

EXAMINING THE RELATIONSHIP BETWEEN EMPATHY AND COMPASSION
FATIGUE AND COMPASSION SATISFACTION IN PEDIATRIC NURSES

by

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DEDICATION

This research is dedicated to the nurses who inspire me by their commitment to provide the best possible care to pediatric patients and who give so much of themselves in the process; and to the many children I have cared for throughout my career that motivate me to be a better nurse.

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ABSTRACT

Secondary traumatic stress (STS) and burnout (BO) are natural consequences of exposure to the suffering of others. Nurses have frequent exposure to such suffering. Empathy is thought to play a role in the development of STS and BO. There may be other factors that contribute to or protect against their development as well. A descriptive correlational study was conducted with a convenience sample of 108 pediatric nurses. Participants completed a questionnaire that included the Professional Quality of Life Scale Version 5, the Interpersonal Reactivity Index and questions about factors related to STS and BO. Results demonstrated that 81.5% of the sample was at moderate to high-risk for STS, 72.2% were at moderate to high-risk for BO, and 73.1% had moderate to high levels of compassion satisfaction (CS). The blurring of professional boundaries was associated with higher STS. Empathy demonstrated a stronger association with CS than STS or BO.

LIST OF ABBREVIATIONS AND SYMBOLS USED

Abbreviations (in alphabetical order):

ANOVA – Analysis of Variance

BO – Burnout

CS – Compassion Satisfaction

df – Degree of Freedom

F – F Statistic

IRI – Interpersonal Reactivity Index

N – Number of Participants in Total Population

n – Number of Participants in Subset of the Population

n/a – Not Applicable

p – Significance

PI – Principal Investigator

ProQOL – Professional Quality of Life Scale

r – Pearson’s Correlation

REB – Research Ethics Board

SD – Standard Deviation

STS – Secondary Traumatic Stress

Symbols:

α – Alpha

β – Beta

ρ – Spearman’s Correlation

\bar{X} – Mean

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CHAPTER ONE

Introduction

Background of the Problem

Compassion is a response to human suffering. Compassion was defined by Stamm as “feeling and acting with deep empathy and sorrow for those who suffer. It is a necessary although not sufficient ingredient of helping” (2002, p. 107). Nursing could thus be viewed as the professional practice of compassion. Compassion is so central to the work of nursing that the International Council of Nurses included it as a professional value that all nurses must demonstrate (International Council of Nurses, 2012). Compassion should always be present when providing nursing care and it intuitively requires an ability to understand the perspective of the person receiving care.

Nurses are not invulnerable to bearing witness to human suffering and their ability to be compassionate may be affected by such exposure. Figley stated “there is a cost to caring” (1995, p. 1) and he referred to this cost as *compassion fatigue*. He stated compassion fatigue is equivalent to post-traumatic stress disorder but not experienced first-hand (1995, p. xv). Compassion fatigue is comprised of *secondary traumatic stress* and *burnout*.

Figley defined secondary traumatic stress as “the natural consequent behaviours and emotions resulting from knowing about a traumatizing event experienced by a significant other – the stress resulting from helping or wanting to help a traumatized or suffering person” (1995, p. 7). Burnout is a related, but conceptually distinct consequence of emotionally demanding work. Although there is some overlap in

symptoms, burnout is characterized by depersonalization, reduced sense of personal accomplishment and discouragement as an employee (Figley, 1995).

Figley's work has primarily been with trauma therapists but he acknowledged that compassion fatigue could occur in any professional caregiver, including doctors, nurses and emergency first responders. In fact, he began to study the topic after an encounter in 1971 with a Vietnam War veteran nurse who was traumatized by his experiences during the war (Figley, 2002). Compassion fatigue can have negative effects for the health and well-being of healthcare providers and may impact many facets of their life. Yassen (1995) and Coetzee and Klopper (2010) listed empirical indicators of compassion fatigue across the cognitive, emotional, behavioural, spiritual, interpersonal, physical, social and intellectual domains of an individual. Compassion fatigue can also impact the care recipient and the healthcare system. Those suffering from secondary traumatic stress or burnout may experience a number of work-related problems, including being more prone to errors, poor communication and poor judgment, decreased output and increased absenteeism (Coetzee & Klopper, 2010; Yassen, 1995).

At the heart of Figley's theory of compassion fatigue are the concepts of *empathy* and *exposure* (Figley, 1995). "If we are not empathic or exposed to the traumatized, there should be little concern for compassion fatigue" (Figley, 1995, p. 15). Nurses are likely to encounter traumatized or suffering individuals as part of their daily work. Whether it is counseling a family on a new diagnosis, providing trauma care to an accident victim, or providing end-of-life care; nurses are frequently exposed to human suffering. Additionally, nurses spend more time in direct patient care than any other group of healthcare providers (DeLucia, Ott, & Palmieri, 2009). Empathy is necessary

for the provision of compassionate care. “Empathy facilitates the development of mutual trust and shared understanding, and in doing so is a fundamental quality in any helping relationship” (Williams & Stickley, 2010, p. 762). Therefore, empathy and exposure are necessary elements of the nurse-client relationship. “Empathy becomes a double-edged sword for the nurse or clinician: on the one hand, empathy facilitates caring work; on the other hand, the act of caring leaves the nurse or clinician vulnerable to its very act” (Sabo, 2006). However, empathy may be a potential moderator of compassion fatigue and might be a mechanism through which positive changes occur (Brockhouse, Msetfi, Cohen, & Joseph, 2011).

It is unknown why some nurses develop compassion fatigue and others do not, and indeed many nurses derive a great deal of satisfaction from their work, even when faced with unimaginable human suffering. *Compassion satisfaction* is conceptually opposite from compassion fatigue (Coetzee & Klopper, 2010), although they can occur concurrently (Stamm, 2002). Coetzee and Klopper defined compassion satisfaction as the “invigoration and inspiration that a nurse receives from connecting with and sharing in a patient’s suffering, with the main focus being to relieve and alleviate the patient’s pain through the selfless use of oneself and one’s skills and available resources” (2010, p. 239).

In addition to empathy and exposure, other risk factors for the development of compassion fatigue in nurses have been identified in the growing body of research on this topic. Nurse characteristics such as tendency to self-sacrifice (Abendroth & Flannery, 2006; Coetzee & Klopper, 2010; Jenkins & Warren, 2012), the blurring of professional boundaries (Abendroth & Flannery, 2006; Maytum, Heiman, & Garwick, 2004; Melvin,

2012; Sabo, 2011b, Smith, 2013; Yassen, 1995), and inadequate coping strategies (Melvin, 2012), have been suggested as risk factors. Client characteristics such as a traumatic death (Abendroth & Flannery, 2006; Epp, 2012; Lavoie, Talbot, & Mathieu, 2011), young age or developmental stage (Clark & Gioro, 1998; Lavoie et al., 2011; Sprang, Craig, & Clark, 2011), and what was done to the client (Clark & Gioro, 1998; Sprang et al., 2011), have all been cited as potential triggers.

Exposure to trauma and suffering in children is a particularly salient trigger for compassion fatigue (Berger, Polivka, Smoot, & Owens, 2015; Branch, 2013; Branch & Klinkenberg, 2015; Maytum et al., 2004; Meadors & Lamson, 2008; Meadors, Lamson, Swanson, White, & Sira, 2009; Robins, Meltzer, & Zelikovsky, 2009; Rourke, 2007). In the case of children, nurses may feel that they are not only a witness to trauma and suffering, but they may feel like they are contributing to it as well (Rourke, 2007). It is often necessary for pediatric nurses to perform painful procedures on children and this has been cited as a trigger for compassion fatigue (Maytum et al., 2004; Robins et al., 2009; Rourke, 2007). Some healthcare providers report feeling mental anguish as they are paradoxically trying to help a seriously injured child by performing painful procedures such as intravenous insertions (Alisic, Conroy, Magyar, Babl, & O'Donnell, 2014).

Those who have studied compassion fatigue among pediatric healthcare providers have claimed that witnessing the death of a child is a traumatizing event (Maytum et al., 2004; Rourke, 2007). “The routine practice of presiding over the death of children can lead easily to the experience of compassion fatigue. Repeated exposure to dying children can erode the myth of safety that guides most people through life, revealing a harsh and

frightening reality” (Rourke, 2007, p. 634). Rourke (2007) likened the work of pediatric palliative care providers to that of trauma workers after a disaster because it can be both chaotic and catastrophic. She stated that compassion fatigue is an occupational hazard and cannot be completely eradicated in those who provide pediatric palliative care (Rourke, 2007, p. 635). However, Taubman–Ben-Ari and Weintraub (2008) suggested that those individuals who choose to work in such a challenging field might have personality traits and coping mechanisms that allow them to find satisfaction in their work and professional enrichment.

Charles Figley (1995, 2002) created the *Compassion Stress and Fatigue Model* to delineate the process by which compassion stress and eventually compassion fatigue develop. He described it as a causal model, but it also provides points at which compassion fatigue may be prevented or treated. The model incorporates the central components of empathy and exposure, but also includes other elements such as compassion satisfaction and traumatic memories, as factors in the process. However, the model only considers the contributory role that empathy may play in the development of compassion fatigue and does not account for any buffering effect it may have. This model can serve as a theoretical framework for research examining the relationship between contributory and protective factors in the development of compassion fatigue.

Statement of the Problem

Compassion fatigue is a form of post-traumatic stress disorder experienced by professional caregivers who are exposed to the trauma and suffering of others. Nurses have frequent exposure to such suffering, and may be at considerable risk for developing compassion fatigue. Pediatric nurses face a unique set of challenges in that they are not

only exposed to the suffering of children, but they may also feel as though they are contributing to a child's experienced trauma by way of performing painful and frightening interventions. Compassion fatigue has consequences to the health and well-being of the caregiver, as well as the care recipient, and the healthcare system.

The contributory role of empathy to compassion fatigue is not well understood. Scholars such as Figley and Sabo have claimed that highly empathic people are the most susceptible to the development of compassion fatigue. However, empathy may also play a role in compassion satisfaction and provide a buffer to the development of compassion fatigue. Brockhouse and her colleagues (2011) found that higher levels of empathy were associated with higher levels of growth and believed high levels of empathy were beneficial.

Purpose of the Study

Compassion fatigue has been primarily studied in psychotherapists and trauma counselors. There has been a growing interest in examining this concept in healthcare providers, particularly nurses. Very few studies have examined the concept in pediatric healthcare providers (Berger et al., 2015; Branch, 2013; Branch & Klinkenberg, 2015; Li, Early, Mahrer, Klaristenfeld, & Gold, 2014; Maytum et al., 2004; Meadors & Lamson, 2008; Meadors et al., 2009; Robins et al., 2009; Taubman–Ben-Ari & Weintroub, 2008), and fewer still have directly examined the role of empathy (Linn, 2011; Robins et al., 2009, Smith, 2013). “Research has yet to provide clarity and understanding as to whether empathy and engagement have a role in contributing to, or protecting the nurse from compassion fatigue” (Sabo, 2011a). The purpose of this study is to examine the relationship between empathy and compassion fatigue and compassion satisfaction in

pediatric nurses. It is hoped that by gaining a better understanding of the relationship between these concepts we may have a better sense of what the contributing or mitigating factors are in the development of compassion fatigue and this may aid in the creation of targeted interventions to help improve the professional quality of life for pediatric nurses.

Research Questions

- 1) What are the self-reported levels of compassion fatigue and compassion satisfaction in a sample of nurses from various pediatric care areas within a large pediatric hospital?
- 2) What are the self-reported levels of empathy in a sample of pediatric nurses?
- 3) Is there a relationship between empathy and compassion fatigue and compassion satisfaction?
- 4) What are potential triggers for the development of compassion fatigue?

CHAPTER TWO

Literature Review

In this chapter the concepts of compassion fatigue and compassion satisfaction are discussed as they relate to healthcare providers' professional quality of life. The role of empathy in the helping relationship is also examined. A review of the literature on these concepts with respect to healthcare providers, particularly nurses, is provided. The effect of exposure to suffering individuals and the influence of personal and professional factors is discussed. These concepts, as they relate to pediatric healthcare providers, are explored in detail.

Professional Quality of Life

Professional quality of life is the quality one feels in relation to their work as a helper (Stamm, 2010). Compassion fatigue is the negative aspects of doing one's job and consists of secondary traumatic stress and burnout. Compassion satisfaction is the positive aspect. This is illustrated in Figure 1 below. There is some overlap in these concepts as well as other related or synonymous terms.

