

## **SECONDARY TRAUMATIZATION IN PEDIATRIC HEALTHCARE PROVIDERS: COMPASSION FATIGUE, BURNOUT, AND SECONDARY TRAUMATIC STRESS**

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### **ABSTRACT**

The primary aim for this research was to explore the overlap and differences between the concepts related to secondary traumatization: posttraumatic stress disorder (PTSD), secondary traumatic stress (STS), compassion fatigue (CF), and burnout (BRN). A secondary aim for this research was to examine the impact of secondary traumatization and some of the personal and professional elements that affect how pediatric healthcare providers experience PTSD, STS, CF, and BRN. An online survey was sent via e-mail to numerous list serves for healthcare providers who had worked on PICU, NICU, or PEDS units within the last year. The analyses revealed that a significant overlap existed between the terms of STS, PTSD, BRN, CS, and CF for PICU, NICU, and PEDS providers. However, a hierarchical linear regression revealed a significant amount of unique contributions to the variance in CF based on each of the measured concepts. Despite previous literature that indicates that the terms STS and CF can be used interchangeably, the two most prominent measures utilized in the assessment of CF and STS are actually capturing at least some unique elements. Given these results, future researchers should examine and conceptualize the difference in etiology, prevalence, symptoms, and treatment efficacy for CF and STS as separate but related entities and then return their focus to understanding secondary traumatization in healthcare providers.

## INTRODUCTION

Pediatric and neonatal units are frequently inundated with young children and premature babies who have experienced some level of trauma that is oftentimes life threatening for the child and devastating for the family. For instance, a patient born 2 months prior to her due date may have struggled through a complicated delivery or a 3-year-old may have been admitted to the pediatric intensive care unit following a severe fall at his home that has caused his brain to swell. With the amount of time, concern, and care that healthcare providers invest in the welfare of patients, exposure to trauma is difficult to avoid, especially when caring for children.

Traumatic events can inevitably have a profound and lasting effect on everyone who is directly and indirectly involved. These occurrences are all too common, as a majority of the U.S. population will experience a trauma within their lifetime and some will experience multiple traumas first-hand (Kessler, Sonnega, Bromet, & Nelson, 1997). Healthcare providers are just one class of individuals who may experience multiple traumas, as they extend care to patients facing life-threatening conditions or who live in abusive environments. This continuous contact with a traumatized population brings to light the issue of secondary traumatization (ST; i.e., traumatization through indirect exposure to a traumatic event; Peebles-Kleiger, 2000).

Secondary traumatization has recently received attention within mental health literature (Bride, 2007; Figley, 2002a; Ortlepp & Friedman, 2002; Sabin-Farrell & Turpin, 2003; Salston & Figley, 2003) yet has only begun to be examined in other healthcare arenas (e.g., nursing, medical providers, chaplains; Meadors & Lamson, 2008; Sabo, 2006). Among the researchers who have focused on the affects of ST on healthcare providers, Sabo hypothesized that nurses who care for suffering patients may be impacted by compassion fatigue. In addition, Meadors and Lamson (2008) found that higher levels of personal stressors were positively correlated with higher levels of clinical stress among pediatric, neonatal, and pediatric intensive-care providers. With this recent focus on secondary traumatization and the concepts associated with it (e.g., secondary traumatic stress and compassion fatigue), researchers have started to recognize the influence trauma may have on mental health and medical providers.

There has been a marked increase over the past decade in the number of researchers who have focused on the operationalization of terms related to secondary traumatization (Abendroth & Flannery, 2006; Brosche, 2003; Collins & Long, 2003b; Figley, 2002b; Maytum, Heiman, & Garwick, 2004; Pfifferling & Gilley, 2000; Sabo, 2006; Schwam, 1998). However, with this recent influx of trauma-related literature, many of the cited researchers have begun to merge terms associated with secondary trauma, which has opened up room for conceptual confusion. Specifically, descriptions and use of the terms associated with ST (e.g., compassion fatigue, secondary traumatic stress, vicarious traumatization,

and burnout; Jenkins & Baird, 2002) have deviated from the initial definitions over time without adequate justification for such changes (Bride, 2007; Figley, 1995, 2002a; Jenkins & Baird, 2002). Many of the terms that are most commonly used to describe the impact of secondary traumatization have been used interchangeably (i.e., secondary traumatic stress and compassion fatigue), when in fact they may be phenomenologically different. No known studies have been published whereby researchers have attempted to review the conceptual confusion within the trauma literature or differentiate between the terms associated with secondary traumatization. Thus, the referenced concepts and analysis related to secondary traumatization within this article are based on the limited available assessment measures that have been developed by previous authors (e.g., PTSD measured by Weiss & Marmar, 1997; STS measured by Bride, Robinson, Yegidis, & Figley, 2004; CF, CS, and BRN measured by Stamm, 2002).

The aims of this research were twofold. The first aim was to explore the overlap and differences between the terms related to secondary traumatization of posttraumatic stress disorder (PTSD), secondary traumatic stress (STS), compassion fatigue (CF), and burnout (BRN). A secondary aim was to examine the impact of secondary traumatization and some of the personal and professional elements that influence how pediatric healthcare providers experience PTSD, STS, CF, and BRN. The following research questions were examined:

*Primary Aim:*

1. How do the concepts of PTSD, STS, CF and BRN differ?
2. Are burnout symptoms correlated to higher symptom levels of STS and/or CF?

*Secondary Aim:*

1. Which of these trauma-related issues are most prevalent in pediatric healthcare providers?
2. Do individuals within different disciplines suffer more from PTSD, STS, CF, and/or BRN?
3. Are hours of direct patient care correlated to higher levels of PTSD, STS, BRN and/or CF?
4. Are demographic factors, experiences with trauma, STS, PTSD, or BRN predictive of higher levels of CF?

## LITERATURE REVIEW

Most intensive care units (ICU) are incredibly stressful work environments due to the increased usage of complex technology and the persistent challenges associated with the care for those who are severely ill (Hurst, 2005). Personnel in the ICU have to remain focused on the personal, individualized, and human character of providing care for their patients while managing a growing technological environment (Wilkin & Slevin, 2004) and increased likelihood of treating

patients with chronic conditions. When working with children who have chronic or acute conditions within a pediatric unit or a pediatric/neonatal intensive care unit, it seems that managing the stressful environment may be even more complex for the providers given the size and age of the patient. Maytum et al. (2004) identified multiple personal and work-related triggers associated with caring for children within the ICU (i.e., seeing too many painful procedures, too much sadness, too much death, becoming overly involved, and crossing boundaries). Thus, losing a child is devastating and an extremely tragic event for everyone that is directly and indirectly involved with the patient, including the healthcare providers (Knapp & Mulligan-Smith, 2005). Suppressing the feelings associated with the trauma or death of a patient can take a heavy toll, both personally and professionally (Brosche, 2003). Despite the opportunity for unhealthy or damaging provider and patient outcomes, very little research has been conducted on medical providers' experience with patients who have suffered trauma.

### Prevalence

Close to 7% of professionals who work with traumatized individuals exhibit emotional reactions that are similar to symptoms of post-traumatic stress disorder (PTSD) (Thomas & Wilson, 2004). According to the American Psychological Association (APA; 2002), these symptoms are grouped under three categories: re-experiencing the traumatic event; increased arousal; and persistent avoidance and numbing of general thoughts associated with the trauma related stimuli. Thomas and Wilson acknowledged that secondary traumatic stress (STS) (i.e., stress response almost identical to PTSD symptoms, except that the trauma was experienced indirectly by hearing about or knowing about a traumatic event (Figley, 1995)) is also a significant issue for healthcare providers (e.g., nurses, social workers, and physicians), even though there is a lack of empirical evidence to support this notion.

