used interchangeably in trauma literature, the definition of secondary traumatic stress more accurately encompasses the focus on caring for those who have experience trauma of the current investigation than the definition of compassion fatigue. Therefore, the terminology and construct of secondary traumatic stress will be used in the current investigation.

Secondary traumatic stress must be differentiated from the concept of vicarious traumatization. Pearlman & Saakvitne (1995) define Vicarious Traumatization as the “transformation in the therapist’s or other trauma worker’s inner experience resulting from the empathetic engagement with the client’s trauma material” (p. 151). The effects

of vicarious traumatization reflect cumulative and permanent changes in the therapist emotionally both in professional and personal domains (Pearlman & Saakvitne, 1995). Vicarious traumatization involves disruption in the therapist's cognitive schema resulting from engagement with a client who has been exposed to trauma (Pearlman & Saakvitne, 1995). As suggested by Sabin-Farrell and Turpin (2003), vicarious traumatization often encompasses in definition specific cognitive changes resulting from work with trauma survivors, which are often not included in definition of secondary traumatic stress that impact the emotional responses and PTSD-like symptoms resulting from professional trauma work.

Secondary traumatic stress and vicarious traumatization must also be differentiated from parallel concepts involving negative consequences of professional work, namely burnout. Burnout is defined as "a state of fatigue or emotional disillusion in those involved in people-related work who begin with high ideals and commitment, where this vision has been replaced by disillusion or even cynicism" (Grosch & Olsen, 1994, p. 4). Symptoms of burnout include physical and emotional exhaustion, depersonalization of connection in work environment and gradual depletion in an individual's belief in the capacity to make a difference in their helping occupation (Grosch & Olsen, 1994; Maslach, Schaufel, & Leiter, 2001). While secondary traumatic stress can result from one encounter with a client's traumatic experiences (Figley, 1995a), burnout is a gradual process of exhaustion and depletion of belief in efficacy of capacity to work effectively within a given profession (Maslach, et al., 2001). The experience of burnout symptoms is not directly related to working with those who have experiences

trauma as is the case with symptoms of secondary traumatic stress and vicarious traumatization, which articulate the negative experiences of trauma work.

Secondary traumatic stress rather than vicarious traumatization was investigated currently because the definition of secondary traumatic stress encompasses the specific symptomology of the negative impact of treating those who have been traumatized. The symptomology of secondary traumatic stress is closely related to posttraumatic stress disorder symptomology (Figley, 1995a). Since the current investigation will involve health outcomes related to posttraumatic stress symptomology, the use of secondary traumatic stress is a more optimal construct than vicarious traumatization for the purpose of the current investigation.

Research Question One: Are Secondary Traumatic Stress Symptoms Present in Graduate Students in the Professional Counseling Program at Texas State University-San Marcos?

Given the prevalence of traumatic experiences and symptoms of posttraumatic stress disorder in persons seeking mental health services, the negative symptoms of secondary traumatic stress in psychological professionals has been the subject of many current investigations. The distinction between posttraumatic stress disorder (primary traumatic stress disorder) and secondary traumatic stress disorder is that in posttraumatic stress disorder the trauma event has been a directly witnessed or experienced threat to self or others, yet in secondary traumatic stress the provider has experienced the primary traumatic event by means of helping clients who have directly experienced trauma (Figley, 2002b). As suggested by Figley (1995a) the patterns of response following a traumatic event may be fundamentally different for those experiencing a primary or secondary trauma. However, symptoms of secondary traumatic stress disorder are

reportedly similar to those of posttraumatic stress disorder (primary traumatic stress disorder) (Bride, 2007a; Chrestman, 1999; Figley, 2002b;). Symptoms of posttraumatic (primary) stress disorder include persistent reexperiencing the traumatic event in various ways, persistent avoidance of stimuli associated with the trauma event, and increased physiological arousal (American Psychiatric Association, 2000). These symptoms lead to functional impairment and psychological distress (American Psychiatric Association, 2000). The prevalent symptoms of PTSD may manifest differently in secondary traumatic stress disorder (Figley, 2002b). For instance, avoidant symptoms may manifest in avoiding engagement in professional work and intrusive images related to specific clients who have experienced trauma (Figley, 2002b). Yet the functional impairment and psychological distress associated with posttraumatic stress disorder are also associated with secondary traumatic stress disorder (Chrestman, 1999). In addition to the intrusion, avoidance, and arousal symptoms of secondary traumatic stress, shifts in cognitive schemas of helping professionals has also been identified as symptoms of secondary traumatic stress (McCann & Pearlman, 1990; Ortlepp & Friedman, 2002). For instance, detrimental changes in cognitive schemas related to safety beliefs have been seen to be symptomatic of secondary traumatic stress (Chrestman, 1999). Disruption and alteration of safety beliefs has been shown to result in increased efforts to protect self and others from harm (Chrestman, 1999).

The development of theoretical definition and symptomology of secondary traumatic stress has lead to investigations of the prevalence of this conceptualized experience in various professionals who work with those who have experienced physical and psychological trauma. Symptoms of secondary traumatic stress similar to that of

posttraumatic stress disorder have been reported in multiple diverse helping roles including nurses (Mealer, Shelton, Berg, Rothbaum, & Moss, 2007), social workers (Adams, Figley, & Boscarino, 2008), counselors (Arvey & Uhlemann, 1996), child protective service workers (Cornille & Meyers, 1999) and disaster volunteers (Naturale, 2007). Investigations of secondary traumatic stress have mainly surveyed populations of social workers, trauma counselors, and medical nurses. However, the first investigations into the concept of secondary traumatic stress occurred by means of evaluating the effects of treating veterans of the Vietnam War with the symptoms of what would later be known as Post-Traumatic Stress Disorder (Figley, 1978). Recent investigation of secondary traumatic stress in mental health providers during the normal course of their professional practice indicated that approximately 13% of their sample of mental health providers was at high risk for secondary traumatic stress or burnout (Sprang, Clark, & Whitt-Woosley, 2007). Arvey and Uhlemann (1999) reported that among a random sample of Canadian counselors 14% were experiencing traumatic stress levels similar to posttraumatic stress disorder symptoms. Among child protective workers, 37% of respondents were experiencing clinical levels of symptoms of secondary traumatic stress disorder (Cornille & Meyers, 1999). Bride (2007b) found that many social workers are experiencing some symptoms of secondary traumatic stress and that 15% of respondents met the criteria for posttraumatic stress disorder. Mealer, et al. (2007) found that 24% of intensive care nurses met the criteria for diagnosis of posttraumatic stress disorder. Overall, secondary traumatic stress seems to be more prevalent among professionals who work closely to treat those who have been exposed to severe primary trauma.