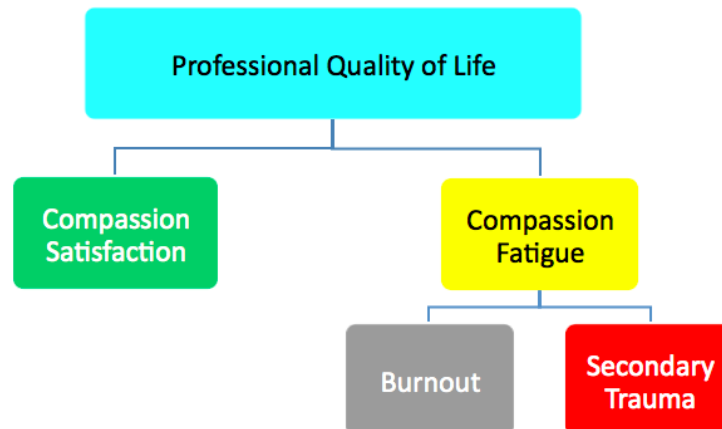


Figure 1. Diagram of Professional Quality of Life (Stamm, 2010, p. 8)

Joinson first used the term *compassion fatigue* in a nursing journal in 1992. She described the stress and sorrow felt by nurses brought on by their caregiving role. Figley had been studying the concept since the early 1970s and initially called it a form of burnout or secondary victimization (Figley, 1995). He later adopted the term compassion fatigue as a more “friendly term for this phenomenon” (Figley, 1995, p. 14). He stated that professional caregivers prefer the terms *compassion stress* or *compassion fatigue* over *secondary traumatic stress* or *secondary traumatic stress disorder* for fear that the latter terms serve as a derogatory label versus the former terms which better describe the causes and manifestations of their duty-related experiences (Figley, 1995, p. 15). Figley suggested that compassion stress and compassion fatigue are appropriate substitutes for secondary traumatic stress (1995, p. 9). The term *vicarious traumatization* also appears in the literature and is used synonymously with compassion fatigue or secondary traumatic stress.

Burnout is another negative aspect of professional quality of life. “Job burnout is a psychological syndrome that involves a prolonged response to stressors in the workplace” (Maslach, 2003, p. 189). Maslach and colleagues developed a multidimensional model of the burnout phenomenon. They found that “the three key dimensions of this stress response are an overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment” (Maslach, 2003, p. 190). Epp (2012, p. 26) suggested that burnout is a contributing factor to a nurse’s decision to leave his or her unit or even the profession altogether. Epp (2012) reviewed the literature on burnout in critical care nurses and provided examples of workplace stressors. These include: high patient acuity, heavy workloads, being in

morally distressing situations, caring for the family of critically ill patients, using technology, role conflict and blurring of boundaries (Epp, 2012). Sabo (2011a) suggested that incongruences between a nurse's values and beliefs and the organization's vision and values might increase the potential for burnout. Adams, Boscarino and Figley suggested that "high emotional involvement without adequate social support or feelings of personal work accomplishments (i.e., job satisfaction) may leave the caring professional vulnerable to burnout" (2006, p. 104).

Secondary traumatic stress and burnout may not develop in an individual as an isolated occurrence. It has been suggested in the literature that these phenomena may occur in multiple individuals in a workplace and be shared among colleagues (Bakker, Le Blanc, & Schaufeli, 2005; Joinson, 1992). "When the people around you are tense, impatient, and hurried, you may be swept into the same reactions. Nurses who are tired, indifferent, or cynical can sap your own energy and enthusiasm" (Joinson, 1992, p. 118). Bakker and colleagues referred to this process as *burnout contagion* and described it as a form of *emotional contagion* (Bakker et al., 2005). "Whereas empathy relates to understanding the distress of another person, emotional contagion is the reflecting and experiencing of that distress, at a more unconscious level" (Sabin-Farrell & Turpin, 2003). In a study of intensive care nurses, Bakker and colleagues found that "even when controlling for the impact of well-known organizational stressors, individual nurses' perceptions of burnout complaints among colleagues had a significant and strong impact on emotional exhaustion" (Bakker et al., 2005, p. 281). This finding supported their study hypothesis that burnout is contagious.

Secondary traumatic stress and burnout have consequences for the affected individual, the patients in their care, and the entire health care system. Coetzee and Klopper (2010) listed the empirical indicators, or manifestations, of compassion discomfort, compassion stress and compassion fatigue in a model they created to describe these concepts in nursing practice. They described physical, emotional, social, spiritual and intellectual effects along the continuum of compassion fatigue. According to their analysis, some empirical indicators of compassion fatigue include; decreased energy, apathy, callousness, poor judgment and disorderliness (Coetzee & Klopper, 2010, p. 240). In a concept analysis of compassion fatigue in critical care nurses, Jenkins and Warren (2012) identified the following consequences directly resulting from compassion fatigue: loss of empathy, increase loss of work days due to physical complaints (i.e., stomach pains, headaches), weight gain or loss, accident proneness, and emotional breakdown (p. 392). These physical and emotional consequences of compassion fatigue are likely to have an impact on the delivery of nursing care. A nurse who is experiencing decreased empathy and increased accident proneness may be providing less than optimal nursing care to his or her clients. Dutton and Rubinstein (1995) examined secondary exposure to trauma in trauma workers and believed that there may be an effect on both personal and professional relationships. This may impact the ability of the trauma worker to establish a therapeutic relationship with trauma victims. Loss of workdays due to physical and emotional illness has an impact on the workplace and the greater health care system. “When compassion fatigue is apparent in the critical care unit, chronic absenteeism, high workers’ compensation costs, high turnover rates, and interpersonal conflicts between nurses are evidenced” (Jenkins & Warren, 2012, p. 394).

There are discrepant theories in the literature on the process by which secondary traumatic stress and burnout develop, and on the relationship between these concepts. Some authors view compassion fatigue as unique from burnout, whereas others believe burnout to be included within the construct of compassion fatigue. Figley (1995, p. 12) suggested that burnout emerges gradually and is the result of emotional exhaustion; whereas, compassion fatigue can emerge suddenly and with little warning. Within the nursing literature, two concept analyses of compassion fatigue have been conducted (Coetzee & Klopper, 2010; Jenkins and Warren, 2012). Coetzee and Klopper defined compassion fatigue as the “final result of a progressive and cumulative process that evolves from compassion stress after a period of unrelieved compassion discomfort, which is caused by prolonged, continuous, and intense contact with patients, the use of self, and exposure to stress” (2010, p. 239). Jenkins and Warren also stated “compassion fatigue is a progressive and final end result that evolves over time” (2012, p. 391). Maytum and colleagues (2004) conducted a qualitative study with pediatric nurses and their participants described a progression of symptoms, which began with compassion fatigue and progressed to a more serious or long-lasting problem of burnout. They found the types of symptoms associated with compassion fatigue and burnout were similar, but the severity of symptoms was greater with burnout (Maytum et al., 2004). Sabo (2011a) proposed an alternate process, or continuum of types of occupational stress, beginning with burnout and progressing to compassion fatigue and finally vicarious traumatization. “In burnout, emotional exhaustion is considered a cornerstone element along with cynicism and decreased personal accomplishment. In contrast, nurses experiencing compassion fatigue exhibit an intensified level of emotional distress leading to

interpersonal withdrawal and changes in their beliefs, expectations, and assumptions” (Sabo, 2011a, para. 32). The final stage of vicarious traumatization is characterized by intrusive imagery; changes in values, beliefs, and assumptions (cognitive shift); anxiety; and loss of trust (Sabo, 2011a, para 35). Sabo (2011a) stated that this process is not necessarily linear and individuals may move back and forth on the continuum or even display elements of all three forms of occupational stress at the same time.

Professional quality of life also incorporates positive elements of the work experience. Stamm, who was a colleague of Figley, referred to this aspect of the care relationship as *compassion satisfaction*. “Compassion satisfaction is about the pleasure you derive from being able to do your work well” (Stamm, 2005, p. 5). She acknowledged that the deleterious effects of providing compassionate care do exist in the form of secondary or vicarious traumatization (i.e., compassion fatigue), but felt there was a compelling force that enabled one to continue to provide compassionate care and do it well. She stated, “the helper’s motivation to help is shaped, in part, by the satisfaction derived from the work of helping others” (Stamm, 2002, p. 107). In their concept analysis of compassion fatigue within nursing practice, Coetzee and Klopper stated, “compassion satisfaction is the exact opposite of compassion fatigue because even though nurses are exposed to the exact same risk factors of contact, use of self, and stress, they continue to flourish in these circumstances” (2010, p.239). Stamm also noted this and theorized that certain characteristics of an individual are protective against compassion fatigue. She discussed the role of hardiness and good social support as having a buffering effect against compassion fatigue (Stamm, 2002). An intriguing notion raised by Stamm (2002) was whether it is possible for an individual to have high

compassion satisfaction while also being at high-risk for compassion fatigue. She hypothesized that there exists a balance between the two. She found that some people acknowledged that they have compassion fatigue, while at the same time deriving a great deal of satisfaction from their work.

The Role of Empathy

Empathy is the most critical element within the helping or therapeutic relationship (Sabo, 2006). Higher levels of empathy of the care provider result in the care recipient feeling more cared for and cared about (Heliker & Nguyen, 2010). Additionally, the ability of the nurse to empathize with the patient may translate to better pain care (Drwecki, Moore, Ward, & Prkachin, 2011; Passik, Byers, & Kirsh, 2007; Tait 2008), and better care in general (Brown, et al., 2011; Neumann et al., 2007; Tait, 2008). Scholars who study the concept of empathy believe that individuals are drawn to helping professions, such as nursing and medicine, because of a greater predisposition to be empathetic (Alligood, 2005; Brown, et al., 2011). Unfortunately, some research on empathy in nurses and other healthcare providers has shown a decline in empathy over time, even from beginning to end of professional training (Hojat et al., 2004; Ozcan, Oflaz, & Cicek, 2010; Ward, Cody, Schaal, & Hojat, 2012).

The exact relationship between empathy and compassion fatigue is not well understood. Some authors believe that high levels of empathy in an individual leave one more vulnerable to the effects of compassion fatigue (Figley, 1995) or that compassion fatigue may lead to a loss of empathy in the caregiver (Jenkins & Warren, 2012). Others believe that empathy may protect an individual from compassion fatigue (Linn, 2011; Robins et al., 2009). The disparity in these viewpoints may be due to a difference in how

empathy was conceptualized. Empathy is a multidimensional construct (Alligood, 2005; Davis, 1979; Davis, 1983; Linn, 2011; Sabo, 2006). Empathy consists of cognitive, affective and behavioural components (Decety, 2011; Goubert et al., 2005; Latimer, Jackson, Johnston, & Vine, 2011; Tait 2008). Davis (1979) believed that the cognitive and emotional (affective) components of empathy comprise an interdependent, interactive system in which each influences the other. He endeavored to create an instrument that could accurately measure both cognitive and affective components of empathy and allow researchers to examine the interaction between the different sub-components (Davis, 1979; Davis, 1980; Davis, 1983). His new measure, the Interpersonal Reactivity Index (IRI; Davis, 1980), tapped two elements of cognitive empathy — *perspective taking* and *fantasy*, and two elements of affective empathy — *personal distress* and *empathic concern*. Perspective taking is the conscious ability to adopt multiple points of view and is accompanied by a certain amount of emotional detachment (Davis, 1979). Perspective taking is considered to be more of an ability, rather than a trait, which might exert an influence over behaviour (Davis, 1979). Fantasy includes elements of introspection and emotional responsiveness (Davis, 1979). Fantasy is considered more of a situational, or state, attribute of an individual than a dispositional one. Personal distress is associated with a constellation of negative social attributes such as loneliness, shyness and low self-esteem (Davis, 1979). Empathic concern is a maturing of the affective (empathic distress) reaction, which may lead to sympathy for the victim (Davis, 1979). “Feelings of empathic concern are feelings of compassion for the victim, and should be more likely to lead to a direct helping response” (Davis, 1979, p. 37).

Only two previous studies have quantitatively examined the relationship between empathy and compassion fatigue and compassion satisfaction in healthcare providers (Linn, 2011; Robins et al., 2009). Robins and colleagues speculated that, “cognitive empathic engagement with children and families may operate as a protective factor against the effects of burnout and compassion fatigue. Conversely, higher degrees of affectively mediated empathy may increase the experience of secondary traumatic stress” (2009, p. 278).

Smith (2013) examined the role that empathy plays in resiliency to compassion fatigue in nurses in a qualitative study. Her participants spoke about *healthy empathy* and *unhealthy empathy*. Healthy empathy was described as being able to take the perspective of the patient and to understand their reality. This was seen as a positive and necessary element of the healthcare professional role and believed to be a precursor to the provision of compassionate care. Unhealthy empathy was described as an inability to pull away from a situation and an inability to set reasonable priorities with regard to the patient with whom they felt empathy. This may be seen as a blurring of boundaries and was felt to contribute to the development of compassion fatigue. Maytum and colleagues (2004) conducted a qualitative study with pediatric nurses and their participants cited becoming overly involved or crossing professional boundaries as a personal trigger for the development of compassion fatigue and burnout. Similarly, the participants in a qualitative study by Melvin (2012) with hospice nurses all cited a need to set professional boundaries in order to maintain their ability to work in end-of-life care. Robins et al. (2009) found that blurring of boundaries was associated with higher compassion fatigue and burnout and lower compassion satisfaction. In her work on compassionate presence,

Sabo stated, “compassionate presence is lived – that is, the nurse must experience those moments of shared suffering, integrate them, and redefine their practice” (2011b, p.109). This would be considered a cognitive empathic response as the nurse is taking the perspective of the client, integrating that perspective and making a deliberate change in practice to improve the quality of care delivered to the client. Sabo, however, cautioned, “a nurse exemplifying compassionate presence needed to remain vigilant about whose pain and suffering was being shared. A failure to establish clear boundaries between the personal and professional could place the nurse at risk for adverse effects” (Sabo, 2011b, p. 109). The blurring of boundaries can be interpreted as an affective empathic response and may lead to personal distress for the care provider.