While only a few researchers (Abendroth & Flannery, 2006; Collins & Long, 2003a) have published on healthcare providers' experience with STS or the prevalence of compassion fatigue (CF; i.e., consequence of working with a significant number of traumatized individuals in combination with a strong empathic orientation (Figley, 1995)), healthcare providers seemingly have a higher rate of exposure to traumatized individuals than the general population, which could lead to higher levels of secondary trauma response symptoms. As evidenced via research linking compassion fatigue with healthcare providers (Clark & Gioro, 1998; Maytum et al., 2004; Peebles-Kleiger, 2000; Pfifferling & Gilley, 2000; Sabo, 2006; Schwam, 1998; White, 2006; Worley, 2005; Wright, 2004), CF and STS seem to be extremely pertinent issues affecting a wide variety of professions within healthcare. Before addressing the issues related to secondary traumatization within healthcare, it is important to distinguish this process from primary traumatization.

### Primary/Secondary Traumatization

Most of the concepts in this literature review focus on the symptomatology and reactions of the exposure to a traumatic event, whereas traumatization actually focuses on the process and origin of developing these symptoms. Primary traumatization (Table 1) is the process that can occur from having direct contact with a traumatic event (Peebles-Kleiger, 2000). Persistent, intense, and direct exposure to trauma may be indicative of increased rates of primary traumatization as many war veterans, sexual abuse victims, emergency care personnel, and domestic violence victims have been found to suffer from primary traumatization (Mendenhall, 2006; National Center for PTSD, 2006). The direct contact with a

**Table 1. Comparative Definitions of Concepts**

<b>Term</b>	<b>Definition</b>
<b>Primary Traumatization</b>	Primary traumatization is the process that can occur from having direct contact with a traumatic event (Peebles-Kleiger, 2000).
<b>Secondary Traumatization</b>	Secondary traumatization (ST), via an indirect exposure, may develop from hearing about a traumatic event or caring for someone who has experienced such an event (Peebles-Kleiger, 2000).
<b>Burnout</b>	Burnout is a "defensive response to prolonged occupational exposure to demanding interpersonal situations that produce psychological strain and provide inadequate support" (Jenkins & Baird, 2002, p. 424).
<b>Compassion Fatigue</b>	The consequence of working with a significant number of traumatized individuals in combination with a strong empathic orientation (Figley, 1995) or a formal caregiver's reduced capacity and interest in being empathetic for a suffering individual (Adams, Boscarino, & Figley, 2006).
<b>Secondary Traumatic Stress</b>	The distress and emotional disruption connected to an encounter with an individual who has experienced a primary traumatization (Bride, 2007).
<b>Post-Traumatic Stress Disorder</b>	A psychological disorder associated with a stress response from directly experiencing a traumatic event (APA, 2002).
<b>Compassion Satisfaction</b>	Satisfaction with work by helping others (Stamm, 2002).

traumatic event (i.e., an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others (APA, 2002)) can cause an intense emotional reaction. However, not everyone who has experienced a trauma becomes traumatized. Symptoms of secondary traumatization have been noted to be similar to that of primary traumatization (Bride et al., 2004), however the process of secondary traumatization involves indirect exposure to trauma.

Secondary traumatization (ST; Table 1), via indirect exposure, may develop from hearing about a traumatic event or caring for someone who has experienced such an event (Peebles-Kleiger, 2000). While there is the potential for many healthcare professionals to be indirectly exposed to traumatic events and suffer from ST, researchers have primarily focused on mental health providers who have worked with traumatized clients (Bride, 2007; Ortlepp & Friedman, 2002; Sabin-Farrell & Turpin, 2003; Salston & Figley, 2003). Bride found that many mental health providers, specifically social workers, developed symptoms similar to post-traumatic stress disorder via a secondary trauma experience. Abendroth and Flannery (2006) were able to establish that ST was also a significant issue for hospice nurses. Peebles-Kleiger (2000) suggested that ST is more likely if the health professional does not have adaptive strategies in place to process his or her own feelings. In order to better understand the possible outcomes from provider exposure to primary or secondary traumatization, post-traumatic stress disorder will be explored along with common symptoms of this diagnosis.

### **Post-Traumatic Stress Disorder**

Post-traumatic stress disorder is a psychological disorder associated with a stress response from directly experiencing a traumatic event (APA, 2002). Those who suffer from PTSD usually exhibit symptoms of hyperarousal (i.e., difficulty falling or staying asleep, irritability or anger, difficulty concentrating), avoidance (i.e., efforts to avoid thoughts, feelings, or conversations about the trauma, avoid activities, place, or people that arouse recollections, inability to recall important aspects of the trauma), and intrusion (i.e., distressing recollections, distressing dreams, feeling as if the event is recurring, psychological distress to triggers; APA, 2002). These three categories of symptoms have recently been considered to be identical to the symptoms of secondary traumatic stress (Bride, 2007; Bride et al., 2004), though there is seemingly very little empirical research to support this claim. The distinct difference between PTSD symptoms and STS symptoms stems from whether the traumatic event was experienced directly or indirectly, respectively (Figley, 1995).

### **Secondary Traumatic Stress**

Secondary traumatic stress refers to the distress and emotional disruption associated with continued contact with individuals who have experienced a

primary traumatization (Bride, 2007). Secondary traumatic stress (STS) is defined by Figley (1995) as the “natural consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by a significant other” (p. 7). Some researchers have theorized that individuals who have endured secondary traumatization may experience some of the same symptoms (nightmares, anxiety, heightened startle response, etc.) as those who were primarily traumatized (Becvar, 2003; Bride 2007). Furthermore, Bride has suggested that an individual who indirectly experienced a trauma may exhibit symptoms of arousal, intrusion, and avoidance similar to what was previously associated with PTSD. Despite researchers conceptualizing STS as PTSD-like symptoms (Bride et al., 2004; Figley, 1995, 2002a), very little empirical research supports this theory. Despite the paucity of research to support this, it may be that many healthcare providers have some of these proposed symptoms of STS due to their work with traumatized patients.

It is likely that many healthcare providers who have cared for traumatized patients have struggled with STS at some point in their career. Sometimes healthcare providers are forced to overcome symptoms related to trauma, given real or pseudo beliefs about healthcare provider’s ability to go from patient to patient with little or no emotional connection (Clark & Gioro, 1998). Collins and Long (2003a) found that professionals who do not recognize and/or cope with their symptoms of secondary traumatic stress are sometimes challenged in their ability to provide effective services and maintain positive personal and professional relationships in their work contexts. While STS may account for some of the providers’ responses to trauma, compassion fatigue (often described as STS; Figley, 1995, 2002a), may result in completely different symptoms experienced by health care providers.