In addition to the prevalence of secondary traumatic stress in those who professionally work to care for the traumatized, risk and mediating factors toward the development of secondary traumatic stress have also been investigated. Although many psychological professionals are exposed to clients who have experienced trauma, not all professionals develop symptoms of secondary traumatic stress (Stamm, 2002). Figley (1995a) has proposed several theoretical contributing factors in the development of symptoms of secondary traumatic stress disorder in psychological professionals. These contributing factors include prolonged exposure to the traumatic material of clients, empathetic engagement with clients, prior history of self-experienced traumatic events, and prior unresolved self-experienced traumatic events (Figley, 1995a). Since proposing theoretical factors contributing to secondary traumatic stress, several empirical investigations have suggested various contributing factors. For instance, prior personal trauma history has been related with increased symptoms of secondary traumatic stress compared with no prior history of personal trauma (Deighton, Gurriss, & Traue, 2007; Pearlman & Mac Ian, 1995). In addition, reports of greater number of negative life events (Adams, Figley, & Boscarino, 2008) and use of negative coping mechanisms (Bride, 2007a) has been associated with more reported symptoms of secondary traumatic stress. Other variables have been empirically suggested to increase the likelihood of secondary traumatic stress symptoms after exposure to secondary trauma in professional settings (Chrestman, 1999). Less professional experience, lower total income, less utilization of training resources, more trauma clients in total case load, and more time spent in clinical work activities compared with outside activities has all been suggested to increase the

likelihood of developing symptoms of secondary traumatic stress after exposure to secondary trauma (Chrestman, 1999).

Although the prevalence and correlates of secondary traumatic stress has begun to be extensively investigated, Baird and Kracen (2006) suggest that there is the need for research investigating the well-being of therapists during training to further understand potential for the development of secondary traumatic stress. By understanding the development of secondary traumatic stress, informed practices may be put into place to mitigate the potential occupational hazard of working with those who have experienced trauma (Baird & Kracen, 2006). In addition, Pearlman and Mac Ian (1995) found that newer therapists with less than two years of experience were reporting experiencing the most difficulties with secondary traumatic stress. Lower levels of therapeutic experience may increase the potential for exposure to a client's trauma material to result in development of symptoms of secondary traumatic stress (Chrestman, 1999). O'Halloran and O'Halloran (2001) suggested based on their teaching experiences that graduate students in clinical courses focusing on violence or trauma may be impacted by secondary traumatic stress symptoms. The authors discuss the importance of anticipating and ameliorating the potential emotional distress resulting from secondary trauma exposure (O'Halloran & O'Halloran, 2001). However, investigation of the presence of secondary traumatic stress in professional counseling graduate students has not been conducted to the researcher's knowledge. A sample of professional counseling graduate students in clinical training will be investigated in the current research investigation. Given that newer therapists have been shown to experience greater levels of secondary traumatic stress than more experienced therapists, the investigation of the presence of

secondary traumatic stress in graduate students in clinical training is necessary. The current research hypothesizes that professional counseling graduate students will report the presence of secondary traumatic stress.

Research Question Two: Is emotional empathy related to secondary traumatic stress?

The concept of empathy has encompassed multiple definitions throughout literature. In the literature involving empathy in the treatment of posttraumatic stress disorder, empathy has been defined as “the psychobiological capacity to express another person’s state of being and phenomenological perspective at any given moment in time” (Wilson & Thomas, 2004, p. 21). Empathy motivates helping others and facilitates social interaction (Zhou, Valiente, & Eisenberg, 2003). In secondary traumatic stress literature, empathic ability reflects “the ability to notice the pain of others” (Figley, 1995b). Helping behaviors have been demonstrated to be related to empathic tendency as measured by the Emotional Empathic Tendency Scale (Mehrabian & Epstein, 1972). Meaning that emotional empathic tendency may reflect attributes for predicting helping behaviors (Mehrabian & Epstein, 1972). For the purposes of the current investigation, empathic ability will be measured and defined by the Emotional Empathic Tendency Scale since this measure is reflective of innate empathic ability related to helping behaviors. Empathy is an essential component of the social interaction of the therapeutic process (Badger, Royse, & Craig, 2008). Although empathic ability has been investigated as a necessary component of the therapeutic treatment of posttraumatic stress disorder (Wilson & Thomas, 2004), recently empathy has been proposed as a factor in the development of secondary traumatic stress.

Figley (1995b) suggested a conceptualization of secondary traumatic stress, by which the client's primary trauma experience may transmit to the psychological professional treating the client. The main component of the transmission of secondary traumatic stress involves empathic ability (Figley, 1995b). Due to the crucial involvement of empathy in the therapeutic process of treating trauma symptoms, investigation of the relationship between secondary traumatic stress and empathic ability becomes necessary (Badger, Royse, & Craig, 2008). In order to fully understand persons who have experienced trauma, the helping professional must identify empathically with those traumatized and their personal trauma (Figley, 1995b). In the process of systematically gaining information to change behaviors and emotions of the trauma victim, the helper may experience emotions similar to those of the trauma victim and thereby secondary traumatic stress symptoms (Figley, 1995b). Moreover, based on clinical investigations, the most effective therapeutic method of alleviating symptoms in a client who has experienced or witnessed a traumatic event involves vivid imaginary prolonged exposure of the traumatic event (Foa, et al., 1999; Foa, Hearst-Ikeda, & Perry, 1995). The clinical effectiveness of prolonged exposure methods toward remitting the patients' posttraumatic stress disorder symptoms suggests that prolonged exposure to patient experiences of trauma may be exceedingly common in providers who work with trauma patients. The model proposed by Figley (1995b) suggests that the development of secondary traumatic stress is due in part to the empathic ability the helper possesses. Professional helpers may often choose the role of a helper due to innate empathic ability and satisfaction from relieving the suffering of others (Figley, 1995b). Since empathic ability and engagement are central to the therapeutic process, those who have high innate empathic ability may

excel in their profession. At the same time, the empathic ability, which is essential to the profession, may contribute to vulnerability of providers to experiencing secondary traumatic stress (Figley, 1995b).

Figley (2002a) further defines how the variables of empathic ability and client exposure could both directly contribute to compassion fatigue in helping providers. Direct exposure to a client experiencing suffering is also necessary to experience or be at risk for secondary traumatic stress (Figley, 2002a). Prolonged exposure to care for those who have been traumatized and have had no breaks between experiences of empathy toward clients may contribute to experiencing secondary traumatic stress (Figley, 2002a). In summary, empathic ability of the psychotherapist, which is necessary for the psychological treatment of symptoms of primary trauma, may directly contribute to development of symptoms of secondary traumatic stress by means of emotionally connecting the therapist to the clients' primary trauma experience.

Given the theoretical importance of empathic ability in the therapeutic setting and the theoretical implications of empathy in the development of secondary traumatic stress, the current research explored the hypothesis that greater reported empathic ability will be positively related to higher instance of secondary traumatic stress in the sample of counseling graduate students.

Research Question Three: Is there a relationship between secondary traumatic stress and perceived general physical health status?

