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EFFECTS OF PATIENT TRAUMA ON HOSPITAL STAFF FUNCTIONING: AN
EXPLORATORY STUDY OF PSYCHOLOGICAL DISTRESS RESULTING FROM
TRAUMA EXPOSURE

A Dissertation

Presented to the Morgridge College of Education
University of Denver

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Philosophy

By

Randy Allen Braley

March 2010

Advisor: Patrick Sherry, Ph.D.

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Abstract

The present study attempted to determine the relationship between exposure to traumatic experiences of hospitalized children and adolescents and the development of secondary traumatic stress, also known as compassion fatigue, vicarious traumatization, or burnout in clinical staff working with such patients. Hierarchical regression was used to test the hypotheses that: clinical treatment staff will experience higher levels of psychological distress following exposure to patient trauma and previous lifetime trauma events; clinical treatment staff will experience quality of patient relationships associated with the degree of exposure to patient trauma, previous lifetime or work-related trauma history, and level of supervisor support; clinical treatment staff will experience a quality of professional relationships associated with the degree of exposure to patient trauma, previous lifetime or work-related trauma history, and level of supervisor support; clinical treatment staff will experience a quality of self relationship associated with the degree of exposure to patient trauma, previous lifetime or work-related trauma history, and level of supervisor support. Measures included a demographic and previous lifetime trauma events survey developed for this study, a Hospital Trauma Scale also developed for this study, the Compassion Fatigue Self-test, the Maslach Burnout Inventory – Human Services Survey (Emotional Exhaustion subscale), and the Supervisor Support Scale. Results indicated a positive relationship between the development of psychological

distress, as evidenced by Compassion Fatigue and Emotional Exhaustion, and exposure to patient trauma and traumatic life events. Additionally, after the effects of education and experience in domains of care were entered, the contribution of degree of hospital trauma experienced contributed significantly to the occurrence of Compassion Fatigue and Emotional Exhaustion. The degree of supervisor support, as measured by the Supervisor Support Scale, did not produce a mediating influence relative to the occurrence of Compassion Fatigue or Burnout. The other findings of interest were that Education played a significant role in the occurrence of Compassion Fatigue and Emotional Exhaustion, as did External Support Sought. Specifically, higher education and external support sought for work-related stress were associated with lower levels of Compassion Fatigue and Emotional Exhaustion.

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Chapter One—Study Overview

Introduction

The purpose of this study was to assess the relationship between exposure to traumatic experiences of hospitalized children and adolescents and the development of secondary traumatic stress, also known as compassion fatigue, vicarious traumatization, or burnout in clinical staff working with such patients. Hospital staff repeatedly exposed to emotionally charged, traumatic experiences of patients may exhibit profound clinical symptoms that affect not only themselves and their patients, but the entire patient care system.

Psychological distress (i.e., secondary traumatization, vicarious trauma and compassion fatigue or burnout) is experienced or realized through the empathic imaginative or sympathetic participation in the experience(s) of another. When providing care, hospital staff who are exposed to child and adolescent victims of trauma may exhibit symptoms through secondary exposure or vicarious experience. Relevant literature highlights the relationship between empathic communication with trauma victims and secondary trauma in mental health and medical professionals. Clinical literature also suggests that those close to a trauma survivor such as family members or friends may experience intrapersonal and interpersonal distress due to indirect or secondary effects of the trauma (Coughlan & Parkin, 1987; Maloney, 1988; Solomon et al., 1992; Verbosky & Ryan, 1988). Trauma affects the survivor's relationships with self

and others and disrupts the fulfillment of major psychological needs. Essential, intrapsychic schemata of trust, safety, control, esteem, and intimacy are experienced as symptoms of distrust, fear, insecurity, loss of power or self-efficacy, and distancing. Survivors often experience various interpersonal problems as well (Finkelhor et al, 1993) such as sexual dysfunction (Chauncey, 1994; Mennen & Perlmutter, 1993; Wilson & James; 1992) and communication difficulties (Reid, Wampler, & Taylor, 1996). This evidence suggests direct transmission of trauma to other individuals in the patients' immediate network. Many of the same problems reported by individual trauma survivors are reported by their loved ones, including individual stress symptoms, isolation, poor relationship quality, and reduced intimacy or affective availability (Coughlin & Parkin, 1987; Maloney, 1988; Solomon et al., 1992; Verbosky & Ryan, 1988; Williams, 1980).

Hospital staff exposed to reports of trauma experiences of their acute care patients, may exhibit conditions that are equivalent to Posttraumatic Stress Disorder (PTSD). "PTSD can arise from exposure to the traumata of others, and the diagnostic criteria for PTSD can manifest from learning about a traumatic event from a friend or family member" (American Psychiatric Association [APA], 2000, page 429). Until recently, traumatic events were once thought to be infrequent circumstances experienced by only a few, unfortunate individuals.

According to earlier editions of the American Psychiatric Association (APA) Diagnostic and Statistical Manual of Mental Disorders (DSMV-III), trauma producing events were considered to be those "outside the range of usual human experiences." (p. 247). Traumatic experiences were limited to rare events such as war. Now, many more

common events are viewed as potentially trauma-inducing including childhood physical and sexual abuse, natural disasters, traumatic accidents, school shootings, severe mental and medical illness, invasive surgical procedures, terrorist acts, and the witnessing of such events (DSM-IV-TR, 2000).

Several approaches have been used to conceptualize the impact of an individual's symptoms on another, including the systems-theory concept of "mutual influence" (Whitchurch & Constantine, 1993), "symptom-bearer" (Minuchin & Fishman, 1981), the interpersonal effects of depression (Coyne, 1976; Gotlib & Beach, 1995), the concomitant experience of symptoms known as Folie à deux or Shared Psychotic Disorder, (APA, 1994), and compassion fatigue. Although such general ideas are useful, there is much to be gained by applying what is known about the impact of trauma on individuals to understanding the impact on the medical or mental health professional caring for the traumatized child or adolescent. The theory of "secondary traumatization" takes what is known about the impact of trauma and exposure to trauma on the individual and expands it to gain an understanding of its impact upon the practitioner/patient dyad and the patient care system. "Secondary traumatization" has been used to describe the effects on the child of a parent experiencing PTSD (Rosenheck & Nathan, 1985), the spouse or partner of a traumatized individual (Figley, 1983; McCann & Pearlman, 1990; Nelson & Wright, 1996), and clinicians and other professionals working with trauma survivors (Figley, 1995).

Statement of the Problem

Literature on the systemic effects of trauma is mostly anecdotal; describing case studies and clinical experiences of therapists and other professionals, (Coughlan & Parkin, 1987; Figley, 1983, 1989; McCann & Pearlman). Empirical research that expands the current clinical literature base needs to be conducted with different populations in order to understand the systemic effects of secondary traumatization.

It has long been acknowledged that individual burnout is a job-related hazard in high stress vocations. However, the reciprocal experience of psychological distress within the patient-practitioner relationship has not yet been explored. Primary or secondary trauma symptoms of patients may deeply affect the primary or secondary trauma experiences in a medical or mental health practitioner, with far reaching implications to the relational and organizational treatment environment, and overall quality of care. Provision of dispassionate or detached care can translate into compromised standards of practice, as well as reduction of or complete loss of job satisfaction. Such considerations raise the question, “Are we behaving in a professionally negligent manner, individually or organizationally when we fail to apply principles of beneficence and nonmaleficence?” These tenets may be tacitly violated when care providers unknowingly become numb, avoidant or else detached from the objects of their care.

In a managed care environment, the supervision of practitioners through emotional support and validation is a necessary clinical component. It is imperative and essential to address these issues to promote the health of both clinician and consumer.

To date, one previous study (Robins et al., 2009) has been conducted in a hospital-wide setting that directly addresses the effects of patient trauma or psychological distress (i.e., STSS/VT/Compassion Fatigue or Burnout) on the psychological health of staff. There is an absence of literature that addresses the differences between “dual-trauma” (both practitioner and patient identify trauma history; Balcom, 1996 as cited in Nelson et al., 2000) juxtaposed with “single-trauma” (only one individual, practitioner or patient reports a trauma history) dyads. Consequently, we must ask, “What is the relationship between clinicians’ exposure to children and adolescents who are victims of trauma (primary or secondary) and the development of secondary or subsequent trauma in clinicians?” Is psychological distress as sequelae, predictable for practitioners and patients alike, in an acute care pediatric hospital? Research suggests that different types of traumatic experience lead to different types of trauma responses or symptomatology. As noted in several studies, degree of exposure is positively related to psychological distress (e.g., Gerrity, Keane, & Tuma, 2001; Joseph, Williams, & Yule, 1997).

Purpose of the Study

The purpose of this study was to determine whether health care providers or support staff experience psychological distress after exposure to the trauma material of hospitalized patients, children and adolescents. Additional research questions related to clinical treatment staff’s experience of quality of patient relationships, professional relationships, and self relationships in their association with the degree of exposure to patient trauma, previous lifetime or work-related trauma history, and level of supervisor support.

Justification for the Study

The statistical evidence for exposure to trauma among individuals living in the United States is: 89.6 % for adults (Everly et al., as cited in Jordan, 2004) and 40% for children and adolescents in the general population (Ford et al., as cited in Jordan, 2004). Given these data, the theorized probability of trauma material in hospitalized children as a subpopulation would likely be higher than that of the general population. It has been argued that for providers within children's hospitals, the impact of witnessing other's trauma is amplified (Vredenburgh, 1992, as cited in Robins et al., 2009), given the imperative of protecting and caring for children. The chronic, oftentimes life-threatening nature of children's illnesses can create intense emotions in the family, and in those who provide care (Barnsteiner & Gillis-Donovan, 1990, as cited in Robins et al., 2009). In addition, a caregiver's risk for experiencing secondary trauma has been shown to increase as a result of working with vulnerable dying children (Beaton & Murphy, 1995, as cited in Robins et al., 2009).

These data do not include the trauma effects of September 11th or subsequent natural disasters, such as Hurricane Katrina, or Tsunamis. No previous studies have been conducted that directly address systemic effects of trauma or psychological distress as phenomena (e.g., STS/VT/Compassion Fatigue or Burnout) resulting from staff exposure in a hospital setting, nor is there literature that addresses the differences between "dual-trauma" (both practitioner and patient-identified trauma history) effects or consequences.

Watzlawick et al. (1967) stated that "A phenomenon remains unexplainable as long as the range of observation is not wide enough to include the context in which the

phenomenon occurs.” In order to optimize the care provided to children and adolescents in the hospital setting it is imperative that we understand the “ecology” of this healthcare milieu, the context for the healing of patients in the acute care environment. If an individual with impaired physical health or disturbed behavior is studied in isolation, a monadic view, then the inquiry must focus on the nature of that “within person” condition and, in a broader sense, the nature of the individual psyche or human mind. If the limits of the inquiry are expanded to include the effects of this behavior or condition on others, their reactions to it, and the context in which it all takes place, the inquiry shifts from the artificially isolated monad to the relationship between the components of a wider system.

As the interactive components of this system are contemplated, the following questions arise: Does the reverberation of psychological distress in clinical treatment staff impact absenteeism or sickness due to physical and mental depletion? How is teamwork diminished by alienation of staff? Do medical errors or errors in clinical judgment increase as exposure to patient traumata accumulates? Are there accrued costs to the provision of potentially substandard patient care? Is there a higher incidence of patient recidivism which results from this compromised treatment?

Research Hypotheses

In this study, individual trauma exposure and level of supervisor support served as the independent variables, while psychological distress as measured by vicarious trauma, compassion fatigue, and burnout, served as the dependent variables, as did quality of relationships - staff to patient, staff to staff and self relationship. In addition, several

variables served as control variables which need to be considered before the dependent variables are quantified. These include education, gender, years of experience in 5 domains of patient care, and supervision.

This investigation examined the following hypotheses:

1. Clinical treatment staff's level of psychological distress is associated with the degree of exposure to patient trauma and level of supervisor support after previous lifetime or work-related trauma history and the effects of age, education, gender, domains of care, and supervision are controlled.
2. Clinical treatment staff's quality of patient relationships is associated with the degree of exposure to patient trauma and level of supervisor support after the effects of previous lifetime or work-related trauma history and the effects of age, education, gender, domains of care, and supervision are controlled.
3. Clinical treatment staff's quality of professional relationships is associated with the degree of exposure to patient trauma and level of supervisor support after the effects of previous lifetime or work-related trauma history and the effects of age, education, gender, domains of care, and supervision are controlled.
4. Clinical treatment staff's quality of relationship to self is associated with the degree of exposure to patient trauma and level of supervisor support after the effects of previous lifetime or work-related trauma history and

the effects of age, education, gender, domains of care, and supervision are controlled.

Definition of the Major Concepts

For the purpose of this study, the following definitions were used:

“Vicarious trauma” (VT) and “secondary traumatic stress” (STS) or “compassion fatigue” describe the potential effects of working with traumatized persons. “STS or compassion fatigue” and “vicarious traumatization” are conceptualized as reactions to the emotional demands on clinical staff and social network members from exposure to trauma survivors’ terrifying, shocking images; strong, chaotic affect; and intrusive traumatic memories. “STS or compassion fatigue” describes the sudden adverse reactions people can have to trauma survivors whom they are helping or wanting to help. Figley (1983) first defined secondary trauma as the emotional duress experienced by individuals in close contact with a trauma survivor, especially concerned family members, a natural response to a survivor’s trauma material with which helpers may identify and empathize. Figley has now renamed it (STS) “compassion fatigue”, seeing it as a normative occupational hazard for trauma workers and mental health practitioners and explaining that this term is less stigmatizing, therefore preferred.

Vicarious trauma refers to the cumulative process “through which the therapist’s inner experience is negatively transformed through empathic engagement with a client’s trauma material (Figley & Stamm, 1996, p. 279).

In theory, verbal exposure to traumatic material theoretically changes cognitive schemas regarding both self and others in five key areas that represent major

psychological needs: trust, safety, control, esteem, and intimacy (Pearlman & Saakvitne, 1995). Intrusive imagery and other PTSD symptoms also appear as disruptions to the therapist's imagery system of memory, yielding painful experiences of images and emotions associated with the client's traumatic memories.

Burnout is described as the emotional consequences specific to "people work" for human service workers and mental health professionals who deal closely with other people's problems. Burnout is a defensive response to prolonged occupational exposure to demanding interpersonal situations that provide inadequate support and produces psychological strain. Maslach (1982) provided the most widely used definition of burnout as containing three content domains:

1. A syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do people-work of some kind...
2. A response to the chronic emotional strain of dealing extensively with other human beings, particularly when they are troubled or having problems...
3. And a pattern of emotional overload and subsequent emotional exhaustion which is at the heart of the "burnout syndrome."

Burnout is, according to Figley, related to chronic tedium in the workplace, is not necessarily related to trauma exposure, and is posited to increase the potential for development of Secondary Traumatic Stress (Figley, 1995).

Individual Trauma Exposure

The epidemiology of exposure to trauma in adults, as reviewed in Litz, et al. (2002), describes the complex systems of traumatic experiences perceived as “directed against oneself”, in addition to experiences that have been “witnessed as directed against others.” Answers to the following questions will satisfy, in behaviorally descriptive terms, criteria (A1) consistent with Diagnostic and Statistical Manual of Mental Disorders IV, posttraumatic stress disorder stressors. Did the event involve interpersonal violence, were there any weapons involved, were you threatened by an aggressor, was someone else threatened by an aggressor, were you injured or wounded as a result of the event, and was someone else injured or killed as a result of the event? (Brunet et al., 2001). When events are endorsed by respondents, while assessing for trauma exposure, an additional qualifying question will include: did you experience intense fear, helplessness, or horror (stressor criterion A2). (Kubany et al., 2000).

Secondary exposure; encounters with the trauma material of others, may impact healthcare professionals in a psychologically distressing manner. Repeated exposure to client or patient events and/or stories can lead to disturbed beliefs and emotional unrest (Adams et al., 2001). This psychological injury to helping professionals can express itself in ways which are difficult to differentiate. Morrissette (2004) encourages the clear identification of psychological sequelae in the field of traumatology, to allow for the assessment, treatment, and understanding of psychological injury “across all the helping professions.”

Summary

This chapter introduced the potential impact of exposure to patient traumata on staff in an acute care hospital setting, thus punctuating the need for additional research in this neglected area. Bilateral symptom transmission across relational boundaries – between patient and practitioner has not been considered in the hospital venue in prior research studies. The linear examination of cause and effect of psychological distress in an inpatient treatment environment may disclose attendant costs – hidden and covert, as well as overt, identifiable ones. Chapter Two presents an overview of pertinent theoretical and empirical research in domains of PTSD or Trauma Exposure, Secondary Traumatic Stress, Vicarious Trauma, and Compassion Fatigue and Burnout. Chapter Three describes the methodology for the study and outline the measures, procedures, and statistical analysis. Chapter four explains the results of this study. Chapter Five contains a discussion of the results, study limitations, suggestions for future research, and general conclusions.

Chapter Two—Review Of the Literature

Posttraumatic Stress Disorder (PTSD)

In this literature review, studies considered were those which explored topics related to the systemic effects of trauma and the resultant sequelae of psychological distress. Research has evolved through expansion of the phenomenon of trauma and its cause/effect considerations in individuals, groups, and families. Statistical evidence for trauma exposure (Kessler et al., as cited in Elliot, 2006) demonstrated that, for individuals living in the United States; 89.6 % of adults (Everly et al., as cited in Jordan, 2004) and 40% of children and adolescents, will have suffered the ill effects of significant, psychologically disruptive events (Ford et al., as cited in Jordan, 2004). Given these data, the probability of traumata expressed in hospitalized children as a subpopulation would likely be greater.

For those in high risk occupations, pediatric practitioners in acute care facilities such as medical/surgical and psychiatric units, trauma exposure can occur at a much higher frequency. Normal intrapersonal or intrapsychic reactions to trauma may include grief, irritability, crying, and/or preoccupation with the event. Worst case scenarios can include retaliation by professional staff in attempts to “even the score.” By contrast, abnormal or maladaptive responses of PTSD or psychological distress persist for at least one month or longer and are characterized by sustained hyperarousal or hypervigilance, repeated and unwanted reexperiencing of the event, and avoidance of stimuli serving as a

triggered reminder of the event (Ehlers & Clark, as cited in Elliott, 2004). PTSD is described in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV-TR, 2000), as a constellation of symptoms that develop subsequent to an event that is perceived to be threatening to either life or physical integrity of oneself or another. The event, which is accompanied by feelings of intense fear, helplessness, or horror, may include combat, personal assault, physical or psychological torture, automobile accidents, terrorist attacks, and natural or manmade disasters.

Since the emergence of PTSD as a clinically recognized, psychiatric disorder, much effort has been invested in developing a more thorough understanding and explication of its etiologies. As a result, several conceptual paradigms have been proposed, including such models as learned helplessness, lack of perceived control, temperamental timidity, and an altered or shattered worldview (MacNair, 2002, as cited in Elliott, 2004). In addition, cited models reviewed in this study included relational symptom transmission, both interpersonal and transgenerational.

Individual Trauma Exposure

The clinical implications of trauma exposure in healthcare professionals were explored. This research identified and assessed the sequelae of trauma, and led to an increased awareness of the potentially long-lasting psychological impact of traumatic life events. An understanding of these trials will allow healthcare professionals to achieve the most effective therapeutic relationships.

It was important to understand the most commonly used trauma exposure and PTSD instruments available for several reasons. According to Elhai et al. (2005), “such

knowledge helps provide information about conventions of assessment practice used in the traumatic stress field, addressing legal questions regarding the general acceptance of our scientific procedures.” Elucidating the severity of trauma exposure, intensity (i.e., proximity to) or duration provides invaluable data for researchers comprehending the event’s profundity.

In the measure created by Brunet et al. (2001), the effects of initial trauma exposure on the symptomatic response to subsequent trauma was explored. Of paramount importance was the determination of the presence of exacerbating factors such as weapons involvement, threats by an aggressor towards self or others, and whether “anyone was wounded as a result of the event or was someone else wounded or killed as a result of the event?” (p. 99).

Lutz, et al. (2002) briefly reviewed the epidemiology of exposure to trauma in adults and described the complex systems of posttraumatic stress disorder (PTSD) from a cognitive-behavioral perspective. The authors also described the associated clinical features of PTSD and the co-morbid disorders that are commonly linked to trauma exposure and PTSD. They reviewed clinical assessment methods and made recommendations for screening, diagnostic evaluation, trauma evaluation, PTSD in primary care settings, and measuring clinical outcomes.

Hanson, Kilpatrick, Freedy, and Saunders (1995) also assessed the degree to which exposure to trauma may impact mental health. They compared how exposure to the 1992 riots in Los Angeles County affected residents who were in proximity

differently than those who were not. Degree of exposure to the civil disturbances was assessed using several questions designed for the study. Such questions evaluated perceptions of safety, threat to life, personal loss, and exposure to the actual disturbance using a Likert scale. Results indicated that degree of exposure was predictive of PTSD symptomatology.