### Compassion Fatigue

Compassion fatigue was first introduced by Joinson (1992) in reference to nurses who were “burning out” due to the everyday rigors of their duties in the emergency room. While Figley (1995) has indicated that compassion fatigue and secondary traumatic stress may be used interchangeably, he has also described compassion fatigue as a “friendlier term” for professionals who suffered from STS (p. 14). Figley has suggested that compassion fatigue is the consequence of working with a significant number of traumatized individuals in combination with a strong empathic orientation (Figley, 1995) or a formal caregiver’s reduced capacity and interest in being empathetic for a suffering individual (Adams, Boscarino, & Figley, 2006). In more recent CF literature, White (2006) suggested a phenomenological distinction between STS and compassion fatigue, with STS described as the presence of PTSD like symptoms and compassion fatigue defined as a result of exposure to trauma combined with empathy for patients. Given the definitions of CF and STS, it remains unknown whether symptoms of



compassion fatigue are identical to STS, especially since Figley (2002a) believed that the role of empathy was essential in the conceptualization of both STS and CF.

One of the primary differences between STS and compassion fatigue exists in the name of the different concepts. By including compassion as a part of the name for CF, the term begins to take on a different connotation than STS. Compassion as defined by the Webster's Online Dictionary (2007) is "a deep awareness of and sympathy for another's suffering and wanting to do something about it." The definition for STS does not include empathy as a part of the description nor does it require the desire to help a person who has been traumatized. Therefore, it may be possible to suffer from STS by merely hearing about or knowing about a traumatic event without suffering from compassion fatigue. This may be especially true in the context of healthcare, where access to stories of trauma is seemingly abundant.

Healthcare providers are expected to care for multiple patients and often the death of one patient may be followed by another demanding or traumatized patient. Sabo (2006) suggested that nurses suffer from compassion fatigue due to their consistent care for traumatized patients who are in pain and are suffering. For instance, within the pediatric intensive care unit, a provider may care for a patient struggling with an infection from 3rd degree burns followed by caring for a child abuse victim that exhibits signs of shaken baby syndrome. Seemingly, consistent prolonged exposure to traumatized populations creates a cumulative effect for the providers with little time to grieve the first patient that was lost or traumatized before entering into the next situation. In an attempt to compensate for this lack of time, physicians and other medical professionals multitask and thereby decrease the perceived need for utilization of coping mechanisms that would allow them to overcome symptoms of compassion fatigue (Pffifferling & Gilley, 2000).

## **Burnout**

Burnout (BRN) has been found to overlap with the previously discussed concepts of CF and STS (Baird & Kracen, 2006; Figley, 2002b; Jenkins & Baird, 2002). "Burnout has been conceptualized as a defensive response to prolonged occupational exposure to demanding interpersonal situations that produce psychological strain and provide inadequate support" (Jenkins & Baird, 2002, p. 424). Exposure to trauma is often considered a part of the daily rigors within an occupation, hence the potential correlation between terms of CF, STS, and burnout (Jenkins & Baird, 2002). Someone who is experiencing burnout may have psychophysiological arousal symptoms (e.g., sleep disturbance, aggression, irritability) and also exhibit mental and physical exhaustion. This may result in lack of productivity and increased problems in work relationships (Valent, 2002). However, unlike STS and CF, much of the mental strain from burnout has been found to be organizationally related (administration, supervision, paperwork,



details, etc.) rather than operationally related (dealing with victims, danger, trauma; Brief & Weiss, 2002). Valent (2002) indicated that burnout is the result of frustration and an inability to achieve work goals and usually stems from either work stressors or management pressures and constraints.

Burnout has been a widely researched concept, especially within the nursing arena of healthcare (Bartz & Maloney, 1986; Beaver, Sharp, & Contronis, 1986; Constable & Russell, 1986; Yasko, 1983). There are also some researchers who have investigated buffering factors that may prevent burnout in some nurses (Rich & Rich, 1987; Topf, 1989; Yasko, 1983). Maytum et al. (2004) has highlighted many of the personal (i.e., self-care activities, sense of humor, personal philosophy of nursing care, supportive relationships) and professional (i.e., time away from work, debriefing informally with colleagues, attending in-service trainings, developing awareness of personal triggers) coping strategies that nurses have employed to deal with burnout related symptoms. Interestingly, even though burnout is one of the most researched terms in nursing care, very little attention has focused on the effects of STS and compassion fatigue or the implications of burnout on other healthcare providers. More specifically, very few known quantitative studies have focused on the implication of STS and CF for healthcare providers (Abendroth & Flannery, 2006; Collins & Long, 2003a), thus, leading to the significance and purpose for this study.

### **Significance of Study**

The review of the past literature highlighted the apparent need for more quantitative studies that substantiate many of the concerns raised in previous research regarding secondary traumatization in healthcare providers. This will be the first “known” quantitative study that will attempt to differentiate between the concepts of STS and CF as measured by the Secondary Traumatic Stress Scale (STS; Bride et al., 2004), The Professional Quality of Life Scale (CF and BRN; Stamm, 2002), and the Impact of Events Scale-Revised (PTSD; Weiss & Marmar, 1997). This study is also a continuation of a previous research study that focused on pediatric healthcare providers (Meadors & Lamson, 2008). In addition to providing support for the critical issues related to secondary traumatization among pediatric healthcare providers, specific risk factors are highlighted that specifically pertain to the rigors of working as a healthcare professional within the NICU, PICU, or PEDS units. Finally, we have worked to further the conceptual clarity between trauma related terms such as STS, CF, and BRN.

### **Purpose**

The purpose for this research was twofold:

1. to explore the overlap and differences between the terms related to ST: posttraumatic stress disorder (PTSD), secondary traumatic stress (STS), compassion fatigue (CF), and burnout (BRN); and
2. to examine the impact of secondary traumatization and some of the personal and professional elements that affect pediatric healthcare providers experience with PTSD, STS, CF, and BRN.

In order to provide more conceptual clarity and address the research questions listed above, an online questionnaire was developed from existing measures in order to assess for the presence of PTSD, STS, CF, and BRN.

## METHOD

Based on numerous factors (i.e., sample size, measures), a correlational design was chosen to represent the relationships between the terms associated with secondary traumatization. In addition, a hierarchical linear regression analysis was chosen to provide insight on the predictive nature of STS, BRN, and PTSD variables with compassion fatigue.

### Participants

The participants ( $N = 167$ ) consisted of providers, located nationwide and currently employed by a pediatric intensive care unit (PICU), neonatal intensive care unit (NICU), and/or pediatric unit (PEDS) or have been employed in one of these units within the last year. The participant pool was predominantly female ( $n = 137$ ) with a small number of males completing the questionnaire ( $n = 24$ ). The sample consisted of primarily white participants, 89% ( $n = 143$ ), with five African American participants and five Hispanics participants (3% each). Close to 51% of the participants had been employed in a PEDS unit, 45% in a PICU, and 40% in a NICU. Some of the providers had experience working on more than one of these hospital units within the last year. More specifically, we targeted healthcare professionals who were enrolled in national and professional listservs of their respective professions and worked within the PICU, PEDS, or NICU departments. The response rate for the respondents remains uncertain as the initial e-mail invitation was sent to an indeterminate number of potential respondents through the professional listservs. Various professionals responded to the e-mail invitation: physicians ( $n = 21$ ), nurses ( $n = 23$ ), chaplains ( $n = 22$ ), child life specialists ( $n = 87$ ), and other medical and mental health staff ( $n = 8$ ), or unknown ( $n = 6$ ). On average, providers had worked on their unit for 6-10 years. Most of the participants had directly cared for one to ten patients within the last month ( $n = 81$ ) for an average of 4 to 6 hours per day ( $n = 69$ ). In addition to these demographics, we assessed for specific trauma experiences and exposure to secondary traumatization via symptoms related to STS, CF, BRN, and PTSD.