Smith’s (2013) participants felt that nurses without empathy could not provide compassionate care, but also felt that empathy left them vulnerable to compassion fatigue. This echoes the concept of the “double-edged sword” spoken about by Sabo (2006) and Robins et al. (2009). Another theme that emerged in the study by Smith (2013) was that it is possible for empathic nurses to not develop compassion fatigue. There exist elements of resiliency in nurses that can be strengthened to protect them from the development of compassion fatigue. Both Smith (2013) and Stamm (2002) spoke of the structural and functional supports needed in the workplace to promote hardiness in workers and thereby resiliency to compassion fatigue. Stamm and her colleagues found that “those who had more time to sustain relationships and do basic self-care tasks seemed to be less at risk for the negative effects of caregiving” (2002, p. 109).

The Role of Exposure

Exposure to clients in distress is the most commonly cited antecedent for the development of compassion fatigue in persons in the helping professions. It is now widely recognized that the indirect exposure to trauma involves an inherent risk to the clinician (Bride, Radey, & Figley, 2007). Figley (2002) suggested that the reason why many clinicians choose to leave direct patient care is to cease the exposure to trauma. Exposure is featured in several models illustrating the development of compassion fatigue (Coetzee & Klopper, 2010; Dutton & Rubinstein, 1995; Figley, 1995; Figley, 2002; Smith, 2013; Stamm, 2010; Von Rueden et al., 2010). Von Rueden and colleagues (2010) adapted the model created by Dutton and Rubinstein (1995) to explain secondary traumatic stress in trauma nurses. In this model *exposure to traumatic injuries of others* is a factor influencing the development of secondary traumatic stress and is mediated by years in trauma nursing, years in current position, time in direct patient care, hours worked per shift and hours worked per week (Von Rueden et al., 2010). By conceptualizing the *exposure* factor in this manner they encompass both the duration of exposure to suffering individuals as well as the frequency of exposure to suffering, which is an important consideration when examining this concept in nurses.

Examining Professional Quality of Life

Compassion fatigue has been studied in various groups of helping professionals including social workers, psychologists, counselors, child welfare workers and psychiatrists (Adams et al., 2006; Killian, 2008; Sprang et al., 2011). This literature review will focus primarily on the studies conducted with nurses and other health professionals providing medical care. Thirty-six studies were found in the nursing

literature examining compassion fatigue. All of the reviewed studies were published in the last eleven years, with the majority in the last five. Most studies were quantitative in nature. Five studies used qualitative methodologies (Drury, Craigie, Francis, Aoun, & Hegney, 2014; Lavoie et al., 2011; Maytum et al., 2004; Melvin, 2012; Smith, 2013) and one employed mixed-methods (Yoder, 2010).

The findings of this literature review will be presented according to the aspect of professional quality of life being assessed (i.e., secondary traumatic stress, burnout, and compassion satisfaction), as well as the various personal and work-related factors that were found to have a significant impact on professional quality of life.

Secondary Traumatic Stress. Overall, most studies found that nurses had comparable levels of secondary traumatic stress to other groups of helping professionals. Nine studies endorsed greater than average levels of secondary traumatic stress, most of which were only marginally higher than average (Abendroth & Flannery, 2006; Berger et al., 2015; Branch & Klinkenberg, 2015; Burtson & Stichler, 2010; Hinderer et al., 2014; Hooper, Craig, Janvrin, Wetsel, & Reimels, 2010; Petleski, 2013; Potter et al., 2010; Slocum-Gori, Hemsworth, Chan, Carson, & Kazanjian, 2011). Fifteen studies reported that the majority of their sample endorsed low to moderate levels of secondary traumatic stress (Berg, Harshbarger, Ahlers-Schmidt, & Lippoldt, 2016; Branch, 2013; Dasan, Gohil, Cornelius, & Taylor, 2015; Hegney, Craigie, Hemsworth, Osseiran-Moisson & Drury, 2014; Hunsaker, Chen, Maughan, & Heaston, 2015; Kelly, Runge, & Spencer, 2015; Kulesa, 2014; Meadors et al., 2009; Potter et al., 2010; Robins et al., 2009; Romeo-Ratliff, 2014; Sacco, Ciurzynski, Harvey, & Ingersoll, 2015; Sheppard, 2015; Smart et al., 2014; Yoder, 2010).

A review of the qualitative literature on compassion fatigue demonstrated the presence of secondary traumatic stress symptoms among research participants. Smith (2013) found that most participants had experienced compassion fatigue at some point in their career. Lavoie et al. (2011) interviewed emergency department nurses and found that their work exposed them to traumatic events, which produced symptoms such as distress, dissociation, stimulus avoidance and hyperarousal. Melvin (2012) interviewed hospice and palliative care nurses and found that all of the participants had experienced some aspects of compassion fatigue. Drury and colleagues (2014) found stress levels to be high among participants. Maytum and colleagues' (2004) participants reported a broad range of physical and emotional symptoms of secondary traumatic stress and burnout.

Burnout. Similarly to the secondary trauma scores, burnout scores were reported to be in the average range. Seven of the nine studies which reported higher than average levels of secondary traumatic stress also reported higher than average burnout (Berger et al., 2015; Branch & Klinkenberg, 2015; Burtson & Stichler, 2010; Hinderer et al., 2014; Hooper et al., 2010; Petleski, 2013; Potter et al., 2010). Twelve of the fifteen studies that reported low to average levels of secondary traumatic stress also reported low to average levels of burnout (Branch, 2013; Hegney et al., 2013; Hunsaker et al., 2015; Kelly et al., 2015; Kulesa, 2014; Meadors et al., 2009; Potter et al., 2010; Robins et al., 2009; Romeo-Ratliff, 2014; Sacco et al., 2015; Smart et al., 2014; Yoder, 2010). Three studies reported higher levels of burnout than secondary traumatic stress (Berg et al., 2016; Dasan et al., 2015; Sheppard, 2015). Mealer and colleagues (2012) used the Maslach Burnout Inventory as their measure of burnout in their sample of intensive care nurses. They

found that 61% suffered from exhaustion, 44% experienced depersonalization and 50% felt a lack of personal accomplishment.

Compassion satisfaction. Most of studies found moderate to high levels of compassion satisfaction. Four studies had lower than normal levels of compassion satisfaction (Berg et al., 2016; Berger et al., 2015; Kulesa, 2014; Sheppard, 2015). Surprisingly, the studies that reported high levels of secondary traumatic stress and burnout also reported above average levels of compassion satisfaction. For example, Petleski (2013) reported very high levels of secondary trauma (91.7% high-risk) and burnout (29.2% high-risk) and still reported above average levels of compassion satisfaction, with 50% having high levels and only 12.5% having low levels. Likewise, Hinderer et al. (2014), Hooper et al. (2010) and Slocum-Gori et al. (2011) found that their samples had above average levels of compassion satisfaction even though they also had above average levels of secondary traumatic stress and burnout. Smith's (2013) participants who were experiencing compassion fatigue noted that even though at times they felt a lack of compassion satisfaction, they also felt that compassion satisfaction was a factor that supported resiliency to compassion fatigue.

Factors influencing compassion fatigue and compassion satisfaction. Very few demographic variables were found to have a statistically significant relationship to compassion fatigue or compassion satisfaction. Six studies reported secondary traumatic stress and burnout to be greatest in less experienced, typically less than five years of nursing practice, or younger nurses (Berger et al., 2015; Burtson & Stichler, 2010; Hunsaker et al., 2015; Kelly et al., 2015; Romeo-Ratliff, 2014; Von Rueden et al., 2010). In contrast, Robins and colleagues (2009) found secondary traumatic stress and burnout

were greater in long-term employees, while Potter et al. (2010) found healthcare providers with eleven to twenty years experience had the most secondary traumatic stress. Seven studies found compassion satisfaction to be greater in older or more experienced healthcare providers (Berger et al., 2015; Dasan et al., 2015; Hegney et al., 2014; Hunsaker et al., 2015; Kelly et al., 2015; Robins et al., 2009; Romeo-Ratliff, 2014). While one study found compassion satisfaction greater in less experienced nurses (Yoder, 2010).

There were a few lifestyle factors related to compassion fatigue that emerged from the review of the literature. Hinderer et al. (2014) and Von Rueden et al. (2010) found a negative correlation between secondary traumatic stress and hobbies. Smart et al. (2014) also found that exercise correlated negatively with burnout, and positively with compassion satisfaction, and that marital status was protective against burnout. Positive coworker relationships and support from family and friends were also found to be protective against secondary traumatic stress (Hinderer et al., 2014; Von Rueden et al., 2010).

Pediatric studies. Ten studies were found in the literature examining compassion fatigue in pediatric healthcare providers. Taubman–Ben-Ari and Weintroub (2008) conducted a study to examine the impact of exposure to hospitalized children on personal growth and meaning in life for physicians and nurses in Israel. They found low levels of compassion fatigue in their sample, although nurses demonstrated significantly higher levels than physicians. Meadors and Lamson (2008) and later Meadors et al. (2009), conducted two studies to examine compassion fatigue in pediatric care providers from various professions including nurses, physicians, chaplains, and child-life specialists who

worked on general pediatric units, pediatric intensive care units and neonatal intensive care units at an American children's hospital. Both studies found comparatively low levels of compassion fatigue in these samples of pediatric care providers. The latter study demonstrated that 7.3% ($n = 12$) of the sample was at high-risk for compassion fatigue and 43% ($n = 72$) was at low-risk (Meadors et al., 2009). However, among the various professionals, nurses ($n = 23$) scored the highest on burnout, post-traumatic stress disorder and secondary traumatic stress, and lowest on compassion satisfaction. Robins and colleagues (2009) also studied compassion fatigue in pediatric healthcare providers from various disciplines, including nurses, physicians, social workers, child-life workers and other allied healthcare providers at an American pediatric hospital. They found that their sample was at low-risk for secondary traumatic stress, extremely low-risk for burnout, and had good potential for compassion satisfaction. In her doctoral work, Branch (2013) examined professional quality of life in nurses on four units of a pediatric hospital in the Midwest United States. She found that nurses had slightly lower levels of secondary traumatic stress and burnout, and slightly elevated levels of compassion satisfaction. Branch and Klinkenberg (2015) expanded the work of Branch (2013) by adding 92 non-nurses (social workers, respiratory therapists, physical therapists, occupational therapists, child-life therapists, patient care associates) to the previous sample that only included nurses. This combined sample had average compassion satisfaction scores, slightly higher than average secondary traumatic stress scores, and considerably higher burnout scores. There were not significant differences between the nurses and non-nurses in this sample. Li and colleagues (2014) examined the impact of post-traumatic stress disorder on compassion fatigue and compassion satisfaction on new

graduate nurses in a pediatric training program at a California children's hospital.

Overall, this sample demonstrated extremely low-risk for secondary traumatic stress and burnout, and good potential for compassion satisfaction. Sacco and colleagues (2015) included participants from neonatal and pediatric intensive care units and a pediatric cardiac care unit in their study comparing nurses in critical care areas to mixed acuity care areas. They did not provide an analysis of the pediatric versus non-pediatric care providers but did note that neonatal intensive care unit staff had the greatest percentage of staff in the high-risk for burnout category. Overall, their sample demonstrated low levels of secondary traumatic stress. Berger and colleagues (2015) demonstrated that pediatric nurses had slightly higher than average levels of secondary traumatic stress and burnout. They found 27.2% ($n = 65$) of their sample to be at high-risk for secondary traumatic stress and 29.3% ($n = 70$) to be at high-risk for burnout.

Although these studies demonstrated generally low levels of compassion fatigue in pediatric healthcare providers, there does exist a percentage of each sample that is at high-risk for compassion fatigue. Evidence from the qualitative literature provides a more compelling case for compassion fatigue in pediatric nurses. Maytum and colleagues (2004) conducted a qualitative study and interviewed nurses who worked with children with chronic conditions. Their participants cited caring for children with chronic conditions as a trigger for compassion fatigue. Specific examples included seeing too many painful procedures done to children, too much sadness and too much death. Lavoie and colleagues (2011) interviewed trauma nurses who work with both pediatric and adult populations. They cited incidents involving children as the most difficult and most likely to cause symptoms of post-traumatic stress disorder. There is no clear explanation as to

why pediatric healthcare providers generally demonstrate lower levels of compassion fatigue, as indicated in the quantitative literature. It is possible that professionals who feel they may be less resilient to the emotional challenges of working with children choose not to work in pediatric health care, or leave this field after some time. Taubman-Ben-Ari and Weintroub (2008) suggested that those who elect to work in this field likely display suitable qualities and coping strategies and consequently do not perceive the work setting as overly stressful.

There were no studies found in the literature specifically examining the effect that being a parent may have on the ability to provide pediatric care. It has been suggested that healthcare providers who are parents might be more vulnerable to the effects of working with traumatized children, especially if the child reminds them of their own (Alisic et al., 2014; Meadors & Lamson, 2008; Smith, 2013). In a qualitative study by Alisic et al. (2014) on the provision of psychosocial care to seriously injured children and their families in a pediatric emergency department, several of their participants believed that staff that had children had a more difficult time coping with traumatic injury in children than those that did not, and that there was a change in an individual after having children.