Brunte, Boyer, Weiss, and Marmar (2001) studied how trauma exposure influences symptomatic response in urban bus drivers. Again, trauma exposure was assessed using questions specifically designed for the study. The six yes/no questions evaluated the presence of interpersonal violence, the use of weapons, threat to self or others, and injuries sustained to self or others.

Kubany et al.'s article (2000) described the development and preliminary validation of a brief questionnaire that assessed exposure to a broad range of potentially traumatic events. Items were generated from multiple sources of information. Events were described in behaviorally descriptive terms consistent with Diagnostic and Statistical Manual of Mental Disorders IV posttraumatic stress disorder stressor criterion A1. When events were endorsed, respondents were asked if they experienced intense fear, helplessness, or horror (stressor criterion A2). In separate studies with college students, Vietnam veterans, battered women, and residents of a substance abuse program, most of the survey items possessed adequate to excellent temporal stability. In a study comparing questionnaire and structured-interview inquiries of trauma history, the two formats yielded similar rates of disclosure.

In a review of the psychometric properties of the Stressful Life Events Screening Questionnaire (SLESQ), Goodman et al. (1998) provided a developed trauma history screening measure and discussed the complexities involved in assessing trauma exposure. The authors reported that “there are relatively few general measures of exposure to a variety of types of traumatic events, and most of those that exist have not been subjected to rigorous psychometric evaluation.” The SLESQ showed good test-retest reliability, with a median kappa of .73, adequate convergent validity (with a lengthier interview) with a median kappa of .64, and good discrimination between Criterion A and non-Criterion A events, according to the authors. Their discussion addressed some of the challenges of assessing traumatic event exposure along the continuum of definition of traumatic events, assessment methodologies, and finally accurately reporting the events. It also taps information on traumatic experiences perceived as directed against oneself, in addition to experiences that have been witnessed as directed against others.

Secondary Traumatization

In April, 2000, Nelson and Wampler researched the association between reported childhood physical and sexual abuse and current individual stress symptoms, relationship satisfaction and family adjustment as measured in adulthood. Empirical research in the clinical literature suggested that those close to a trauma survivor may experience intrapersonal or intrapsychic, and interpersonal distress, due to indirect or secondary effects of the trauma. The authors reviewed literature in the field of traumatology, and concluded that childhood abuse equated to empirically evidence of psychological

symptomatology. Childhood abuse, whether physical, sexual or emotional, has been recognized as a legitimate trauma, and survivors are susceptible to severe trauma symptoms, according to Nelson and Wampler. The authors identified symptoms in victims ranging from lack of trust, anger, hostility, anxiety, depression, isolation, loss of power, and substance abuse to sexual dysfunction and self-injurious behaviors (Briere, 1989; Busby et al., 1993; Cameron, (1994); Kerewsky et al., (1996); Mennan et al., (1993); Neumann et al., (1996); Wilson et al., (1992), as cited in Nelson & Wampler, 2000). Expanding upon the theme of individual trauma symptoms manifesting in interpersonal distress, the authors also included marital disruption (Finkelhor et al., (1989), as cited in Nelson & Wampler, 2000), communication difficulties (Reid et al., (1996), as cited in Nelson & Wampler, 2000), reduced intimacy or affective bonding (Noble, 1995), and sexual dysfunction (Chauncey, 1994; Mennen & Perlmutter, 1993; Wilson & James, 1996, as cited in Nelson & Wampler, 2000).

Many of the problems reported by trauma/abuse survivors are also reported by their spouses/partners, including but not limited to individual stress symptoms, isolation and poor quality of relationships (Coughlan & Parkin, 1987; Maloney, 1988; Solomon et al. 1992; Verbosky & Ryan, 1988; Williams, 1980, as cited in Nelson & Wampler, 2000). Conceptualizations of this phenomenon, the impact of an individual's symptoms on another, have been understood through the application of several theoretical constructs from diverse paradigms. Systems theory concepts of "mutual influence" (Whitchurch & Constantine, 1993) and "symptom bearer" (Minuchin & Fishman, 1981), addressed the interpersonal effects of individual symptomatology. The theory of "secondary

traumatization” takes what is known about the impact of trauma on the individual and broadens it to provide an understanding of the effects upon the relational system: primary survivor and spouse/partner; primary survivor/parent and child; primary survivor and treating clinician and/or other professionals working with the victim (Rosenheck & Nathan, 1993; Figley, 1983 and 1995; McCann & Pearlman, 1990; Nelson & Wright, 1996). The theory behind secondary trauma “is that individual stress symptoms are communicable or that those close to the trauma survivor can be infected with the problems of the primary survivor or experience problems that mimic the problems of the primary survivor.” (Catherall, 1992; Figley, 1995; Coughlan & Parkin, 1987). In other words, the symptoms are transmissible across relational and subsystem boundaries.

Current literature suggested that trauma and trauma symptoms affect not only the individual but also the people with whom traumatized persons have a proximate relationship (e.g., spouses, partners, care providers and children). The interpersonal or relational effects of childhood trauma were then the focus of the study by Nelson and Wampler, with their participants being drawn from a university-counseling center, client population. Although Nelson and Wampler, as well as other researchers, investigated the intense emotional effects experienced by family members trauma survivors, none of these investigators explored the effects of traumata between practitioner and patient.

Theoretical Model of Secondary Trauma

Based on the literature review, this author generated the following model to guide the research investigation (Figure 1). This model is a theoretical description of the

pervasive effects of traumatic events (re: trauma material) from a systemic perspective in a hospital setting.

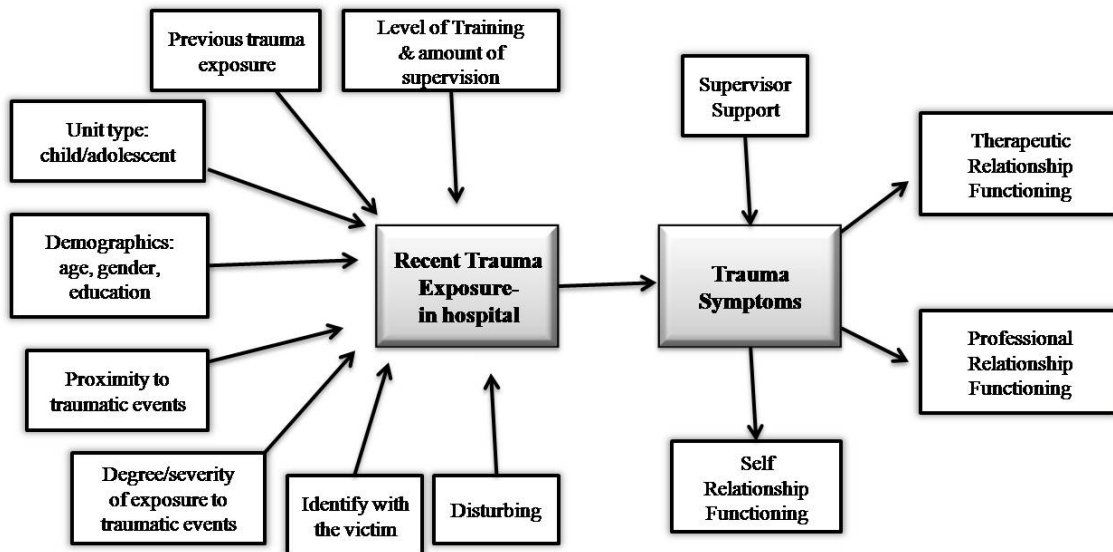


Figure 1: Theoretical Model of Secondary Trauma

Kira's study of the treatment of refugee survivors of torture (2003) focused on the theoretical basis of secondary traumatization and the treatment of the survivor's family. This study addressed Social Learning Theory, which postulates that social behaviors, inner thoughts and feelings are learned, then inculcated or inherited through social interaction. Through learning by observation of another's experience, interpersonal experience - Social Learning Theory asks whether one learns helplessness or reduced efficacy, fear and/or insecurity, lack of free will agency or volitional control over people and events. It asks whether these exposures lead to a changed locus of control – from internal to external, with an increased vulnerability to circumstances deemed beyond one's control.

Kira discussed how traumatic effects of torture can be transmitted to spouses, children and other caring relatives and professionals through social learning processes and/or the loss of a collective efficacy, yet he acknowledged the absence of “family assessment” in most psychological assessments conducted with torture survivors. Kira’s paper also addressed the “dangers of unrecognized systemic interactions in families and personal relationships of torture survivors”, and how they can exacerbate existing individual symptomatology and create new problems and complications. Kira’s postulation regarding symptom transmission is based on three assumptions: first, that the human individual does not exist alone but within a structured network; second, that the degree of closeness in relationship to others within these systems or networks determines the mechanism of transmission and its consequent effects; and thirdly, transmitted effects can have “systemic and ripple effects”, which go beyond the initial impact through space and time.

Kira (2003) expanded his considerations of trauma to include family relations as well as group and community identities. An individual belongs within these contextual relationships, developing affiliations, attachments, and feelings of membership and group or cultural identification. The feelings of the group members with which one identifies will become one’s own feelings, whether positive or negative.

Trauma has different transmission mechanisms according to Kira (2003), and may be transmitted across relationships and generational boundaries. Examples of such mechanisms included symbiosis, empathy, attachment, enmeshment, personal or collective identification and codependency. Folie à deux, a shared psychotic disorder,

was identified as an extreme example of transmission in which secondary trauma may affect not only one other person, but also a family, primary or secondary social group, community, even a whole nation – as in the 9/11 genocidal tragedy. Kira (2003) outlined two main kinds of symptom transmission: one step transmission, in which the passage is from one person to another person, alone or within a group, as in domestic violence, and multiple steps of transmission, where trauma is transmitted cross generationally. This is also subcategorized as cross generational family trauma transmission or cross-generational collective identity trauma transmission, for example, historical trauma such as holocaust, and social structure trauma, such as differential status identity or power differentials in the strata of social identity. This symptom transmission process is a result of the empathic engagement of those in close relationship. A deep understanding of another’s situation, feelings or losses also contributes to the inheritance of secondary trauma symptoms.

“Therapists risk secondary trauma in giving empathic witness to narratives of torture in the course of treatment”, cautions Dr. William Gorman (2001, p. 443) in his work on clinicians working with survivors of torture trauma. He contended that causes, effects, and strategies for prevention of secondary trauma “must all be continually considered in this work” for attenuation of impact. This challenge has been described as “the dilemma that at the same time one talks about torture as the most gruesome cruelty in the world...the client’s symptoms and reactions to violations contaminate the therapists as well as the psychology and staff policy of the institution (Elsass, 1997, as cited in Gorman, 2003, p.1).

Approximately 30 in 300 therapists or 10% of those surveyed at centers for treatment of torture survivors themselves eventually reported symptoms of secondary traumatization (Gorman, 2003). Of those, 1 in 5 scored as high as their traumatized clients on an “impact of event” rating scale. It was Gorman’s contention that if secondary traumatization is unacknowledged, it can have severely deleterious consequences for both the client and the therapist, identified as “compassion fatigue.”

Henry Nouwen termed the concept of “wounded healers” (Nouwen, 1972, as cited in Gorman, pg. 2003) to describe the phenomenon of helpers who take to heart the pain of those they seek to serve. Understanding, and an opening to ameliorate the isolation and pain that scar torture victims, through an empathic appreciation of and identification with the victim’s suffering, caregivers gain credibility, and engender the process of recovery and hope. The Holy Scriptures of II Corinthians, Chapter 1, verse 4 (New American Standard Bible, 1977) advises us to comfort those who suffer, with the comfort with which we have been comforted while in our own afflictions. An affective bond, through compassion and mercy is formed when caregivers who have also “suffered wounding” encounter others who are in a “wounded place.” Gorman and others concluded that, “therapists with the greatest capacity for feeling and expressing empathy may be at the greatest risk for secondary or vicarious traumatization or compassion fatigue” (p.2) Gorman’s considerations for factors crucial to the development of psychological distress in caregivers include the therapists own background of circumstances and values that can be predisposing them to the phenomena.

Negative risks for therapists engaged with victims of extreme and premeditated violence are, according to Gorman (2003) “bystander’s guilt, anger, dread, sense of inadequacy, grief and mourning, viewing victims as fragile martyrs or conversely as noble suffering heroes, and over-identification with and possible need to rescue the victim” (p. 2-3). These adverse and secondary reactions encompass four categories delineated by coping style and specific trauma factors: detachment or enmeshment, with or without personalized complications. Clinicians contending with the emotional rigors of intimate empathy cope by distancing or affective detachment, with rationalizations or without realization, retreating into what Gorman calls a “conspiracy of silence” between victims and therapists. At the other end of the continuum is over-involvement, or enmeshment, when the reverberations of treatment become debilitating for the caregivers as they feel consumed by the horror, rage and confusion, helplessness and despair – likely disturbing reactions for survivors. “If the secondary traumatization is unrecognized or unaddressed, it can have all the more severely damaging consequences for both client and therapist” (p. 2-3).

Common aftereffects of secondary trauma include empathic ruptures, intrusion of wants or needs of the therapist, subversion, and distortion of the therapeutic alliance. The final result may be burnout in the therapist with concomitant dropout by the client. In addition, the therapist may experience loss of needed investment, focus, or concentration, or the inability to let go of the work when outside the therapeutic encounter, irritability or distress, or disturbances in sleep or other daily functions.

Collins et al. (2003) in their literature review explored how interaction with seriously traumatized people has the potential to affect health-care workers. The review introduces post-traumatic stress disorder as one of the possible negative consequences of exposure to traumatic events. The authors examine the concepts of vicarious traumatization, secondary traumatic stress, traumatic counter transference, and burnout and compassion fatigue as potential adverse consequences for workers who strive to help traumatized people.

Vicarious Trauma

McCann and Pearlman (1990, p. 145) are first credited with describing vicarious trauma as:

...the transformation in the inner experience of the therapist (i.e., the self-schema) that comes about as a result of empathetic engagement with clients' trauma material.

Thus, vicarious traumatization has been identified in those individuals who, while working with victims of traumatic events, fall victim themselves to secondary traumatic stress reactions, by helping or wanting to help a traumatized individual. In the ensuing years, Pearlman & Saakvitne (1995, p. 31) opined:

...vicarious traumatization actually refers to the cumulative effect of working with survivors of traumatic life events.

Anyone who is empathically engaged with victims or survivors of trauma is susceptible to this phenomenon. The debate expanded as additional writers coined their own synonyms for the description of vicarious traumatization within the taxonomy of

psychological distress. Herman (1992), for example, conceived the term of “traumatic counter transference”.

Some viewed the problems faced by workers as simply “burnout” (Pine, 1993). Figley (1995), a noted expert in the field of traumatology, conceived the term “compassion fatigue”, and Munroe et al. (1995) used “secondary traumatic stress disorder”. Collins and his fellow literature reviewers concluded that despite what appear to be interchangeable descriptors, the fallout of working with traumatized victims over time appear to be the same. Consistent with this premise, the authors offered a synthesis of vicarious traumatization, traumatic counter transference, burnout, compassion fatigue, and secondary traumatic stress as potential outcomes.

Vicarious traumatization, as introduced by McCann and Pearlman (as cited in Collins, et al., 2003), provides a theoretical framework for comprehending the complex and often distressing effects of trauma work on clinicians. Their concept is based in constructivist self-developmental theory, (Pearlman et al., 1995, p. 152), which explains the impact of trauma, as experienced interpersonally, and an individual’s psychological development, adaptation and reality.

A study by Schauben and Frazier (cited in Collins et al., 2003), examined the experience of 148 counselors working with sexual violence survivors, and assesses the psychological consequences of such work. The researchers defined the resultant “vicarious traumatization” as “the enduring psychological consequences of exposure to the traumatic experiences of victim clients, for therapists” (p. 49).

In spite of the important information revealed regarding the effects of working with trauma survivors, this study was limited in that the entire sample group was comprised of females and a narrow category of trauma was examined – the effects of working with sexual abuse victims. Pearlman & Mac Ian (1995) studied 52 male and 136 female, self-identified trauma therapists. The study “examined the concept of vicarious traumatization, and found that the newest therapists, especially those with a personal trauma history, experienced the most difficulties” (p. 562).

Summary

The first chapter discussed the potential impact of exposure to traumatized hospitalized children and adolescents, and the development of psychological distress, as well as the need for additional research in this area. The second chapter presented an overview of relevant theoretical and empirical research in PTSD, individual trauma exposure, vicarious trauma, compassion fatigue and burnout. Research supported the hypothesis that caregivers with a high degree of exposure to the traumatic material of others will experience greater psychological distress through empathic imaginative or sympathetic participation in their experiences. The design for testing this hypothesis was discussed in chapter three. Chapters four and five contain an examination of the results and the conclusions derived from the study.

Chapter Three—Methodology

The purpose of this research was to investigate the extent of psychological distress in hospital staff and its relationship to exposure to trauma experiences of hospitalized children and adolescents. This chapter describes the methods and procedures used to make this determination and answer the research objectives discussed in Chapter One. The following information is also found in this chapter: a) description of participants, b) description of sampling procedure, c) description of research instruments, d) instrument reliability and validity, and e) description of the research design.

Participants

This study was conducted at a large, metropolitan, tertiary care hospital in the western U.S. Faculty and staff in surgery, medicine, nursing, social work, psychiatry, psychology, allied health (occupational therapy, physical therapy, and audiology), and child life and family services, including pastoral care, were recruited to participate in the study. The Division of Surgery was surveyed and comprises the Departments of Hematology and Oncology (Center for Cancer and Blood Disorders), Cardiology, CV Surgery, Dentistry, Pediatric & Adolescent GYN, Neurosurgery, Plastic Surgery, Otolaryngology, Ophthalmology, Orthopedics, Pediatric General Surgery (including Trauma and Burn programs), and Urology.

A second major division in this hospital includes the Departments of Pathology and Laboratory Medicine, Psychiatry and Behavioral Sciences, Emergency Services,

Pediatric Intensive Care Units, Anesthesiology, Speech and Learning Disorders, Physical Medicine and Rehabilitation, and Diagnostic Imaging and Radiology. General medical nurses who provided care on the medical/surgical and critical care floors, but did not belong to a specific pediatric division, were also recruited. Ancillary services outside of these divisions were also surveyed. Entry-level through senior faculty in each profession were recruited. Participant recruitment was expanded from the Department of Psychiatry and Behavioral Sciences to include all staff with practice privileges at The Children's Hospital; all staff employed at The Children's Hospital with direct service involvement and all support staff related to patient care. Organizationally, these individuals report to the In-Chiefs of Pediatrics, Surgery and PPARDI who in turn report to the Chief Operating Officer, M.D. This change was undertaken to satisfy the requirements of the Colorado Multiple Institution Review Board's request to ensure subject privacy. Additionally, hospital-wide interest in the topic of psychological distress warranted a broader investigation of the phenomenon.

Other departments were included: Outpatient psychiatric care programs, Psychiatric Day Treatment – partial hospitalization (child and adolescent patients); Medical Day Treatment - partial hospitalization (child and adolescent medical/psychiatric patients, 9 to 19 years of age); Eating Disorder Program – partial hospitalization/outpatient clinic (medical and psychiatric patients); Psychiatric Emergency Services – Emergency Department (child and adolescent – 4 to 19 years of age); Outpatient Psychotherapy Clinic (child and adolescent/family clients); Intensive Outpatient Group Therapy (IOP - child and adolescent/parent clients).

Selected participants completed survey questionnaires posted on a web- based internet site. Mental/medical healthcare providers also completed a demographic section identifying past life event history, including childhood physical and or sexual abuse and other trauma exposure.

Hospital staff was described by units to which they were assigned in the care continuum – inpatient, partial hospitalization/day surgery, outpatient, emergency department, and operating room. High school, associate’s degree, bachelor’s, masters, and doctorate level clinical treatment staff and administrative support staff were categorized within each domain of care to determine level of education and related credentialing.

Additional demographic and background research variables (Appendix C) identified were history of personal or professional trauma exposure, as well as the type and degree of exposure to trauma material. Trauma exposure as an independent variable was measured by a survey specifically developed for this study, the Hospital Trauma Scale. The survey consisted of questions related to the constructs of trauma (Appendix D). Measures of dependent variables of psychological distress included Compassion Fatigue (CF), Burnout, and relationship disruption among mental health professionals and between mental health professionals and their patients.

Procedures

Approval was obtained from the Institutional Review Boards (IRB) of the University of Denver and The Hospital, an affiliate of the University of Colorado Denver and Health Sciences Center, through the Colorado Multiple Institutional Review Board

(COMIRB), prior to data collection. The COMIRB application included the completed dissertation proposal and University of Denver IRB documentation authorizing this research study. The COMIRB is the approving authority for biomedical and behavioral research conducted at or supported by each institution within the umbrella organization of UCDHSC. In addition to IRB approval, permission was obtained from the respective department/unit directors within the organization of the hospital.