High levels of general psychological stress have been shown to elicit endocrinological alterations in the human body producing negative effects on both mental and physical health and well-being (e.g., Haddy & Clover, 2001). The complex biological

pathways of the stress response have been extensively investigated in terms of how chronic psychological stress can alter biological pathways to contribute to chronic medical conditions (Haddy & Clover, 2001). The negative effects of stress on the physiological systems of the human body including the cardiovascular and immune systems accumulate gradually over periods of chronic and prolonged exposure to psychological and physiological stressors (McEwen, 2002). More recently, however, in addition to the psychological effects of experiencing traumatic events, current research has indicated that posttraumatic stress disorder (PTSD) symptoms may lead to physical health impairments (Kimerling, Clum, & Wolfe, 2000; Ouimette et al., 2004; Zoellner, Goodwin, & Foa, 2000). The neurobiology of the fear response may contribute to unsuccessful termination of the biological stress response in some individuals with posttraumatic stress disorder thus leading to prolonged biological stress reactions resulting in negative physiological consequences (Yehuda, 2000). For instance, in older adults exposure to trauma experiences over a person's lifetime was associated with reports of poor physical health later in life (Krause, Shaw, & Cairney, 2004). In veterans returning from the Gulf War, high degree of PTSD symptomology positively predicted poor self-reported health outcomes in 2 year follow-up assessments (Wagner, Wolfe, Rotnitsky, Proctor, & Erickson, 2000). In another investigation, an analysis of Vietnam veterans' medical records indicated that PTSD symptoms and diagnosis were associated with higher likelihood of circulatory and musculoskeletal disorders as well as generally associated with more physician diagnosed medical conditions (Ouimette et al., 2004). In addition to medical records, Ouimette et al. (2004) used five of the health functioning subscales of the SF-36 Health Survey (Ware & Sherbourne, 1992) to investigate health

related quality of life and general health status perception. The authors found that severe PTSD symptoms were related poorer physical health quality of life on the following scales: physical functioning, role functioning, vitality, pain, and general physical health (Ouimette, et al., 2004).

In addition, investigations have suggested that specific symptoms of posttraumatic stress disorder may contribute to negative physical health outcomes. For instance, Kimerling et al. (2000) specifically investigated physical health problems in terms of the four main symptoms of PTSD (reexperiencing the trauma, numbing, avoidance, and hyperarousal). The authors indicated that hyperarousal accounted for the most variation associated with health problems associated with PTSD (Kimerling et al., 2000). Also, avoidance of trauma related events was also suggested to mediate the relationship between posttraumatic stress disorder symptoms and poorer reports of physical health (Lawler, Ouimette, & Dahlstedt, 2005). The investigation suggests that using avoidant coping strategies to cope with traumatic experience may contribute significantly to the outcome of poorer physical health status (Lawler, et al., 2005).

Symptoms of posttraumatic stress disorder have also been predictive of poor physical health independent of potentially confounding variables. For instance, from investigations of women who were victims of sexual assault, the authors found that severity of PTSD symptoms predicted poorer self-reported health beyond that of general life stress or depression symptoms (Zoellner, Goodwin, & Foa, 2000). Among university student, posttraumatic stress disorder symptoms were associated with poorer physical health even after controlling for other negative health behaviors and other psychopathology (Lawler, Ouimette, & Dahlstedt, 2005). The previous literature is part

of a large and growing body of literature indicating that posttraumatic stress disorder symptoms have been demonstrated to negatively affect physical health in multiple populations and using several assessments of physical health status, including both self-report and medical records.

However, the relationship between secondary traumatic stress and poor physical health has not been directly investigated. Since definitions of secondary traumatic stress encompass symptoms identical to that of PTSD with the exception that instead of directly experiencing the traumatic event the traumatic event is indirectly experienced through the client (Figley, 1995a), the likelihood of poor health status is reported in association with reports of secondary traumatic stress symptoms seems high, given the previous data relating symptoms of PTSD with poorer health status. One theoretical contributing factor toward developing secondary traumatic stress symptoms involves prolonged stress from emotional energy used in the empathic response of the therapist to the client and from the therapist's need to relieve the suffering of the client (Figley, 2002a). Theoretically, secondary traumatic stress would encompass the general physiological effects of psychological stress on the body and therefore potentially lead to adverse health status outcomes in helping providers. It seems as though the conceptualization of the definition of secondary traumatic stress suggests poor health status as a probable outcome variable. Although the theoretical connection between poor health status and risk for secondary traumatic stress exists, systematic investigation concerning the potential relationship is necessary. Reviewed data suggest that individuals who are exposed to one or more traumatic events over their life report poorer self-rated health, greater number of physical

symptoms, and greater number of chronic health conditions when compared to individuals not exposed to traumatic events (Green & Kimerling, 2004).

Investigation of the relationship between the psychological and the physiological will lead to further the knowledge toward identifying the secondary traumatic stress reaction of professionals and intervening in a manner to prevent the potential health and psychological outcomes that may be associated with the secondary traumatic stress response. Examining the relationship between the reports of secondary traumatic stress and the self-report health outcomes will allow for a greater understanding of the potential mechanisms, which maintain or establish possible detrimental health outcomes, which may be associated with secondary traumatic stress. The current investigation hypothesizes that reports of secondary traumatic stress symptoms will be associated with poorer self-reported general physical health status.

CHAPTER II

METHOD

Participants

Participants were graduate students at Texas State University-San Marcos enrolled in the Masters in Professional Counseling program or Masters in Health Psychology Program with Clinical Specialization through the Counseling Department. Thirty graduate students consented to provide electronic mail addresses for the distribution of survey material. Seventeen students returned survey materials via electronic mail; however, only 15 students returned completed survey materials. Final participants consisted of 13 women and 2 men, who ranged in age from 23 to 56 years-old with the average age being 35 years-old. Eleven participants were enrolled in the Professional Counseling Program and four students were enrolled in the Health Psychology Program with Clinical Specialization. All participants were enrolled in Master of Arts programs for at least 2 years. Of the participants, 12 students reported their ethnicity as Caucasian, 2 students reported their ethnicity as Hispanic, and 1 student reported their ethnicity as African-American. Participants were limited to graduate students working with one or more clients as part of their educational training. On average, participants reported working with 14.80 clients. Participants on average had spent 1.13 years of educational training working with clients.

Procedure

Permission from the Professional Counseling Department to solicit students for completion of the survey was obtained prior to data collection. Institutional Review Board exemption was also obtained prior to collection of data. Participants were solicited through an electronic mail document distributed by the counseling department and through signing up for participation in person. Participants were informed briefly concerning the nature of the questionnaire prior to giving consent to participate. Students demonstrated consent by providing their electronic mail address. Once electronic mail address was provided, surveys were sent to each participant individually. Participants were asked to complete the questionnaire and then return to the researcher's adviser via electronic mail attachment. Information provided in the survey remained anonymous and blind to the researcher.

Measures

Participants were asked to self-report the number of years spent working with clients as part of clinical training, the number of clients the participant had worked with during the course of training, and the number of clients with physical and psychological trauma the participant had worked with during clinical training.