Summary

The concept of compassion fatigue was introduced in the nursing literature over twenty years ago and has since been studied in many different samples of helping professionals. More than thirty studies were found in the nursing literature, most published within the last five years. These studies have demonstrated that nurses, like other helping professionals, are also at risk for developing compassion fatigue. Pediatric

healthcare providers generally demonstrated lower than average levels of compassion fatigue in the reviewed studies, but it is speculated that those most affected by compassion fatigue may have opted out of pediatric care. Although these studies demonstrated that nurses are at risk for developing compassion fatigue, little is known about the process by which compassion fatigue develops and what factors may provide resiliency against its development. Understanding the role empathy plays may help target interventions to decrease compassion fatigue in nurses, which may ultimately improve care to patients, however, very few studies have been conducted directly examining the role of empathy in the development of compassion fatigue.

CHAPTER THREE

Theoretical Framework

The framework that was selected to guide this research is the *Compassion Stress and Fatigue Model* first described by Charles Figley in his 1995 book, and then later updated in 2002. Figley is the preeminent author on the topic of compassion fatigue and he laid the groundwork for the research that has been conducted with helping professionals from many different backgrounds. Although this model was not specifically created to explain the development of compassion fatigue in nurses, it has been used to guide research conducted with nurses (e.g., Smith, 2013). Models of compassion fatigue and secondary traumatic stress reactions do exist within the nursing literature (i.e., Coetzee & Klopper, 2010; Von Rueden et al., 2010); however, they place heavy emphasis on the effects of exposure and work-related stress and do not incorporate empathy or other personal attributes in the models. Smith (2013) created a structural model of the phenomenon of how resiliency interacted with the development of compassion fatigue in nurses. This model was adapted from Figley's 2002 model and incorporates elements of healthy and unhealthy empathy as discussed by her study participants. According to this model, healthy empathy may make a nurse more resilient and better able to cope with situations that may lead to compassion fatigue. Further nursing research using Figley's model may help to better understand the process by which compassion fatigue develops in nurses as well as the relationship between empathy and compassion fatigue.

Compassion Stress and Fatigue Model

In his first book on compassion fatigue, Figley presented two models, 1) a *model of compassion stress* and, 2) a *model of compassion fatigue* (1995, p. 250-1). He referred to these models as *trauma transmission models*, suggesting that “members of systems, in an effort to generate an understanding of the victimized member, require identification with the victim and his or her suffering” (Figley, 1995, p. 249). Figley later revised this model and presented it as the Compassion Stress and Fatigue Model (Figley, 2002); see Figure 2 below.

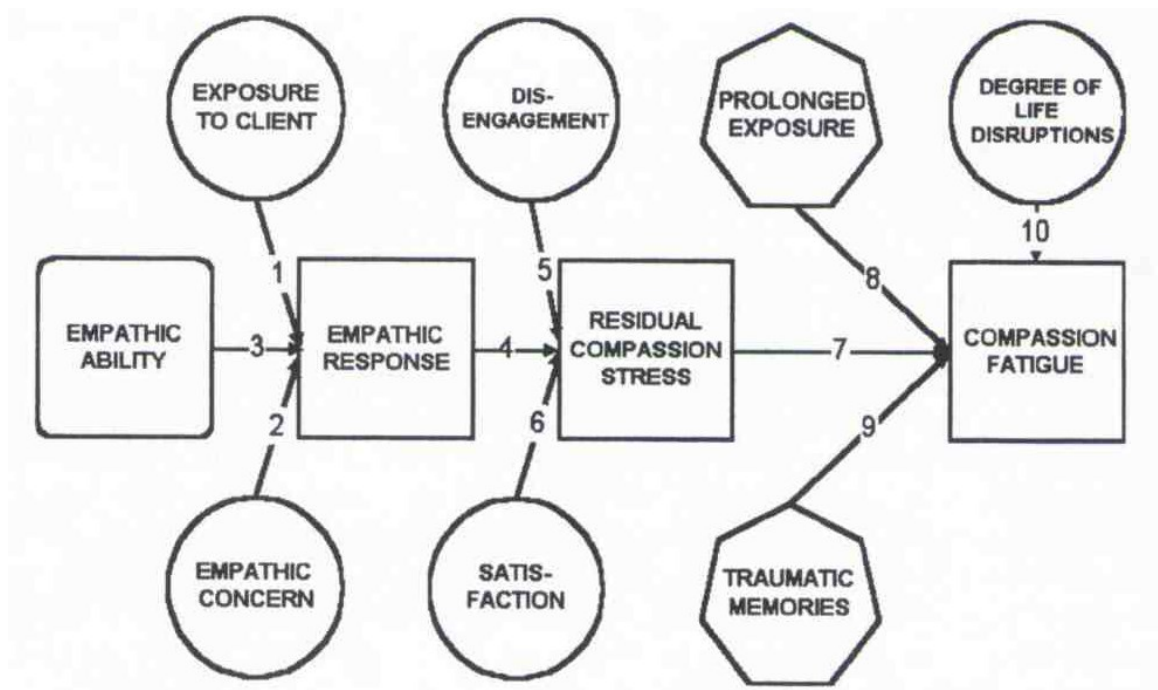


Figure 2. Compassion Stress and Fatigue Model (Figley, 2002, p. 1437).

Figley described this model as an etiological, or causal, model of compassion fatigue, and felt that it also contained within it an understanding of what was necessary to prevent and treat compassion fatigue. This model is based on the assumption that empathy and emotional energy are the driving force in effective working with the suffering (Figley, 2002). Figley believed that providing empathic and compassionate

care comes at a cost to the care provider, and that the other variables described within the model interact in a process that leads to an end result of compassion fatigue. Figley believed that without empathy there would be no compassion stress or compassion fatigue and therefore empathy is central to this model. Influencing the development of compassion fatigue are *prolonged exposure*, *traumatic memories* and *degree of life disruptions*. *Traumatic memories* are the recollections of very demanding or particularly sad clients that elicit an emotional reaction in the care provider (Figley, 2002). *Life disruptions* are unexpected changes in one's personal or professional life that demand attention and may cause distress, such as illness or lifestyle change (Figley, 2002). Traumatic memories and life disruptions may serve as triggers for compassion fatigue.

Strengths and Limitations of The Compassion Stress and Fatigue Model

As previously mentioned, The Compassion Stress and Fatigue Model (Figley, 2002) was selected as the theoretical foundation for this research because it includes empathy as the central factor in the development of compassion fatigue. However, Figley discusses empathy as an entirely unitary construct when we know that it is multidimensional and consists of cognitive, affective and behavioural components (Decety, 2011; Latimer et al., 2011; Tait 2008). He views empathy as being positive for the care recipient but entirely negative for the care provider. In his model, empathy predisposes one to compassion fatigue and does not include any potential mitigating factor that empathy might play in compassion fatigue.

Figley's model is useful not only for delineating the progression towards compassion fatigue, but also for providing points at which compassion fatigue may be prevented or treated. However, Figley's model does not include any factors that are

external to the client-provider relationship such as good coworker relationships and support from family and friends.

Unlike the compassion fatigue models of Coetzee & Klopper (2010) and Von Rueden et al. (2010), which indicate that prolonged exposure to suffering individuals is the root cause of compassion fatigue, Figley's model also incorporates triggers to compassion fatigue such as traumatic recollections and life disruptions. These triggers are individual differences that might lead one care provider to develop compassion fatigue, where another care provider in the same environment may not, and it may also help to explain the timing of the development of compassion fatigue. However, Figley's model does not incorporate any unique characteristics of an individual, other than empathy, as factors that may influence the development of compassion fatigue. Stamm (2002) indicated that hardiness may be a protective factor against compassion fatigue and Smith (2013) incorporated humor, flexibility and spirituality into her model.

Summary

The Compassion Stress and Fatigue Model created by Charles Figley (1995, 2002) incorporates the central concepts of empathy and exposure into a causal model which describes the process of the development of compassion fatigue from a place of unresolved compassion stress. Importantly, this model also provides a means to understand how to prevent and treat compassion fatigue, which may help researchers to create interventions in order to target at-risk populations. Although this model was developed from a psychotherapy perspective, it has been previously used and adapted in nursing research.

CHAPTER FOUR

Methodology

The goals of this research project were to determine the levels and relationships between the concepts of secondary traumatic stress, burnout and compassion satisfaction, as well as empathy in pediatric registered nurses. A secondary goal was to determine factors that may influence the development of compassion fatigue in pediatric nurses. A quantitative research approach was selected in order to quantify the concepts of interest and allow for a statistical analysis of the variables.

Objectives

The specific objectives of this research project are as follows:

- 1) To quantify levels of secondary traumatic stress, burnout, compassion satisfaction and empathy in a sample of pediatric registered nurses.
- 2) To quantify a relationship between empathy and secondary traumatic stress, burnout and compassion satisfaction.
- 3) To describe factors that may be related to secondary traumatic stress, burnout and compassion satisfaction.
- 4) To assess for differences in secondary traumatic stress, burnout and compassion satisfaction across four different pediatric care areas.

Design

This was a nonexperimental descriptive correlational research study. Levels of secondary traumatic stress, burnout, compassion satisfaction and empathy were assessed using validated instruments in an attempt to describe a sample of pediatric registered nurses with respect to these variables. A statistical analysis was performed to determine

the relationships between these variables. According to Polit and Beck, a correlation is “a relationship or association between two variables, that is, a tendency for variation in one variable to be related to variation in another” (2012, p. 224). No causal inferences were sought. There was no attempt to manipulate variables and no specific hypotheses were made. “The aim of descriptive correlational research is to describe relationships among variables rather than to support inferences of causality” (Polit & Beck, 2012, p. 226).

Setting

The IWK Health Centre located in Halifax, Nova Scotia, Canada is a tertiary care facility specializing in care for women and children. It is the largest facility of its kind in Atlantic Canada and the only Level 1 Pediatric Trauma Centre in the region. The pediatric services include three inpatient medical/surgical units, a pediatric intensive care unit, a neonatal intensive care unit, an inpatient mental health unit, an emergency department, operating facilities and ambulatory care clinics. It is a teaching hospital affiliated with Dalhousie University (“IWK Health Centre”, 2015). The pediatric care areas that were used as a setting for this research were: 1) the emergency department, 2) the medical unit, 3) the surgical unit, and 4) the hematology/oncology/nephrology unit. These four care areas provide care to pediatric patients from infancy until young adulthood. Children with medical or surgical needs are typically cared for until their sixteenth birthday and children with mental health concerns until their nineteenth birthday, however, these age limits are frequently extended for pediatric patients with chronic health conditions to allow for a smooth transition to adult care. There is no

designated palliative care unit within the health centre so these patients are typically cared for on the unit where they received care based on their diagnosis.

The emergency department provides care to children who present with a variety of emergent, urgent and non-urgent health concerns. The emergency department serves the local Halifax region as well as receiving patients referred in from peripheral emergency departments within the Maritime provinces. The average daily census is seventy to eighty patients but may exceed this considerably during the peak winter months. There are 16 full-time nurses and 24 part-time or casual nurses.

The medical unit is an inpatient unit for children under the care of one of the following services: general pediatrics, respirology, gastroenterology, infectious diseases, immunology, endocrinology or rheumatology. The average length of stay for patients is four to five days but could be as little as one day or as long as several months depending on the patient's health condition. The average daily census is 19 and the typical nursing assignment is three to four patients, but could be as high as five. Some patients require one-to-one nursing care. Assignments are based on patient acuity. There are 22 full-time nurses and 13 part-time nurses.

The surgical unit is an inpatient unit providing care to children under the care of a surgical service such as general surgery, cardiovascular surgery, orthopedics, plastics, otolaryngology, ophthalmology, urology, gynecology, neurosurgery or oral surgery. They also include cardiology, neurology and rehabilitation services. The average length of stay is four days but varies widely depending on the service. The typical nursing assignment is four patients but changes with the acuity of the patients on the unit. There are 40 nurses on this unit.

The hematology/oncology/nephrology unit provides inpatient and outpatient care to the children in the care of one of those three services including peritoneal dialysis and renal transplant. The average inpatient census is approximately twelve patients and a typical nursing assignment is three patients. There are 38 nurses on the inpatient unit and 20 on the outpatient unit.

Sample

Nurses in these four care areas are predominantly female and hold a baccalaureate degree in nursing. The total nursing population in these four care areas is approximately 175 registered nurses. A convenience sample of registered nurses from these care areas was sought.

Inclusion and exclusion criteria. Registered nurses who work in one of the four study care areas and who have direct patient contact were recruited. In order to be as inclusive as possible, no restrictions were set on length of employment or hours worked per week. Nurses could self-exclude if they did not wish to participate.

Sample size calculations. The primary study objective was to determine if there is a relationship between cognitive and affective components of empathy to elements of professional quality of life (i.e., secondary traumatic stress, burnout, compassion satisfaction). In order to calculate the necessary sample size a table in a clinical research manual was consulted (Hulley, Cummings, Browner, Grady, & Newman, 2007, p. 89). According to Hulley et al. (2007), with two-tailed significance (α) at .05 and a power estimate (β) of .20 and an expected correlation coefficient (r) of .30, 85 participants would be required to perform a correlation analysis. The expected correlation coefficient

of .30 was determined by reviewing the correlation analyses of previous research by Linn (2011) and Robins et al. (2009).

Procedure

Recruitment. Managers in each of the four care areas were consulted early in the planning phase and provided their support for this study. Once IWK Research Ethics Board (REB) approval was attained (Appendix A), the Principal Investigator (PI) contacted the managers again to advise them of the data collection process. The PI requested that managers allow access to each care area to discuss the research study with potential participants during staff meetings. A recruitment poster was placed in each care area (Appendix B). The PI provided the manager of each care area with an email providing information about the study and a link to the online version (Appendix C). The manager was asked to forward the email to potential participants. Paper versions of the questionnaire were distributed to potential participants' mailboxes.