## Quantitative Measures

The questionnaire for this study began with a demographic component that provided some preliminary data for comparisons between groups (e.g., race, sex, profession). There were five questions in the survey related to the type of traumatizing events that participants have experienced (e.g., When was the last time that you were involved with a pediatric or neonatal patient death?; When have you directly cared for a patient who was traumatized?; How many traumatized patients have you cared for in the past month?; How many hours of direct patient care do you have in a typical day?; What is the acuity level of the patients that you directly care for?).

The specific questions described above allowed us to assess the likelihood of a traumatic event, extent of contact with traumatized patients, and how long ago the traumatic event occurred. There were three measures that were included as part of the study: Secondary Traumatic Stress Scale (STS; Bride et al., 2004), The Professional Quality of Life Scale (CF and BRN; Stamm, 2002), and the Impact of Events Scale-Revised (PTSD; Weiss & Marmar, 1997). These measures allowed the researchers to attempt to differentiate between the concepts post-traumatic stress disorder, secondary traumatic stress, compassion fatigue, and burnout, a primary aim of this study. In addition, the measures provided exploratory data on the manifestation of these trauma-related symptoms within pediatric healthcare providers.

### *Secondary Traumatic Stress Scale*

Bride et al. (2004) designed the secondary traumatic stress scale (STSS) to capture STS symptoms that are congruent with PTSD symptomatology. This measure has 17 questions with answers on a 5-point Likert-type scale that corresponds with one of three subscales (avoidance, arousal, and intrusion) and mirrors the symptom categories for PTSD (Table 1). The range of answers were scaled from 1 (Never) to 5 (Very Often). The STSS measure was created to explore the frequency of symptoms experienced when working with traumatized populations with a specific focus on the last 7 days prior to completing the survey. Each of the items in the questionnaire is linked to one of the PTSD symptoms designated in the DSM-IV TR.

The reliability of the measure was strong as indicated by an alpha of .93 for the overall measure (Bride et al., 2004). Each subscale also had good alphas: intrusion = .80, avoidance = .87, and arousal = .83 (Bride et al., 2004). For this study, the alpha for the overall measure was .91 which was similar to the original report. The subscale alphas for this study were somewhat lower than Bride et al.'s original report: intrusion = .71, avoidance = .84, and arousal = .79. While this measure is relatively new, multiple researchers have used this measure with a variety of mental health professions (e.g., social workers, therapists working

with criminal victims) and have found similar reliability alphas with these populations (Bride, 2007; Salston & Figley, 2003).

#### *The Professional Quality of Life Scale*

The Professional Quality of Life Scale (Pro-QL) was derived from the Compassion Satisfaction/Fatigue Self Test (Stamm, 2002). Due to psychometric problems with the latter assessment (Figley & Stamm, 1996) significant changes were required, which resulted in the more reputable Pro-QL. This measure is comprised of 30 items rated on a 6-point Likert-type scale about thoughts, feelings, and behaviors related to work. The range of answers in this measure were from 0 (Never) to 6 (Very Often). There are three subscales within this measure that focus on burnout, compassion fatigue, and compassion satisfaction (pleasure derived from work). The alphas for the subscales are: compassion satisfaction = .87, burnout = .72, and compassion fatigue = .80 (Stamm, 2002). These alphas are stronger than those from the longer, original version of this questionnaire. The alphas for the present study were: compassion satisfaction = .91, burnout = .66, and compassion fatigue = .81. These alphas were congruent with previous studies, with burnout having a slightly lower reliability estimate. While Stamm did not recommend cutoff scores associated with the total scores, he recommended that the bottom 25% be considered those at low risk, the middle 50% to have moderate risk, and the top 25% to be high risk.

This measure was validated through assessing social workers and mental health workers who have cared for trauma patients (Stamm, 2002). Using their own data with social workers ( $n = 400$ ), the following distributions were noted: compassion satisfaction was considered to be low and within the bottom 25% if the score was lower than 33, compassion satisfaction was considered to be moderate if the score was between 33-42 (middle 50%), and compassion satisfaction was high if the participants score was higher than 42 (top 25%). The risk for burnout was considered to be low if the participant scored less than 18 (bottom 25%), moderate risk if the score was between 18-27 (middle 50%), and the risk for burnout was considered high if the participant scored higher than a 27 (top 25%). Risk for compassion fatigue was considered to be low if the participants scored less than eight (bottom 25%), moderate risk for compassion fatigue if the score was 8-17 (middle 50%), and high risk if the score was higher than 17 (top 25%).

#### *The Impact of Event Scale*

The Impact of Event Scale (Weiss & Marmar, 1997) was developed to assess three of the four criteria for PTSD (intrusion, avoidance, and hyperarousal). This measure has 22 items on a 5-point Likert-type scale and the respondents were asked to rate each item on its relevance over the last 7 days. Answers on this measure range from 0 (Not at all) to 4 (Extremely).

This particular measure differed from Bride et al.'s (2004) STSS measure, with a focus on primary traumatization and current level of distress (i.e., the participant indicates how distressing each difficulty has been during the last 7 days). The reliability alphas have ranged between .87-.92 for the intrusion subscale, .84-.86 for the avoidance subscale, and .79-.90 for the hyperarousal subscale as indicated in one study (Briere, 1997). The reliability alphas for each of the subscales for the present study were: intrusion = .85, avoidance = .84, and arousal = .79. These alphas were congruent with previous studies.

### **Data Collection and Procedures**

The participants were recruited via an e-mail posted to national and professional listserves for pediatric providers (e.g., child life specialists, nurses, chaplains, and physicians). Those who agreed to participate voluntarily completed the informed consent and questionnaires by clicking on the link provided in an e-mail from the researchers. The protocol for the informed consent and questionnaire were reviewed by the East Carolina University Institutional Review Board (IRB). The questionnaire included three measures (i.e., The Secondary Traumatic Stress Scale (STSS; Bride et al., 2004); The Professional Quality of Life (ProQL; Stamm, 2002); The Impact of Events Scale (IES; Weiss & Marmar, 1997)), a demographic component and five questions related to the provider's experience working with traumatized children. The questionnaire was transferred to an online format through Survey Monkey, an online software program that assisted in the readability, organization, and mass distribution of research surveys. The approval for reproduction of all copyrighted questionnaires was obtained by the primary authors of the measures prior to distributing the questionnaire via Survey Monkey. The questionnaires were placed online and an e-mail introducing the purpose of the study was sent to all pediatric healthcare providers. Within this e-mail, the participants were given a short summary regarding the purpose for the study and asked to complete the questionnaire. There was a hyperlink to the online survey that was created through Survey Monkey. All participants completed the questionnaire within 2 months of the initial e-mail. A follow-up e-mail was sent 2 weeks after the initial distribution. Once the questionnaires were completed, the data was exported from the online database in Survey Monkey to a spreadsheet in Excel. The variables were cleaned and prepped for transfer to SPSS. The data file was then exported to a SPSS database and analyzed.