Participation was solicited at departmental/unit based meetings in small groups, and individually when recruiting supervisors or department chairs as stakeholders within each program. Multiple invitations were extended, beginning with a department wide e-mail request for participation, followed by a second and third contact in two week intervals. COMIRB authorized three e-mail contacts in all, following in-person presentations.

These steps were undertaken in order to ensure a sufficient sample size. First, I spoke to each unit's director to obtain approval to approach collective staff during weekly, monthly, quarterly and even annual meetings. I then spoke to small groups of individuals on the unit, as required, to accommodate their team meetings during all three shifts. I invited participants to complete the posted survey packet by accessing the web based internet link provided in e-mail communications. Prospective participants were verbally informed of the study's general purpose and intent, the importance of conducting this type of research, and generic requirements of participation. Staff was also informed that participation was both voluntary and strictly confidential (Appendix B).

Constructs or variables within the Theoretical Model of Secondary Trauma were measured by relevant items as follows: Demographics and Life Events Questionnaire (Appendix C) - previous trauma; unit type; level of education and supervision were measured by 22 items within the Demographic and 17-item Life Events Questionnaire. Proximity, degree or severity of exposure and magnitude of disturbance were measured by the items within the Demographic and Trauma Exposure Scale and 55 items within the Hospital Trauma Scale. Symptoms – primary or secondary, were assessed by the Compassion Fatigue Self Test for Clinical Treatment Staff and the Maslach Burnout Inventory, Human Services Survey (Emotional Exhaustion subscale). Therapeutic Relationship, Professional Relationship and Self Relationship functioning were measured by subscales within the Hospital Trauma Scale and supervisor support from the Supervisor Support Scale.

Measures

Demographics and background information.

Demographic and Life Events Questionnaire (Appendix C): Participants were asked to provide demographic and background information. These items included level of education, years spent in 5 domains of practice specialty, gender, unit or department of current assignment, marital status, mental health treatment – yes or no, location of mental health treatment, prescribed medications – yes or no, patterns of alcohol consumption, if one drinks – yes or no, if so – how many drinks per/week, identifiable spiritual belief system or religion – yes or no.

The survey also inquired about participants' exposure to traumatic events outside the workplace using the Lifetime Trauma Questionnaire (Blake et al., 1990). This checklist is a 17-item inventory identifying types of exposure to a range of different traumatic events, across the lifespan. Questions touched on such topics as: witnessing serious injury or death of a stranger, knowing someone injured or killed - a friend, acquaintance or family member.

Two measures were constructed specifically for the study, and existing measures were also utilized. The hypothesized model consisted of both a measurement and associative component, as presented in Appendix D. The following constructs were assessed: degree of individual trauma exposure and psychological distress as evidenced by symptom categories of compassion fatigue, burnout, and relationship disruption. These constructs were measured using the instruments described below.

The independent variable of trauma exposure was measured by two surveys developed for this study, consisting of questions related to the trauma, past and present. Dependent variables measured were psychological distress resulting from cumulative trauma exposure, as evidenced by Compassion Fatigue (CF) and Emotional Exhaustion. Additional outcome considerations focused on relationship disruption among professionals and between providers and patients.

Due to the sensitivity of the research and the protection of job security through strict confidentiality, participant welfare was of paramount concern. In some domains it might be considered harmful or even risky to ask staff to recall and report on painful or traumatic personal or professional experiences. However, recent research suggests that

individuals completing questionnaires regarding traumatic events may not contract additional harm. Ruzek and Zatrack (2000, as cited in Elliott, 2004) evaluated the impact of research participation on a sample of 117 hospitalized trauma survivors. Participants were asked 10 questions rating the degree to which they felt their participation had a negative psychological effect. A majority of participants (95%) reported no adverse impact while recalling harmful traumatic events and many conveyed that they felt their involvement was beneficial.

In spite of the evidence supporting few deleterious outcomes for research participants, numerous safeguards were put in place. Each participant was given the opportunity to speak anonymously with this investigator about any concerns, questions or reactions to the material. If a participant needed debriefing and sought access at a later date, referral phone numbers were provided for psychological services, this investigator, and his in-hospital research mentor and university advisor. Contact information for the hospital employee counseling services was provided (see Appendix B). This investigator did not expect that participation in this study would induce harm. In fact, it was believed that the opportunity to discuss job related stress factors could increase employee satisfaction. A number of respondents contacted this researcher to discuss their reactions to the study material. The steps outlined in the Invitation to Participate were followed as they related to participant need – whether it was to process their experience or to be provided with referrals for professional services. As required by COMIRB (Colorado Multiple Institutional Review Board), an Unanticipated Problem Report form was submitted to address possible safety concerns for staff.

Hospital Trauma Scale

The literature review indicated that previous studies measured the degree of individual exposure to trauma using questions specifically designed for each study. A common theme among the questions used in those studies was that they all assessed threat to self (real and/or perceived) and injuries sustained. However, this study assessed type of trauma exposure, frequency of exposure to patient traumata, and degree or intensity of the exposure event. A series of questions were devised and included questions similar to those found in the Norris and Kaniasty (1996) and Weiss, Marmar, Metzler, and Ronfeldt (1995) studies assessing the degree to which a hospital staff worker has been exposed to trauma resulting from patient condition or experience. This study assessed: proximity to patient traumata; actual or threatened death, serious injury or threat to the physical integrity of self or others – degree of disturbance; and severity of exposure to the event or trauma material.

The survey also inquired about participants' most recent employment experience with questions focusing on: witnessing others being injured; knowing someone who was injured; seeing patients physically managed or physically managing patients themselves; previous trauma exposure and support – social or supervisory. Therapeutic relationship quality, between patient and practitioner, and features of the professional relationship amongst co-workers, was also assessed using subscales within the Hospital Trauma Scale. These items were used to create a Hospital Trauma Scale unique to this study.

Prior studies assessed exposure to trauma by examining the degree to which individuals perceived a situation as life threatening, sustained an injury, or suffered

personal or financial loss (Norris & Kaniasty, 1996; Thompson, Norris, & Hanacek, 1993, as cited in Philbrick, 2002). Questions were simple and straightforward. For example, individuals who were exposed to hurricanes were asked: “Did you ever feel like your life was in danger during the incident?” (Norris & Kaniasty, 1996, p.500, as cited in Philbrick, 2002). Similar questions were used to assess injury and personal and financial loss. The scope of disaster exposure was computed by adding the number of items positively endorsed for all four questions. The “summary measure” (p. 501) was found to be indicative of symptom outcome as measured by psychological distress. The type and severity of other activities emergency service workers have participated in has been surveyed as well (Weiss, Marmar, Metzler, & Ronfeldt, 1995). An example of a question used in the study by Weiss et al. is the extent to which an individual “saw dismembered bodies or isolated body parts” (p. 364). The instruments assessing degree of exposure in these studies were devised by the authors and were unavailable for public distribution.

Kaniasty and Norris (1993) conducted a pilot study to establish reliabilities for the questions assessing degree of disaster exposure and post-trauma reactions, and followed with the use of the same questions at three times. Regarding whether or not one had sustained an injury, test-retest reliability indicated that 89% of participants answered the question the same at each measurement time. In terms of property damage sustained, 92% of respondents gave consistent answers and 85% answered the question assessing personal loss the same. The question regarding threat to one’s life was not included in the pilot study.

Research studies conducted to date have demonstrated a dearth of instruments to quantify Individual Trauma Exposure in an acute care, medical/surgical and psychiatric hospital setting. So this author constructed a suitable measure. The format of this survey method used by the author, an expert in the field of at-risk youth and their family systems, was because of the observed outcomes of the impact of repeated exposure to traumatic events. This author contends that, after conducting numerous interventions with clients and patients in community, clinic and hospital settings alike, the survey items were comprehensive in their coverage of factors causal to psychological distress. The measure was constructed using the following 3-step process, which was undertaken following IRB approval:

1. **Content Validation.**

An expert team of 4-6 individual practitioners, with hospital-based experience, provided comments on each construct of the Hospital Trauma Scale. This expert panel review provided observations regarding the efficacy of items within each construct regarding appropriateness, clarity and utility. Responses provided information for the first revision of the measure.

2. **Cognitive Interview.**

After the first revision, and semantic clarification, this measure was administered to two delegates from outside the target population. These designees, by “thinking out loud”, paralleled the sample with regard to exposure to trauma material among patients and clients. Questions were directed to this care providing staff for corrections and feedback regarding any inaccuracies,

difficulties in understanding the intention of an item or problems in comprehension. Corrections were then considered for the re-reconstruction or elimination of each question.

3. **Pilot Study.**

After the second rewrite, the instrument was presented using a 7-point rating response scale, added to the three measures of Psychological Distress, and administered as a full interview packet to individuals in the pilot. These data were utilized to complete final construction of the instrument for measuring exposure to hospital-based trauma using the Hospital Trauma Scale. Pilot participants were administered the full survey packet.

After the pilot, the research study was presented to the sample population in respective units, and the survey battery made available online. The reliability of the instruments was determined following data generation.

Compassion fatigue.

The Compassion Fatigue Self-Test for Psychotherapists (CFST), (Appendix E). The dependent variable in this investigation was the presence of psychological distress, as measured by Compassion Fatigue. This was determined in part by using the CFST, which measures vicarious trauma or compassion fatigue. This 40-item instrument (Figley, 1995a) has two subscales assessing PTSD-like symptoms (CFST-CF, for compassion fatigue) and burnout (CFST-BO). Despite the wide application of the CFST, there was little published empirical research available. Scores have been related to greater

secondary trauma vulnerability for therapists with trauma histories (Good, 1996) and to level of education and training (Good, 1996; Rudolph, Stamm, & Stamm, 1997).

Figley (1995a) developed the Compassion Fatigue Self-Test for Psychotherapists (CFST), which has two subscales measuring compassion fatigue and burnout. A recent study (Jenkins & Baird, 2002) has assessed the validity of these two questionnaires in relation to each other, and to the MBI and SCL-90-R in a sample of sexual assault and domestic violence counselors. They found the TSI Belief Scale and CFST to have good concurrent validity, and moderate convergence with burnout (MBI). They also found that both correlated with general distress (SCL-90-R) but had adequate independent shared variance.

Compassion Fatigue Self-Test (Figley, 1995a), is a modified instrument to assess staff and volunteers rather than therapist, secondary trauma. A 5-point Likert scale (1 *D rarely*; 5 *D very often*) is used with the 40 question measure. This instrument contains a total scale score (CFST-SUM) and two subscales, CFST-CF (23 items) and CFST-BO (17 items), summing the designated questions for each subscale. Internal consistency reliability alphas range from .86 to .94; factor analysis indicated one stable factor reflecting depressed mood regarding work, and fatigue, disillusionment, and worthlessness (Figley & Stamm, 1996). For the Figley study, Cronbach's alphas of .84 for the CF subscale, .83 for the BO subscale, and .90 for the CFST-SUM were obtained. Following a search of the literature there is limited validity available for the CFST.

In the absence of research supporting the validity measure for the CFST, compassion fatigue as a psychological phenomenon was investigated in this pediatric

tertiary care hospital. Findings support the existence of this type of psychological distress when the sample population reports Compassion Fatigue Scores in the “high risk” range for development, based on the test author’s scoring instructions (Figley & Stamm, 1996). A second hospital-based study on pediatric practitioners also provided statistical corroboration for the assessment of compassion fatigue or secondary traumatic stress, utilizing the CFST (Robins, et al 2009).

Although this instrument has been used widely by numerous investigators, its reliability had not been assessed aside from the development data which found Cronbach’s alpha at .84 for the Compassion Fatigue subscale and .83 for the Burnout subscale. The obtained Cronbach’s alpha for the Compassion Fatigue subscale in the present study was .90. The Cronbach’s alpha for the Burnout subscale was .87. In light of the extensive use another instrument for the measurement of Emotional Exhaustion, Maslach’s Burnout Inventory – Human Services Survey, this instrument was preferred for the present study.

Maslach Burnout Inventory – Emotional Exhaustion

The Maslach Burnout Inventory, Human Service Survey (MBI – Human Services Survey) is widely accepted as the best validated measure of burnout (Maslach & Jackson, 1981). The MBI (Maslach, 1996) is a 22-item self-report inventory appraising the three burnout dimensions of emotional exhaustion (EE), depersonalization (DP), and reduced sense of personal accomplishment (PA), as well as yielding a total score. The EE subscale measures whether one is mentally and emotionally overextended and exhausted by one’s work. The DP subscale refers to a detached and impersonal response toward

one's clients or service recipients. The PA subscale taps positive feelings such as competence in helping people and successful achievement; scoring is reversed to indicate burnout. High EE and DP and low PA scores indicate greater degrees of burnout (Maslach, 1996). The MBI questions respondents on the frequency with which various feelings related to burnout occur during their work year (Maslach & Jackson, 1981). The 7-point rating scale for the MBI ranges from 0 (*never*) to 6 (*every day*). Each of the three subscale scores is derived from adding designated responses. The total score is derived from adding all responses, after reversing the PA score. For Maslach and Jackson's study Cronbach's alphas of .90 for the MBI-EE subscale, .79 for MBI-DP, .71 for MBI-PA, and .91 for the summary score (MBI-SUM) were calculated. The EE subscale was used in the current study.

Validation of the MBI HSS – EE is provided by data that confirm hypothetical relationships between experienced burnout and various outcomes or personal reactions (convergent validity). Based on previous theorizing and research (Maslach, 1976), it was predicted that people experiencing burnout would be dissatisfied with opportunities for personal growth and experience impairment in one's relationships with people in general, both on and off the job (Maslach, 1976). In this domain of personal outcome measures the following measures of validity were reported: nurses, social service, mental health workers “*higher emotional exhaustion – less knowledge of results = -.31***; physicians “*higher emotional exhaustion – want to get away from people = .27*** (* $p < .05$, ** $p < .01$, *** $p < .001$, $p < .10$).

Validity of measurement for the MBI Emotional Exhaustion subscale provides statistical assurance of the instruments utility for assessing burnout, despite the absence of significant levels detected in hospital-based staff. The potential problem for these results lies with the sample population that was investigated, rather than the validity or reliability of the measure. Robins et al., found their results in a hospital population with 94% in direct care roles while this study included administrative and support staff with outpatient care responsibilities. Focusing the assessment of burnout in direct care staff only could lead to higher levels of statistically significant outcomes.

Professional Support Inventory for Mental Health Practitioners (Supervisor Support Scale)

The support behaviors of colleagues, peers and supervisors, was assessed utilizing the Professional Support Inventory for Mental Health Practitioners – Revised (PSIMHP-R) developed by Bahraini (2008). Cronbach's alpha for the original and revised versions of the PSIMHP measure were .95 and .92, respectively, indicating high internal consistency. These findings were consistent with reliability estimates obtained from Rasch analyses. The person separation index for the final abbreviated measure was 3.59, which is equivalent to a Cronbach's alpha of .92. Convergent and discriminant validity were supported through the pattern of correlations observed during the instrument's development. Bahraini (2008) realized preliminary evidence of both convergent and discriminant validity. The PSIMHP was moderately and significantly correlated with the combined supervisor/peer scale of the Social Support Questionnaire. The convergence between these two measures suggests that they reflect a similar construct. However, the moderate strength of the correlation indicates that while these measures share some

commonalities they differ enough from one another to represent separate and unique aspects of professional support.

Data Analysis

A correlation matrix was computed to provide insight into the manner in which secondary factors influenced or were influenced by the primary independent and dependent variables. In addition to the correlation matrix a multiple block, hierarchical regression was computed.

Hierarchical Regression Model—Stepwise

In determining whether trauma exposure maintained significance after controlling for other factors thought to influence the development of psychological distress, a hierarchical regression model was constructed. Separate regressions were run from this 4-block model with the dependent variables of: 1) compassion fatigue, 2) burnout – emotional exhaustion, with and without life events, 3) therapeutic relationship effects (staff to patient), with and without life events 4) professional relationships effects (staff to staff), with and without life events (5) relationship to self effects, with and without life events and 6) personal accomplishments, with and without life events.

In this regression model (Table 1), the first block included the variables of education, gender, years experience in 5 domains of care. The second block included previous personal trauma experiences prior to or outside of hospital employment. Block number three was comprised of professional exposure to patient traumata from within hospital employment. The final block contained the variable of supervisor support.

Regression analyses were run on the dependent variables of compassion fatigue, burnout, professional relationship, therapeutic relationship, and self relationship effects. These analyses included the life events degree score as an explanatory variable, to assess the degree of impact personal trauma exposure and hospital trauma exposure would have on the development of psychological distress. This independent variable was then removed to determine the degree of impact explained by hospital trauma exposure alone.

Compassion fatigue and emotional exhaustion scores were entered into the analyses for professional relationship, therapeutic relationship and self relationship, to measure the influence of these additional explanatory variables, as evidence of psychological distress effects on relationship variables.

After controlling for all of the aforementioned variables, the relationship between trauma exposure, and supervisor support and psychological distress was hypothesized to be incrementally significant.

Table 1

Regression Analyses

Regression Outcome Variable	Block
CFST (With and Without Life Events)	Demographics: level of education, gender, marital status, experience in 5 domains of care.
MBI Emotional Exhaustion (With and Without Life Events)	Trauma exposure – prior to and outside of hospital employment Trauma exposure – during hospital employment Supervisor Support: supervisor and/or peer Demographics: level of education, gender, marital status, experience in 5 domains of care
Therapeutic Relationship Effects (Staff to Patient Relationship)	Trauma exposure – prior to and outside of hospital employment Trauma exposure – during hospital employment Supervisor Support: supervisor and/or peer Demographics: level of education, gender, marital status, experience in 5 domains of care
(With and Without Life Events)	Trauma exposure – prior to and outside of hospital employment Trauma exposure – during hospital employment Supervisor Support: supervisor and/or peer CFST and MBI Emotional Exhaustion
Professional Relationship Effects (Staff to Staff Relationships)	Demographics: level of education, gender, marital status, experience in 5 domains of care
(With and Without Life Events)	Trauma exposure – prior to and outside of hospital employment Trauma exposure – during hospital employment Supervisor Support: supervisor and/or peer CFST and MBI Emotional Exhaustion
Relationship to Self Effects (With and Without Life Events)	Demographics: level of education, gender, marital status, experience in 5 domains of care Trauma exposure – prior to and outside of hospital employment Trauma exposure – during hospital employment Supervisor Support: supervisor and/or peer CFST and MBI Emotional Exhaustion

Sample Size

To ensure adequate power in regression analyses, Green (1991) suggested using a minimum of 50 subjects plus the number of independent or explanatory variables multiplied by eight. For this study, this equated to a minimum of 218 subjects. According to Green, however, larger sample sizes become necessary when the dependent variable is skewed, the effect size of the independent variable is small, or when there is substantial measurement error.

In this study, the original sample numbers were constrained by available staff within each practice category and respective service in the department of psychiatry. The number of faculty psychiatrists, for example, is fixed in number as are staff psychologists, therefore too easily identified by individual respondent in the original research protocol considered. While in contrast, interns/externs in psychology and social work, medical students, residents in psychiatry and pediatrics, are more numerous, hence less easily identifiable. Given these considerations, the research population was expanded to the hospital-wide clinical treatment staff and administrative support staff to provide for certainty of anonymity in numbers. Overall, 268 clinical treatment staff and hospital support staff completed the battery of surveys, producing scores on the dependent measures indicating the presence of psychological distress.

Summary

Chapter One introduced the potential impact of exposure of hospital staff to traumatic life events, as well as patient trauma and the potential for development of psychological distress. The systemic, contextual understanding of the reverberation of

trauma highlights the need for additional research in this largely neglected area. The second chapter presented an overview of relevant theoretical and empirical research in the areas of PTSD, secondary traumatization, vicarious trauma, compassion fatigue, and lastly burnout. This chapter described the methodology for the study and outlined the measures, procedures, and statistical analyses. For the present study, personal and professional trauma exposure served as the independent variables. Psychological distress, as measured through secondary traumatization, vicarious trauma, compassion fatigue, and burnout, professional and therapeutic relationships served as the dependent variables. Correlations and multiple regression analyses were the statistical procedures used to analyze the relationship between life event and hospital trauma exposure, secondary traumatization, vicarious trauma, compassion fatigue, and burnout. The following two chapters contain an examination of the results and a discussion of the general conclusions derived from the study.

Chapter Four—Results

This chapter describes the results of the study and includes the following sections:

(a) demographics of the sample, (b) considerations in data analyses, (c) correlations between variables, (d) hierarchical linear regressions for the proposed model with ancillary analyses, and (e) a summary of the results.

Demographics

Total sample.

Approximately 555 staff and faculty with practice privileges, all staff employed at the pediatric hospital with direct service involvement and all support staff related to patient care, were invited to participate in the study. This invitation was extended during in-person presentations of the research protocol, followed by an IRB approved e-mail script, sent out via distribution lists. A web based hyperlink to the posted surveys was included. Of the service units located within this hospital, 24 out of 94 total in-hospital service units were eventually contacted for in-person presentations by this investigator, to provide a narrative overview of the research study. Within this collection of individual programs, 41 separate audiences were addressed for in-person presentations followed by the reading of department meeting scripts (Appendix H). The decision to draw from all departments hospital-wide, not just the Department of Psychiatry and Behavioral Sciences as initially proposed, was based on several factors. This investigator revamped the research sample due to small service unit numbers within a single department pool.