The Secondary Traumatic Stress Scale (Bride, Robinson, Yegidis, & Figley, 2004) was used to measure the construct of secondary traumatic stress. The Secondary Traumatic Stress Scale consists of 17-items, which assess the symptoms of intrusion, avoidance, and arousal commonly associated with exposure to trauma via relationships with traumatized clients (Bride, et al., 2004). Previously reported internal consistency (coefficient alpha) for total secondary traumatic stress score was $\alpha = .93$ (Bride,

Robinson, Yegidis, & Figley, 2004). For each of the subscales of the secondary traumatic stress scale, the internal consistency was $\alpha = .80$ for intrusion subscale, $\alpha = .87$ for avoidance subscale, and $\alpha = .83$ for arousal subscale (Bride, et al., 2004).

The SF-36 Health Survey (Ware & Sherbourne, 1992; McHorney, Ware, & Raczek, 1993) was used to assess different aspects of health functioning. The SF-36 is a 36-item questionnaire which assesses eight health concepts including: limitations to physical activities due to health problems (physical functioning), limitations in social activities due to physical health and emotional problems (social functioning), limitations in typical role activities due to physical health and emotional problems (role functioning), bodily pain, general mental health, vitality, and general perceptions of health status (Ware & Sherebourne, 1992). The main aspect of the self-report health functioning survey relevant to the current research is general perceptions of health status. High scores on the general perceptions of health status scale indicate that the person believes their personal health is excellent and low scores on the scale indicate that the person believes their personal health is poor and likely to get worse (Ware & Sherebourne, 1992).

Emotional Empathic Tendency Scale (EETS) (Mehrabian & Epstein, 1972) was used to assess emotional empathy. The previously reported internal consistency for the Emotional Empathic Tendency Scale was $\alpha = .79$ (Kalliopuska, 1983). The Emotional Empathic Tendency Scale consists of 33-items which are rated on a 9-point (-4 to +4) scale. The EETS consists of several subscales consisting of susceptibility to emotional contagion, appreciation of the feelings of unfamiliar and distant others, extreme emotional responsiveness, tendency to be moved by others' positive experiences, tendency to be moved by others' negative experiences, sympathetic tendency, and

willingness to be in contact with others who have problems (Mehrabian & Epstein, 1972). However, for the purposes of the current investigation only total emotional empathetic tendency scores were used to indicate level of emotional empathy in the participant. Higher total emotional empathy scores indicate greater ability to empathetically engage with others and personal tendencies toward helping others (Mehrabian & Epstein, 1972).

Statistical Analysis

Correlation analysis was used to examine the relationships among the variables assessed.

CHAPTER III

RESULTS

Research Question One: Are Secondary Traumatic Stress Symptoms Present in Graduate Students in the Professional Counseling Program at Texas State University-San Marcos?

In the current sample, counseling graduate students reported average secondary traumatic stress scale scores of 10.00 (SD = 3.18) on the avoidance subscale, of 8.40 (SD = 3.31) on the arousal subscale, and of 7.06 (SD = 1.94) on the intrusion subscale. In a previously published sample, social workers reported average secondary traumatic stress scale scores of 12.58 (SD = 5.00) on the avoidance subscale, 8.93 (SD = 3.56) on the arousal subscale, and 8.18 (SD = 3.04) on the intrusion subscale (Bride, 2007b). The lowest possible score on each subscale is 5 for intrusion and arousal subscales and 7 for the avoidance subscale (Bride, 2007b). The lowest potential scores indicate that the individual is experiencing no symptoms of secondary traumatic stress (Bride, 2007b). Participants on average reported total secondary traumatic stress scores of 25.46 (SD = 7.41). In a previously published sample, social workers reported average total secondary traumatic stress scores of 26.69 (SD = 10.74) (Bride, 2007b). The lowest potential score reflecting total secondary traumatic stress is 17, which indicates the individual is experiencing no symptoms of arousal, intrusion, or avoidance from secondary traumatic stress (Bride, 2007b).

In addition, no significant correlations were established between demographic variables and secondary traumatic stress. Overall, in the current sample, the results

indicate no presence of clinically significant levels secondary traumatic stress symptoms in the current sample of professional counseling graduate students. The hypothesis that secondary traumatic stress is present in professional counseling graduate students was not supported by the current data.

Research Question Two: Is emotional empathy related to secondary traumatic stress?

In the current sample, there was no significant relationship between empathetic ability scores ($M = 49.71$, $SD = 18.30$) and total secondary traumatic stress scores ($M = 25.46$, $SD = 7.41$), ($r(14) = .059$, $p > .05$). The hypothesis that higher reported empathetic ability is related to higher likelihood of secondary traumatic stress symptoms was not supported by the current data.

Research Question Three: Is there a relationship between secondary traumatic stress and perceived general physical health?

Reports of perceived general health status in the current sample ($M = 19.13$, $SD = 3.54$) are not significantly correlated with total secondary traumatic stress scores ($r(15) = .294$, $p > .05$). In general, all participants reported high belief that their individual health is good or better. The hypothesis that higher total secondary traumatic stress scores indicating greater presence of symptoms of secondary traumatic stress would be related to poorer perceived general health status was not supported by the current data.

Exploratory Analysis

Although the main hypotheses were not supported by the current analysis, several other interesting findings were apparent after data analysis was completed. In the current sample, there was a significant relationship between the number of clients with physical trauma the individual had worked with during clinical training ($M = 3.80$, $SD = 4.45$) and

total secondary traumatic stress scores ($M = 25.46$, $SD = 7.41$), ($r(15) = .653$, $p < .01$). A significant relationship was also present between the number of clients with psychological trauma the individual had worked with during clinical training ($M = 6.13$, $SD = 8.03$) and total secondary traumatic stress scores ($M = 25.46$, $SD = 7.41$), ($r(15) = .819$, $p < .01$). Overall, exposure to more clients with physical or psychological trauma was related to higher scores on the total secondary traumatic stress scale.

Although no relationship was found between perceived general health status subscale and total secondary traumatic stress scores, other subscales of the self-reported health survey were significantly related to secondary traumatic stress. The vitality subscale scores ($M = 13.86$, $SD = 3.37$) were significantly correlated with the total secondary traumatic stress scores ($r(15) = -.542$, $p < .05$) (Figure 1). Higher scores on the vitality subscale indicate the individual has reported feeling energetic much of the time during the past 4 weeks and lower scores on the vitality scale indicate feelings of lack of energy (Ware & Sherbourne, 1992). The general mental health subscale scores ($M = 22.66$, $SD = 3.92$) were also significantly correlated with total secondary traumatic stress scores ($r(15) = -.849$, $p < .01$) (Figure 2). High general mental health scores indicate feelings of peacefulness and happiness most of the time for the individual during the past 4 weeks where as low general mental health scores indicate feelings of nervousness and depression most of the time (Ware & Sherbourne, 1992). Scores on the social functioning subscale ($M = 8.40$, $SD = 1.40$) were also significantly correlated with the total secondary traumatic stress scores ($r(15) = -.774$, $p < .01$) (Figure 3). High scores on the social functioning scale indicate the individuals' ability to perform normal social activities without interference due to physical or emotional problems where as low scores on the

social functioning scale indicate frequent and extreme interference with normal social activities due to physical and emotional problems (Ware & Sherbourne, 1992). Although the above relationships were statistically significant, some caution in interpreting the statistics must be taken since reports of secondary traumatic stress symptoms were not in a clinically significant range in the current sample.