## **RESULTS**

In order to gain greater insight into the primary and secondary aims of this study, the experience of the participants was explored. Participants reported a wide variety of experiences with pediatric loss and traumatized patients. Most of the participants had experienced the loss of a patient within the last month (34%), while other participants had experienced the loss of a patient within the

last 7 days (27%) or within the last 6 months (29%). More than half of the participants had cared for a traumatized patient within the last 7 days (53%) and 27% of the participants had cared for a traumatized patient within the last month. Most of the participants had cared for 1-10 patients within the last month (53%) while 20% had cared for between 11-20 patients. Sixty-five percent of the participants had between 4 and 10 hours of direct patient care in a typical workday while 20% of the participants had more than 10 hours of direct patient care in a workday. Finally, most of the participants had a mixture of acute (i.e., life threatening, car accident) and chronic conditions (i.e., breathing difficulties, chronic heart conditions, low immune systems) in their patients (60%), and only 24% had primarily acute medical concerns.

In the following section, the two components related to the primary aim— a) how PTSD, STS, CF, and BRN differ; and b) the correlation between burnout symptoms and the symptom of STS and/or CF—will be addressed. In addition, analyses from the components within the secondary aim— a) prevalence of traumatization among pediatric providers; b) likelihood of suffering from PTSD, STS, CF, and/or BRN among the disciplines; c) hours of direct patient care correlated with higher levels of PTSD, STS, CF, and BRN; and d) whether demographic factors, experiences with trauma, STS, PTSD, or BRN are predictive of higher levels of CF—will be described.

## **Primary Aim**

### *Correlations—Conceptual Overlap*

The relationship between post traumatic stress disorder (as measured by the Impact of Events Scale) and secondary traumatic stress (as measured by the STSS), and compassion fatigue, burnout, and compassion satisfaction (as measured by the ProQL) were investigated using Pearson correlations. These results are presented in Table 2. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity.

The Secondary Traumatic Stress subscales of intrusion, avoidance, and arousal scale were most strongly correlated with the compassion fatigue subscale of the ProQL ( $r(142) = .74, .72, .69$ , respectively,  $p < .01$ ). Interestingly, the subscale of burnout (as measured by the ProQL) was also correlated with the compassion fatigue subscale (as measured by the ProQL;  $r(142) = .56, p < .01$ ) and the compassion fatigue subscale was strongly correlated with PTSD (as measured by the IES;  $r(142) = .72, p < .01$ ). These correlations suggest that these concepts have significant overlap and positive relationships (i.e., as STS symptoms increase, CF symptoms increase).

### *Compassion Satisfaction—Conceptual Difference*

A two-way between-groups analysis of variance was conducted to explore the impact of compassion satisfaction on levels of STS (measured by the STSS),

Table 2. Pearson Correlations for Concepts Measured by STSS, Pro-QL, and IES

	STSS	CF	CS	BRN	PTSD
STSS	1.00				
CF	.79**	1.00			
CS	-.34**	-.20*	1.00		
BRN	.63**	.56**	-.55**	1.00	
PTSD	.69**	.72**	-.20*	.48**	1.00

\*Significant at the .05 level (two-tailed test).

\*\*Significant at the .01 level (two-tailed test).

CF (measured by the ProQL), BRN (measured by the ProQL), and PTSD (measured by the IES). Participants were divided into two groups according to their cutoff scores of compassion satisfaction (Group 1: low/moderate CS; Group 2: high satisfaction). The participants in the high CS category had significantly lower STS and BRN than the low/moderate level of CS,  $F(1, 140) = 5.44$ ,  $p = .02$  and  $F(1, 140) = 23.46$ ,  $p < .001$ , respectively. The trend is similar for CF (as measured by the ProQL) and PTSD (as measured by the IES), however the differences were not significant. This was the first indication that the CF subscale and the STSS scale were measuring something unique, if the two concepts were identical, you would expect to have similar results for CF and STS that indicate redundancy.

#### *Partialling Out Burnout—Unique Contributions to CF*

Additional correlational analyses were used to further establish the uniqueness of each of the measured concepts. The correlation between CF (as measured by ProQL) and STSS was  $r(142) = .789$ ,  $p < .01$ . Furthermore,  $r^2 = 62.3\%$ , which suggests that a large proportion of the variance in CF was accounted for by STSS. The correlation between CF and BRN was  $r(142) = .564$ ,  $p < .01$  and  $r^2 = 31.8\%$  which means that a sizeable portion of the variance in CF was accounted for by BRN. The correlation of STS and BRN was  $r(142) = .638$ ,  $p < .01$ . In addition,  $r^2 = 40.7\%$  represented the variance in STS accounted for by BRN, suggesting a stronger relationship between BRN and STS than BRN and CF. We controlled for the effect that BRN would have on the correlation with CF and STS,  $r(142) = .675$ ,  $p < .01$  and found that the amount of unique variance that STS accounted for in CF dropped to  $r^2 = 45.6\%$ . The correlation between CF and BRN dropped to  $r(142) = .39$ ,  $p < .01$  and the unique variance in CF that was accounted for by BRN was  $r^2 = 15.2\%$ . This left 39.2% of the variance



unexplained in CF. A hierarchical regression became an essential next step in understanding the unique contributions to CF with regard to each of the measured concepts.

## Secondary Aim

### *Hierarchical Regression Analysis—Predictive Factors for CF*

A hierarchical linear regression analysis was chosen to test the predictive validity for compassion satisfaction, burnout, posttraumatic stress disorder, and secondary traumatic stress on the variance in compassion fatigue. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. A summary of the hierarchical regression is presented in Table 3. Compassion satisfaction was entered at step 1, and explained a significant proportion of variance in compassion fatigue,  $R^2 = .04$ ,  $F(1, 142) = 5.69$ ,  $p = .18$ , explaining 3.9% of the variance in compassion fatigue. Burnout was entered into the model at step 2 and accounted for a significant proportion of the variance in compassion fatigue,  $R^2 = .33$ ,  $F(1, 141) = 60.99$ ,  $p < .001$ . The total variance explained by the model as a whole was 32.9%, thus burnout explained 29% of the variance. At step 3, PTSD was entered into the model  $R^2 = .59$ ,  $F(1, 140) = 86.50$ ,  $p < .001$ . The total model comprised of CS, BRN, and PTSD explained 58.5% of the variance, thus PTSD had the unique contribution of an additional 25.6% of the variance. At the last step, STSS was added to the model,  $R^2 = .70$ ,  $F(1, 139) = 53.05$ ,  $p < .001$ . The total model explained 70% of the variance in compassion fatigue when all four measures were included. This means that STSS (secondary traumatic stress) explained an additional 11.5% of the variance in compassion fatigue, when the effects of CS, BRN, and PTSD were controlled for statistically. All of the independent variables made a statistically significant contribution to the model. In order of importance, STS (beta = .54) made the strongest contribution, followed

Table 3. Summary of Hierarchical Linear Regression Predicting Change in Compassion Fatigue

	B	SE B	$\beta$	$t$	$p$
CS	.12	.05	.12	2.20	.03
BRN	.14	.07	.14	2.04	.04
PTSD	.19	.04	.31	4.74	< .001
STS	.31	.04	.54	7.28	< .001

\*Significant at the .05 level (two-tailed test).

\*\*Significant at the .01 level (two-tailed test).

by PTSD (beta = .31), with BRN (beta = .14) and CS (beta = .12) making the smallest contribution. These beta values represent the unique contribution of each variable, when the overlapping effects of all other variables were statistically removed.

None of the demographics or experience questions were predictive of compassion fatigue, including hours of patient care, number of traumatized patients, or when the participant suffered their last patient death.