Data collection. Potential participants could choose to complete either a paper version or an online version of the research questionnaire. A locked collection box was placed on each unit for submission of the paper versions. A secure link to the online version was attached to the email introducing the study. This study used Opinio survey software hosted by the Dalhousie University Information Technology Department. The data was encrypted and stored on a private project database at Dalhousie University. The questionnaire was anticipated to take approximately fifteen minutes to complete. A total of three email reminders were sent to potential participants to inform them of the study and request their participation.

Ethical Considerations

Careful attention was given to ethical considerations throughout the entire research process. A committee of experienced nurse researchers, from Dalhousie University and the IWK Health Centre, supervised this study. Input from key stakeholders was sought throughout the research process. REB approval was attained prior to the commencement of data collection.

Both the paper format and online version contained an information page that explained the study and what was required of the participant. Written consent was not sought as it was made clear in the information sheet that completion and submission of the study questionnaire was considered implied consent to participation (Appendix D). Potential participants could choose not to participate if they so wished and there was no consequence to them for doing so. Additionally, it was made clear in the questionnaire instructions that they could choose to omit any question they did not feel comfortable answering. Demographic questions that typically appear on surveys of this nature, such as gender, ethnicity and education level, were purposefully excluded from this research questionnaire, as they could potentially lead to identification of individual participants. Any potential harm or benefits, and any costs or rewards to the participant were explained. The PI did not anticipate any harm would occur to participants as a result of completing the study questionnaire. However, some of the questions could potentially arouse some negative feelings or memories for some participants that they may find upsetting. Contact information for the Employee Assistance Program was included in the study information sheet and participants were encouraged to seek assistance from this program if they experienced any negative effects. The research team was reassured by

the fact that the instruments included in this research questionnaire had been previously used by other researchers within the same health centre, and there had been no reports of participants experiencing distress as a result of completing the questionnaires. It was not possible to provide participants with their individual scores on the instruments, however, it was noted on the study information sheet that participants could request a self-score version of the Professional Quality of Life Scale Version 5 from the research assistant. The self-score version includes a guide to interpreting the scores on the three sub-scales (compassion satisfaction, burnout and secondary traumatic stress) and provides strategies to deal with scores that indicate a great deal of work-related stress.

Participants could choose to complete the survey at a time that was most convenient for them. Participants were provided with a coffee voucher and the chance to win one of two \$50 gift certificates to a local business as compensation for their time.

Survey data was maintained in a secure location and did not contain any participant identifiers. All staff and advisors involved in this study completed the Tri-Council Policy Statement 2 Course on Research Ethics (“Panel on Research Ethics”, 2015).

Instrumentation

The research questionnaire (Appendix E) comprised four sections: 1) demographic, personal and work-life questions (Appendix F), 2) Professional Quality of Life Scale Version 5 (ProQOL, Stamm, 2009) (Appendix G), 3) Interpersonal Reactivity Index (IRI, Davis, 1980)(Appendix H), and 4) questions about their thoughts on compassion fatigue (Appendix I).

Demographic, personal and work-life questions. Although the primary research goal was to examine the relationship between empathy and elements of professional quality of life, a secondary goal was to determine if there are other personal factors in an individual that may also impact professional quality of life. These questions were aimed at gathering data related to a nurse's level of exposure and other potential triggers for compassion fatigue as suggested by Figley's Compassion Stress and Fatigue Model (2002). Examples of exposure questions include length of years in nursing, hours worked per week, and amount of overtime shifts. There were questions regarding work-life such as shiftwork and supportive work environment, and work-life balance such as participation in exercise and leisure activities. Personal questions such as age, marital status and if they are a parent were also included.

The Professional Quality of Life Scale. The ProQOL Version 5 (Stamm, 2009) was selected for use in this research study for several reasons. Firstly, it "is the most commonly used measure of the positive and negative effects of working with people who have experienced extremely stressful events" (Stamm, 2010). There are many references in the nursing and non-nursing literature using this measure and reporting results which allows for comparison across populations. Secondly, the ProQOL was developed for use in helping professionals, including nurses. It uses language that is familiar to nurses and again allows for interpretation of results in a nursing sample to norms reported by the scale creators. Thirdly, it is accessible free of charge to researchers by the creators who also include a manual for its usage and interpretation, and allow researchers to submit their data to a databank for comparison to other similar populations.

The ProQOL 5 is the most current version of the ProQOL. The original version was called the Compassion Fatigue Test created by Charles Figley in the late 1980s. Stamm and Figley then began a collaboration that saw the addition of compassion satisfaction items in the 1990s and the name changed to the Compassion Satisfaction and Fatigue Test (Stamm & Figley, 1996). The current ProQOL is a 30 item, Likert-style instrument, which assesses the frequency in the last 30 days of how often the respondent has had certain feelings related to their work as a “helper”. It includes ten questions in each of the following subscales: 1) compassion satisfaction, 2) burnout, and, 3) secondary trauma. A score for an individual is obtained on each subscale and cannot be combined to form a single cumulative score. Participants rank their answer from 1 (never) to 5 (very often) for a total possible score of 50 on each subscale. The ProQOL demonstrates good construct validity (Stamm, 2010). Reliability scores are high (Stamm, 2010). Although the scores cannot be summed to provide an overall score for professional quality of life, there are instructions in the ProQOL manual for interpreting scores in combination to yield a risk profile (Stamm, 2010). The ProQOL is not a diagnostic tool but can yield information about how an individual or an organization is able to balance the positive and negative experiences related to their work (Stamm, 2010).

The Interpersonal Reactivity Index. The IRI (Davis, 1980) was selected for use in this research study because it measures both the cognitive and affective components of empathy. The IRI consists of four subscales; two scales measure cognitive empathy (perspective taking and fantasy), and two scales measure affective empathy (empathic concern and personal distress). There are a total of 28 items, seven in each subscale. Scores cannot be combined for a cumulative empathy score. Items are Likert-style and

participants respond to each statement on a five-point continuum from “Does not describe me well” to “Describes me well”. Each response is scored from 0 - 4 for a possible total score on each subscale of 28. The scale was developed with undergraduate psychology students and not specifically designed for use with healthcare professionals, although it has been implemented in this population (Kershenstine, 2009; Latimer et al., unpublished; Linn, 2011; Oman, Thoresen, & Hedberg, 2010; Robins et al., 2009; Webster, 2010). Mean scores vary for each subscale with means for women being significantly higher than those for men. Cronbach’s alpha for females range from .70 to .78 and for males from .75 to .78. Test-retest reliability range from $r = .62$ to $r = .81$ for females, and $r = .61$ to $r = .79$ for males over 60 to 75 days. Davis (1983) also reported intercorrelations for the four IRI subscales.

Thoughts on compassion fatigue. Participants were asked questions about their previous knowledge and opinions about compassion fatigue. Included in this section was an open-ended question: *In your opinion, what are some possible triggers or other contributing factors to developing compassion fatigue?* An open-ended question was used to allow participants to provide as much information as they wanted and not limit them to forced-choice answers.

Analysis

All raw data were input into the IBM SPSS Statistics™ Version 21 software program. This program was used to perform all statistical analyses. Raw data was first examined for any missing or highly unusual data points. Data were plotted and examined for normality before analyses were performed. The analysis plan for each specific research objective is described below.

Objective one — To quantify levels of secondary traumatic stress, burnout, compassion satisfaction and empathy in a sample of pediatric registered nurses. The ProQOL was used to assess levels of secondary traumatic stress, burnout and compassion satisfaction in the study sample of pediatric nurses. Raw scores on each of the three subscales were converted to standardized *t*-scores according to instructions in the ProQOL manual (Stamm, 2010, p. 16). The ProQOL manual (Stamm, 2010) provides cut scores for each subscale to enable the researcher to assess risk level by determining the percentage of respondents that fall below the 25th percentile or above the 75th percentile. These cut scores were used to describe this sample as indicated. The IRI was used to assess levels of empathy in the sample of pediatric nurses. Scores on each of the four subscales were compared using independent samples *t*-tests to the means reported by Davis (1979, 1980). A significance level of .05 was set for this analysis. The means for women were used for comparison, as the study population is predominantly female.

Objective two — To quantify a relationship between empathy and secondary traumatic stress, burnout and compassion satisfaction. To achieve this main study objective, Pearson correlation coefficients were calculated between each of the four IRI subscales and the three ProQOL subscales. A bivariate correlation matrix was created to represent the correlations. Additionally, intercorrelations of the subscales within each measure were calculated. A two-tailed significance level of .05 was set for this analysis.

Objective three — To describe factors that may be related to secondary traumatic stress, burnout and compassion satisfaction. The demographic, personal and work-life data that was collected was analyzed using a Spearman's correlation to evaluate the strength of each variable's relationship to secondary traumatic stress,

burnout and compassion satisfaction. A two-tailed significance level of .05 was set for this analysis. As suggested by Polit and Beck (2012), responses to the open-ended question were coded and categories were determined in a post-hoc fashion. Frequencies of responses belonging to each category were calculated.

Objective four — To assess for differences in secondary traumatic stress, burnout and compassion satisfaction across four different pediatric care areas. In order to assess for differences on the ProQOL subscales across the four care areas, an analysis of variance (ANOVA) was performed. A significance level of .05 was set for this analysis.

Application to the Compassion Stress and Fatigue Model

Figley's Compassion Stress and Fatigue Model (2002) was the theoretical framework that guided this research. The relationships within this model were examined using the data collected. Aspects of the model were investigated using the study questionnaire. Table 1 below summarizes how the elements from Figley's Compassion Stress and Fatigue Model (2002) were examined.

Table 1

Examining elements of Figley’s Compassion Stress and Fatigue Model (2002).

Elements from Figley’s Compassion Stress and Fatigue Model (2002)	How each element was measured/operationalized
Short-term exposure	Hours worked per week
Empathic concern	Empathic concern subscale of IRI
Empathic ability	Perspective taking subscale of the IRI
Disengagement	Fantasy subscale of IRI Professional boundaries question Self-care questions (exercise, leisure and hobbies)
Satisfaction	Compassion satisfaction subscale of ProQOL
Prolonged exposure	Length of time as a nurse and a pediatric nurse
Traumatic memories	Personal distress subscale of the IRI Status as a parent
Degree of life disruptions	Work-life questions (overtime, shift work, marital status, supportive work environment)
Compassion fatigue	Secondary trauma and burnout subscales of the ProQOL

CHAPTER FIVE

Results

The aim of this chapter will be to present the data collected from the research questionnaire and provide an analysis based on the objectives that were previously outlined.

Data Collection

One hundred and nine questionnaires were returned which represents a response rate of approximately 62%. There was no attempt made to collect data on those who did not participate. One questionnaire was incomplete and was therefore removed from the sample leaving 108 questionnaires eligible for data analysis. This sample size exceeds the minimum number of 85 participants required for a correlation analysis. Eighty questionnaires were completed in paper format and 28 were submitted electronically. Data was input into the IBM Statistical Package for the Social Sciences™ Version 21 (SPSS) software program that was used to tabulate frequencies and perform statistical analyses. Data was entered manually into SPSS by two members of the research team and audited by a third member to ensure accuracy of data transcription. Data collection took place between November 2015 and January 2016.

Missing Data

Fifteen questionnaires had one or more data points missing. Thirteen of these were a single data point and two of these had three values missing. Missing data was replaced with the median value for that item.

Demographic and Personal Data

The age of participants in this study was evenly distributed with the majority being fairly evenly divided between the 26 to 35 year group (41%, $n = 44$), and the 36 to 50 year group (38%, $n = 41$). There was a small percentage younger than 26 (9%, $n = 10$), and a small percentage older than 50 (12%, $n = 13$). The majority of participants were married or living common-law (69%, $n = 75$), and just over half reported they have children (53%, $n = 57$). This sample has a good level of physical activity with only 17% ($n = 18$) reporting little to no physical activity. This sample also demonstrated good involvement with hobbies and leisure activities with 83% ($n = 90$) reporting participation. The demographic and personal data of the participants is displayed in Appendix J.

Work Related Data

This sample was well distributed across the four pediatric care areas with the medical unit having the smallest representation with 22 participants and the hematology/oncology/nephrology unit having the most participants with 30. Response rates for each unit are as follows: emergency department approximately 73%, medical unit approximately 63%, surgical unit approximately 68% and hematology/oncology/nephrology unit approximately 52%. Thirty-one percent of participants had been practicing as a nurse for five or less years ($n = 33$), with 35% having worked in pediatrics for less than six years ($n = 38$). Twenty-eight percent had worked in their current care area for less than three years ($n = 30$). The majority worked more than 32 hours per week (79%, $n = 85$), with the remainder being part-time or casual ($n = 23$). An overwhelming majority were shift workers (85%, $n = 92$). Forty-five

percent reported regularly working extra shifts above their scheduled hours ($n = 49$).

Work related data is presented in Appendix K.

Attitudes in the Workplace

Three questions were included on workplace attitudes. The majority of participants indicated that their colleagues demonstrated positive attitudes towards their work (84%, $n = 91$), and that their work environment was supportive (82%, $n = 89$).