CHAPTER IV

DISCUSSION

Discussion of Hypotheses Results

Overall, secondary traumatic stress scores were relatively low in the current sample indicating that secondary traumatic stress was not present at a clinically significant range in professional counseling students at Texas State University-San Marcos. The lack of presence of secondary traumatic stress could be due to low amounts of exposure to clients with traumatic experience, which may be present in professional counseling graduate students. By definition, secondary traumatic stress requires prolonged exposure to the traumatic experience of others in the context of professional helping work (Figley, 1995; Figley, 2002a). In congruence with the aspect of exposure to suffering leading to experiencing secondary traumatic stress, the current results suggest a positive relationship between exposure to more clients with physical or psychological trauma and higher scores on the secondary traumatic stress scale. Although those secondary traumatic stress scores were not indicative of above average presence of secondary traumatic stress, the relationship suggests that exposure to clients who experienced trauma may increase risk of developing secondary traumatic stress. Secondary traumatic stress may be relatively rare in professional counseling graduate students given that exposure to clients in general may be limited during training. In addition, researchers investigating secondary traumatic stress in lay trauma counselors found that on average most respondents were at extremely low risk and low risk for

experiencing compassion fatigue (Ortlepp & Friedman, 2002). The current investigations found that no participant scored within a clinical range for experiencing secondary traumatic stress symptoms.

Emotional empathy scores and secondary traumatic stress scores were also not related as previously hypothesized. Although much has been theorized about the relationship between empathy and the development of secondary traumatic stress symptoms, very few investigations have systematically investigated the relationship between secondary traumatic stress and empathetic ability. Badger, Royse, and Craig (2008) found that higher levels of dispositional empathy was only weakly positively related to symptoms of secondary traumatic stress. The authors' findings suggested that lack of emotional separation, which is the component of empathy suggesting separation of engagement with the client, not dispositional empathy was related to the experience of symptoms of secondary traumatic stress (Badger, et al., 2008). Future investigations of graduate students should take into account ability to empathetically disengage with clients as possible predictors of vulnerability to secondary traumatic stress.

General health status perceptions were not found to be related to secondary traumatic stress scores. Overall, general health perception scores were relatively similar between respondents. All participants reported perceived health status of good or better. The negative physical health outcomes of stress in general are gradual and cumulative changes in physiology (McEwen, 2002). In addition, investigations of the relationship between posttraumatic stress disorder symptoms and physical health have indicated that degree of traumatic stress symptoms are predictive of health outcomes both later in life and several years after assessment of original symptoms (Krause, Shaw, & Cairney,

2004; Wagner, Wolfe, Rotnitsky, Proctor, & Erikson, 2000). Therefore, the finding that general physical health perceptions of the current sample indicated overall belief that physical health was excellent may be indicative of the relatively short exposure to the stress involved with treating clients. Perhaps longitudinal research involving the physical health and exposure to clients with traumatic experience in counseling graduate students would allow for a more complete understanding of the relationship between physical health and symptoms of secondary traumatic stress.

Although burnout is a distinct concept from secondary traumatic stress, symptoms of burnout have been related to poor physical health outcomes (Maslach, Schaufeli, & Leiter, 2001). Like secondary traumatic stress, burnout is also a form of psychological stress from a specific professional work oriented basis. It may be possible that in other populations, perhaps experienced psychological professionals, the relationship between secondary traumatic stress and physical health may be more evident.

Discussion of Exploratory Results

Although general perceived physical health was not related to secondary traumatic stress scores, vitality, general mental health, and social functioning were all negatively related to secondary traumatic stress scores. The poorer scores on the vitality subscale have been found to be previously associated with more severe posttraumatic stress disorder symptoms (Ouimette et al., 2004). However, Ouimette et al. (2004) did not investigate the relationship between posttraumatic stress and the general mental health and social functioning subscales. Vitality, which assesses energy and fatigue levels, and social functioning, which assesses health related effects on normal social functioning, are to be related to quality of life aspects of health well-being. Therefore, symptoms of

secondary traumatic stress may be related to decreased feelings of energy and decreased normal social functioning because these are short term quality of health well-being measures as opposed to global general health perception. Given that the symptoms of secondary traumatic stress in the current sample were not seen at clinical levels, graduate students believed that overall their general health is excellent, yet reported short term feelings of lack of energy and impaired social functioning associated with less severe symptoms of secondary traumatic stress. Since reports in the current sample of secondary traumatic stress were not at clinical levels, graduate students may have reported negative effects on vitality and social functioning but not overall physical health perceptions.

Previous investigations have suggested that secondary traumatic stress symptoms may be related to general psychological distress in therapeutic professionals (Adams, Boscarino, & Figley, 2006). However other findings regarding psychological distress in helping professionals have been mixed with some reports indicating significant general psychological distress in populations of psychosocial service providers who treat those who have been traumatized and some reports indicating none or low levels of psychological distress among helping professionals (Bride, 2007a). Although reports of the association between mental health and secondary traumatic stress symptoms have been mixed, the current sample found a negative relationship between secondary traumatic stress symptoms and general mental health. Experiencing symptoms of secondary traumatic stress seems to be innately distressing. It seems to make sense that experiencing symptoms of intrusion, avoidance, and arousal related to a client's traumatic material would result in psychological distress.

The conclusiveness of these relationships should be cautioned given the lack of clinically impaired secondary traumatic stress reports; the findings suggest need for future investigation into the relationship between secondary traumatic stress and the above variables. For instance, populations of experience therapists should be investigated with respect to these health status variables and symptoms of secondary traumatic stress.

Increased exposure to clients with psychological and physical trauma was also related to increases in secondary traumatic stress scores. The current finding seems to concur with previous findings suggesting that higher numbers of trauma clients in total caseloads is related to increases in symptoms of secondary traumatic stress (Chrestman, 1999). Since exposure to client's trauma material is a contributing factor to the development of secondary traumatic stress (Figley, 1995a), it is likely to follow that working with more clients with psychological and physical trauma, yet not overall number of clients in general, would be related to greater prevalence of secondary traumatic stress symptoms.