#### *Professions and CF/STS*

For the total group, the shared variance between CF and STS was  $r(142) = .79$ ,  $p < .01$ , or  $r^2 = 63\%$ , while the shared variance between CF and PTSD was  $r(142) = .72$ ,  $p < .01$ , or  $r^2 = 52\%$ . This finding suggests that there may be substantial unexplained variance between the relationship between STS/CF and PTSD/CF. Further analyses were administered with Spearman's rho correlations due to small samples sizes within each profession. These analyses found that chaplains accounted for the least amount of variance between CF and STSS,  $r(18) = .69$ ,  $p < .01$  or  $r^2 = 47\%$ , while physicians accounted for the most variance between CF and STSS  $r(17) = .883$ ,  $p < .01$  or  $r^2 = 78\%$ . In addition, the child life specialists accounted for the least amount of variance between PTSD and CF,  $r(74) = .568$ ,  $p < .01$  or  $r^2 = 32\%$  and chaplains accounted for most of the variance between PTSD and CF,  $r(18) = .847$ ,  $p < .01$  or  $r^2 = 72\%$ . In other words, chaplains who reportedly suffered from PTSD were also more likely to report higher levels of compassion fatigue, which resulted in the strong positive correlation between these variables.

Compassion fatigue and burnout only had a moderate correlation,  $r(148) = .587$ ,  $p < .01$  or  $r^2 = 34\%$  of shared variance. Further analyses with Spearman rho correlations suggested that nurses and physicians had the strongest associations between CF and burnout ( $r(20) = .709$ ,  $p < .01$ ;  $r(18) = .828$ ,  $p < .01$ ) or  $r^2 = 50\%$  and  $r^2 = 69\%$  shared variance, respectively. As a result, those nurses and physicians who suffered from higher levels of burnout were also more likely to report higher levels of compassion fatigue. In addition, only 1.2% of the participants suffered from high burnout scores, according to the cutoffs suggested by Stamm (2002). Approximately 76% actually scored low on the burnout subscale. Only 7.3% of the sample suffered from high compassion fatigue scores, whereas 43% scored in the low risk category for compassion fatigue.

Cross-tabulations were conducted, and interestingly 72% of the chaplains reported a moderate to high prevalence of CF, whereas nurses, physicians, and child-life specialists had an even distribution between low, moderate, and high levels of compassion fatigue. The means and standard deviations are presented in Table 4. None of these differences were found to be significantly different due to the small samples sizes of each of the professions. When the participant had experienced a loss within the last month, 82% of chaplains had moderate to high

Table 4. Means and Standard Deviations for Measured Concepts within Each Professional Group

	<i>alpha</i>	Nurse		Physician		Child Life Specialist		Chaplain	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Secondary Traumatic Stress	.45	34.23	9.98	30.10	12.01	31.22	9.51	33.14	7.63
Compassion Satisfaction	.07	38.23	8.22	40.90	6.56	42.18	6.35	39.81	5.39
Burnout	.66	14.82	4.33	13.65	5.93	14.42	5.90	12.95	5.45
Compassion Fatigue	.94	9.05	5.72	9.85	7.69	9.46	5.39	10.10	5.50
PTSD	.98	11.32	9.91	10.11	13.41	11.03	8.82	10.85	8.44

levels of compassion fatigue. Physicians (62.5%) and child-life specialists (61.5%) were also found to have moderate to high levels of compassion fatigue if they experienced a patient loss within the last month. The sample size did not allow for analysis for within groups analyses for those who experienced a loss within the last 7 days. Chi-square analyses were conducted to see if the different professions suffered more from CF, STS, and BRN if they had experienced a loss within the last 7 days, but this analysis did not reveal any significant results between these groups. Physicians were found to have the highest association between burnout and a recent patient death. All of the professions seemed to show a reduction of CF and burnout symptoms when more time has passed since the loss of a patient. The following section will detail the links between current findings and the past literature, describe the limitations of the study, and highlight opportunities for future research.

## DISCUSSION

Although literature on secondary traumatization has increased throughout the past decade (Abendroth & Flannery, 2006; Brosche, 2003; Collins & Long, 2003b; Figley, 2002b; Maytum et al., 2004; Pfifferling & Gilley, 2000; Sabo, 2006; Salston & Figley, 2003; Schwam, 1998), very little empirical evidence has been found that measures CF and/or STS quantitatively within healthcare providers (Abendroth & Flannery, 2006; Collins & Long, 2003a; Jenkins & Baird, 2002), and none of the studies have focused on NICU, PICU, and PEDS providers. In addition, no known research has focused on the differentiation between the terms of STS and CF or investigated the overlap between the two. The purpose and primary aim of this study was to explore the overlap and differences between the terms related to secondary traumatization within pediatric healthcare providers (i.e., posttraumatic stress disorder (PTSD), secondary traumatic stress (STS), compassion fatigue (CF), and burnout (BRN)) as measured by the Impact of Events Scale, the Professional Quality of Life Scale, and the Secondary Traumatic Stress Scale.

### Primary Aim

A strong positive relationship was found between all of the trauma-related terms (STS, CF, and BRN; however, BRN was the weakest relationship ( $r(142) = .56$ ,  $p < .01$ ). Burnout symptoms were not as strongly correlated to compassion fatigue for PICU, NICU, and PEDS providers in this study as those found in previous studies with healthcare workers and mental health providers (Collins & Long, 2003a; Jenkins & Baird, 2002). The correlation of BRN and CF was moderate and demonstrated discriminant validity without indicating redundancy. This finding supported the validity from a previous study conducted by Jenkins

and Baird (2002). In addition, quite a bit of unexplained variance existed between the concept of STS and CF even after partialling out burnout.

Based on our analyses, it appears that the CF subscale of the ProQL (Stamm, 2002) and STSS (Bride et al., 2004) are actually capturing two different concepts despite the overlap within the items in each measure. This is particularly interesting, given that one of the most prominent authors in the field of traumatology, Figley (1995, 2002a), used the terms STS and CF interchangeably. In addition, the current findings suggest that burnout and secondary traumatic stress each uniquely contribute to the development of compassion fatigue and that low compassion satisfaction may be a critical element in the development of compassion fatigue.

Compassion satisfaction as defined by Stamm (2002) is the satisfaction from one's work of helping others and has been indicated as a potential protective factor (Collins & Long, 2003a; Stamm, 2002) against CF. Compassion satisfaction was considered an important marker by the researchers, as it encompassed the influence of stress and strain on the participant's perception of their job (i.e., those that were not satisfied in their work in helping others, had lower levels of CS). Child-life specialists were found to have the greatest sense of satisfaction from their work with patients. PEDS, PICU, and NICU nurses and chaplains were found to have the lowest levels of CS with their work. Interestingly, participants that had high levels of compassion satisfaction had significantly lower levels of STS and BRN. While not significant, CF and PTSD levels were also lower in the high CS category. This finding suggests that CS has a significantly strong negative relationship with STS and BRN and a trend toward a negative relationship with CF and PTSD.