The potential for identification of respondents by credential or other demographic identifier was a primary driver for the expansion of the investigation. Lastly, hospital-wide interest in the research project spread by word of mouth across the care continuum, leading to the decision to survey an expanded subject pool.

Every effort was made by this researcher to obtain an unbiased sample, with invitations to participate distributed equitably to all staff across the care continuum within this hospital. The use of hospital staff through volunteer participation constituted convenience sampling. Since this sample population consisted wholly of volunteers, the possibility exists that these individuals possessed pre-existing views or biased beliefs regarding compassion fatigue and burnout. Possible limitations related to self-selection and self-reporting measures are addressed in Chapter Five.

Of those invited to participate in the study, through in-person presentations and the 3 e-mail invitations by distribution list, 555 responded to the on-line surveys, while 268 individuals completed all batteries for a total response rate at 58%. This number of research participants' (555) represents 21% of the 2,642 clinical treatment staff and administrative support staff positioned inpatient care areas. Circumstances surrounding data collection compromised what would have been an otherwise higher response rate. The web based online site used for the posting of the survey battery restricted the respondent to complete the questionnaires in one sitting. There was no allowance for partial completion, exiting and returning for later completion. As a result, a large percentage (i.e., 42%) of individuals completed less than a full battery of surveys.

To determine whether the research sample was representative of the hospital population, several demographic variables were quantified according to the respective service or unit of care. Looking first at gender, the sample comprised 225 female (84 %) and 43 male subjects (16 %), for clinical treatment staff and administrative support staff positioned inpatient care areas. The hospital breakdown by gender, in these same domains of patient care, is 89% female and 11% male. Racial membership was not sought to preclude the possibility of identification of a minority respondent, when included with the identifier of gender or age. However, racial make up for this hospital segment (2,642) has been identified as: Native American Native Indian (.3%); Asian-Pacific (2.2%); African American (3.3%); Hispanic (6.0%); White Non-Hispanic (88.0%) and Non-Specified (.2%). Age of respondents was not solicited for the same reasoning. The age range of the target population was given as 18.98 years to 77.22 years of age, with a mean age of 38.49. Marital status was reflected in the categories of single, married, separated or divorced. Sixty-two percent of the sample reported being married compared with 16% for the targeted hospital population. Education was subdivided into the hierarchical list of high school diploma (or equivalent), associate degree, bachelors prepared staff, nursing degrees and others, masters level practitioners, and doctorate/medical degree, i.e., psychologists and/or psychiatrists, medical/surgical students and physicians. Considering these categories, 52% of the sample reported earning a bachelor's degree or below, and 48% reported achieving a master's degree and above. Educational distribution in this tertiary care, pediatric hospital was as follows: 36% of staff held a high school diploma; 8% held an associate degree; 44% held

bachelors/nursing degrees; 10% was masters prepared practitioners; 1% of the hospital population fulfilled degree requirements for a doctorate/medical degree (i.e., PhD, PsyD, PharmD, or ND and MD). These numbers reflect a different composition from the study sample (Departments of Medical Education, Human Resources, 2009), due to physician employment being contractual and administered by an organization outside of this hospital. The average number of years of post secondary education reported by participants in this study was 5 1/2 years.

Additional demographic information was collected, within which 60% of the sample disclosed drinking 1-5 alcoholic beverages per week, and 30% identifying an increase in alcohol consumption as a result of work-related stress. One in ten revealed drinking in excess of 6 alcoholic beverages per week. Regarding work time lost from trauma exposure, 18% responded “yes”. External support, counseling or medication, was sought for work-related stress by 21% of the respondents. An identifiable spiritual belief system or religion was identified by 73% of the sampled group.

In order to identify where each respondent spent the majority of their time, departments of primary assignment were sought. These departments were enumerated as follows: Anesthesiology (7%); Pathology (1.2%); Pediatrics (52.2%); Physical Medicine & Rehabilitation (.8%); Psychiatry & Behavioral Sciences (15.7%); Radiology (3.1%); Surgery (7.5%), and Other (18.8 %). – Departments with single subject participation not listed.

Numbers of years as a hospital-based practitioner, and total career years of patient care in direct service or as support staff are now subsumed in the domains of care

characteristic. This category was devised to capture the areas of specialized clinical service each subject participated in during their career, and the number of years practiced in each domain across their career continuum. These data were encapsulated in the 5 domains of inpatient, partial hospitalization/day surgery, outpatient, emergency department and operating room, identified in Table 4.

Direct patient contact hours per week ranged from none (0 hours) or 5.5 % of hospital staff were not involved in direct patient care, to 31 hours and above for patient contact hours per week, or 49%. Domains of care (5) were classified within inpatient, partial hospitalization/day surgery, outpatient, emergency department, and operating room, with time categories of n/a; 1-5; 6-10; 11-15; 16-20; >20. These categories of patient care and total years of experience in each (not just at this hospital), were as follows: inpatient, 53% with 1-10 years experience, 27% worked in excess of 16 years; partial hospitalization/day surgery, 28% with 1-10 years experience , 7.4% worked in excess of 16 years; outpatient, 43% with 1-10 years experience, 12% worked in excess of 16 years; emergency department/urgent care, 43% with 1-10 years experience, 9.4% worked in excess of 16 years; operating room, 15% with 1-10 years experience, 3.7% worked in excess of 16 years. Subjects could respond to multiple domains of care in identifying their career experiences.

The number of total career years of patient care, not just at this institution, were captured in these demographic items then coupled with the number of patient contact hours experienced per week. The numbers of supervision hours received per month were expressed according to the modality - either individual and/or group.

Within this model, the outcome measures of Life Events Degree Score (magnitude of trauma exposure prior to and outside of hospital employment) and Hospital Trauma Degree Score (magnitude of trauma exposure during hospital employment) comprised blocks 2 and 3, respectively. Block 4 was the measure of supervisor and/or peer support (Supervisor Support Scale). Following the regression of the dependent variables of compassion fatigue and emotional exhaustion, these scores were entered in to Block 5 as explanatory variables for the analysis of quality of staff to patient relationships, staff to staff relationships and self relationship.

A related inquiry identified the number of alcoholic beverages consumed per week, and whether this amount had ever increased as a result of work-related stress. Following the measurement of this dimension of potential distress, respondents were asked if they had experienced loss of time at work. Subjects were asked whether they had sought external support (e.g., counseling or medications) for work-related stress during the past 24 months.

Respondents were asked if they had an identifiable spiritual belief system or religious affiliation, and how much support was realized from this source. An itemized list of 14 choices composed of additional, potential sources of support was provided to ascertain their utilization and if accessed through or at this hospital.

Embedded in the questionnaire was a 17-item Life Events Checklist. This list identified a number of difficult or stressful things that sometimes happen to people across their lifespan. These events were measured according to the individual's exposure, yes or

no (1 or 0) frequency of exposure (1-4+), and degree of impact (1-5). Potential scores for this survey ranged from 0 to 85. As seen in Table 6, actual scores for this hospital sample ranged from 0 to 55, with a mean of 13.85 (SD=10.96). This average score equates to 3 events exposed to, a reasonable number of traumatic life events for a staff member, with a magnitude or degree of impact at 4.61 (4=to a great degree; 5= to a very great degree). Highest Life Events Degree scores for this sample fell 3 standard deviations from the mean, with a potential for the development of compassion fatigue that has divided support in the literature. Determinants for the experience of CF or resiliency, from past events coupled with present or future trauma exposure are myriad. According to the literature (Brunet, 2001), the development of CF is a function of whether stress-related symptoms were endorsed in conjunction with a specific, identifiable trauma event. Single event exposure or cumulative effects do not always equate with symptom development. Possible protection against later encounters with trauma can be the beneficial byproduct, according to this researcher.

Because this sample population is comprised of direct care providers, as well as administrative support staff, the resultant scores raise a higher level of concern for this investigator. Life Events Degree Scores reveal substantial trauma exposure outside of hospital work. The correlation between Life Events Degree Score and Compassion Fatigue was .27, at the $p \leq .001$ level (Appendix I), which is statistically significant. Reflecting upon these data, concomitant with the increase in alcohol consumption as a result of work-related stress at 30%, work time lost from trauma exposure at 18%, and external support sought for work-related stress at 21%, I would conclude that hospital

staff is at considerable risk for the development of CF. Robins and his associates (2009) applied interpretive guidelines for their population, which they used to measure the potential for CF. On that scale, this investigator's sample results indicated "high risk", for CF with a mean of 36.81. Again, these results are diluted in measure for potential degree of risk for developing CF, due to the inclusion of survey respondents not involved in direct patient care.

Trauma exposure from patient contact was assessed using the 22-item Hospital Trauma Degree Score, developed for this study. This list identified a number of upsetting or distressing events that sometimes happen to staff in a pediatric hospital. These events were measured according to the individual's exposure, yes or no (1 or 2), frequency of exposure (1-4+), and degree of impact (1-5). Scores for this survey instrument range from 0 to 110. As seen in Table 6, actual scores for this hospital sample ranged from 0 to 82, with a mean of 17.81 (SD=14.00). This average score equates to 4 events exposed to, a reasonable number of traumatic patient events for a staff member, with a magnitude or degree of impact at 4.45 (4=to a great degree; 5= to a very great degree). Highest Hospital Trauma Events Degree scores for this sample fell 4 standard deviations from the mean, with a potential for the development of compassion fatigue that has divided support in the literature, as alluded to earlier.

Resultant Hospital Trauma Degree Scores raise a higher level of concern for this investigator, due to the mixed population being assessed. Hospital Trauma Degree Scores reveal high levels of trauma exposure inside of hospital work. The correlation between Hospital Trauma Degree Score and compassion fatigue was .33, at the $p \leq .001$

level (Appendix I), which is statistically significant. Reflecting upon these data, concomitant with the amount of direct patient contact hours per week (48.8% of staff compiling in excess of 31 hours); the number of patients treated with potentially fatal illness in the past year (40.4% of staff treating in excess of 30 patients); the number of patients treated with life altering permanent illness in the past year (54.7% of staff treating in excess of 30 patients), I would conclude that hospital staff are at considerable risk for the development of CF, as a result of within hospital trauma exposure. Again, these results are diluted in measure for potential degree of risk for developing CF, due to the inclusion of survey respondents not involved in direct patient care.

Sample population scores (Table 6) reveal the following: Emotional Exhaustion scores or degree of burnout for this survey ranged from 9 to 53, with a mean of 21.41 (SD=9.58). This mean score equates to an “average degree” of burnout or feelings of emotional exhaustion. This MBI Emotional Exhaustion score, when associated with compassion fatigue ($r=.55, p \leq .001$) is cause for concern for the development of psychological distress in hospital staff. High burnout scores are posited to be strongly indicative of vulnerability for compassion fatigue, as well as reflective of low level depression.

An examination of the Supervisor Support Scale scores, for this sample population, reveals the following statistics for supervisor/peer support realized: scores for this survey ranged from 1 to 5. As seen in Table 6, actual scores for this hospital sample ranged from 1.32 to 5.0, with a mean of 2.69 (SD=.99). This average score equates to approximately 3, or 1-2 times per month a staff member received support behaviors from

a supervisor or peer within the hospital setting. This level of support is low given the number of patients treated with potentially fatal illness in the past year (40.4% of staff treating in excess of 30 patients) and the number of patients treated with life altering permanent illness in the past year (54.7% of staff treating in excess of 30 patients). Juxtapose these stressful patient experiences, the Supervisor Support Scale scores with the hours of supervision reported, 51% receive no individual supervision and 43% receive no group supervision, and the potential for stressful outcomes is quite high.

Demographic results are presented in Tables 2-4. The range, standard deviation, skewness, and kurtosis, for all variables are presented in Table 5 (Demographic and Experience variables) and Table 6 (Scale variables). The correlation matrix for all study variables, primary and demographic, is presented in Appendix I.

Characteristics of non-responders.

Although 671 practitioners and administrative support staff were solicited in-person for participation in this study, a resultant total of 555 subjects participated. Invitations to participate were sent by e-mail through distribution lists, by department intermediaries, reaching the targeted hospital population of 2,642.

The pragmatics of allocating sufficient time to complete the survey battery, estimated at 25-30 minutes, proved to be an inordinate amount of time away from patient care for a number of respondents, corroborated by supervisor reports to this investigator. Another obstacle to completion relates to a limitation of this online web based survey vehicle. Subjects were not able to partially complete their surveys, depart and return at a later date or time for final, full completion.

No demographic information was available for the total number of hospital staff that declined to participate due to the confidentiality of the recipients of the e-mail invitation sent by distribution list through an intermediary. These distribution lists and the respondents were also unknown to this investigator.

Table 2

Frequency Distribution for Selected Sample Characteristics

Characteristic	N	%
Educational Level		
HS Diploma (or equiv)	7	2.6
Associates Degree	21	7.8
Bachelors/RN	111	41.4
Masters	68	25.4
Doctorate/MD (Resident/Faculty)	61	22.8
Total	268	100.0
Gender		
Male	43	16.0
Female	225	84.0
Total	268	100.0
Marital Status		
Married	163	62.0
Separated	4	1.5
Divorced	20	7.6
Single	76	28.9
Other	5	
Total	268	100.0
Alcoholic Beverages Consumed (per/wk)		
None	79	29.5
1-5	161	60.1
6 or more	28	10.4
Total	268	100.0
Alcohol Consumption Increased as a Result of Work-related Stress		
Yes	79	29.5
No	189	70.5
Total	268	100.0
Work Time Lost from Trauma Exposure		
Yes	47	17.5
No	221	82.5
Total	268	100.0
External stress support sought for Work-related Stress (counseling or medication)		
Yes	57	21.3

Characteristic	N	%
No	211	78.7
Total	268	100.0
Identifiable Spiritual Belief System or Religion		
Yes	196	73.1
No	72	26.9
Total	268	100.0
Amount of Support Currently Experienced from Spiritual Belief System or Religion		
None	95	36
A little	93	35.2
A lot	76	28.8
Total	264	100.0
Currently Utilizing Any of the Following to Help with Stress:		
Acupuncture	13	4.9
Aromatherapy	13	4.9
Biofeedback	3	1.1
Employee Counseling	11	4.1
Herbal Supplements	13	4.9
Martial Arts	5	1.9
Massage Therapy	43	16.0
Medication	64	23.9
Mindfulness or Meditation	57	21.3
Physical Exercise	177	66.0
Prayer	94	35.1
Psychotherapy	20	7.5
US Wellness	59	22.0
Yoga	53	19.8
Is this support being accessed through or At This Hospital		
Yes	47	17.9
No	215	82.1
Total	262	100.0

Table 3

Frequency of Patient Contact Information

Department of Primary Assignment	N	%
Anesthesiology	2	0.8
Pathology	3	1.2
Pediatrics	133	52.2
Physical Medicine & Rehabilitation	2	0.8
Psychiatry & Behavioral Sciences	40	15.7
Radiology	8	3.1
Surgery	19	7.5
Other	48	18.8
Total	255	100.0
Direct Patient Contact Hours (per/wk)		

Department of Primary Assignment	N	%
0 Hours	14	5.5
1-5 Hours	14	5.5
6-10 Hours	12	4.7
11-15 Hours	12	4.7
16-20 Hours	24	9.4
21-25 Hours	32	12.6
26-30 Hours	22	8.7
31-35 Hours	19	7.5
36-40 Hours	77	30.3
>40 Hours	28	11.0
Total	254	100.0
Individual Supervision Received (hours/month)		
0	135	51.3
1-5	102	38.8
6-10	8	3.0
>10	18	6.8
Total	268	100.0
Group Supervision Received (hours/month)		
0	115	43.2
1-5	119	44.7
6-10	10	3.8
>10	22	8.3
Total	266	100.0
Number of Patients Treated with Potentially Fatal Illness (in the past year)		
0	21	7.9
1-10	85	32.1
11-20	26	9.8
21-30	26	9.8
>30	107	40.4
Total	265	100.0
Number of Patients Treated with Life Altering Permanent Illness (in the past year)		
0	15	5.6
1-10	59	22.1
11-20	30	11.2
21-30	17	6.4
>30	146	54.7
Total	267	100.0

Table 4

Frequency of Years of Patient Care

Years of Patient Care		0	1-5	6-10	11-15	16-20	>20
Inpatient	N	26	85	56	29	22	50
	%	9.7	31.7	20.9	10.8	8.2	18.7
Partial Hospitalization (Day Surgery)	N	163	60	14	11	10	10
	%	60.8	22.4	5.2	4.1	3.7	3.7
Outpatient	N	105	76	39	15	12	21
	%	39.2	28.4	14.6	5.6	4.5	7.8
Emergency Department	N	115	89	26	13	12	13
	%	42.9	33.2	9.7	4.9	4.5	4.9
Operating Room	N	214	30	9	5	3	7
	%	79.9	11.2	3.4	1.9	1.1	2.6

Table 5

Ranges, Means, Standard Deviations, Skewness, and Kurtosis for Demographic and Experience Variables

Observed Variable	N	Ranges	M	SD	Sk	Ku
Education	268	1-5	3.58	1.01	-1.61	-0.43
Gender	268	1-2	1.84	0.37	-1.86	1.47
Marital Status	268	0-1	.6082	0.49	-0.45	-1.81
Years Experience						
Inpatient	268	0-1	.90	.30	-2.74	5.54
Day treatment	268	0-1	.39	.49	.45	-1.81
Outpatient	268	0-1	.61	.49	-.45	-1.81
Emergency Department	268	0-1	.57	.50	-.29	-1.93
Operating Room	268	0-1	.20	.40	1.50	.24

Table 6

Ranges, Means, Standard Deviations, Skewness, and Kurtosis for Scale Variables

Observed Variables	N	Ranges	M	SD	Sk	Ku
Life Events Degree Score	268	0-55	13.85	10.96	0.91	0.62
Hospital Trauma Degree Score	268	0-82	17.81	14.00	1.29	2.27
Supervisor Support Scale	268	1-5	2.69	0.99	0.49	-0.50
Compassion Fatigue Score	268	23-93	36.81	12.14	1.74	3.38
MBI Emotional Exhaustion	268	9-53	21.41	9.58	1.12	.91
Staff to Patient Relationship Score	268	-4.00 – +4.40	0.17	1.33	0.09	0.84
Staff to Staff Relationship Score	268	-4.40 – +4.00	0.28	1.35	0.01	0.39

Compassion fatigue is depicted by category in Table 7, with categories ranging from extremely low risk (score of 26 or less) to extremely high risk (score of 41 or more). In this hospital sample population, 43% scored at the high or extremely high risk level for the development of compassion fatigue.

Table 7

Risk for Development of Compassion Fatigue—Compassion Fatigue by Category

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Extremely Low Risk	38	14.2	14.2	14.2
Low Risk	55	20.5	20.5	34.7
Moderate Risk	61	22.8	22.8	57.5
High Risk	47	17.5	17.5	75
Extremely High Risk	67	25.0	25.0	100.0
Total	268	100.0	100.0	

Burnout scores were generated from the MBI-Human Services Survey (Maslach, 1996), utilizing the Emotional Exhaustion subscale. Burnout as a syndrome is conceptualized as a continuous variable, ranging from low to moderate to high degrees of experienced deleterious feelings. The EE subscale was considered to be the most critical measure of burnout, assessing feelings of being emotionally overextended and exhausted by one's work. In this condition of emotional exhaustion resources are depleted, and

workers feel like they are no longer able to give of themselves at a psychological level.

Degrees of emotional exhaustion are depicted by category in Table 8, with scores ranging from low degree of burnout (score ≤ 16) to high degree of burnout (score ≥ 27).

Table 8

MBI Emotional Exhaustion Scores by Category

Valid	Ranges of Experienced Emotional Exhaustion			
	Frequency	Percent	Valid Percent	Cumulative Percent
Low	98	35.4	35.4	35.4
Average	112	41.8	41.8	77.2
High	61	22.8	22.8	100.0
Total	268	100.0	100.0	

Figure 2 provides frequencies of the hospital staff sample by low, moderate, and high categories of compassion fatigue and emotional exhaustion. As can be seen from the table, slightly over 22% of the sample scored in the highest range of EE.

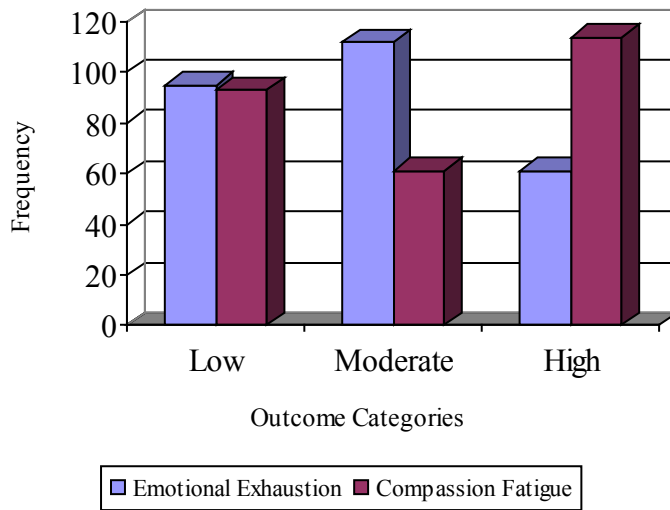


Figure 2. Histogram of Compassion Fatigue and MBI Emotional Exhaustion Scores

Supplemental analysis for compassion fatigue, emotional exhaustion subscale and supervisor support scale.