Discussion of Statistical Limitations

An important limitation involves the small sample size collected in the present investigation. Given that the main hypotheses were not statistically supported, the use of a small sample and the statistical limitations of using a small sample must be discussed. Statistics from larger samples are more accurate than statistics from small sample sizes given that with large sample sizes the randomization necessary for statistical calculations has a better likelihood of occurring with large sample sizes (Kerlinger, 1973). Given that the current investigation utilized a small sample size, it is likely that the calculated statistics are not as accurate as the statistics that could be collected from larger sample

sizes. Since the current investigation evaluates the relationships among variables, it should also be noted that regression statistics in particular have more reliability when using larger sample sizes (Kerlinger & Pedhazer, 1973). The small sample size decreases the likelihood that similar results may be found in other populations of professional counseling graduate students. The calculated statistics are also likely to be biased given the low number of participants and the multiple independent variables measured in the current investigation (Nunnally, 1978). Using small sample sizes will result in a loss of power in the calculated statistic (Runyon & Haber, 1976); therefore, the chances of concluding that there are no relationships among the assessed variables when there may actually be relationships between the assessed variables is quite high using the current sample. The potential that the loss of power in the current calculated statistics may be related to the lack of statistical support for the hypotheses. In addition, R^2 values are more likely to be inflated using small sample sizes to calculate statistics (Kerlinger & Pedhazer, 1973). The high R^2 values calculated for the current sample are most likely due to the small sample size used in the current investigation. However, given the relatively specialized population assessed in the current investigation, low sample sizes could be addressed in future investigations by assessing many graduate students from counseling programs at multiple universities. Graduate student cohorts are often relatively small and combining samples from multiple universities may increase the power and accuracy of the calculated statistics.

Future Research Questions and Implications

Future investigations may include additional variables, which were not assessed in the current investigation that may contribute to predictors of or protectors from the

development of secondary traumatic stress. In a research synthesis conducted by Baird and Kracen (2006), the authors indicated that predictors of secondary traumatic stress include a prior trauma history in samples of established psychotherapists. Future research may address if reporting previous trauma history may increase symptoms of secondary traumatic stress in graduate students.

In addition, there is evidence that perceived ability to cope effectively for the therapist may be a protective factor for the development of secondary traumatic stress (Baird & Kracen, 2006). In addition, trauma-specific avoidance coping has been suggested to mediate the effects between posttraumatic stress disorder symptoms and poor physical health status (Lawler, Ouimette, & Dahlstedt, 2005). Therefore, measuring specific coping abilities and methods in graduate students may further provide information toward the relationship and mediators of physical health status and secondary traumatic stress.

Future research questions may also address the positive effects of trauma work in counseling graduate students. The term compassion satisfaction has been suggested to encompass the professional satisfaction derived from professionally caring for those who have experienced trauma (Stamm, 2002). Specifically recent investigations have found reports of personal growth and high levels of positive psychological changes associated with professional work in established therapists (Linley & Joseph, 2007). Although secondary traumatic stress symptoms were not present at clinical levels in the current sample of counseling graduate students, future research may investigate the potential for compassion satisfaction or positive personal growth from professional trauma work.

The implications of investigations into the presence of secondary traumatic stress and related variables suggests the potential need for education about secondary traumatic stress and therapist self-care in graduate training programs. O'Halloran and O'Halloran (2001) suggest the implementation of education programs about secondary traumatic stress and self-care in graduate programs. In addition, Certified Compassion Fatigue Specialist Training or "training as treatment" interventions for secondary traumatic stress symptoms have been effective in reducing the symptoms of secondary traumatic stress (Gentry, Baggerly, & Baranowsky, 2004). These programs indicate that training graduate students on the potential for secondary traumatic stress may reduce later symptomology.

The results of the current investigation provide information about potential variables associated with symptoms of secondary traumatic stress. For instance, graduate programs may become aware of the visible signs of health status, which were associated with secondary traumatic stress symptoms in the current findings. Current physical health symptoms of energy and social interaction may be more visible to supervisors in graduate programs than the symptoms of secondary traumatic stress to which they are associated. More specifically, if supervisors notice students are visibly less energetic and not functioning socially as normal, then one possible consideration may be evaluating the student for symptoms of secondary traumatic stress using self-report measures. In addition, if supervisors are aware that students are taking on high volumes of clients with physical or psychological traumatic experiences, supervisors may need to be especially aware of symptoms of secondary traumatic stress and associated health status variables. In addition to supervisors becoming more aware of symptoms and correlates of secondary

traumatic stress, educating students on the potential negative effects of working with those who have experienced trauma may lessen future symptomology.