### Secondary Aim

The secondary aim for this study was to examine the impact of secondary traumatization and some of the personal and professional elements that affect pediatric healthcare providers experience with PTSD, STS, CF, and BRN. The hierarchical regression analyses demonstrated that each of the measured concepts actually had a significant contribution to compassion fatigue. This would indicate that STS, BRN, CS, and PTSD each contribute to the variance in CF. Due to the overlap and unexplained variance that was discovered from the correlations previously discussed, it was determined that a hierarchical regression was essential in understanding the unique contributions of each of the measured concepts on compassion fatigue. This hierarchical regression analysis showed that STS actually provided the greatest predictive factor for compassion fatigue. Despite documentation of BRN's influence on CF, burnout was found to be one of the least predictive influences on compassion fatigue in comparison to PTSD and STS. Compassion satisfaction accounted for the least amount of variance in CF. This finding is similar to the results from Collins and Long (2003a) where they were unable to establish if burnout was related to higher levels of CF

in healthcare workers. This finding suggests that STS may actually have a stronger influence in the development of CF than burnout, despite previous researchers who considered BRN to be a crucial influence on CF (Figley, 1995, 2002a; Stamm, 2002). Based on the current findings, burnout may have minimal influence on the development of compassion fatigue.

When we assessed the trauma experience questions and the demographics, no significant differences were present. Previous researchers have also had difficulty in establishing trauma-related predictors and demographics that are associated with higher risks (Collins & Long, 2003a; Abendroth & Flannery, 2006) in provider outcomes. Abendroth and Flannery found that multiple deaths occurring within a short period of time were not as highly correlated with CF as expected. Both past literature and the current research results related to provider experience are difficult to comprehend, given that questions were directly and specifically related to the incidents with traumatized patients.

The physicians in the present study accounted for most of the positive relationship between CF and STSS. **This finding suggests that physicians who experienced increased levels of STS were also most likely to report higher levels of CF.** Interestingly, while chaplains did not account for much of the variance between CF and STSS, chaplains accounted for most of the variance between PTSD and CF. While it can't be suggested that chaplains experienced more PTSD than other professions, it can be suggested that chaplains who experienced higher levels of PTSD also reported a higher level of CF based on the strong correlation.

Burnout did not seem to be an issue for many of the participants as only 1.2% of the participants actually suffered from a high level of burnout, as established by the cutoff scores from Stamm (2002). This was significantly different than a study conducted with hospice nurses (Abendroth & Flannery, 2006). Close to 10% of hospice nurses were found to be in the high level of burnout category (Abendroth & Flannery, 2006). In addition, those same researchers found that close to 90% of the nurses reported moderate to high levels of burnout. It may be that the voluntary nature of this online questionnaire contributed to this difference. It is quite possible that the providers who were considered to be "burned out" may have not had the time or energy to fill out an online questionnaire. Within the current study, very few PICU, NICU, or PEDS providers were at high risk for compassion fatigue (7.3%). However, in a similar study involving hospice nurses, close to 27% of the participants were in the high compassion fatigue category (Abendroth & Flannery, 2006). The compassion fatigue risk was substantially lower for the PICU, NICU, and PEDS providers within this study.

### **Implication of Providers**

This research is particularly pertinent to those providers who are working with children in pediatric intensive care, neonatal intensive care, and pediatric units. Overall, it seemed that the levels of CF and BRN were relatively low in

comparison to previous studies. Even though the between-groups analyses were not significant in this study, there seemed to be a trend that indicated some professions and experiences with trauma could have a significant effect on CF, STS, and BRN, had the sample size been larger. Nurses and physicians who worked on one of these units actually accounted for the most shared variance between BRN and CF. This suggests that these providers who reported higher levels of BRN also reported higher levels of CF; however, it cannot be suggested that BRN will lead to a greater risk for CF. In addition, chaplains were found to have a higher prevalence of high compassion fatigue than any of the other professions, thus there may be something unique within the profession as a chaplain that may make them at risk for CF. It seems that the difference between the professions may contribute to some of the variance between the various terms associated with compassion fatigue. Providers may benefit from learning about which concepts are most damaging to their profession, so that steps can be made toward prevention or intervention.

### **Limitations**

A factor analysis could not accurately depict the differences between the terms of compassion fatigue, secondary traumatic stress, post-traumatic stress disorder, and burnout due to the small sample size. In addition, many of the between-group comparisons had smaller sample sizes which prevented some of the difference from reaching significance. Another limitation was the data collection method. Originally in the conceptualization of the study, an online survey was determined to be the best method in order to reach a greater number of providers in various geographic regions. After completion of the study, the response rates were lower than expected and child-life specialists accounted for around 50% of the sample. The generalizability of the results to other populations may not be appropriate as the respondents were predominantly white females. The data collection method may have also had an impact on the results that were found. For instance, since we determined that the participants in this study had relatively low burnout rates in comparison to previous studies, it could be that those professionals that were considered burned out may be less likely to voluntarily fill out an online questionnaire. This could also explain why very little between-groups significance was found. Finally, the concepts that were discussed in the literature review may not have been appropriately measured by the existing assessment measures due to the conceptual confusion that has existed in previous research.

### **Future Research**

An important future research topic should focus on understanding the etiological process of STS and CF. In addition, future researchers should center attention on the experiences that providers have with traumatized patients or clients and the impact that those experiences have on the risk of compassion



fatigue, burnout, and secondary traumatic stress. This process may provide insight into how these problems (CF, STS, BRN) originate and could be especially important in differentiating between the terms. Future researchers should also focus on the development or improvement of assessment measures for STS, BRN, and CF. This may be especially pertinent considering the CF scale developed by Stamm (2002) was primarily based on the PTSD symptomology, instead of compassion, empathy, and prolonged, consistent exposure with traumatized patients. All of these characteristics were reported by Figley (1995, 2002a) as integral in the development of CF; however, the assessment measures developed thus far for CF do not reflect these supposedly important elements. In order to more accurately depict the differences between the concepts of CF, STS, and BRN the etiology, prevalence, and symptoms must be more closely examined. Since the current study established that CF, STS, and BRN are unique although exist with a significant amount of overlap, it would be important to examine what is specifically different about these concepts. Thus, future researchers should examine and conceptualize the difference in development, symptoms, and treatment efficacy for STS, CF, and BRN as separate but related entities. If the goal for future research is to help prevent compassion fatigue and secondary traumatic stress from occurring, then concentrating on the etiological process instead of the symptoms would be essential.

## CONCLUSIONS

Secondary traumatization has become a recognized and debilitating problem that is affecting many of our mental health and medical professionals who work with traumatized populations. Even though PICU, NICU, and PEDS providers within this study reported lower levels of CF and BRN than in previous studies, more research needs to be conducted to validate and replicate these findings. With such an influx of research within the past decade, more empirical studies should be conducted to further clarify the concepts related to secondary traumatization. While we established that there is a significant overlap between compassion fatigue, secondary traumatic stress, and burnout, each of the concepts also had significant unexplained variance, which suggests that each of the concepts also have differences. Ultimately, we believe that if we are going to be able to accurately and effectively address the problems associated with secondary traumatization with healthcare providers, conceptual clarity between the terms and enhanced understanding regarding the development of these conditions would be essential.

## REFERENCES

- Abendroth, M., & Flannery, J. (2006). Predicting the risk of compassion fatigue. *Journal of Hospice and Palliative Nursing*, 8, 346-356.