Figley's Compassion Fatigue Self Test instrument, consisting of two subscales, compassion fatigue and burnout, was designed to evaluate "staff and volunteers," rather than practitioner's or support staff's secondary trauma (Figley, 1995a). Although this instrument has been used widely by numerous investigators, its reliability has not been assessed aside from the development data which found Cronbach's alpha at .84 for the Compassion Fatigue subscale and .83 for the Burnout subscale. The obtained Cronbach's alpha for the Compassion Fatigue subscale in the present study was .90. The Cronbach's alpha for the Burnout subscale was .87.

The reliability of Figley's subscales for compassion fatigue and burnout were assessed to determine their fit for this project. Reliability coefficients were obtained for both subscales to insure their suitability, while the only subscale utilized was compassion fatigue. The decision to use the 22-item Maslach's Burnout Inventory – Emotional Exhaustion (MBI–Human Services Survey) obviated the need for a redundant measure of the construct of burnout.

The Supervisor Support Scale was developed as a dissertation project (Bahraini, 2008), and lacks confirmatory statistics derived from extensive use. It demonstrated adequate reliability during the development process, with a Cronbach's alpha of .92. The reliability of the 15-item instrument was .94 for the present study, commensurate with that obtained by Bahraini. One-sample t-test results indicated that the difference of the means in the two instruments, Supervisor Support Scale and the PSIMHP-R, was statistically significant (SSS average = 2.69; PSIMHP-R average = 2.97, $p < .001$). The

actual unit value difference between the means (.28) was deemed too small to make a difference in the instrument's utility, given the robust sample population being surveyed.

Utilization of this instrument, designed to assess supervisor support in individuals conducting psychotherapy, leads to the measurement of the wrong modality of support required of hospital-based, healthcare practitioners. The reported level of individual or group supervision is in this researcher's opinion "alarmingly low", and warrants further investigation with a more suitable instrument.

Considerations in Data Analyses

Missing data.

Due to the fact that some respondents failed to answer all of the survey questions completely, there was some missing data, which posed problems for data analysis procedures. Incomplete survey batteries required casewise deletion. If the respondent failed to attempt completion of all (5) assessment instruments, they were deleted from the sample. Then looking for completeness on each instrument, the minimum of 75% of items answered allowed for inclusion of the subject and their survey battery in the sample. The technique employed for the incomplete assessment instruments (Life Events Scale, Compassion Fatigue Self-test, MBI Human Services Survey, Hospital Trauma Scale and Supervisor Support Scale) was imputation of the mean for missing data. The sample pool was reduced by 287 subjects as a result of this elimination process.

Assumptions.

The major assumptions examined for multiple regression analysis were linearity, normality, homoscedasticity, and multicollinearity. After reviewing histograms, with

overlay of normal curves, the Normal P-P plot of the standardized residuals, the Durbin-Watson statistic for autocorrelation, and collinearity statistics the assumptions were found to be acceptable for all of the hierarchical regressions performed. Following the examination of the data, the conclusion drawn was that there were no outliers requiring removal.

Correlations between variables.

Although the primary purpose of this study was to examine the relationship between psychological distresses, individual trauma exposure - to patient trauma and traumatic life events, and supervisor/social support, correlations were explored between the three main variables and several secondary factors included in the study. Appendix I (Correlation Matrix – Demographic and Primary Variables) results indicate that practitioners who produced higher psychological distress scores, as evidenced by Emotional Exhaustion and Compassion Fatigue, scored high in both domains ($r = .46, p \leq .01$). Hospital Trauma and Life Events Degree scores were also significantly associated ($r = .41, p \leq .01$). Scores of Relationship to Self and Staff to Staff Relationship ($r = .70, p \leq .01$) demonstrated the strongest associations with Staff to Patient Relationship ($r = .66, p \leq .01$).

As a result of the examination of bivariate correlations, the variables of Life Events Degree Score and the Hospital Trauma Degree Score were selected as composite scales and separate measures of psychological distress. These variables were calculated from the additive scores of responses to the degree of impact enumerated in the 17-item Life Events and Hospital Trauma questionnaires. This decision was made due to the high

correlations between other possible variables considered for the assessment of psychological distress, as evidenced by trauma exposure.

A second correlation matrix was constructed to explore the relationships between the outcome variables of alcohol consumption and external support sought for stress relief, and the primary outcome variables of the study: Compassion Fatigue; Emotional Exhaustion; Staff to Patient Relationship; Staff to Staff Relationship; Self Relationship (Table 9). Results indicate that lower levels of compassion fatigue and emotional exhaustion are associated with decreased alcohol consumption ($r = -.23, p < .001$), while external support sought for stress through counseling and medications related to lower degrees of CF and EE, $r = -.28, p \leq .001$ and $r = -.27, p \leq .001$, respectively.

Table 9

Correlation Matrix between Alcohol Consumption, External Support Sought for Stress and Primary Outcome Variables

Alcohol Use and Support Sought	Primary Outcome Variables				
	Compassion Fatigue	Emotional Exhaustion	Staff to Patient Relationship	Staff to Staff Relationship	Self Relationship
Alcohol Consumption	.056	.0551	-.067	.001	-.048
Increase in Alcohol Consumption	-.226***	-.234***	.170**	.089	.207***
External Support Sought for Stress					
Counseling and Medications	-.281***	-.266***	.174**	.060	.177**
EAP Employee Counseling	-.025	-.020	.067	.053	.051
Psychotherapy	-.058	.033	.042	.029	.042

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Hierarchical regression model.

Hypothesis 1: Compassion Fatigue. The first research hypothesis proposed that clinical treatment staff's level of psychological distress would be predicted by the degree

of exposure to patient trauma and level of supervisor support after previous lifetime or work-related trauma history and effects of level of education, gender, and experience in domains of care were controlled.

In order to determine whether psychological distress experienced by clinical treatment staff, as measured by Compassion Fatigue, maintained significance after controlling for other factors thought to influence the development of secondary traumatic stress, and emotional exhaustion, a 4-block, hierarchical regression model was examined (Table 10). The first block included the demographic factors of level of education, gender, and marital status. Length of hospital employment, years in position, and years in the field were amalgamated to become service (versus no service) in 5 domains of patient care: years experience with inpatient, day treatment or partial hospitalization, outpatient, emergency department, and operating room.

The outcome measures of Life Events Degree Score (magnitude of trauma exposure prior to and outside of hospital employment) and Hospital Trauma Degree Score (magnitude of trauma exposure during hospital employment) accounted for blocks 2 and 3, respectively. The final block of the model was the Supervisor Support Scale score.

When all variables were entered into the equation, 16% of the variance in Compassion Fatigue was explained. This was statistically significant at the $p \leq .001$ level. The data provided partial support of the first hypothesis. Hospital trauma was statistically significant incrementally, in the model with and without Life Events Degree Score, in explaining clinical treatment staff's level of psychological distress as evidenced

by compassion fatigue, after demographics, and Life Events were controlled ($R^2 \Delta = .05$, $p < .001$). The variable of Supervisor Support did not contribute significantly to the explanation of variance in Compassion Fatigue when previous variables were controlled ($R^2 \Delta = .00$, $p > .05$).

Table 10

Hierarchical Regression Results for Hypothesis # 1 – Compassion Fatigue— with and without Life Events Degree Score

Block	Variables	Life Events		w/o Life Events	
		R^2	ΔR^2	R^2	ΔR^2
1	Education				
	Gender				
	Marital Status				
	Experience				
	Inpatient				
	Day treatment				
	Outpatient				
	Emergency Dept				
	Operating Room	.08**	.08**	.08**	.08**
2	Life Events Degree Score	.12***	.04***	-	-
3	Hospital Trauma Degree Score	.16***	.05***	.15***	.07***
4	Supervisor Support Scale	.16***	.00	.15***	.00

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Ancillary analysis.

Examination of the standardized Beta coefficients for the full model (Table 11) reveals that the two variables of education and hospital trauma evidenced a greater association with Compassion Fatigue than was demonstrated by previous lifetime or work-related trauma history (Life Events Degree Score), and social support derived from supervisor or peers (Supervisor Support Scale).

Higher education level was associated with lower Compassion Fatigue scores (standardized Beta = $-.17$), while an increase in Hospital Trauma was accompanied by an

increase in Compassion Fatigue (standardized Beta = .24), both statistically significant at the $p < .01$ level. The strongest relationship observed was between Hospital Trauma (without Life Events) and CF (standardized Beta =.29, $p < .001$). Thus, more exposure to patient trauma in-hospital is associated with more compassion fatigue in clinical treatment staff.

Table 11

Regression of Compassion Fatigue on Demographics, Trauma Exposure, and Supervisor Support - with and without Life Events Degree Score

Variables	Life Events		w/o Life Events	
	standardized Beta	Sig.	standardized Beta	Sig.
Constant	-	.001	-	.001
Education	-.17	.01	-.19	.001
Gender	.05	.42	.05	.45
Marital Status	-.02	.72	-.04	.54
Experience				
Inpatient	.06	.33	.05	.46
Day Treatment	.02	.78	.03	.68
Outpatient	.04	.52	.06	.38
Emergency Dept	.04	.57	.05	.46
Operating Room	.00	.95	.01	.84
Life Events Degree Score	.13	.06	-	-
Hospital Trauma Degree Score	.24	.001	.29	.001
Supervisor Support Scale	.03	.58	.02	.76

Hypothesis 1: Emotional Exhaustion. The first research hypothesis also proposed that clinical treatment staff's level of psychological distress would be predicted by the degree of exposure to patient trauma and level of supervisor support after previous lifetime or work-related trauma history and effects of level of education, gender, marital status, and experience in domains of care were controlled.

In order to determine whether psychological distress experienced by clinical treatment staff, as measured by *Emotional Exhaustion*, maintained significance after

controlling for other factors thought to influence the development of secondary traumatic stress, and compassion fatigue, a 4-block, hierarchical regression model was examined (Table 12). The first block included the demographic factors of level of education, gender, and marital status. Length of hospital employment, years in position, and years in the field were amalgamated to become service in 5 domains of patient care: years experience with inpatient, day treatment or partial hospitalization, outpatient, emergency department, and operating room, were also placed in Block 1.

The outcome measures of Life Events Degree Score (magnitude of trauma exposure prior to and outside of hospital employment) and Hospital Trauma Degree Score (magnitude of trauma exposure during hospital employment) accounted for blocks 2 and 3, respectively. The final block of the model was the Supervisor Support Scale score.

When all variables were entered into the equation, 10% of the variance in Emotional Exhaustion was explained. This was statistically significant at the $p \leq .01$ level. The data provided partial support of the first hypothesis. Hospital trauma was statistically significant incrementally with ($R^2 \Delta = .03, p \leq .001$) and without Life Events Degree Score ($R^2 \Delta = .05, p \leq .001$), in explaining clinical treatment staff's level of psychological distress as evidenced by emotional exhaustion, after demographics, and Life Events were controlled. The variable of Supervisor Support did not statistically significantly contribute to the explanation of variance in Emotional Exhaustion when previous variables were controlled ($R^2 \Delta = .00, p > .05$).

Table 12

Hierarchical Regression Results for Hypothesis #1 – MBI Emotional Exhaustion with and without Life Events Degree Score

Block	Variables	Life Events		w/o Life Events	
		R ²	Δ R ²	R ²	Δ R ²
1	Education Gender Marital Status Experience Inpatient Day treatment Outpatient Emergency Dept Operating Room	.04	.04	.04	.04
2	Life Events Degree Score	.07*	.02**	-	-
3	Hospital Trauma Degree Score	.10**	.03**	.10**	.05***
4	Supervisor Support Scale	.10**	.00	.10**	.00

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Ancillary Analysis

Examination of the standardized Beta coefficients for the full model (Table 13) resulted in the variable of hospital trauma being statistically significant in its association with Emotional Exhaustion, more so than was demonstrated by previous lifetime or work-related trauma history (Life Events Degree Score), and social support derived from supervisors or peers (Supervisor Support Scale Score).

The strongest relationship observed was between Hospital Trauma and Emotional Exhaustion with Life Events (standardized Beta = .21, $p < .001$) and without Life Events (standardized Beta = .24, $p < .001$). Thus, more exposure to patient trauma in-hospital was associated with higher Emotional Exhaustion scores in clinical treatment staff.

Table 13

Regression of MBI Emotional Exhaustion on Demographics, Trauma Exposure and Supervisor Support – with and without Life Events Degree Score

Variables	Life Events		w/o Life Events	
	Standardized Beta	Sig.	Standardized Beta	Sig.
Constant		.04	-	.01
Education	.00	.97	-.02	.76
Gender	.09	.18	.09	.19
Marital Status	-.04	.53	-.05	.41
Experience				
Inpatient	.06	.33	.05	.41
Day Treatment	.00	.96	.01	.89
Outpatient	-.01	.90	.00	.97
Emergency Dept	.08	.24	.09	.20
Operating Room	.05	.45	.06	.39
Life Events Degree Score	.09	.18	-	-
Hospital Trauma Degree Score	.21	.001	.24	.001
Supervisor Support Scale	.03	.64	.02	.77

Hypothesis 2: Staff to Patient Relationship. The second hypothesis stated that clinical treatment staff's quality of patient relationships is associated with the degree of exposure to patient trauma and level of supervisor support after the effects of previous lifetime or work-related trauma history and the effects of education, gender, marital status, and experience in domains of care are controlled.

In order to determine whether psychological distress, as evidenced by clinical treatment staff's quality of patient relationships, maintained significance after controlling for other factors thought to influence the development of secondary traumatic stress, compassion fatigue and emotional exhaustion, a 5-block, hierarchical regression model (Therapeutic Relationship Effects) was examined (Table 14). The first block included the demographic factors of level of education, gender, and marital status. Length of hospital employment, years in position, and years in the field were amalgamated to become years

of service in 5 domains of patient care: years experience with inpatient, day treatment or partial hospitalization, outpatient, emergency department, and operating room, were also placed in block 1.

The outcome measures of Life Events Degree Score (magnitude of trauma exposure prior to and outside hospital employment) and Hospital Trauma Degree Score (magnitude of trauma exposure during hospital employment) were accounted for in blocks 2 and 3, respectively. The fourth block of the model was the Supervisor Support Scale score. Scores for Compassion Fatigue and Emotional Exhaustion represent block 5, for the analysis of clinical treatment staff's quality of patient relationships.

When all variables were entered into the equation, 23% of the variance in clinical treatment staff's quality of patient relationships was explained. This was statistically significant at the $p \leq .001$ level. The data provided partial support for the second hypothesis, with and without Life Events, Hospital trauma ($R^2 \Delta = .05$ and $.06$, $p \leq .001$), was incrementally significant in the model. The variable of Supervisor Support did not contribute at a statistically significant level to the explanation of variance in staff to patient relationship ($R^2 \Delta = .00$, $p > .05$).

Table 14

Hierarchical Regression Results for Hypothesis #2 – Staff to Patient Relationship with and without Life Events Degree Score

Block	Variables	Life Events		w/o Life Events	
		R ²	Δ R ²	R ²	Δ R ²
1	Education Gender Marital Status Experience Inpatient Day treatment Outpatient Emergency Dept Operating Room	.05	.05	.05	.05
2	Life Events Degree Score	.06	.01	-	-
3	Hospital Trauma Degree Score	.11***	.05***	.11***	.06***
4	Supervisor Support Scale	.11***	.00	.11***	.00
5	Compassion Fatigue Score MBI Emotional Exhaustion Score	.23***	.11***	.23***	.11***

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Ancillary Analysis

Examination of the standardized Beta coefficients for the full model (Table 15) reveals that three variables – day treatment experience, hospital trauma, and emotional exhaustion evidenced a greater association with the quality of staff to patient relationships than was demonstrated by previous lifetime or work-related trauma history (Life Events Degree Score), and social support derived from supervisor, or peers (Supervisor Support Scale).

Higher Hospital Trauma Degree Scores (standardized Beta = $-.20$, $p < .001$), and MBI Emotional Exhaustion Scores (standardized Beta = $-.37$, $p < .001$), were associated with a lower quality of clinical treatment staff to patient relationship, with and without Life Events Degree Score. Experience in day treatment or partial hospitalization service

was accompanied by an increase in quality of staff to patient relationship (standardized Beta = .19, $p = .001$).

Table 15

Regression of Staff to Patient Relationship on Demographics, Trauma Exposure, Supervisor Support, Compassion Fatigue and MBI Emotional Exhaustion with and without Life Events Degree Score

Variables	Life Events		w/o Life Events	
	standardized Beta	Sig.	standardized Beta	Sig.
Constant	-	.01	-	.01
Education	-.05	.44	-.05	.40
Gender	-.06	.36	-.06	.36
Marital Status	-.05	.35	-.06	.33
Experience				
Inpatient	.05	.45	.04	.46
Day Treatment	.19	.001	.19	.001
Outpatient	-.02	.82	-.01	.84
Emergency Dept	-.05	.39	-.05	.40
Operating Room	.10	.12	.10	.11
Life Events Degree Score	.02	.76	-	-
Hospital Trauma Degree Score	-.20	.001	-.19	.001
Supervisor Support Scale	.02	.73	.02	.75
Compassion Fatigue Score	.04	.56	.04	.54
MBI Emotional Exhaustion Score	-.37	.001	-.37	<.001

Hypothesis 3: Staff to Staff Relationships. Similar to the second hypothesis, the third hypothesis posited that clinical treatment staff's quality of professional relationships is associated with the degree of exposure to patient trauma and level of supervisor support after the effects of previous lifetime or work-related trauma history and the effects of education, gender, marital status, and experience in domains of care are controlled.

In order to determine whether psychological distress, as evidenced by clinical treatment staff's quality of professional relationships, maintained significance after

controlling for other factors thought to influence the development of secondary traumatic stress, compassion fatigue and emotional exhaustion, a 5-block, hierarchical regression model (Professional Relationship Effects) was examined (Table 16). The first block included the demographic factors of level of education, gender, and marital status. Length of hospital employment, years in position and years in the field were amalgamated to become service in 5 domains of patient care: years experience with inpatient, day treatment or partial hospitalization, outpatient, emergency department, and operating room, were also placed in block 1.

The outcome measures of Life Events Degree Score (magnitude of trauma exposure prior to and outside hospital employment) and Hospital Trauma Degree Score (magnitude of trauma exposure during hospital employment) were accounted for in blocks 2 and 3, respectively. The fourth block of the model was the Supervisor Support Scale score. Scores for Compassion Fatigue and Emotional Exhaustion represented block 5, for the analysis of clinical treatment staff's quality of professional relationships.

When all variables were entered into the equation, 16% of the variance in clinical treatment staff's quality of professional relationships was explained. This was statistically significant at the $p \leq .001$ level. Trauma exposure, as measured by Hospital Trauma Degree Score ($R^2 \Delta = .00, p \geq .05$), was not incrementally statistically significantly associated with quality of professional relationships experienced by clinical treatment staff. Supervisor Support was incrementally statistically significant ($R^2 \Delta = .02, p \leq .05$), however, and provided partial support of the third hypothesis.

The variable of Supervisor Support contributed at a statistically significant level to the incremental explanation of variance in clinical treatment staff's quality of professional relationships ($R^2 \Delta = .02, p \leq .05$), with and without Life Events.

Table 16

Hierarchical Regression Results for Hypothesis #3 – Staff to Staff Relationships – with and without Life Events Degree Score

Block	Variables	Life Events		w/o Life Events	
		R ²	Δ R ²	R ²	Δ R ²
1	Education Gender Marital Status Experience Inpatient Day Treatment Outpatient Emergency Dept Operating Room	.05	.05	.05	.05
2	Life Events Degree Score	.05	.00	-	-
3	Hospital Trauma Degree Score	.05***	.00	.05	.00
4	Supervisor Support Scale	.06***	.02*	.06	.02*
5	Compassion Fatigue Score MBI Emotional Exhaustion Score	.16***	.09***	.16***	.09***

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Ancillary Analysis

Examination of the standardized Beta coefficients for the full model (Table 17) indicated that the variables of gender, supervisor support, compassion fatigue, and emotional exhaustion had stronger relationships with clinical treatment staff's quality of professional relationships than was demonstrated by trauma exposure (Life Events Degree Score, and Hospital Trauma Degree Score).