APPENDIX A

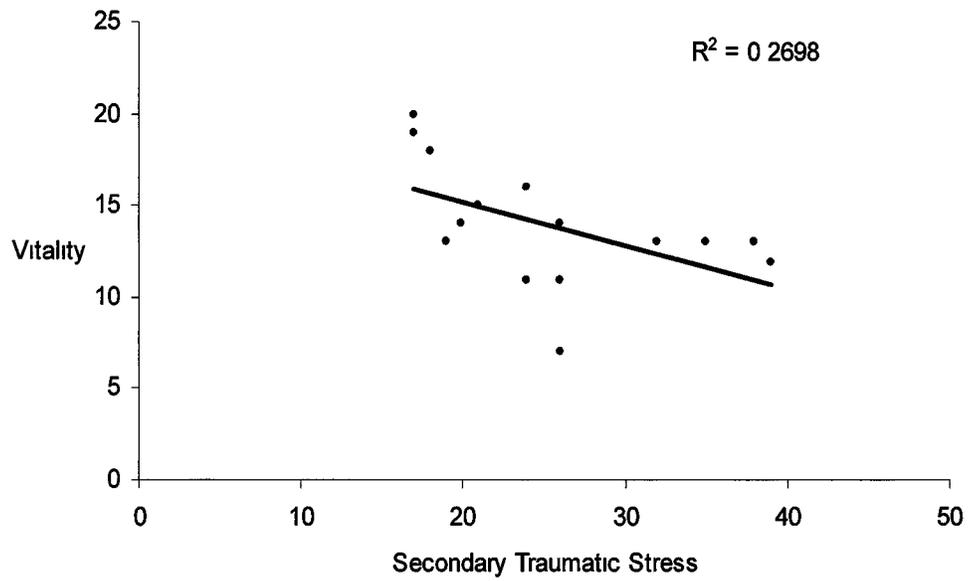


Figure 1: Secondary traumatic stress and vitality

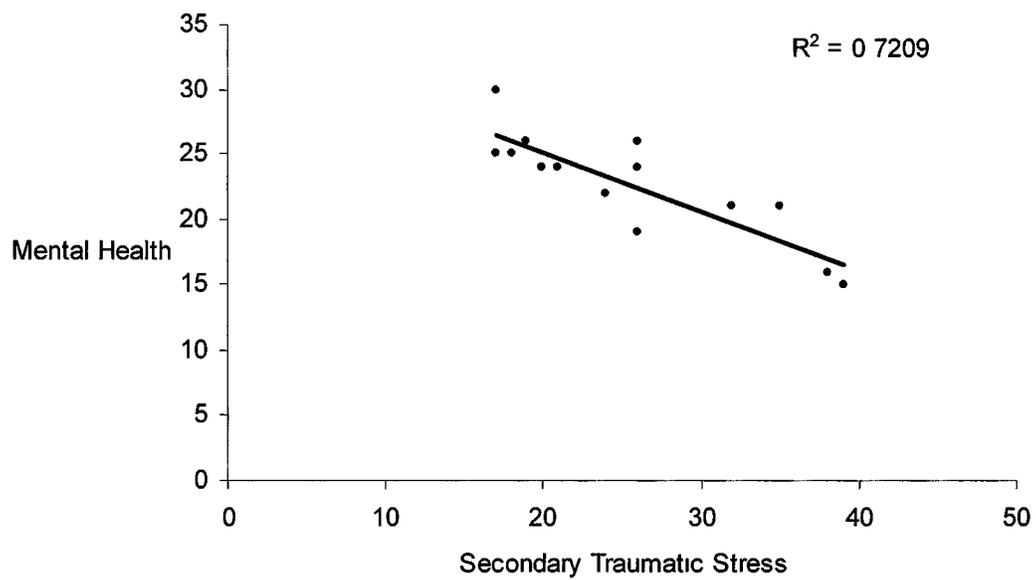


Figure 2: Secondary traumatic stress and general mental health

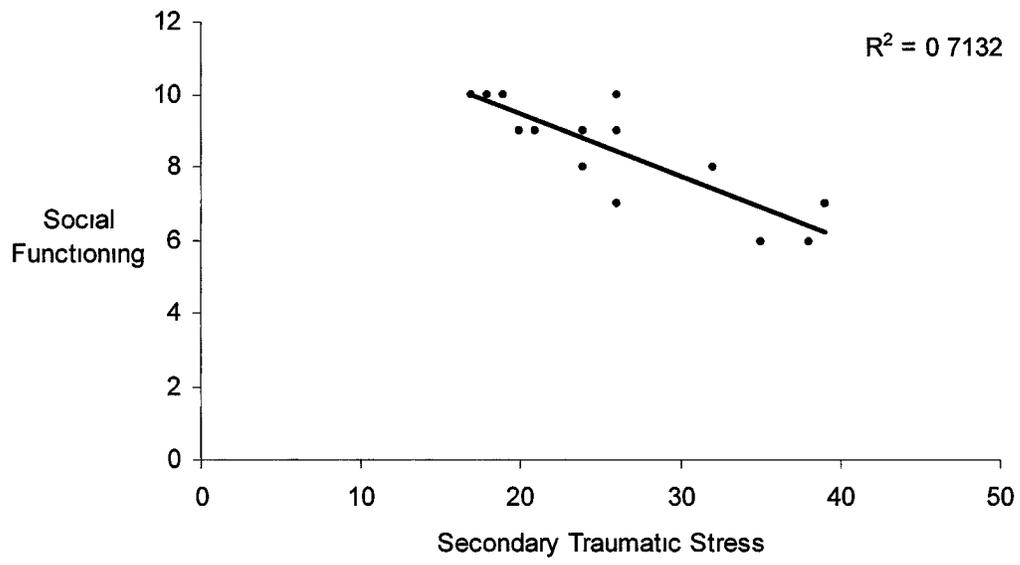


Figure 3: Secondary traumatic stress and social functioning

REFERENCES

- Adams, R. E., Figley, C. R., & Boscarino, J. A. (2008). The compassion fatigue scale: Its use with social workers following urban disaster. *Research Social Work Practice, 18*, 238-250.
- Adams, R. E., Boscarino, J. A., & Figley, C. R. (2006). Compassion fatigue and psychological distress among social workers: A validation study. *American Journal of Orthopsychiatry, 76*, 103-108.
- American Psychiatric Association. (2000). *The diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, D.C.
- Arvay, M. J. & Uhlemann, M. R. (1996). Counsellor stress in the field of trauma: A preliminary study. *Canadian Journal of Counselling, 30*, 193-210.
- Badger, K., Royse, D., & Craig, C. (2008). Hospital social workers and indirect trauma exposure: An exploratory study of contributing factors. *Health and Social Work, 33*, 63-71.
- Baird, K., & Kracen, A. C. (2006). Vicarious traumatization and secondary traumatic stress: A research synthesis. *Counselling Psychology Quarterly, 19*, 181-188.
- Bride, B. E., Robinson, M. M., Yegidis, B., & Figley, C. R. (2004). Development and validation of the secondary traumatic stress scale. *Research on Social Work Practice, 14*, 27-35.
- Bride, B. E. (2007a). The impact of providing psychosocial services to traumatized populations. *Stress, Trauma, and Crisis, 7*, 29-46.
- Bride, B. E. (2007b). Prevalence of secondary traumatic stress among social workers. *Social Work, 52*, 63-70.
- Cornille, T. A. & Meyers, T. W. (1999). Secondary traumatic stress among child protective service workers: Prevalence, severity, and predictive factors. *Traumatology, 5*, 5-15.

- Chrestman, K. R. (1999). Secondary exposure to trauma and self-reported distress among therapists. In B. H. Stamm (Ed.), *Secondary traumatic stress: Self-care issues for clinicians, researchers, and educators*. (pp.29-36). Lutherville, MD: Sidran.
- Deighton, R. M., Gurriss, N., & Traue, H. (2007). Factors affecting burnout and compassion fatigue in psychotherapists treating torture survivors: Is the therapist's attitude to working through the trauma relevant? *Journal of Traumatic Stress, 20*, 63-75.
- Figley, C. R. (2002a). Compassion fatigue: Psychotherapists' chronic lack of self care. *In Session: Psychotherapy in Practice, 58*, 1433-1441.
- Figley, C. R. (2002b). Introduction. In C. R. Figley (Ed.), *Treating compassion fatigue*. (pp. 1-13) New York: Brunner/Routledge.
- Figley, C. R. (Ed.) (1978). *Stress disorders among Vietnam veterans: Theory, research, and treatment*. New York: Brunner/Routledge.
- Figley, C. R. (1995a). Compassion fatigue as secondary traumatic stress disorder: An overview. In C. R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized*. (pp. 1-20). New York: Brunner/Mazel.
- Figley, C. R. (1995b). Epilogue: The transmission of trauma. In C. R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized*. (pp. 248-254). New York: Brunner/Mazel.
- Figley, C. R. (1999). Compassion fatigue: Toward a new understanding of the costs of caring. In B. H. Stamm (Ed.), *Secondary traumatic stress: Self-care issues for clinicians, researchers, and educators*. (pp. 3-28). Baltimore, MD: Sidran Press.
- Foa E. B., Dancu, C. V., Hembree, E. A., Jaycox, L. H., Meadows, E. A., & Street, G. P. (1999). A comparison of exposure therapy, stress inoculation training, and their combination for reducing posttraumatic stress disorder in female assault victims. *Journal of Consulting and Clinical Psychology, 67*, 194-200.
- Foa, E. B., Hearst-Ikeda, D., Perry, K. J. (1995). Evaluation of a brief cognitive-behavioral program for the prevention of chronic PTSD in recent assault victims. *Journal of Consulting and Clinical Psychology, 63*, 948-955.
- Gentry, J. E., Baggerly, J., & Baranowsky, A. (2004). Training-as-treatment: Effectiveness of the certified compassion fatigue specialist training. *International Journal of Emergency Mental Health, 6*, 147-155.
- Grosch, W. N. & Olsen, D. C. (1994). *When helping starts to hurt: A New look at burnout among psychotherapists*. W.W. Norton & Company, Inc: New York.