Twenty percent of participants acknowledged that professional boundaries sometimes become blurred in their relationship with patients and families ($n = 22$). Participants' responses are displayed in Appendix L.

Objective one — To quantify levels of secondary traumatic stress, burnout, compassion satisfaction and empathy in a sample of pediatric registered nurses

Professional Quality of Life Scale. The scores on the three subscales of the ProQOL were calculated for the sample of pediatric nurses. Each subscale was plotted and examined for normality. Cronbach's alpha was calculated for each subscale and are as follows: secondary traumatic stress .79, burnout .74, and compassion satisfaction .88. These are nearly identical to those reported by Stamm (2010), which were: secondary traumatic stress .81, burnout .75, and compassion satisfaction .88. The mean raw scores for each subscale were as follows: secondary traumatic stress $\bar{X}=20.58$ ($SD = 4.92$, range 11-40), burnout $\bar{X}=21.49$ ($SD = 4.29$, range 11-35), and compassion satisfaction $\bar{X}=40.10$ ($SD = 4.94$, range 28-50). Raw scores were converted to t -scores according to the ProQOL manual (Stamm, 2010). The conversion to t -scores produced mean scores of 50 and a standard deviation of 10 on all three subscales. The ProQOL manual (Stamm, 2010) provides cut scores for each subscale such that scores can be stratified into low,

moderate and high-risk or protective categories. According to the ProQOL manual (Stamm, 2010), about 25% of helping professionals will score in the low range, 50% in the moderate range, and 25% in the high range on each subscale. Risk and protective categories for the pediatric nurses are displayed in Table 2 below.

Table 2

Distribution of secondary traumatic stress, burnout and compassion satisfaction scores into risk and protective categories

	Secondary Traumatic Stress <i>n</i> (%)	Burnout <i>n</i> (%)	Compassion Satisfaction <i>n</i> (%)
Low	20 (18.5)	30 (27.8)	29 (26.9)
Moderate	62 (57.4)	55 (50.9)	55 (50.9)
High	26 (24.1)	23 (21.3)	24 (22.2)

Interpersonal Reactivity Index. The scores on the four subscales of the IRI were tabulated and compared to the values reported by the scale's creator, Davis (1979, 1980). Each subscale was plotted and examined for normality. Cronbach's alpha was calculated for each subscale and are as follows: perspective taking .75, fantasy .80, personal distress .76, and empathic concern .72. These are nearly identical to the alpha coefficients reported by Davis (1979, 1980) for female participants, which were: perspective taking .75, fantasy .79, personal distress .75, and empathic concern .73. Ranges of scores on each subscale were as follows: perspective taking 10-28, fantasy 2-27, personal distress 0-19, and empathic concern 6-28. Independent samples *t*-tests were performed to evaluate the difference in mean scores from the study sample to the population of females reported by Davis (1979, 1980). Significant differences were noted on three of the four subscales. The pediatric nurses in this study had significantly

higher mean scores on the perspective taking scale (19.74 versus 17.96, $p < .001$) and significantly lower mean scores on the fantasy (12.94 versus 18.75, $p < .001$) and personal distress scales (8.32 versus 12.28, $p < .001$) than the female norms reported by Davis (1979, 1980). The pediatric nurses scored slightly less on the empathic concern scale than the female norms (21.48 versus 21.67), but this difference was not statistically significant ($p = .62$). Considerable differences were noted in the fantasy and personal distress scales in the pediatric nurses sample when compared to the IRI female norms. The IRI was developed using undergraduate psychology students. The average age of participants in the Davis (1979, 1980) IRI instrument development study was not reported, but based on the fact that they were undergraduate students their average age can be assumed to be less than 25 years of age. For comparative purposes the pediatric nurse sample was then subdivided into 25 years old and younger ($n = 10$) and 26 years old and older ($n = 98$). Significant differences were noted between the older nurses and the younger nurses on the fantasy and personal distress scales ($p = .001$ and $p = .031$, respectively) with the younger nurses scoring much lower, but not the perspective taking scale or empathic concern scale. When the younger pediatric nurses were compared to the IRI norms, the mean scores were not significantly different: perspective taking scale $p = .54$, fantasy scale $p = .81$, personal distress scale $p = .44$, and empathic concern scale $p = .051$. The significance of these differences for the younger nurses is only for the purpose of noting a trend of variation on mean subscale scores by age. As there were only ten nurses younger than 26 years of age, the statistical significance of these findings is limited. The IRI results for the pediatric nurses are displayed in Appendix M.

Objective two — To quantify a relationship between empathy and secondary traumatic stress, burnout and compassion satisfaction

A bivariate correlation matrix was created including the four IRI subscales and the three ProQOL subscales. This is represented below in Table 3. A Pearson’s correlation (r value) and the two-tailed significance (p value) were calculated and displayed in each cell of Table 3 below.

Table 3

Bivariate correlation matrix of IRI and ProQOL subscales

	Perspective Taking	Fantasy	Personal Distress	Empathic Concern	Secondary Traumatic Stress	Burnout	Compassion Satisfaction
Perspective Taking	—						
Fantasy	.073 .454	—					
Personal Distress	-.273 .004	.202 .036	—				
Empathic Concern	.553 .000	.173 .074	-.003 .975	—			
Secondary Traumatic Stress	.097 .319	.184 .057	.212 .027	.184 .057	—		
Burnout	-.181 .060	.065 .501	.278 .004	-.214* .026	.575 .000	—	
Compassion Satisfaction	.209 .030	-.034 .727	-.320 .001	.328 .001	-.122 .207	-.628 .000	—

Note. First value in cell is Pearson’s correlation (r). Second value in cell is two-tailed significance (p). Significant relationships are bolded.

These correlations revealed a significant positive relationship between perspective taking and compassion satisfaction ($r = .209, p = .03$), and a negative but not statistically significant relationship with burnout ($r = -.181, p = .06$). There was no relationship

between perspective taking and secondary traumatic stress. There was a weak positive relationship between fantasy and secondary traumatic stress ($r = .184, p = .057$), and no relationship between fantasy and burnout or compassion satisfaction. Empathic concern was negatively correlated with burnout ($r = -.214, p = .026$), but demonstrated a weak positive relationship with secondary traumatic stress ($r = .184, p = .057$). Empathic concern had a strong positive relationship with compassion satisfaction ($r = .328, p = .001$). Personal distress was positively correlated with both secondary traumatic stress ($r = .212, p = .027$) and burnout ($r = .278, p = .004$), and had a strong negative correlation with compassion satisfaction ($r = -.320, p = .001$).

Objective three — To describe factors that may be related to secondary traumatic stress, burnout and compassion satisfaction

Mean scores for secondary traumatic stress, burnout and compassion satisfaction were calculated for each response to the demographic, personal and work-life factors as shown in Table 4 below. These factors were categorical in nature and nonparametric therefore a Spearman's correlation was performed to assess for the significance of a relationship between each variable to secondary traumatic stress, burnout or compassion satisfaction.

Table 4

Mean secondary traumatic stress, burnout and compassion satisfaction scores for each variable

Variable	<i>n</i> (%)	Secondary Traumatic Stress Mean <i>t</i> -score (<i>SD</i>)	Burnout Mean <i>t</i> -score (<i>SD</i>)	Compassion Satisfaction Mean <i>t</i> -score (<i>SD</i>)
Age				
20-25	10 (9)	54.91 (9.34)	53.05 (8.36)	49.59 (6.15)
26-35	44 (41)	50.52 (9.35)	50.23 (9.33)	48.73 (8.29)
36-50	41 (38)	47.87 (10.99)	48.43 (11.49)	52.78 (11.19)
51 and older	13 (12)	51.19 (8.5)	51.82 (8.2)	45.82 (12.2)
Relationship status				
Single	28 (26)	52.3 (9.67)	50.85 (10.25)	49.21 (8.25)
Married or common-law	75 (69)	49.06 (10.11)	49.73 (9.98)	49.85 (10.6)
Separated, divorced or widowed	5 (5)	51.25 (9.79)	49.32 (10.73)	56.68 (8.67)
Parent				
Yes	58 (54)	49.48 (10.61)	50.16 (10.01)	50.58 (10.57)
No	50 (46)	50.6 (9.32)	49.81 (10.08)	49.33 (9.36)
Physical Activity				
Frequently	55 (51)	48.48 (8.47)	48.09 (10.87)	51.30 (9.87)
Often	35 (32)	52.88 (11.65)	52.05 (9.01)	49.27 (8.97)
Rarely	18 (17)	49.04 (10.22)	51.83 (8.22)	47.43 (12.06)
Never	0 (0)			
Participation in hobbies/leisure				
Strongly agree	35 (32)	50.85 (10.75)	47.49 (9.26)	53.53 (8.43)
Agree	55 (51)	49.52 (9.21)	50.78 (10.3)	48.08 (10.33)
Neutral	14 (13)	48.52 (11.21)	52.02 (10.41)	48.64 (11.09)
Disagree	4 (4)	54.40 (11.66)	54.1 (9.4)	50.3 (9.27)
Strongly disagree	0 (0)			
Years as a pediatric nurse				
0-2 years	21 (19)	50.75 (10.96)	47.81 (10.41)	50.5 (9.98)
3-5 years	17 (16)	51.8 (9.26)	54.75 (6.85)	49.08 (5.73)
6-15 years	35 (32)	49.98 (8.99)	50.39 (10.36)	48.58 (10.0)
16 years or more	35 (32)	48.81 (11.08)	48.46 (10.37)	51.59 (11.76)
Hours worked/week				
Casual	5 (5)	52.07 (3.96)	41.86 (4.36)	57.9 (8.71)
16 or less	2 (2)	44.75 (11.5)	43.03 (8.24)	50.81 (10.03)
17 to 31	16 (15)	49.83 (9.48)	51.33 (12.86)	47.26 (11.38)
32 or more	85 (79)	50.03 (10.4)	50.39 (9.51)	50.03 (9.71)

Variable	<i>n</i> (%)	Secondary Traumatic Stress Mean <i>t</i> -score (<i>SD</i>)	Burnout Mean <i>t</i> -score (<i>SD</i>)	Compassion Satisfaction Mean <i>t</i> -score (<i>SD</i>)
Shift work				
Yes	93 (86)	49.45 (8.79)	49.67 (10.07)	49.41 (10.17)
No	15 (14)	53.42 (15.56)	52.04 (9.6)	53.64 (8.27)
Extra shifts				
More than 1/month	14 (13)	53.61 (11.06)	53.19 (11.63)	51.53 (9.73)
Once every 1-3 months	35 (32)	50.09 (10.93)	47.82 (9.6)	52.25 (8.9)
Rarely	41 (38)	48.43 (9.65)	49.27 (8.67)	49.34 (10.14)
Never	17 (16)	50.73 (7.62)	53.66 (11.64)	45.74 (11.26)
Colleagues have positive attitude				
Strongly agree	21 (19)	50.46 (10.49)	47.25 (10.06)	54.76 (9.63)
Agree	70 (65)	49.86 (10.0)	50.44 (9.15)	49.06 (9.44)
Neutral	15 (14)	48.14 (8.65)	50.72 (13.57)	47.23 (12.0)
Disagree	2 (2)	64.06 (10.06)	58.18 (3.3)	53.85 (n/a)
Strongly disagree	0 (0)			
Professional boundaries are blurred				
Strongly agree	1 (1)	44.75 (n/a)	55.85 (n/a)	55.87 (n/a)
Agree	21 (19)	56.27 (11.77)	50.85 (9.07)	52.98 (8.39)
Neutral	9 (8)	50.4 (7.31)	47.82 (9.04)	47.09 (11.46)
Disagree	51 (47)	49.57 (9.18)	51.39 (9.66)	48.66 (9.44)
Strongly disagree	26 (24)	45.84 (8.89)	47.29 (11.61)	51.0 (11.61)
Supportive work environment				
Strongly agree	26 (24)	49.05 (10.11)	49.57 (9.41)	50.18 (9.69)
Agree	63 (58)	49.07 (10.11)	48.08 (9.71)	50.98 (9.6)
Neutral	17 (16)	53.84 (7.97)	57.63 (8.78)	44.91 (10.79)
Disagree	1 (1)	71.17 (n/a)	60.51 (n/a)	53.85 (n/a)
Strongly disagree	1 (1)	46.78 (n/a)	41.86 (n/a)	66.0 (n/a)

Note. Bolded values indicate statistically significant Spearman's correlation (ρ) ($p < .05$)

The only variable to have a statistically significant relationship with secondary traumatic stress was the “blurring of professional boundaries” in the nurse-patient relationship variable ($\rho = -.285, p = .003$). A further analysis of the “blurring of professional boundaries” variable was performed with an independent samples *t*-test by

grouping the strongly agree and agree respondents into one group and the strongly disagree and disagree respondent into another group, while excluding the neutral responses. The respondents who agreed that professional boundaries were sometimes blurred in their relationship with their patients had a significantly higher mean secondary traumatic stress score than those who were in disagreement (55.74 versus 48.31, $p = .002$).

Burnout demonstrated significant relationships with amount of physical activity ($\rho = .202, p = .036$) and supportive work environment ($\rho = .196, p = .042$). These relationships indicate that more physical activity was associated with lower burnout, and the perception of a less supportive work environment was associated with higher burnout. However, an ANOVA did not detect significant differences for the physical activity variable ($p = .130$). Only two participants were in disagreement that their work environment was supportive so it is difficult to attach much significance to this finding.