A negative relationship existed between clinical treatment staff's quality of professional relationships and gender (standardized Beta = $-.17, p < .01$), with and

without Life Events. The category of gender was assessed as a dichotomous variable, coded as male=1 and female=2. In this regression model gender which is coded: if gender=1, $y=2.65$ for males and 1.87 for females, gender had a negative weight (unstandardized Beta=-.78), indicating that males in this study experienced higher quality of staff to staff relationships than females. Males in this study reported higher quality of professional relationships.

The variable of Supervisor Support, with Life Events (standardized Beta = .14, $p = .03$), and without Life Events (standardized Beta = .13, $p = .03$), contributed in a statistically significant way to the explanation of variance in clinical treatment staff's quality of professional relationships. An increase in Compassion Fatigue was accompanied by an increase in clinical treatment staff's quality of professional relationships with Life Events (standardized Beta = .15, $p = .04$) and without Life Events (standardized Beta = .16, $p = .04$). Emotional Exhaustion manifested the strongest association with clinical treatment staff's quality of professional relationships - with Life Events (standardized Beta = -.37, $p = .001$) and without Life Events (standardized Beta = -.37, $p = .001$).

Table 17

Regression of Staff to Staff Relationship on Demographics, Trauma Exposure, Supervisor Support, Compassion Fatigue and MBI Emotional Exhaustion Scores with and without Life Events Degree Score

Variables	Life Events		w/o Life Events	
	standardized Beta	Sig.	standardized Beta	Sig.
Constant	-	<.001	-	.001
Education	-.03	.63	-.04	.60
Gender	-.17	.01	-.17	.01
Marital Status	-.04	.51	-.04	.49
Experience				
Inpatient	.001	.99	.00	.97
Day Treatment	.05	.44	.05	.43
Outpatient	-.07	.29	-.07	.29
Emergency Dept	-.11	.09	-.11	.09
Operating Room	.06	.40	.06	.39
Life Events Degree Score	.01	.86	-	-
Hospital Trauma Degree Score	.03	.68	.03	.62
Supervisor Support Scale	.14	.03	.13	.03
Compassion Fatigue Score	.15	.04	.16	.03
MBI Emotional Exhaustion Score	-.37	.001	-.37	.001

Hypothesis 4: Relationship to Self. The fourth hypothesis stated that clinical treatment staff's quality of relationship to self is associated with the degree of exposure to patient trauma and level of supervisor support after the effects of previous lifetime or work-related trauma history and the effects of education, gender, marital status, and experience in domains of care are controlled.

In order to determine whether psychological distress, as evidenced by clinical treatment staff's quality of relationship to self, maintained significance after controlling for other factors thought to influence the development of secondary traumatic stress, compassion fatigue and emotional exhaustion, a 5-block, hierarchical regression model (Relationship to Self Effects) was examined (Table 18). The first block included the

demographic factors of level of education, gender, and marital status. Length of hospital employment, years in position and years in the field were amalgamated to become years of service in 5 domains of patient care: years experience with inpatient, day treatment or partial hospitalization, outpatient, emergency department, and operating room, were also placed in block 1.

The outcome measures of Life Events Degree Score (magnitude of trauma exposure prior to and outside hospital employment) and Hospital Trauma Degree Score (magnitude of trauma exposure during hospital employment) were accounted for in blocks 2 and 3, respectively. The fourth block of the model was the Supervisor Support Scale score. Scores for Compassion Fatigue and Emotional Exhaustion represent block 5, for the analysis of clinical treatment staff's quality of relationship to self.

When all variables were entered into the equation, 29% of variance in clinical treatment staff's quality of relationship to self was explained. This was statistically significant at $p \leq .001$ level. The data provided partial support for the final hypothesis, despite degree of exposure to patient trauma (Hospital Trauma Degree Score, ($R^2 \Delta = .01$, $p > .05$) being incrementally statistically insignificant in the model. The variable of Supervisor Support contributed 2% to the incremental explanation of variance in clinical treatment staff's quality of relationship to self ($R^2 \Delta = .02$, $p \leq .05$).

Table 18

Hierarchical Regression Results for Hypothesis #4 - Relationship to Self Score with and without Life Events Degree Score

Block	Variables	Life Events		w/o Life Events	
		R ²	Δ R ²	R ²	Δ R ²
1	Education				
	Gender				
	Marital Status				
	Experience				
	Inpatient				
	Day treatment				
	Outpatient				
	Emergency Dept				
	Operating Room	.08**	.08**	.08**	.08**
2	Life Events Degree Score	.09**	.01	-	-
3	Hospital Trauma Degree Score	.10**	.01	.09**	.01
4	Supervisor Support Scale	.11***	.02*	.11***	.02*
5	Compassion Fatigue Score				
	MBI Burnout Score	.29***	.18***	.29***	.18***

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Ancillary Analysis

Examination of the standardized Beta coefficients for the full model (Table 19) revealed the variables of supervisor support, experience – in day treatment, and MBI Burnout Score, evidenced a greater association with the clinical treatment staff's quality of relationship to self, than was demonstrated by trauma exposure (Hospital Trauma Degree Scores) and compassion fatigue (Compassion Fatigue Score).

Higher Emotional Exhaustion Scores (standardized Beta = - .42, $p = .001$), gender (standardized Beta = - .15, $p = .01$), and marital status (standardized Beta = - .12, $p = .03$), were associated with lower quality of self relationship in clinical treatment staff, while experience in day treatment (standardized Beta = .23, $p = .001$), and more supervisor support (standardized Beta = .16, $p = .01$), corresponded with increased scores

in clinical treatment staff's quality of relationship to self. The strongest relationship observed was between clinical treatment staff's quality of relationship to self, and Emotional Exhaustion. Thus, more emotional exhaustion was associated with lower quality of clinical treatment staff's relationship to self. Faith in oneself, the belief in the ability to accomplish effective treatment on behalf of patients' declines as emotional exhaustion increases.

Table 19

Regression of Self Relationship on Demographics, Trauma Exposure, Supervisor Support, Compassion Fatigue and MBI Emotional Exhaustion Score with and without Life Events Degree Score

Variables	Life Events		w/o Life Events	
	standardized Beta	Sig.	standardized Beta	Sig.
Constant	-	<.001		<.001
Education	-.08	.21	-.08	.19
Gender	-.15	.01	-.15	.01
Marital Status	-.12	.03	-.12	.03
Experience				
Inpatient	-.05	.39	-.05	.38
Day Treatment	.23	<.001	.23	<.001
Outpatient	-.10	.10	-.10	.10
Emergency Dept	-.05	.43	-.05	.43
Operating Room	.03	.59	.03	.58
Life Events Degree Score	.01	.86	-	-
Hospital Trauma Degree Score	.00	.96	.00	.99
Supervisor Support Scale	.16	.01	.15	.01
Compassion Fatigue Score	-.05	.49	-.05	.49
MBI Emotional Exhaustion Score	-.42	<.001	-.42	<.001

Summary of Results

Chapters 1 through 3 introduced the study, examined relevant literature, and described the methodology for the study. This current chapter presented the results. In brief, data derived from the study partially supported the four proposed hypotheses. A

positive relationship was found between psychological distress, as measured by the Compassion Fatigue and Emotional Exhaustion scales, and hospital-related trauma exposure. Hospital-related trauma exposure was also incrementally significant in the prediction of quality of staff to patient relationships. Interestingly, Supervisor Support was not an incrementally significant predictor for either psychological distress (CF or EE) or staff to patient relationships. However, those with higher levels of Supervisor Support reported higher levels of quality of Staff to Staff and Self Relationship satisfaction, while exposure to hospital-related trauma was not a significant predictor. Staff exposure to patient trauma, and traumatic Life Events were not statistically significant in their contribution to lower quality of relationships between staff and with self.

Several demographic variables also contributed significantly, After considering all factors in the model, level of education, gender, marital status, experience in five domains of care, degree of exposure to patient trauma and level of supervisor support were incrementally statistically significant in the prediction of psychological distress as evidenced by Compassion Fatigue, and Emotional Exhaustion. Additionally, the data provided partial support for the explication of clinical treatment staff's quality of relationship to self, patients, and other professionals as it relates to the degree of exposure to patient trauma and level of supervisor support. Findings are discussed in the following chapter.

Chapter Five—Discussion

This final chapter includes the following: a) a summary of the study; b) a discussion of the degree of impact of a variety of explanatory variables on reported levels of Psychological Distress; c) a discussion of the results obtained for each research objective; d) limitations of the study; e) recommendations for future research; f) reflections and observations; and g) conclusions.

Summary of the Study

The purpose of this study was to gain a more thorough understanding of the relationship between Compassion Fatigue or Secondary Traumatic Stress, Emotional Exhaustion, Supervisor Support, degree of individual exposure to patient and/or life event trauma, in a population of hospital-based practitioners providing pediatric health care. Hierarchical regressions were used to examine the extent to which hospital staff exposure to patient trauma, and to specific traumatic life events contributed to the experience of psychological distress, and relationship disruption between staff and their patients.

Discussion of the Results

Main research hypotheses.

Research Hypothesis 1: Clinical treatment staff's level of psychological distress is associated with the degree of exposure to patient trauma and level of supervisor support after previous lifetime or work-related trauma history and the effects of education, gender, marital status, and experience in domains of care are controlled.

Results of the analyses indicated that the first hypothesis was partially supported by the data. The data reflected a positive relationship between the development of psychological distress, as evidenced by Compassion Fatigue (CF) and Burnout (EE), and exposure to patient trauma (HT), with and without traumatic life events (LE). When all variables were entered into the equation, 16% of the variance in Compassion Fatigue was explained. This was statistically significant at the $p \leq .001$ level. The data provided partial support of the first hypothesis. Hospital trauma was statistically significant incrementally, in the model with and without Life Events Degree Score, in explaining clinical treatment staff's level of psychological distress as evidenced by compassion fatigue, after demographics, and Life Events were controlled ($R^2 \Delta = .05$, $p < .001$). The variable of Supervisor Support did not contribute significantly to the explanation of variance in Compassion Fatigue when previous variables were controlled ($R^2 \Delta = .00$, $p > .05$).

Additionally, after the effects of education, gender, marital status, and experience in domains of care were entered, the contribution of degree of hospital trauma experienced contributed significantly to the occurrence of CF and EE. Interestingly, the degree of supervisor support, as measured by the Supervisor Support Scale, did not produce a statistically significant result. The other finding of interest was that Education played a significant role in the occurrence of CF and EE. Specifically, higher education was associated with lower levels of CF and EE.

Figley (1995) contends that vulnerability to the development of Compassion Fatigue relates to the capacity for empathy, a major resource in the helping professions.

Noted traumatology researcher, C.J. Harris, relates that “empathy is a key factor in the induction of traumatic material from the primary to the secondary victims” (Chapter Five, cited in Figley, 1995). If we are not empathic or exposed to the traumatized, the probability of Compassion Fatigue being experienced is reduced. While empathy was not specifically measured in this study, it may still have played a role.

A second explanation for the scores of Compassion Fatigue, (M (SD) = 36.81(12.14) and Emotional Exhaustion (M (SD) = 21.41 (9.58) relates to the sample population of administrative support staff included in the study design, along with clinical treatment staff. Hospital staff’s providing indirect service do not experience prolonged, intimate exposure to patients and their families and in this study demonstrated lower levels of Compassion Fatigue and Emotional Exhaustion than their counterparts in direct patient care. For the overall sample population, the scores on the Compassion Fatigue Scale suggest that 42.5% of all staff hospital-wide were in the “high risk or extremely high risk” ranges for Compassion Fatigue (STS). In contrast, a comparative study for professional staff providing direct patient care conducted at the Children’s Hospital of Philadelphia (CHOP, Robins, 2009), produced a hospital wide score of M 27.8, sd=(12.4) on the CF scale which was in the “low risk” range of Compassion Fatigue (CF). The mean Compassion Fatigue score for this hospital sample was, according to Figley (1995), in the high risk category for the development of compassion fatigue (Robins et al., 2009). A one sample t-test comparing this researcher’s data with the published results from Children’s Hospital of Philadelphia demonstrated $t_{267} = 12.15$, $t \leq .001$, concluding this study’s mean was significantly higher.

Burnout as a syndrome is comprised of three key aspects of increased feelings of emotional exhaustion, the development of depersonalization, and reduced personal accomplishments (Maslach, 1996). Burnout is conceptualized as a continuous variable, according to Maslach, “ranging from low to moderate to high degrees of experienced feeling. It is not viewed as a dichotomous variable, which is either present or absent.” Maslach’s scale does not have a total score that combines all three facets. An overall sample Burnout score does not allow for the determination of low degree, average degree or high degree of burnout for an individual respondent, or sample population as a whole. In addition, researchers at CHOP (Robins, 2009) utilized a different instrument for the assessment of Burnout in their population.

Consequently, it is difficult to state with any degree of certainty whether the respondents in the present sample were experiencing a high degree of burnout. The reported EE scores of (M (SD) = 21.41 (9.58) fall in the average range of experienced burnout as measured by Emotional Exhaustion. Yet, 23% of all hospital staff reported EE scores in the “high degree” range. Of additional interest, MBI Burnout scores (EE) were significantly correlated with Compassion Fatigue ($r=.55, p \leq .001$) suggesting a strong association between fatigue and emotional exhaustion. However, the two concepts are not equivalent.

A third explanation for the levels of assessed psychological distress in hospital staff, as measured by the Compassion Fatigue score, may be due to the high percentage of hospital staff receiving little or no supervisor support. The mean Compassion Fatigue score for this hospital sample was 36.81, which is deemed to be in the high risk category

for the development of compassion fatigue (Robins et al., 2009). A one sample t-test comparing this researcher's data with the published results from Children's Hospital of Philadelphia demonstrated $t_{267} = 12.15$, $t \leq .001$, concluding this study's mean as significantly higher.

The inclusion of supervisor support as a factor in contributing to the occurrence of, or hopefully mitigating the occurrence of compassion fatigue and burnout was only partially supported. However, the Supervisor Support scale scores, specifically designed to measure social support in therapists were not significant (Bahraini, 2008). This suggests that either we did not see enough social support to make a difference or that it did not have a strong enough effect. If we assume that seeking external support from counseling and medications is a form of supervision, then we are able to suggest that the hypothesis is supported (standardized Beta = $-.22$, $p < .001$) as these variables were significant.

Research Hypothesis 2: It was hypothesized that the quality of staff to patient relationships is associated with the degree of exposure to patient trauma and level of supervisor support after the effects of previous lifetime or work-related trauma history and the effects of education, gender, marital status, and experience in domains of care are controlled.

The data partially supported this hypothesis. Twenty-three percent of the variance in clinical treatment staff's quality of patient relationships was explained. This was statistically significant at the $p \leq .001$ level. The data provided partial support for the second hypothesis, with and without Life Events, as Hospital trauma ($R^2 \Delta = .05$ and $.06$,

$p \leq .001$), was incrementally significant in the model. The variable of Supervisor Support did not contribute at a statistically significant level to the explanation of variance in staff to patient relationship ($R^2 \Delta = .00, p > .05$).

Results of the analyses indicated a statistically significant relationship was found between degree of trauma exposure (Hospital Trauma Degree Score, standardized Beta = $-.20, p < .001$), burnout (MBI Emotional Exhaustion Score, standardized Beta = $-.37, p = .02$), and staff to patient relationships, after all other variables were controlled. Degree of exposure (in-hospital) and burnout were negatively associated with quality of staff to patient relationships. Thus as hospital trauma and burnout increased, the quality of relationship between staff and their patients declined. Interestingly, years of experience (day treatment/partial hospitalization) were statistically significant in its association with staff to patient relationship quality, such that the greater the numbers of years of experience the higher the quality of staff to patient relationships.

In contrast to a previous research study conducted with care providers in the Children's Hospital of Philadelphia (Robins et al., 2009), the present study sought to determine whether compassion fatigue (STS), burnout, and vicarious trauma, were associated with a number of other related variables. The five instruments utilized were intended to isolate and quantify staff exposure to traumatic and stressful events in two distinct domains, personal and professional lives. The lack of significant results for many of these variables in relation to the dependent variables suggests that the magnitude of their impact is less significant than hypothesized. While interesting, the results indicate that only degree of trauma consistently plays a significant role in predicting CF.

Robins et al., (2009) and his colleagues also examined the psychological impact of routine occupational exposure to medical trauma in hospital-based care providers. The relationship between exposure to this type of stressor in-hospital, and the measures of empathy, spirituality, and coping were also examined. Their results were stratified by professional position and for the existence or vulnerability to the development of Burnout (long term development), and Compassion Fatigue (time limited onset), as well as Compassion Satisfaction, which is considered a protective factor against the development of psychological distress. Robins et al. reported 39% of their sample was at moderate to extremely high risk for Compassion Fatigue, and 21% of providers were at moderate to high risk for Burnout, when compared with Trauma Worker samples – both sizeable minorities at risk for Burnout or Compassion Fatigue. Finally, these researchers identified a significant association between Compassion Fatigue and Burnout in their pediatric hospital population ($r = .68, p \leq .01$). However, in the CHOP study physicians were found to have higher levels of Burnout (e.g., feeling overburdened with patient care and a very high workload). Nurses reported greater Compassion Satisfaction as well as higher burnout. Nurses realized higher Compassion Satisfaction than did physicians in this hospital. These results are intriguing given that Compassion Fatigue constitutes a possible precursor or risk factor for Burnout, while Compassion Satisfaction may act as a buffer.

Further explanation for the partial support of the hypothesized disruption of staff to patient relationships, associated with the experience of psychological distress, may relate to staff reluctance to disclose the true existence of the phenomenon for fear of

reprisal. Robins (2009) postulates that “providers may be reluctant to acknowledge secondary trauma exposure.” He posits that an implicit “culture of silence”, may exist signaling the belief that STS is perceived as a professional weakness. Despite the efforts by this researcher to maintain individual confidentiality, as well as the privacy of the respondent, participants may have feared the disclosure of their experiences to upper level management, or to their peers.

Looking only at the univariate relationships, a statistically significant relationship between trauma exposure, inside of hospital employment, and the disruption of staff to patient relationships was obtained, Hospital Trauma Degree Score and Staff to Patient Relationship correlation ($r = -.23, p = .001$). Compassion Fatigue Scores ($r = -.19, p = .01$), and Emotional Exhaustion Scores ($r = -.37, p = .01$), were also significantly correlated with staff to patient relationships outcomes. In addition, a strong association between Staff to Patient and Staff to Staff Relationship scores was found, suggesting that satisfaction in peer relationships might be related to quality of relationships with patients ($r = .48, p \leq .001$).

Research Hypothesis 3: Quality of staff to staff professional relationships is associated with the degree of exposure to patient trauma and level of supervisor support after the effects of previous lifetime or work-related trauma history and the effects of education, gender, marital status, and experience in domains of care are controlled.

Results of the analyses indicated that the hypothesis was partially supported by the data. Trauma exposure, as measured by Hospital Trauma Degree was not incrementally statistically significantly associated with quality of professional

relationships experienced by clinical treatment staff. Supervisor Support was incrementally statistically significant ($R^2 \Delta = .02, p \leq .05$), however, and provided partial support of the third hypothesis.

The variable of Supervisor Support contributed at a statistically significant level to the incremental explanation of variance in clinical treatment staff's quality of professional relationships ($R^2 \Delta = .02, p \leq .05$), with and without Life Events.

The results of regression analysis indicate that Gender, and Emotional Exhaustion were significant predictors of quality of staff to staff relationships, after all the other variables were entered. In particular, being female was associated with poorer relationships. In this regression model gender had a negative weight (unstandardized Beta=-.78, $p = .01$), and males in this study experienced a higher staff to staff relationship quality. Recall that gender was coded 1 for male and 2 for female, then $y=2.65$ for males and 1.87 for females. These results would seem to contradict those of Robins et al. (2009), who found that higher Compassion Satisfaction associated with the profession of nursing, and greater burnout in physicians, with greater potential for relationship disruption. In contrast, the present study sample consisted of 268 health care professionals, 84% of whom were women.

Looking at the univariate analysis for staff to patient, and relationship to self, results were significantly correlated with higher quality of staff to staff relationships. These are interesting findings because satisfaction in relationships with patients ($r = .48, p \leq .01$), and self efficacy ($r = .70, p \leq .01$), were also related to improved quality of peer relationships.

The hypothesized relationship between degree of trauma exposure in-hospital affecting staff to staff relationships was not obtained. It may be the case that the trauma is not severe enough to trigger the development of CF sufficient to disrupt staff relationships. Also, staff may have developed resiliency from repeated trauma exposure. Some researchers (Brunet, 2001) posit that multiple exposures promote the development of protective factors.

Finally, it may have been that psychological distress is different for the hospital population at large, than for staff within the Department of Psychiatry, the sample population first considered by this researcher. The initial development of the Hospital Trauma Scale was undertaken in a pilot group consisting of mental health professionals with a background in hospital work. Types of trauma exposure within medical/surgical services are considerably different in scope and magnitude, as evidenced by the number of patients treated with potentially fatal and life altering illnesses.