- Green, B. L. & Kimerling, R. (2004). Trauma, posttraumatic stress disorder, and health status. In Schnurr, P. P. & Green, B. L. (eds.) *Trauma and health: Physical health consequences of exposure to extreme stress*. (pp. 13-42) Washington, D.C.: American Psychological Association.
- Haddy, R. I. & Clover, R. D. (2001). The biological processes in psychological stress. *Families, Systems, & Health, 19*, 291-302.
- Kalliopuska, M. (1983). Verbal components of emotional empathy. *Perceptual and Motor Skills, 56*, 487-496.
- Kerlinger, F. N. (1973). *Foundations of behavioral research*. New York: Holt, Rinehart, and Winston, Inc.
- Kerlinger, F. N. & Pedhazur, E. J. (1973). *Multiple regression in behavioral research*. New York: Holt, Rinehart, and Winston, Inc.
- Kessler, R. C., Sonnega, A., Bromet, E., & Nelson, C. B. (1995). Posttraumatic stress disorder in the national comorbidity study. *Archives of General Psychiatry, 52*, 1048-1060.
- Kessler, R. C., Bergland, P., Demler, O., Jin, R., Merikangas, K. R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the national comorbidity survey replication. *Archives of General Psychiatry, 62*, 593-602.
- Kimerling, R., Clum, G. A., & Wolfe, J. (2000). Relationships among trauma exposure, chronic posttraumatic stress disorder symptoms, and self-reported health in women: Replication and extension. *Journal of Traumatic Stress, 13*, 115-128.
- Krause, N., Shaw, B., & Cairney, J. (2004). A descriptive epidemiology of lifetime trauma and physical health status of older adults. *Psychology and Aging, 19*, 637-348.
- Lawler, C., Ouimette, P., & Dahlstedt, D. (2005). Posttraumatic stress symptoms, coping, and physical health status among university students seeking health care. *Journal of Traumatic Stress, 18*, 741-750.
- Linley, A. P. & Joseph, S. (2007). Therapy work and therapists' positive and negative well-being. *Journal of Social and Clinical Psychology, 26*, 385-403.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *The Annual Reviews of Psychology, 52*, 397-422.
- McEwen, B. (2002). *The end of stress as we know it*. Washington, D. C.: Joseph Henry Press.

- Mehrabian, A. & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality, 40*, 525-543.
- Mealer M. L., Shelton A., Berg B., Rothbaum B., & Moss, M. (2007). Increased prevalence of post-traumatic stress disorder symptoms in critical care nurses. *American Journal of Respiratory Critical Care Medicine, 175*, 693-697.
- McCann, L. & Pearlman, L. A. (1990). Vicarious traumatization: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress, 3*, 131-149.
- McHorney, C. A., Ware, J. E., & Raczek, A. E. (1993). The MOS 36-item short-form health survey (SF-36): II. Psychometric and clinical tests of validity in measuring physical and mental health constructs. *Medical Care, 31*, 247-263.
- Naturale, A. (2007). Secondary traumatic stress in social workers responding to disasters: Reports from the field. *Clinical Social Work Journal, 35*, 173-181.
- Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.
- O'Halloran, M. S. & O'Halloran, T. (2001). Secondary traumatic stress in the classroom: Ameliorating stress in graduate students. *Teaching of Psychology, 28*, 92-97.
- Ortlepp, K. & Friedman, M. (2002). Prevalence and correlates of secondary traumatic stress in workplace lay trauma counselors. *Journal of Traumatic Stress, 15*, 213-222.
- Ouimette, P., Cronkite, R., Henson, B. R., Prins, A., Gima, K., & Moos, R. H. (2004). Posttraumatic stress disorder and health status among female and male patients. *Journal of Traumatic Stress, 17*, 1-9.
- Pearlman, L. A. & Saakvitne, K. W. (1995). Treating therapists with vicarious traumatization and secondary traumatic stress disorders. In C. R. Figley (Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorders in those who treat the traumatized*. (pp. 150-177). New York: Brunner/Mazel.
- Pearlman, L. A. & Mac Ian, P. S. (1995). Vicarious traumatization: An empirical study of the effects of trauma work on trauma therapists. *Professional Psychology: Research and Practice, 26*, 558-565.
- Runyon, R. P. & Haber, A. (1976). *Fundamentals of behavioral statistics*. Massachusetts: Addison-Wesley.

- Sprang, G., Clark, J. J., & Whitt-Woosley, A. (2007). Compassion fatigue, compassion satisfaction, and burnout: Factors impacting a professional's quality of life. *Journal of Loss and Trauma, 12*, 259-280.
- Switzer, G. E., Dew, M. A., Thompson, K., Goycoolea, J. M., Derricott, T., & Mullins, S.D. (1999). Posttraumatic stress disorder and service utilization among urban mental health center clients. *Journal of Traumatic Stress, 12*, 25-39.
- Stamm, B. H. (2002). Measuring compassion satisfaction as well as fatigue: Developmental history of the Compassion Fatigue and Satisfaction Test (CFST). In C. R. Figley (Ed.), *Treating compassion fatigue* (pp.107-119). New York: Brunner/Routledge.
- Sabin-Farrell, R. & Turpin, G. (2003). Vicarious traumatization: Implications for the mental health of health workers? *Clinical Psychology Review, 23*, 449-480.
- Wagner, A. W., Wolfe, J., Rotnitsky, A., Proctor, S. P., & Erickson, D. J. (2000). An investigation of the impact of posttraumatic stress disorder on physical health. *Journal of Traumatic Stress, 13*, 41-55.
- Ware, J. E. & Sherbourne, C. D. (1992). The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. *Medical Care, 30*, 473-48.
- Wilson, J. P. & Thomas, R. B. (2004). *Empathy in the treatment of trauma and PTSD*. Brunner-Routledge: New York.
- Yehunda, R. (2000). Biology of posttraumatic stress disorder. *Journal of Clinical Psychiatry, 61*, 14-21.
- Zoellner, L. A., Goodwin, M. L., & Foa, E. B. (2000). PTSD severity and health perceptions in female victims of sexual assault. *Journal of Traumatic Stress, 13*, 635-649.
- Zhou, Q., Valiente, C., & Eisenberg, N. (2003). Empathy and its measurement. In S. J. Lopez and C. R. Synder (Eds.), *Positive psychology assessment: A handbook of models and measures*. (pp.269-284). Washington, D.C.: American Psychological Association.

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