Compassion satisfaction demonstrated a significant relationship with participation in hobbies and leisure activities ($\rho = -.199, p = .039$); meaning those who had greater participation in hobbies and leisure activities had greater compassion satisfaction scores. However, an ANOVA did not reach statistical significance at the .05 level for this variable ($p = .082$).

Responses to the open-ended question. Participants were invited to offer in their own words their opinion on what might be contributing factors to the development of compassion fatigue. Eighty-two of the 108 respondents contributed a response to this open-ended question. This represents a 76% response rate to this portion of the questionnaire. Their responses fell into four broad categories: *workplace, client, home-*

life and self-related. The first, workplace related theme, included responses about the work environment and relations with coworkers and management. The most common responses in this category were heavy workload (54%, $n = 44$), an unsupportive workplace (21%, $n = 17$), and conflict with colleagues (18%, $n = 15$). The second, client related theme, included responses about the nurse-client relationship or patient specific triggers. The most common responses in this category were traumatic events including patient deaths (41%, $n = 34$), long-term patients (12%, $n = 10$), and rude or aggressive family members (9%, $n = 7$). The third, home-life related theme, included responses about work-life balance and interference from one's personal life on one's work. The most common responses in this category were personal and family emergencies and stressors (26%, $n = 21$), poor work-life balance (13%, $n = 11$), lack of support in personal life (6%, $n = 5$), and having a child that reminds you of a patient (4%, $n = 3$). The fourth and final, self-related theme, included responses related to personal characteristics. The most common responses in this category were an inability to separate oneself from work (10%, $n = 8$), failure to maintain professional boundaries (6%, $n = 5$), poor coping skills (6%, $n = 5$), expecting too much from oneself (6%, $n = 5$), and poor personal health or fatigue (6%, $n = 5$). All of the participants' responses and frequencies are displayed in Appendices N, O, P and Q.

Thoughts on compassion fatigue. Participants were asked a few opinion questions on the topic of compassion fatigue in an attempt to gain information on the importance and relevance of the topic to pediatric nurses within the IWK Health Centre. Sixty-seven percent ($n = 72$) had heard of the term compassion fatigue. Only 17% ($n = 18$) believed their workplace offered any assistance in dealing with compassion fatigue.

Ninety-three percent ($n = 100$) believed that compassion fatigue was an important issue in their workplace. Participants' responses are displayed in Appendix R.

Objective four — To assess for differences in secondary traumatic stress, burnout and compassion satisfaction across four different pediatric care areas

This sample of nurses from the IWK Health Centre were considered pediatric nurses and it was not a priority objective of this study to evaluate differences between specialty care areas. The effect size for secondary traumatic stress between pediatric healthcare providers in hematology/oncology and the emergency department in Branch and Klinkenberg (2015) was calculated to be .44, and for burnout between the medical/surgical unit and the emergency department in Berger et al. (2015) to be .46. In both of these studies the emergency department staff had lower mean secondary traumatic stress and burnout scores using the ProQOL. Based on these two studies a medium effect size was assumed in the a priori sample size calculation. An ANOVA with statistically significant findings for a medium effect size would require 45 participants per group (Cohen, 1992). However, post-hoc effect sizes for the current study were calculated to be much higher than those reported in the literature: secondary traumatic stress = .77 (between hematology/oncology/nephrology unit and medical unit), burnout = .98 (between surgical unit and medical unit), and compassion satisfaction = .59 (between medical unit and surgical unit). According to Cohen (1992), a large effect size only requires 18 participants per group. Therefore, an ANOVA was performed to assess for trends in these groups. Significant differences ($p < .05$) were noted on all three subscales of the ProQOL. The mean scores on each subscale of the ProQOL for each care area are displayed in Table 5 below.

Table 5

Mean secondary traumatic stress, burnout and compassion satisfaction scores by care area

	Secondary Traumatic Stress Mean <i>t</i> -score (<i>SD</i>)	Burnout Mean <i>t</i> - score (<i>SD</i>)	Compassion Satisfaction Mean <i>t</i> -score (<i>SD</i>)
Emergency Department (<i>n</i> = 29)	48.74 (8.65)	49.98 (8.65)	47.56 (9.66)
Medical Unit (<i>n</i> = 22)	46.23 (6.88)	44.25 (6.81)	53.15 (8.48)
Surgical Unit (<i>n</i> = 27)	49.87 (9.39)	54.21 (12.5)	47.02 (12.07)
Hematology/Oncology/Nephrology Unit (<i>n</i> = 30)	54.10 (12.4)	50.45 (9.01)	52.73 (8.17)

Table 6 below displays the SPSS output for the ANOVA.

Table 6

ANOVA of ProQOL subscales by care area

ANOVA						
		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	Sig.
STS	Between Groups	863.27	3	287.76	3.042	.032
	Within Groups	9836.73	104	94.58		
	Total	10700.00	107			
BO	Between Groups	1212.91	3	404.30	4.432	.006
	Within Groups	9487.10	104	91.22		
	Total	10700.00	107			
CS	Between Groups	856.06	3	285.35	3.015	.033
	Within Groups	9843.94	104	94.65		
	Total	10700.00	107			

Note. STS = secondary traumatic stress, BO = burnout, CS = compassion satisfaction, *df* = degrees of freedom

Post-hoc Scheffé tests revealed a significant difference between the higher mean secondary traumatic stress score of the hematology/oncology/nephrology unit and the

lower mean score of the medical unit ($p = .045$), and the higher mean burnout score of the surgical unit and the lower mean score of the medical unit ($p = .006$). The post-hoc Scheffé test did not isolate specific unit differences on the compassion satisfaction scale.

Application to Figley's Compassion Stress and Fatigue Model

Figley's Compassion Stress and Fatigue Model (2002) was the theoretical framework that guided this research study. The relationship of each element in the Compassion Stress and Fatigue Model (Figley, 2002) to secondary traumatic stress, burnout and compassion satisfaction in the pediatric nurses was quantified by calculating a Spearman's correlation for categorical variables and a Pearson's correlation for continuous variables. The results of this analysis are summarized in Table 7 below.

Table 7

Relationship of Compassion Stress and Fatigue Model (Figley, 2002) to secondary traumatic stress, burnout and compassion satisfaction in pediatric nurses

Element of Compassion Stress and Fatigue Model	How it was measured/ operationalized	Relationship to Secondary Traumatic Stress ρ/r^* (p)	Relationship to Burnout ρ/r^* (p)	Relationship to Compassion Satisfaction ρ/r^* (p)
Exposure	Hours worked per week	-.017 (.861)	.128 (.187)	-.005 (.960)
Empathic concern	Empathic concern scale of IRI	.184 (.057)	-.214 (.026)	.328 (.001)
Empathic ability	Perspective taking scale of the IRI	.097 (.319)	-.181 (.06)	.209 (.03)
Disengagement	Fantasy scale of the IRI	.184 (.057)	.065 (.501)	-.034 (.727)
	Physical activity	-.061 (.531)	-.202 (.036)	.123 (.203)
	Hobbies	.018 (.855)	-.188 (.052)	.199 (.039)
	Blurred boundaries	.285 (.003)	.109 (.263)	.050 (.605)
Prolonged exposure	Years in nursing	-.112 (.248)	-.067 (.494)	.103 (.290)
	Years in pediatric nursing	-.127 (.189)	-.084 (.390)	.084 (.385)
Traumatic memories	Personal distress scale of the IRI	.212 (.004)	.278 (.026)	-.32 (.001)
	Status as a parent	-.103 (.289)	.009 (.924)	.062 (.525)
Degree of life disruptions	Shift work	-.037 (.700)	-.087 (.368)	-.158 (.103)
	Overtime	.069 (.479)	-.026 (.787)	.187 (.053)
	Supportive work environment	-.153 (.115)	-.196 (.042)	.060 (.537)
	Marital status	-.174 (.071)	-.022 (.821)	-.037 (.707)

*Note. Spearman's ρ was calculated for categorical variables and Pearson's r was calculated for continuous variables. Significant relationships ($p < .05$) are bolded

Summary

In this study of 108 pediatric nurses from four care areas within a large pediatric hospital, the nurses demonstrated high interest in this topic by participating with a strong response rate for this type of research. Data was normally distributed with very few missing values that allowed for the use of parametric statistical tests. Sufficient data was collected to perform an analysis for all main study objectives. The results indicated that 81.5% of the pediatric nurses in this sample were at moderate to high-risk for secondary traumatic stress while demonstrating slightly lower than average levels of burnout and compassion satisfaction. Overall, the pediatric nurses had good levels of perspective taking and empathic concern and very low levels of fantasy and personal distress. Fantasy scores were significantly higher for the youngest participants. Perspective taking and empathic concern both demonstrated significant positive correlations with compassion satisfaction and personal distress was the only component of empathy to have a significant relationship with all three elements of professional quality of life. The blurring of professional boundaries emerged as the only variable to have a significant relationship with compassion fatigue. A large proportion of participants responded to the open-ended question that resulted in the identification of four categories of triggers for compassion fatigue: workplace, client, home-life and self-related. This provided a rich source of data to complement the quantitative data. There were significant differences in professional quality of life noted across each of the four pediatric care areas with the hematology/oncology/nephrology unit having the highest mean secondary traumatic stress scores and the surgical unit having the highest mean burnout scores. The medical unit had the best overall profile with the highest mean compassion satisfaction scores and

the lowest mean secondary traumatic stress and burnout scores. An interpretation of the results and a discussion on their significance follows in the next chapter.

CHAPTER SIX

Discussion

In this chapter the study findings will be discussed as they relate to results from previous studies in similar populations.

Secondary Traumatic Stress, Burnout and Compassion Satisfaction

A greater proportion of pediatric nurses in the current study fell within the moderate and high-risk categories as compared to other samples of pediatric healthcare providers found in the literature. Scores on the secondary trauma scale of the ProQOL revealed that 24.1% ($n = 26$) of pediatric nurses were at high-risk for secondary traumatic stress, with only 18.5% ($n = 20$) being in the low-risk category. This is in contrast to previous studies of pediatric healthcare providers that have generally reported lower than average levels of secondary traumatic stress (Branch, 2013; Meadors & Lamson, 2008; Meadors et al., 2009; Robins et al., 2009; Sacco et al., 2015; Taubman—Ben-Ari & Weintroub, 2008). In fact, the results of this study demonstrate the highest proportion of participants in the moderate and high-risk categories for secondary traumatic stress of all the studies found on pediatric healthcare providers in the literature. The only other studies to report levels of secondary traumatic stress in pediatric healthcare providers to be higher than average were Berger et al. (2015) and Branch and Klinkenberg (2015) with 27.2% ($n = 274$) and 26.9% ($n = 239$) of their sample in the high-risk category respectively. The sample in the current study is comparable to the other pediatric studies in the literature with respect to all of the demographic variables. However, some of the studies that were used for comparison also included healthcare providers who were not registered nurses in their sample. The largest proportion of healthcare providers in these

samples comprised nurses. Also, some of these studies included pediatric healthcare providers who worked in critical care areas or psychiatry. These care areas were not included in the current study.

Scores on the burnout subscale of the ProQOL were much closer to scale norms as per the ProQOL manual (Stamm, 2010), with 21.3% ($n = 23$) falling within the high-risk category and 27.8% ($n = 30$) being in the low-risk category. Scores on the compassion satisfaction subscale were also similar to scale norms with slightly fewer than average participants in the high category (22.2%, $n = 24$) and slightly more than average in the low category (26.9%, $n = 29$).

These results indicate that pediatric nurses at the IWK Health Centre had higher than normal levels of secondary traumatic stress, lower than normal levels of burnout, and lower than normal levels of compassion satisfaction. These results are contradictory to the data gathered by Stamm (2010) on the ProQOL across various professions, which indicates that healthcare workers such as nurses tend to experience the least trauma and those who deal with children and families in trauma tend to have more burnout.

Empathy

Significant differences were noted on three of the empathy subscales (perspective taking, fantasy and personal distress) between the pediatric nurses and the IRI norms for females. Scores on perspective taking were somewhat higher in the pediatric nurses compared to female norms. The perspective taking scale reflects an “ability or proclivity to shift perspectives – to step ‘outside the self’ – when dealing with other people” (Davis, 1979, p.51). Perspective taking is the most cognitive component of the construct of empathy. Adopting the perspective of a person in need is an important antecedent of

empathic concern (Batson, Eklund, Chermok, Hoyt, & Ortiz, 2007; Burks & Kobus, 2012). Lamm, Batson, and Decety (2007) tested the effect of perspective taking and found that empathic concern was considerably stronger when participants focused on the feelings of the other, whereas adopting the self-perspective led to stronger personal distress. Scores on the personal distress scale were considerably lower for the pediatric nurses than for the IRI female norms (8.32 versus 12.28, $p < .001$). It is possible that the pediatric nurses have a well-developed ability to take the perspective of their patients. This may be contributing to empathic concern as well as lowering personal distress, which is reflected in the scores on these scales.

Also, another plausible explanation for the low personal distress scale scores for the pediatric nurses has to do with the nature of the questions on this scale. Many of the questions on this scale are assessing one's response in an emergency situation, e.g. *I tend to lose control during emergencies* and *When I see someone who badly needs help in an emergency, I go to pieces*. Dealing with emergency situations is a regular part of a nurse's day-to-day work and this is likely to be reflected by lower scores on this scale. It is also noteworthy that the pediatric nurses who work in the emergency department had significantly lower mean scores on this scale than the nurses who work in the other three care areas (6.72 versus 8.91, $p = .003$). Although the personal distress scale is considered to be a measure of affective empathy, it is possible that in emergency personnel the affective aspect is dampened by a trained cognitive response.