Research Hypothesis 4: Clinical treatment staff's quality of relationship to self is associated with the degree of exposure to patient trauma and level of social support, after the effects of previous lifetime or work-related trauma history and the effects of education, gender, marital status, and experience in domains of care are controlled.

The data provided partial support for the final hypothesis, despite degree of exposure to patient trauma (Hospital Trauma Degree Score, ($R^2 \Delta = .01, p > .05$) being incrementally statistically insignificant in the model. The variable of Supervisor Support contributed 2% to the incremental explanation of variance in clinical treatment staff's quality of relationship to self ($R^2 \Delta = .02, p \leq .05$).

Results of the analyses indicated that partial statistical support of the last hypothesis, quality of self relationship ($R^2 = .22, p \leq .001$), was achieved through numerous explanatory variables. Relationship to self is a cognitive schema comprised of beliefs about one's self and the world, viewing oneself in a positive light, and believing in one's capacity to influence circumstances and others entrusted to our care (McCann, 1990). It was expected that effective Supervisor Support would attenuate the development of psychological distress, disruptive to the self schema.

Regression analysis produced a modest relationship or association between Supervisor Support, and the Self Relationship score. This finding is consistent with reports that Supervisor/Social Support mitigates the deleterious effects of environmental stress (Milne, 1999). This relationship has been referred to as the buffering effect of social support, whereby individuals who perceive the presence of a great deal of social support are "buffered" from the detrimental, psychological consequences of exposure to acute stressors and trauma.

A statistically significant relationship was found between Emotional Exhaustion (standardized Beta = $-.42, p < .001$), Supervisor Support (standardized Beta = $.16, p < .01$), Gender (standardized Beta = $-.15, p < .01$), Day treatment/partial hospitalization (standardized Beta = $.23, p < .001$), and relationship to self scores, after all other variables were entered. A stronger sense of self efficacy was experienced by hospital staff as Emotional Exhaustion declined. This tendency to evaluate oneself positively, when less fatigued or emotionally exhausted, is suggestive of improved morale and quality of patient care. Future studies of the relationship between this variable and

Compassion Satisfaction would be illuminating. Degree of exposure (in-hospital and out of hospital) was not significantly associated with quality of self relationship, as hypothesized.

Again, these results may have been influenced by the fact that the respondents were asked to report their perceptions and reactions to events that occurred in the past. Querying the subject group at a time more proximal to a traumatic event might have uncovered a different and perhaps stronger relationship between the explanatory variables and current perceptions of self-efficacy.

Limitations

This study contained limitations, each of which will be described below:

1. An unavoidable and problematic limitation of this study is the reliance on memory of personal experience necessary to answer questions regarding trauma related Life Events, and Hospital Trauma experiences by number of times exposed and degree of impact. As acknowledged by numerous researchers, memory for autobiographical detail is subject to failed, confabulated, or incomplete recall (e.g., Christianson, 1992a; Mechanic, Resick, & Griffin, 1998; Riccio, Rabinowitz, & Axelrod, 1994). With regard to traumatic events, it has been suggested that failure to recall pertinent details of the experience as a whole “can be understood as normal forgetting that follows the same laws as forgetting all sorts of life events” (Loftus, Garry, & Feldman, 1994; p.1180). As such, memory for detail should be at its best at a time most proximal to the event, with a

decline in memory for details shortly thereafter. Thus, a primary limitation of this study was the reliance on participant's long term memory, and subjective recall.

2. Another limitation of this study was the absence of any pre-trauma exposure measures. Prior researchers found a personal trauma history to be such a powerful variable that their study populations were divided accordingly, those with and without a personal trauma history (Pearlman & Mac Ian, 1995). It is unclear whether levels of psychological distress, as evidenced by Compassion Fatigue (also known as, Secondary Traumatic Stress) or Burnout were stable throughout employment or changed in response to various traumatic situations. Efforts to isolate the impact of events outside of hospital employment through the removal of this factor, Life Events Degree score, from the regression analyses failed to identify statistically significant changes as a result.
3. Any study utilizing self-report measures runs the risk of receiving inaccurate or prejudiced data. This may be due to a desirability bias or reluctance by participants to disclose potentially incriminating information. To overcome these problems, a scripted description of the purpose of the study was provided to all participants, without revealing the study hypotheses. In addition, subjects were not identifiable to this researcher by any Protected Health Information (PHI) or personal demographic. At no time, save those when a respondent chose to self-

disclose, was it known that an individual with whom this researcher had contact, was in fact a participant in this study. It was known to a number of hospital personnel, by word of mouth, that a research study was underway. This disclosure coincided with the knowledge that a task force had also been launched within the hospital exploring Secondary Traumatic Stress.

4. The use of the Compassion Fatigue instrument, still in development, to assess psychological distress is a limitation. The inclusion of an additional instrument designed for use with a previously researched population who may be experiencing work stress, such as the Secondary Traumatic Stress Scale (Bride, et al, 2004) or TSI Belief Scale (Pearlman, 1995), would have been useful. Such additional instruments may have added a new dimension to the understanding of the impact of vicarious trauma that medical patient trauma events have had on both psychological distress and level of relationship disruption experienced by hospital-based practitioners.
5. The Hospital Trauma Scale, an instrument also newly developed for the present study, was designed to identify, then measure trauma events most likely experienced by practitioners in the Department of Psychiatry. As the project expanded into diverse medical/surgical practice domains, the instrument may not have retained its validity. For example, dealing with

suicide is more likely to occur in the Department of Psychiatry and less likely to be dealt with in radiology.

6. The resultant subject sample included a number of subjects not involved in direct patient care. These individuals were, therefore, less likely to encounter patient traumata and suffer psychological distress.
7. A final limitation of the study relates to the population examined. Inclusion of subjects in the study was not random, but basically participant driven. Non-random sampling may have resulted, in part, because only subjects with issues related to Compassion Fatigue and Emotional Exhaustion responded to the surveys. Individuals motivated to participate in this study may have higher levels of psychological distress, thereby artificially elevating the degree of psychological distress discovered. This bias within the sample, of an unknown magnitude, may result in those who respond no longer being representative of the population. Researcher bias may have been introduced when judgment sampling resulted in the selection of service units believed to be representative of the hospital population. Again, the data results associating psychological distress with exposure to patient trauma may have been artificially inflated.

Suggestions for Future Research

1. Participants with higher Compassion Satisfaction scores, provided as a subscale measure within Figley's updated instrument Compassion Satisfaction and Compassion Fatigue Self Test (Figley & Stamm, 1996),

reported higher levels of resilience in stressful situations and were less likely to develop psychological distress than those with lower Compassion Satisfaction Scores (Robins, 2009). Future research may focus on the presence of resilience and the characteristics of successful training that enables individuals to derive satisfaction from a stressful workplace environment.

2. Further trauma research could expand upon the identification of practitioners at varying degrees of vulnerability for the onset of negative reactions to stressful care giving and trauma exposure. Robins et al., have identified a number of predictor variables that are hypothesized to place individuals along a risk continuum, an instrument in the making
3. An identifiable Spiritual Belief System or Religion was endorsed by 73% of respondents in this study, even though 71% disclosed “none” or “a little” support from this resource. It is possible that study participants, while acknowledging religion and spirituality in their personal lives, do not bring their spirituality into the workplace. This possible disconnect between a potential resiliency factor, and its underutilization while at work, could be explored to better improve its transportability across domains.
4. The design of this study could be improved upon in future research endeavors. Ideally, psychological distress could be measured prior to or at the outset of employment and again at designated times thereafter for all

new hospital care providing staff. This would help establish a baseline for characteristics postulated for prevention and/or development of stress related phenomenon.

5. Strategies promoting connection to others, not necessarily within formal supervisory relationships, may be effectively identified through research for application to a fast-paced medical setting. Intervention literature emphasizes the importance of connection to others as an antidote to stressful care giving (Pearlman & Saakvitne, 1996). Beyond these considerations, the quality of supervisory relationships could be better assessed with a psychometrically improved instrument. Future research could expand the Supervisor Support scale as it relates to possible subscales of Emotional Support, Provision of Resources and Clinical Redirection, components found during factor analysis in this study.

Reflections and Observations

During the time spent by this researcher with specialized care teams at the hospital, there was a recurrent theme uncovered. A pervasive hesitancy to participate in the study by hospital staff was encountered by this investigator. This was attributed to comments made by potential participants relating to the fact that research results are rarely brought back to the participants. Accompanying this mindset was the widespread perception that change, from participation in research studies, is never forthcoming. Requests to participate in research projects were experienced as another burden to an already overworked staff.

Individuals and teams were thanked repeatedly for the privilege of investigating workplace phenomena, their cost of caring for acutely ill patients, which warranted further research. While not promising, but holding out hope, that results could be shared and changes or interventions would follow, a commitment was made that aggregated data would be brought back at the conclusion of this study.

Much attention has been paid to the experience of difficult and challenging patients/families in this hospital, and their impact upon care providers. For the lack of unified organization, the foci to date have been in pockets of care, as small research projects were undertaken by student researchers, and unit based practitioners concerned for their colleagues' wellbeing. A much broader, hospital-wide perspective was gained by this researcher.

Anecdotal examples of endemic problems were disclosed during all phases of this study. Supervisors are privy to staff unwilling to take patients with specific diagnoses, one year following traumatic encounters with similarly diseased patients. Major units were quick to acknowledge the daily occurrence of inevitable, unavoidable stressful situations with their patients. An alarming disclosure during an oral presentation revealed the, "its no big deal defense" - it happens everyday in our service. Is this an inoculation to the phenomenon, or the formation of a higher threshold of tolerance for an entire team? Have they (supervisors and supervisees) settled for this type of culture due to conditioning by administration and practice history?

A number of disturbing comments and events took place in the conduct of the study. Several people commented that they were uncomfortable completing the survey

and also expressed the need for support for their feelings. Clearly, there are people in this sample who were suffering from the ill effects of having been exposed to the stressful work. Additional investigation and the need for follow-up within various work groups are clearly warranted.

Prior to the beginning of this project, a task force was created at this hospital by concerned executive level staff to explore the implications of Secondary Traumatic Stress. The aforementioned examples of troubling events are being brought to light for members of this committee, representatives from programs whose staff have been impacted. A high level of interest exists within this committee, and elsewhere within the hospital, to understand how to obviate and remediate the sequelae of STS. This institution has gained an increased awareness of the responsibility for the care of the caring. “Treating the treaters” is a moral imperative, to support those who attend to patients presenting with NAT’s or non-accidental trauma, withdrawal of life support demands and DOA’s or dead on arrival condition.

Numerous studies have confirmed that professional and family caregivers play host to a high level of compassion fatigue. Researchers in these studies have concluded a gradual lessening of compassion is predictable as sequelae to working with the traumatic aspects of childhood illnesses, injury, painful medical treatments and death. When “caring too much”, coexists with the absence of practiced self-care, the potential for destructive outcomes is quite real.

Both anecdotal disclosures and the finding that the overall hospital population scored in the “high risk” range for CF suggest the need for additional research and

intervention. Data from this study suggest that 1) decreasing the total amount of trauma exposure, 2) increasing access to external sources of support and 3) in some cases, increasing supervisor support all have a positive effect on reducing CF and improving staff to patient and staff to staff relationships.

Implications of these findings suggest the need to develop a training program and additional on-line self help materials that can be used to assist staff in the following ways. First, a program might provide access to self-assessment tools such as a private on-line self assessment. Persons scoring high on such scales could then be directed to various sources of support.

Additionally, the fact that education was associated with lower CF and EE scores suggests that this might be an area to explore further. There is something in additional training that seems to prevent or mitigate against the development of CF or EE. Further research should be conducted to isolate these positive, preventative components.

Consistent with Robins et al, who found no significant differences between males and females on scores for Compassion Fatigue, this study revealed similar outcomes. However, gender differences in quality of staff to staff relationship and self efficacy scores were revealed with males reporting higher satisfaction in both relationship domains. A possible explanation for this differential may lie in the relationship expectations by gender. Female practitioners may have higher relational expectations, thereby realizing greater disappointment or dissatisfaction during relationship disruption with other staff, and with self-performance.

An existing program was designed by a concerned faculty member to provide residents with increased supervisor/peer support. This Residents Assistance Program, based on Critical Incident and Stress Management debriefing principles, can be expanded for hospital-wide staff. These intervention strategies can be tailored to meet the need resulting from the cumulative effect of stress, as well as the single symptom-inducing traumatic incident.

Despite this investigator's perspective that too much may have been striven for in this study, Robins and his colleagues (2009) stated "there is further need to refine the assessment of occupational exposure to potential traumatic aspects of care within pediatric hospital settings and link assessment to prevention and intervention efforts."

If the contribution of Supervisor Support, at 2% of variance explained, can statistically translate to improved quality of clinical treatment staff relationships and self efficacy, i.e. morale and performance, should we not act on this fact through increased supervisory support? When considered in association with professional relationships (staff to staff) and self relationship outcomes, quality of patient outcomes are statistically improved as these relationships scores increase. If morbidity and mortality reviews led to a 2% reduction in mistakes occurring during patient care, would we not implement the changes insuring these results? A 2% incremental increase in the explanation of variance equates to a correlation of 45%, a strong association that should be acted upon, and is a moral imperative.

Clearly, hospital and clinical staff would benefit, as demonstrated by our research, from attention to the positive preventative aspect associated with lower CF and EE.

These results will hopefully provide guidance, as to the components of programs to further supportive interventions for care providers and “wounded healers” (Nouwen, 1972).

Conclusions

The present study attempted to determine the significance of factors that might affect the development of compassion fatigue in staff at a children’s hospital. Regression analyses revealed that higher levels of education and external support sought for stress (counseling/medications) were associated with lower Compassion Fatigue Scores. Conversely, an increase in Hospital Trauma scores was accompanied by an increase in compassion fatigue. Equally important was the finding that higher scores on the Maslach Burnout Inventory were significantly associated with reduced quality of staff to patient relationships and that this increases with the amount of hospital trauma experienced. Interestingly, persons seeking more supervision were found to have higher levels of compassion fatigue and burnout.

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Appendix A: Consent Form and Study Description

Consent Form

Clinical Treatment Staff Reaction to Trauma Study Invitation and Description

Dear Clinical Treatment Staff:

You are being asked to participate in a study designed to determine clinical treatment staff reactions to patients who present with trauma experiences. Your participation in this study will take about 30-40 minutes and will involve the completion of five brief questionnaires. **However, please be assured that you may discontinue your participation in this project at any time.**

You will be asked to voluntarily complete the packet of questionnaires concerning your thoughts and feelings about exposure to traumatic events experienced by your patients. As a result of participating in this study you will contribute to our understanding of clinical treatment staff reactions to trauma material, their own and their patients. Your participation may also contribute to the development of educational and training materials designed to improve the provision of medical and mental health services and promote safety of the providers.

During the study, we will not ask you for your name but will ask you to voluntarily provide some demographic information. Upon completion, the questionnaires will be kept in a locked file cabinet, the location of which is known only to the principal investigator. All potentially identifying information will be removed from the questionnaires and kept in a separate location. *You should be aware of the fact that your participation in this project is completely voluntary.* However, we recognized that the reactions you may have to what you have been exposed to may elicit symptoms of distress. If we find that you are in distress and possibly in danger of hurting yourself or someone else, we are required to help you receive mental health services, and may have to break confidentiality to do so. In addition, should any information contained in this study be the subject of a court order or lawful subpoena, the University of Denver might not be able to avoid compliance with the order or subpoena.

Should you have any questions regarding the study, its findings, or any other issues that occur as a result of completing the questionnaires, please contact Dr. Patrick Sherry, Associate Professor, Counseling Psychology, University of Denver, 2450 S. Vines St., Denver, Colorado 80280, (303) 871-2526 or via e-mail psherry@du.edu. In a few months a brief summary of the results will be available for distribution.

If you have any concerns or complaints about how you were treated during the research sessions, please contact Dr. Jeff Jenson, Chair, Institutional Review Board for protection of Human Subjects, (303) 871-4052 or Dawn Nowak, Office of Sponsored Programs ,

(303) 871-4052 or write to either at the University of Denver, Office of Sponsored Programs, 2199 S. University Blvd. 80208-2121.

Thank you,

Patrick Sherry, Ph.D.
Licensed Psychologist
Associate Professor
Counseling Psychology
University of Denver

Referral Information

Please feel free to inform the investigator or to contact Patrick Sherry, Ph.D. (303/871-2495) if you have questions or concerns about this survey, or if you would like to talk with someone about any emotional reaction you might have had to participating in this study.

If you would like to talk with a therapist at The Hospital Counseling Services Center, please call the following phone number to arrange a time:

(720) ----- (it was requested that this phone number remain confidential to all who are not Hospital Employees).

If you would like to talk with a mental health professional outside of the Hospital Counseling Services Center, please call (303) 333-3333 to locate a professional in your area.

Appendix B: Verbal Invitation to Participate

Hello. My name is Randy A. Braley. I'm a PhD candidate at the University of Denver and I am in the process of collecting data for my dissertation. The purpose of my study, which is both anonymous and voluntary, is to develop a better understanding of the relationship between individual trauma exposure, and psychological distress in Clinical Treatment Staff resulting from exposure to patient trauma. I've compiled a 5 questionnaire survey packet that includes a demographic and trauma exposure questionnaire, hospital trauma exposure survey, a supervisor support scale, a brief compassion fatigue test, and a burnout inventory. The total amount of time required for participation is typically between 30 and 40 minutes. Like I said before, participation is totally voluntary. If you need to complete your packet during your shift, arrangements can be made with your immediate supervisor or unit director. If you have some extra time and are interested in participating, I would love to include you in the study.

Appendix C: Demographic Questionnaire

1. Demographic Questionnaire (39 items)

This survey has been designed to provide researchers with demographic data as well as information related to the types of trauma-related events you have experienced during your employment at The Children's Hospital. Your participation is appreciated, and hopefully, this research will lead to an increased awareness of psychological distress for health care practitioners in the hospital workplace.

1. Education:

<input type="checkbox"/> HS Diploma(or equiv)	<input type="checkbox"/> RN	<input type="checkbox"/> Medical Degree(Resident)
<input type="checkbox"/> Associates Degree	<input type="checkbox"/> Masters	<input type="checkbox"/> Medical Degree(Faculty)
<input type="checkbox"/> Bachelor's	<input type="checkbox"/> Doctorate	

2. Where do you currently spend most of your time?

Department (check one):

<input type="radio"/> Anesthesiology	<input type="radio"/> Pediatrics	<input type="radio"/> Radiology
<input type="radio"/> Dentistry	<input type="radio"/> Physical Medicine & Rehabilitation	<input type="radio"/> Surgery
<input type="radio"/> Pathology	<input type="radio"/> Psychiatry & Behavioral Sciences	<input type="radio"/> Other:

Other Department: _____

3. Gender (check one):

<input type="radio"/> Male	<input type="radio"/> Female
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4. Marital Status (check one):

<input type="radio"/> Married	<input type="radio"/> Separated	<input type="radio"/> Divorced	<input type="radio"/> Single
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5. Direct patient contact hours per week (check one):

6. How many years of patient care (not just at The Children's Hospital) have you had in the following category:

Inpatient:

<input type="radio"/> n/a	<input type="radio"/> 1-5	<input type="radio"/> 6-10	<input type="radio"/> 11-15	<input type="radio"/> 16-20	<input type="radio"/> >20
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2.

7. How many years of patient care (not just at The Children's Hospital) have you had in the following category:

Partial hospitalization/Day Surgery:

- n/a 1-5 6-10 11-15 16-20 >20

8. How many years of patient care (not just at The Children's Hospital) have you had in the following category:

Outpatient:

- n/a 1-5 6-10 11-15 16-20 >20

9. How many years of patient care (not just at The Children's Hospital) have you had in the following category:

Emergency Department:

- n/a 1-5 6-10 11-15 16-20 >20

10. How many years of patient care (not just at The Children's Hospital) have you had in the following category:

Operating Room:

- n/a 1-5 6-10 11-15 16-20 >20

11. How many hours of individual supervision do you receive per month?

- n/a 1-5 6-10 >10

12. How many hours of supervision do you receive in a group setting per month?

- n/a 1-5 6-10 >10

13. In the past year, how many patients with potentially fatal illnesses or conditions have you dealt with?

- n/a 1-10 11-20 21-30 >than 30

14. In the past year, how many patients with life-altering permanent illnesses or conditions have you dealt with?

- n/a 1-10 11-20 21-30 >than 30

3.

15. Have you experienced a loss of time at work as a result of trauma exposure?

Yes

No

16. Have you sought external support (e.g., counseling, medication) for work related stress in the past 24 months?

Yes

No

17. On a weekly basis how many alcoholic beverages do you consume?

None

1-5

6 or more

18. Has your consumption of alcohol ever increased as a result of work related stress?

Yes

No

19. Do you have an identifiable spiritual belief system or religious affiliation?

Yes

No

20. How much support do you experience from your spiritual/religious affiliation now?

None

A little

A lot

21. Are you currently utilizing any of the following to help with stress?

If so, check all that apply:

Acupuncture

Martial Arts

Prayer

Aromatherapy

Medication

Psychotherapy

Biofeedback

Massage Therapy

US Wellness

Employee counseling

Mindfulness or Meditation

Yoga

Herbal supplements

Physical Exercise

Other (please specify)

22. Are you accessing this support through TCH or at TCH?

Yes

No

4.