- Adams, R., Boscarino, J., & Figley, C. (2006). Compassion fatigue and psychological distress among social workers: A validation study. *American Journal of Orthopsychiatry, 76*, 103-108.
- American Psychiatric Association (APA). (2002). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- Baird, K., & Kracen, A. (2006). Vicarious traumatization and secondary traumatic stress: A research synthesis. *Counseling Psychology Quarterly, 19*, 181-188.
- Bartz, C., & Maloney, J. (1986). Burnout among intensive care nurses. *Research in Nursing and Health, 9*, 147-153.
- Beaver, R., Sharp, E., & Contronis, G. (1986). Burnout experienced by nurse-midwives. *Journal of Nurse-Midwifery, 31*, 3-19.
- Becvar, D. (2003). The impact on the family therapist of a focus on death, dying, and bereavement. *Journal of Marital and Family Therapy, 29*, 469-477.
- Bride, B. (2007). Prevalence of secondary traumatic stress among social workers. *Social Work, 52*(1), 63-70.
- Bride, B., Robinson, M., Yegidis, B., & Figley, C. (2004). Development and validation of the secondary traumatic stress scale. *Research on Social Work Practice, 14*, 27-35.
- Brief, A., & Weiss, H. (2002). Organizational behavior: Affect in the workplace. *Annual Review in Psychology, 53*, 279-307.
- Briere, J. (1997). *Psychological assessment of adult posttraumatic states*. Washington, DC: American Psychological Association.
- Brosche, T. (2003). Death, dying, and the ICU nurse. *Dimensions of Critical Care Nursing, 22*, 173-179.
- Clark, M., & Gioro, S. (1998). Nurses, indirect trauma, and prevention. *Image: Journal of Nursing Scholarship, 30*, 85-87.
- Collins, S., & Long, A. (2003a). Too tired to care? The psychological effects of working with trauma. *Journal of Psychiatric and Mental Health Nursing, 10*, 17-27.
- Collins, S., & Long, A. (2003b). Working with the psychological effects of trauma: Consequences for mental health-care workers—A literature review. *Journal of Psychiatric and Mental Health Nursing, 10*, 417-424.
- Constable, J., & Russell, D. (1986). The effect of social support and the work environment upon burnout among nurses. *Journal of Human Stress, 20*-26.
- Figley, C. (1995). *Compassion fatigue: Coping with secondary traumatic stress disorder*. New York: Brunner/Mazel.
- Figley, C. (2002a). Compassion fatigue: Psychotherapists' chronic lack of self care. *Journal of Clinical Psychology/In Session: Psychotherapy in Practice, 58* (11), 1433-1441.
- Figley, C. (2002b). *Treating compassion fatigue*. New York: Brunner/Routledge.
- Figley, C., & Stamm, B. (1996). Psychometric review of Compassion Fatigue Self Test. <http://www.isu.edu/~bhstamm/pdf/figleystamm.pdf>. In B. H. Stamm (Ed.), *Measurement of stress, trauma, and adaptation*. Lutherville, MD: Sidran Press.
- Hurst, S. (2005). A pilot qualitative study relating to hardiness in ICU nurses. *Dimensions of Critical Care Nursing, 24*, 97-100.
- Jenkins, S., & Baird, S. (2002). Secondary traumatic stress and vicarious trauma: A validation study. *Journal of Traumatic Stress, 15*, 423-432.
- Joinson, C. (1992). Coping with compassion fatigue. *Nursing, 22*, 116-122.

- Kessler, R., Sonnega, A., Bromet, E., & Nelson, C. (1997). Posttraumatic stress disorder in the National Comorbidity Study. *Archives of General Psychiatry, 52*, 1048-1060.
- Knapp, J., & Mulligan-Smith, D. (2005). Death of a child in the emergency department. *Pediatrics, 115*, 1432.
- Maytum, J., Heiman, M., & Garwick, A. (2004). Compassion fatigue and burnout in nurses who work with children with chronic conditions and their families. *Journal of Pediatric Health Care, 18*, 171-179.
- Meadors, P., & Lamson, A. (2008). Compassion fatigue and secondary traumatization: Provider self care on intensive care units for children. *Journal of Pediatric Healthcare, 22*(1), 24-34.
- Mendenhall, T. (2006). Trauma-response teams: Inherent challenges and practical strategies in interdisciplinary fieldwork. *Families, Systems, and Health, 24*, 357-362.
- National Center for Post-traumatic Stress Disorder. (2006). *Epidemiological facts about PTSD*. Retrieved on October 12, 2007, from <http://www.ncptsd.va.gov>
- Ortlepp, K., & Friedman, M. (2002). Prevalence and correlates of secondary traumatic stress in workplace lay trauma counselors. *Journal of Traumatic Stress, 15*, 213-222.
- Peebles-Kleiger, M. (2000). Pediatric and neonatal intensive care hospitalization as traumatic stressor: Implications for intervention. *Bulletin of the Menninger Clinic, 64*, 257-280.
- Pfifferling, J., & Gilley, K. (2000). Overcoming compassion fatigue. *Family Practice Management, 7*, 39-45.
- Rich, V., & Rich, A. (1987). Personality and hardiness and burnout in female staff nurses. *Image Journal of Nursing Scholarship, 19*, 63-66.
- Sabin-Farrell, R., & Turpin, G. (2003). Vicarious traumatization: Implications for the mental health of health workers? *Clinical Psychology Review, 23*, 449-480.
- Sabo, B. (2006). Compassion fatigue and nursing work: Can we accurately capture the consequences of caring work? *International Journal of Nursing Practice, 12*, 136-142.
- Salston, M., & Figley, C. (2003). Secondary traumatic stress effects of working with survivors of criminal victimization. *Journal of Traumatic Stress, 16*, 167-174.
- Schwam, K. (1998). The phenomenon of compassion fatigue in perioperative nursing. *Association of Operating Room Nurses Journal, 68*, 642-645.
- Stamm, B. (2002). Measuring compassion satisfaction as well as fatigue: Developmental history of the compassion fatigue and satisfaction test. In C. R. Figley (Ed.), *Treating compassion fatigue* (pp. 107-119). New York: Brunner/Mazel.
- Thomas, R., & Wilson, J. (2004). Issues and controversies in the understanding and diagnosis of compassion fatigue, vicarious traumatization and secondary traumatic stress disorder. *International Journal of Emergency Mental Health, 6*, 81-92.
- Topf, M. (1989). Personality hardiness, occupational stress and burnout in critical care nurses. *Research in Nursing and Health, 13*, 179-186.
- Valent, P. (2002). Diagnosis and treatment of helper stresses, traumas, and illnesses. In C. Figley (ed.), *Treating compassion fatigue* (pp. 13-37). New York: Brunner/Routledge.
- Webster's Online Dictionary. (2007). *Compassion*. Retrieved on October 6, 2007, from <http://www.websters-online-dictionary.org/definition/Compassion>

- Weiss, D., & Marmar, C. (1997). The Impact of Event Scale-Revised. In J. Wilson & T. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 399-411). New York: Guilford.
- White, D. (2006). The hidden costs of caring: What manager need to know. *The Health Care Manager, 25*, 341-347.
- Wilkin, K., & Slevin, E. (2004). The meaning of caring to nurses: An investigation into the nature of caring work in an intensive care unit. *Journal of Clinical Nursing, 13*, 50-59.
- Worley, C. (2005). The art of caring: Compassion fatigue. *Dermatology Nursing, 17*, 416.
- Wright, B. (2004). Compassion fatigue: How to avoid it. *Palliative Medicine, 18*, 3-4.
- Yasko, J. (1983). Variables which predict burnout experienced by oncology clinical nurse specialists. *Cancer Nursing, 6*, 109-116.

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