TRAUMA EXPOSURE QUESTIONNAIRE

Please indicate whether you have been exposed to any of the following traumatic events. Each event has 3 related questions. Answer the first response with yes or no, and where applicable give the number of events exposed to (frequency rating scale, 1-4 or more). Use the rating scale of 1-5 to reflect the degree of impact of the "one most severe event" experienced, relative to Proximity, Severity, and Safety, using a single numerical value:

1 _____ 2 _____ 3 _____ 4 _____ 5 _____

To no.....To some.....To a.....To a great....To a very...
degree.....degree.....moderate....degree.....great degree
.....degree.....degree.....

PROXIMITY, how close was the actual trauma to you personally and physically; SEVERITY of the event in terms of how traumatic and stressful it was to you; SAFETY, the extent to which you felt that your life or person was threatened.

23. Natural disaster (i.e., flood, hurricane, tornado, earthquake).

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

24. Fire or explosion

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

25. Transportation accident (i.e., car accident, plane crash).

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

26. Serious accident at work, home, or during recreational activity.

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

27. Exposure to toxic substance (i.e., dangerous chemicals).

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

28. Physical assault (i.e., attacked, hit, beaten, kicked).

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

29. Assault with a weapon (i.e., shot, stabbed, held at knife or gun point).

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

5.

30. Sexual assault (i.e., attempt to rape, made to perform any type of sexual act through force or threat of harm).

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

TRAUMA EXPOSURE QUESTIONNAIRE

Please indicate whether you have been exposed to any of the following traumatic events. Answer each question with yes or no, give the number of events exposed to (1-4 or more), where applicable. Use the rating scale 1-5 to reflect the degree of impact.

31. Other unwanted or uncomfortable sexual experience

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

32. Combat or exposure to a war zone (military or civilian)

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

33. Captivity (i.e., kidnapped, abducted, held hostage).

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

34. Life threatening illness or injury.

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

35. Severe human suffering

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

36. Sudden, violent death OF OTHERS - someone not close to you (i.e., homicide, suicide)

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

death OF OTHERS (clarify whose death)

37. Sudden, unexpected death of someone close to you (homicide, suicide, motor vehicle accident or catastrophic illness)

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

38. Serious injury, harm, or death you caused to someone else.

Responses	Exposure to event	Frequency of exposure	Degree of impact
	<input type="text"/>	<input type="text"/>	<input type="text"/>

39. Other: _____ **Number of events:** _____

Degree of impact: 1, 2, 3, 4, 5

Appendix D: Hospital Trauma Scale

1. (Instrument under development)

HOSPITAL TRAUMA EXPOSURE QUESTIONNAIRE (55 items)

Please indicate whether you have been exposed to any of the following traumatic events - each event has 3 related questions. Answer the first response with yes positive or no, and where applicable give the number of events exposed to (frequency rating scale - 1 to 4 or more) and the degree of impact (rating scale - 1 to 5).

Use the rating scale of 1-5 to reflect the degree of impact of the "one most extreme event" THAT OCCURRED AT YOUR JOB, or at work, or at the hospital relative to Proximity, Severity, and Safety - using a single numerical value:

PROXIMITY, how close was the actual trauma event to you personally or physically; SEVERITY, of the event in terms of how stressful it was to you; SAFETY, the extent to which you felt that your life or person was threatened.

Use the following scale to indicate your response (degree of impact) to these items:

1 2 3 4 5

To no.....To some....To a.....To a great....To a very...
degree.....degree.....moderate....degree.....great degree
.....degree.....degree.....

1. Patient self mutilation or other self injurious behaviors

	Event Exposure	Frequency of exposure	Degree of Impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

2. Patient assault on other patients

	Exposure to event	Frequency of exposure	Degree of Impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

3. Patient assault on staff

	Exposure to event	Frequency of exposure	Degree of Impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

4. Family member's assault on patients

	Exposure to event	Frequency of exposure	Degree of Impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

5. Family member's assault on staff

	Exposure to event	Frequency of exposure	Degree of Impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

6. Physical abuse of patient by staff

	Exposure to event	Frequency of exposure	Degree of Impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

7. Patient suicide or attempt

Responses	Exposure to event	Frequency of exposure	Degree of impact
	<input type="text"/>	<input type="text"/>	<input type="text"/>

2.

Please indicate whether you have been exposed to any of the following traumatic events - each event has 3 related questions. Answer the first response with yes or no, and where applicable give the number of events exposed to (frequency rating scale - 1 to 4 or more) and the degree of impact (rating scale - 1 to 5).

8. Staff suicide or attempt

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

9. Sexual assault of staff by patient

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

10. Sexual assault of patient by staff

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

11. Robbery of staff

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

12. Robbery of patient(s)

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

13. Patient recidivism or rehospitalization

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

14. Verbal abuse of patient(s) by staff

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

15. Verbal abuse of staff by staff

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

16. Verbal abuse of staff by patient(s)

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

17. Cruel or inappropriate treatment of patient(s)

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

3.

18. Discrimination against patient(s) by staff

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

Please indicate whether you have been exposed to any of the following traumatic events - each event has 3 related questions. Answer the first response with yes or no, and where applicable give the number of events exposed to (frequency rating scale - 1 to 4 or more) and the degree of impact (rating scale - 1 to 5).

19. Discrimination against staff by staff

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

20. Excessive use of physical restraint when managing patients

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

21. Excessive use of medication to manage patient care

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

22. Inappropriate or contraindicated application of treatments

	Exposure to event	Frequency of exposure	Degree of impact
Responses	<input type="text"/>	<input type="text"/>	<input type="text"/>

Has your involvement in the aforementioned trauma events impacted the following:

THERAPEUTIC RELATIONSHIP SUBSCALE (Staff to patient)

Please answer each question according to its impact (yes--POSITIVE, yes--NEGATIVE or no) and the degree of impact: 1=to no degree, 2=to some degree, 3=to a moderate degree, 4= to a great degree, 5= to a very great degree.

23. My desire to work with certain types of patients

	Impacted by event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

24. My emotional availability in my work with patients

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

25. My willingness to listen to patient concerns

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

4.

26. My belief that patient change can occur

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

27. The extent to which I am willing to assume responsibility for treatment outcomes

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

Has your involvement in the aforementioned trauma events impacted the following:

THERAPEUTIC RELATIONSHIP SUBSCALE (Staff to patient)

Please answer each question according to its impact (yes or no) and the degree of impact: 1=to no degree, 2=to some degree, 3=to a moderate degree, 4= to a great degree, 5= to a very great degree.

28. The degree of effort I am willing to exert with my patients

	Impacted by the events	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

29. Experiencing anxiety with certain patients

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

30. A hostility towards certain patients

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

31. The overall quality of my patient care

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

32. Recurrent thoughts about a certain patient

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

33. I have experienced positive change in my relationship with my patients as a result of exposure to traumatic stressors.

	Positive change	Degree of change
Responses	<input type="text"/>	<input type="text"/>

5.

Has your involvement in the aforementioned trauma events affected the following:

PROFESSIONAL RELATIONSHIP SUBSCALE (Staff to staff)

Please answer each question according to its impact (yes or no) and the degree of impact: 1=to no degree, 2=to some degree, 3=to a moderate degree, 4= to a great degree, 5= to a very great degree.

34. My comfort working with team members

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

35. Satisfaction with my role as a team player

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

Has your involvement in the aforementioned trauma events affected the following:

PROFESSIONAL RELATIONSHIP SUBSCALE (Staff to staff)

Please answer each question according to its impact (yes or no) and the degree of impact: 1=to no degree, 2=to some degree, 3=to a moderate degree, 4= to a great degree, 5= to a very great degree.

36. Degree of trust in my coworkers

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

37. My willingness to approach coworkers about difficult cases

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

38. Encouragement I have to give to my coworkers

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

39. Faith in my coworker's ability to give sound advice

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

40. Time made available to discuss difficult cases

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

41. Perceived competence of my coworkers

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

6.

42. Tolerance of my coworkers shortcomings

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

43. Faith in my team

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

44. I have experienced positive change in my relationship with coworkers as a result of exposure to traumatic stressors.

	Positive change	Degree of change
Responses	<input type="text"/>	<input type="text"/>

Has your involvement in the aforementioned trauma events affected the following:

PROFESSIONAL RELATIONSHIP SUBSCALE (Self)

Please answer each question according to its impact (yes or no) and the degree of impact: 1=to no degree, 2=to some degree, 3=to a moderate degree, 4= to a great degree, 5= to a very great degree.

45. Faith in my ability to advise my coworkers

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

46. Satisfaction with my job or profession

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

47. Tolerance of strong emotional reactions

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

48. Thinking excessively about work related matters

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

49. Degree of closeness desired

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

50. Degree of anxiety experienced

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

51. Confidence in self efficacy

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

52. Confidence in the change process

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

53. Interest in being around others

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

54. Willingness to work with certain types of patients

	Impacted by the event(s)	Degree of impact
Responses	<input type="text"/>	<input type="text"/>

55. I have experienced positive change as a result of exposure to traumatic stressors.

	Positive change	Degree of change
Responses	<input type="text"/>	<input type="text"/>

Appendix E: Compassion Fatigue Self Test for Healthcare Practitioners

1. Compassion Fatigue Self-Test (40 items)

1=Rarely/Never 2=At times 3=Not Sure 4=Often 5=Very Often

Answer all Items, even if not applicable

1. I force myself to avoid certain thoughts or feelings that remind me of a frightening experience.

1 2 3 4 5

2. I find myself avoiding certain activities or situations because they remind me of a frightening experience.

1 2 3 4 5

3. I have gaps in my memory about frightening events.

1 2 3 4 5

4. I feel estranged from others.

1 2 3 4 5

5. I have difficulty falling or staying asleep.

1 2 3 4 5

6. I have outbursts of anger or irritability with little provocation.

1 2 3 4 5

7. I startle easily.

1 2 3 4 5

8. While working with a victim I thought about violence against a perpetrator.

1 2 3 4 5

9. I am a sensitive person.

1 2 3 4 5

10. I have had flashbacks connected to my patients.

1 2 3 4 5

11. I have had firsthand experience with traumatic events in my adult life.

1

2

3

4

5

2.

1=Rarely/Never 2=At times 3=Not Sure 4=Often 5=Very Often

Answer all items, even if not applicable

12. I have had firsthand experience with traumatic events in my childhood.

- 1 2 3 4 5

13. I have thought that I need to "work through" a traumatic experience in my life.

- 1 2 3 4 5

14. I have thought that I need more close friends.

- 1 2 3 4 5

15. I have thought that there is no one to talk with about highly stressful experiences.

- 1 2 3 4 5

16. I have concluded that I work too hard for my own good.

- 1 2 3 4 5

17. I am frightened of things a patient has said or done to me.

- 1 2 3 4 5

18. I experience troubling dreams similar to those of a patient of mine.

- 1 2 3 4 5

19. I have experienced intrusive thoughts of sessions with especially difficult patients.

- 1 2 3 4 5

20. I have suddenly and involuntarily recalled a frightening experience while working with a patient.

- 1 2 3 4 5

21. I am preoccupied with more than one patient.

- 1 2 3 4 5

22. I am losing sleep over a patient's traumatic experience.

1

2

3

4

5

3.

1=Rarely/Never 2=At times 3=Not Sure 4=Often 5=Very Often

Answer all items, even if not applicable

23. I have thought that I might have been "infected" by the traumatic stress of my patients.

1 2 3 4 5

24. I remind myself to be less concerned about the well being of my patients.

1 2 3 4 5

25. I have felt trapped by my work as a healthcare practitioner.

1 2 3 4 5

26. I have felt a sense of hopelessness associated with working with patients.

1 2 3 4 5

27. I have felt "on-edge" about various things and I attribute this to working with medical, surgical and/or psychiatric patients.

1 2 3 4 5

28. I have wished that I could avoid working with some patients.

1 2 3 4 5

29. I have been in danger working with medical, surgical and/or psychiatric patients.

1 2 3 4 5

30. I have felt that my patients dislike me personally.

1 2 3 4 5

ITEMS ABOUT BEING A HEALTHCARE PRACTITIONER AND YOUR WORK ENVIRONMENT

31. I have felt weak, tired, and rundown as a result of my work as a healthcare practitioner.

1 2 3 4 5

32. I have felt depressed as a result of my work as a healthcare practitioner

1

2

3

4

5

33. I am unsuccessful at separating work from my personal life.

1

2

3

4

5

Appendix F: Maslach Burnout Inventory

1. MBI-Human Services Survey (22 items)

How often: 0-6

0=Never 1=A few times or less 2=Once a month or less 3= A few times a month 4=Once a week 5=A few times a week 6=Every day

Statements....

1. I feel emotionally drained from my work.

1 2 3 4 5 6

2. I feel used up at the end of the workday.

1 2 3 4 5 6

3. I feel fatigued when I get up in the morning and have to face another day on the job.

1 2 3 4 5 6

4. I can easily understand how my patients feel about things.

1 2 3 4 5 6

5. I feel I treat some patients as if they are impersonal objects.

1 2 3 4 5 6

6. Working with people all day is really a strain for me.

1 2 3 4 5 6

7. I deal very effectively with the problems of my patients.

1 2 3 4 5 6

8. I feel burned out from my work.

1 2 3 4 5 6

9. I feel I am positively influencing other people's lives through my work.

1 2 3 4 5 6

10. I have become more callous toward people since I took this job.

1 2 3 4 5 6

11. I worry that this job is hardening me emotionally.

1

2

3

4

5

6

2.

STATEMENTS...

How often: 0-6

0=Never 1=A few times or less 2=Once a month or less 3= A few times a month 4=Once a week 5=A few times a week
6=Every day

12. I feel very energetic.

1 2 3 4 5 6

13. I feel frustrated by my job.

1 2 3 4 5 6

14. I feel I'm working too hard on my job.

1 2 3 4 5 6

15. I don't really care what happens to some of my patients.

1 2 3 4 5 6

16. Working with people directly puts too much stress on me.

1 2 3 4 5 6

17. I can easily create a relaxed atmosphere with my patients.

1 2 3 4 5 6

18. I feel exhilarated after working closely with my patients.

1 2 3 4 5 6

19. I have accomplished many worthwhile things in this job.

1 2 3 4 5 6

20. I feel like I'm at the end of my rope.

1 2 3 4 5 6

21. In my work I deal with emotional problems very calmly.

1 2 3 4 5 6

22. I feel that patients blame me for some of their problems.

1 2 3 4 5 6

Appendix G: Supervisor Support Scale

1. Professional Support Inventory for HealthCare Practitioners (15 items)

The following statements describe support behaviors received from colleagues, including supervisors and peers. Please read each statement and indicate the number that best reflects how often your colleagues have provided these behaviors to, or for you during the past six months at work.

In the past six months how often have supervisors or peers....

STATEMENTS:

How often: 1=Never 2=Less than once a month 3=One to two times a month 4=Three to four times a month 5=More than four times a month.

1. Listened while you talked about a patient or case that was upsetting to you.

1 2 3 4 5

2. Listened while you discussed the emotional impact of working with patients who have been traumatized.

1 2 3 4 5

3. Expressed appreciation for the work that you have done.

1 2 3 4 5

4. Encouraged you to express your feelings about a patient.

1 2 3 4 5

5. Responded empathically when you expressed frustration about a particular patient or work related issue.

1 2 3 4 5

6. Reassured you of your value and worth as a practitioner even when you questioned it yourself.

1 2 3 4 5

7. Helped you realize the difference between emotional reactions that were helpful to your patient and those that were not.

1 2 3 4 5

8. Provided useful suggestions on how to move forward when you felt stuck with a specific patient.

1 2 3 4 5

2.

In the past six months how often have supervisors or peers....

STATEMENTS:

How often: 1=Never 2=Less than once a month 3=One to two times a month 4=Three to four times a month 5=More than four times a month.

9. Gave you some information that helped guide your conceptualization or treatment of a patient.

- 1 2 3 4 5

10. Pointed out distortions you may have had regarding either your work with a patient or your conceptualization of a patient.

- 1 2 3 4 5

11. Reminded you to establish boundaries between you and your work.

- 1 2 3 4 5

12. Gave you the time and space to ventilate your frustrations with a patient.

- 1 2 3 4 5

13. Shared resources (e.g., conference material, books, manuals, articles) that helped better inform your work with a patient.

- 1 2 3 4 5

14. Loaned or gave you something that enabled you to perform your job more effectively (e.g., time, space, materials, supplies).

- 1 2 3 4 5

15. Been available for peer supervision or consultation when needed.

- 1 2 3 4 5

Appendix H: Department Meeting and Email Scripts

Department meeting script:

The purpose of this study is to assess the relationship between a possible personal trauma history in staff and its intersection with traumatic experiences or crises encountered by hospitalized children/adolescents undergoing treatment. The potential development of psychological distress in clinical treatment staff and administrative support staff working in these settings with these patients is of primary concern. Psychological distress can result from staff exposure to patient trauma in an acute care, hospital setting. Repeated exposure of hospital staff to the emotionally charged trauma experiences of their patients is a phenomenon with far reaching clinical implications.

This study seeks to identify the presence, magnitude and impact of psychological distress on clinical treatment staff and hospital support staff. Other areas of interest will be the risk and/or protective factors associated with relationship quality among staff and between staff and their patients.

Potential risks for hospital participants in this survey include the activation of trauma related memories through questions answered within the survey packet. The likelihood of this outcome is moderate and its seriousness could warrant a referral to counseling services which will be identified within the Invitation to Participate document. Other mild concerns may arise regarding subject information provided being linked to the respondent that could be communicated to supervisors or upper level management. Participants will be reminded of their right to confidentiality, which will be protected by the P.I. You should be aware of the fact that your participation in this project is completely voluntary and your privacy will be protected.

There may be modest benefits associated with participation in this study, such as the release of emotionally charged material. Additionally, information gathered will enhance the provision of staff support necessary to insulate against possible psychological distress such as burnout. This knowledge can be used to promote understanding and enhance the quality of life and job satisfaction experienced by hospital-based professionals.

An e-mail will be sent via the department's distribution list outlining the method of access to web based, online surveys to allow for participation in this research project.

E-mail script:

PROTOCOL #: **08-1219**

You are being invited to participate in a survey designed to provide this researcher with demographic data as well as information related to the types of trauma-related events you have experienced prior to and during your employment in The Children's Hospital. Your participation is appreciated, and this research will lead to an increased awareness of psychological distress experienced by healthcare practitioners in the hospital workplace.

This study seeks to identify the presence, magnitude and impact of psychological distress on clinical treatment staff and hospital support staff. Other areas of interest will be the risk and/or protective factors associated with relationship quality among staff and between staff and their patients.

You should be aware of the fact that your participation in this project is completely voluntary. Information gathered will remain private and will not be disclosed to supervisors or upper level management. Protection of individual respondent information is paramount.

To participate in the online survey please access the following link:

(SAMPLE) https://wwwmk.com/s.aspx?sm=C4hrAuOgoxpThk3OyVrkiQ_3d_3d

Thank you,

Randy A. Braley
Principal Investigator
braley.randy@tchden.org

Appendix I: Correlation Matrix–Demographic and Primary Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Education	1															
2. Gender (1=male;2=female)	-.26	1														
3. Marital Status (1=yes;2=no)	.09	-.14	1													
4. Inpt exper	.10	-.08	-.03	1												
5. Day tx exper	.03	-.07	.05	.19	1											
6. Outpt exper	.31	-.06	.06	.07	.28	1										
7. ER exper	.19	-.28	.00	.25	.09	.09	1									
8. OR exper	.09	-.24	.10	.13	.36	.33	.19	1								
9. L.E Score	-.19	-.03	-.14	-.02	.18	.10	.13	.12	1							
10. H.T. Score	-.05	-.06	-.10	.16	.23	.04	.19	-.01	.41	1						
11. Supervisor Support	.18	.08	-.10	.09	.13	.09	-.03	-.02	-.11	.08	1					
12. CF	-.19	.06	-.09	.10	.12	.03	.07	.02	.27	.33	.02	1				
13. MBI-EE	-.03	.04	-.08	.12	.10	.03	.13	.06	.19	.27	.05	.55	1			
14. Quality Staff/Pt Relationships	-.02	-.06	.01	.01	.15	.04	-.08	.15	-.07	-.23	.00	-.19	-.37	1		
15. Quality of Staff Relationship	-.03	-.13	-.02	-.02	.06	-.04	-.10	.04	-.01	.00	.11	-.04	-.28	.48	1	
16. Quality of Self Relationship	-.04	-.12	-.07	-.05	.17	-.05	-.08	.06	-.03	-.06	.13	-.24	-.42	.66	.70	1

$r > .12$ $p < .05$ and $r > .18$ $p < .01$