Scores on the fantasy scale were also significantly lower in the pediatric nurses than the IRI norms (12.94 versus 18.75, $p < .001$), and other reported research with female participants. Fantasy is a cognitive aspect of empathy and measures a tendency to

introspect and be susceptible to the experience of others (Davis, 1979). The questions on this scale ask the participant to rate how easily they can become involved in the characters of a novel or movie. For example, *I really get involved with the feelings of the characters in a novel*. It is not clear why the fantasy scale scores are so much lower in the pediatric nurses than the IRI norms and other reported literature. Webster (2010) reported fantasy scores of 15.17 ($n = 29$) and 13.67 ($n = 43$) for the comparison and control pre-test groups respectively in a study of predominantly female nursing students. A Dutch study examining empathy in normally functioning adults administered the IRI and obtained a mean fantasy scale score of 18.21 in their female participants ($n = 352$) (De Corte, Buysse, Verhofstadt, Roeyers, Ponnet, & Davis, 2007). One possible explanation for the low mean score in the pediatric nurses is that perhaps the ability to fantasize in this manner diminishes with age. As previously mentioned, the IRI norms were calculated with undergraduate students. Webster's (2010) study also used students and De Corte et al. (2007) reported a mean age of 27.37 years for the female participants in their study. In the current study, there was a significant inverse relationship noted between age and fantasy score ($\rho = -.336, p = .000$). See Appendix M for the mean fantasy scale scores by age category. Also, the younger nurses' ($n = 10$) mean scores on all four IRI subscales did not differ significantly from the IRI norms.

Relationship Between Empathy and Secondary Traumatic Stress, Burnout and Compassion Satisfaction

Previous scholarly work on compassion fatigue has identified empathy as a factor in the development of compassion fatigue but the exact nature of the relationship is unknown (Figley, 1995; Figley, 2002; Sabo, 2006; Smith, 2013). Many authors believe

empathy plays a contributory role in the development of compassion fatigue, but some view it as potentially protective. In their study of therapists' vicarious exposure to trauma, Brockhouse and colleagues (2011) found that empathy had benefits for both the client and the therapist. They stated, "more empathic people may have more-flexible schemas and be prone to accommodation" (Brockhouse et al., 2011, p. 740). Very few studies have examined a relationship between these constructs. There is some evidence to suggest that the cognitive component of empathy may serve a protective role and the affective component may contribute to compassion fatigue (Linn, 2011; Robins et al., 2009). Perspective taking is the most cognitive component of empathy and based on the results of this study it is possible that it plays some role in maintaining compassion satisfaction. However, it does not appear that cognitive empathy plays a significant role in mitigating compassion fatigue. The affective components of empathy were measured using the empathic concern and the personal distress scales of the IRI. Both empathic concern and personal distress were positively correlated with secondary traumatic stress, but these relationships were relatively weak so it is difficult to say if affective empathy plays a contributory role in its development.

With respect to burnout, these elements of affective empathy had opposite but significant relationships, with empathic concern potentially playing a protective role and personal distress playing a potentially contributory role. With respect to compassion satisfaction, affective empathy also demonstrated opposite and significant relationships with even stronger correlations, with empathic concern being positively correlated, and personal distress being negatively correlated. These were similar to the results found by Linn (2011) that compassion satisfaction was moderately predicted by both cognitive and

affective empathy, and compassion fatigue predicted only by affective empathy. Robins and colleagues (2009) also included a bivariate correlation matrix between the IRI and an earlier version of the ProQOL in their publication examining these same constructs in pediatric healthcare providers. The results from the current study of pediatric nurses echo their findings. They also demonstrated positive relationships between perspective taking and empathic concern to compassion satisfaction, but not secondary traumatic stress. They also demonstrated a strong positive correlation between personal distress and both secondary traumatic stress and burnout, and a strong negative correlation with compassion satisfaction.

The results of these studies taken together provide evidence for a strong positive relationship between both perspective taking and empathic concern to compassion satisfaction, but not to compassion fatigue. Personal distress has a strong positive relationship with compassion fatigue and a strong negative relationship with compassion satisfaction. It is not possible to draw conclusions about the relationship between cognitive versus affective empathy to compassion fatigue and compassion satisfaction because the cognitive and affective subscales of the IRI did not behave in the same relationship with the subscales of the ProQOL.

Interpersonal Reactivity Index subscale intercorrelations. The resulting relationships were in the expected directions with perspective taking demonstrating a strong positive relationship with empathic concern ($p = .000$) and a strong negative relationship with personal distress ($p = .004$). Fantasy had a positive relationship with personal distress ($p = .036$). The strength and direction of the relationship between perspective taking and empathic concern in the pediatric nurses was the same as that

reported by others in the literature (Davis, 1979; Davis, 1980; De Corte et al., 2007; Robins et al., 2009). Davis (1980) commented on the relationship between these components and stated, “although some association exists between what appear to be cognitive and emotional empathic dispositions, the relationships are not so strong as to imply that the scales are measuring the same construct” (p. 15). Based on the strong correlation between these two components it is not surprising that they both demonstrated the same direction of relationship with secondary traumatic stress, burnout and compassion satisfaction; however, the strength of these relationships was greater for empathic concern than perspective taking.

Professional Quality of Life Scale subscale intercorrelations. Secondary traumatic stress and burnout were strongly positively correlated ($p = .000$). These subscales are both measuring elements of compassion fatigue so it is logical that they should be positively correlated. Stamm (2010) asserts that these scales measure the distress that is common to both conditions, but the burnout scale does not address fear while the secondary traumatic stress scale does. Previous studies have also demonstrated strong relationships between secondary traumatic stress and burnout (Hinderer et al., 2014; Kulesa, 2014; Meadors et al., 2009; Robins et al., 2009; Romeo-Ratliff, 2014; Slocum-Gori et al., 2011; Smart et al., 2014; Yoder, 2010). A surprising finding in this study was that compassion satisfaction demonstrated a strong negative correlation with burnout ($p = .000$), but not secondary traumatic stress. Negative correlations between burnout and compassion satisfaction were reported in several previous studies (Hinderer et al., 2014; Kulesa, 2014; Meadors et al., 2009; Robins et al., 2009; Slocum-Gori et al., 2011; Smart et al., 2014; Yoder, 2010). Some studies also demonstrated a negative

correlation between secondary traumatic stress and compassion satisfaction (Hinderer et al., 2014; Meadors et al., 2009; Robins et al., 2009; Slocum-Gori et al., 2011; Smart et al., 2014; Yoder, 2010). However, as with the current study, Kulesa (2014) and Romeo-Ratliff (2014) also found no relationship between secondary traumatic stress and compassion satisfaction. The conflicting finding regarding the relationship between compassion satisfaction and secondary traumatic stress makes it difficult to ascertain if there exists a protective component of compassion satisfaction against secondary traumatic stress. It seems more acceptable to conclude that burnout has a negative association with compassion satisfaction.

Factors that may be Related to Secondary Traumatic Stress, Burnout and Compassion Satisfaction

Professional boundaries. The data that was collected on the demographic, personal and work-life variables was analyzed to determine if significant relationships exist to compassion fatigue. The blurring of boundaries in the professional relationship was the only variable to be significantly related to secondary traumatic stress. The pediatric nurses who agreed that professional boundaries are sometimes blurred in their relationship with patients and families had significantly higher mean secondary traumatic stress scores than those who disagreed ($p = .002$). There were no significant differences between these two groups on burnout, compassion satisfaction, perspective taking, fantasy, empathic concern or personal distress. It is not possible to conclude that the blurring of professional boundaries constitutes a form of unhealthy empathy but it does appear to be associated with the development of secondary traumatic stress, as was

indicated by previous research (Abendroth & Flannery, 2006; Maytum et al., 2004; Melvin, 2012; Robins et al., 2009; Smith, 2013).

Anewalt (2009) described the crossing of professional boundaries as an insidious process where the caregiver loses focus on what is best for the patient and instead bases care on their own opinions and feelings. Maintaining professional boundaries are important so that all clients receive equitable care and feel emotionally safe. While some behaviours are clear violations of boundaries such as receiving money from a client or engaging in a romantic relationship with a current client, others are subtler, but may lead to a boundary violation if not addressed. Nurses should be aware of signs of over-involvement with clients that may result in the crossing of a boundary. Signs of over-involvement include frequently thinking about the client in a personal way, sharing personal information with the client, and feeling possessive over the client (College of Registered Nurses of Nova Scotia, 2012).

In addition to harming the therapeutic relationship with a client, the crossing of professional boundaries may be harmful to the care provider. Anewalt (2009) acknowledged that as the caregiving relationship develops both sides may become vulnerable, and for the caregiver this may lead to compassion fatigue. Abendroth and Flannery (2006) found that 86% of their participants at high-risk for compassion fatigue stated that they self-sacrifice for others' needs. They described this behaviour as an unhealthy level of empathy, which put nurses at higher risk for compassion fatigue. The participants in Melvin's study described the "importance of setting boundaries in order to maintain a personal-professional balance" (2012, p. 610). The concepts of professional boundaries and work-life balance were also mentioned by the pediatric nurses in this

study in their responses to the open-ended question that are discussed below. While this data is qualitative in nature, it does provide support to the significance of the issue of professional boundaries and its relationship to secondary traumatic stress.

Exposure to the trauma of others. Exposure to suffering individuals is theorized to be a key factor in the development of compassion fatigue (Coetzee & Klopper, 2010; Dutton & Rubinstein, 1995; Figley, 1995; Figley, 2002; Smith, 2013; Stamm, 2010; Von Rueden et al., 2010). In this study, exposure was measured by years in the nursing profession (length of exposure), and hours worked per week (frequency of exposure). Neither of these variables was found to have a significant relationship with either compassion fatigue or compassion satisfaction in this sample of pediatric nurses. This is in contrast to many previous studies that found younger or less experienced nurses had higher secondary traumatic stress and burnout (Berger et al., 2015; Burtson & Stichler, 2010; Hunsaker et al., 2015; Kelly et al., 2015; Romeo-Ratliff, 2014; Von Rueden et al., 2010), and lower compassion satisfaction (Berger et al., 2015; Dasan et al., 2015; Hegney et al., 2014; Hunsaker et al., 2015; Kelly et al., 2015; Robins et al., 2009; Romeo-Ratliff, 2014). The pediatric nurses in this sample who worked casual or part-time had very similar scores to the pediatric nurses who worked full-time (greater than 32 hours per week) on all three measures of professional quality of life. This is in contrast to Robins et al. (2009) and Slocum-Gori et al. (2011) who found compassion satisfaction greater in part-time versus full-time employees. Slocum-Gori et al. (2011) also found less secondary traumatic stress and burnout in the part-time group.

Many scholars have theorized that it is the prolonged and continuous exposure to suffering that contributes to compassion fatigue (Coetzee & Klopper, 2010; Figley, 2002;

Maslach, 2003; Von Rueden et al., 2010), but the results of this study do not support this theory. Perhaps then, it is not the quantity of the exposure that results in compassion fatigue but the quality. This may be something unique to pediatric healthcare providers where the traumatic memories related to individual children may contribute more to the development of compassion fatigue than the cumulative exposure of one's work experiences in general.

Triggers for compassion fatigue. Seventy-six percent of participants in this study chose to offer a response to the open-ended question, which is considerably higher than the response rate of 50% to an open-ended question in a similar study by Berger et al. (2015). This high response rate may indicate that participants feel strongly about this topic and want their opinions heard, or perhaps they felt that the instruments selected to measure these concepts did not accurately reflect their views. As this is a quantitative study, no formal qualitative methodology was employed to analyze these responses; rather they were categorized into broad themes and the frequencies with which participants indicated a particular factor were tabulated. See Appendices N, O, P and Q for tables categorizing all the participants' responses. The themes that emerged were: workplace, client, home-life and self-related.

Workplace related theme. The workplace related theme centred on issues common in the work environment such as poor staffing, heavy workloads, high patient acuity, conflict with colleagues, not feeling supported by nursing leadership, feeling underappreciated and general discontentment with the workplace. These issues are representative of the phenomenon of burnout where participants described feelings of exhaustion and frustration that typically characterize this construct.

Poor staffing is the number one issue. We are treated like task-oriented people, rather than highly skilled, caring, compassionate professionals. (Participant 14)

A consequence of heavy workloads and understaffing is an inability to provide high quality nursing care that addresses the emotional needs of the child and family. Two participants stated they were too busy focusing on task-related care duties to have any time for emotional concerns.

Intense workloads where you feel guilty for not being able to provide the amount of emotional support a family needs because you are being pulled in multiple directions. (Participant 22)

Participants also alluded to a negative energy and interpersonal conflicts in their care area as contributing to feelings of burnout. Bakker et al. (2005) demonstrated that these negative emotions can be contagious among nurses in the workplace and that nurses could become infected with the 'burnout-virus'. They concluded that "perceived burnout complaints among colleagues showed the strongest relationship with feelings of emotional exhaustion" (Bakker et al., 2005, p. 281). Additionally, the more burnout nurses felt to exist among colleagues led to a belief that they themselves were no longer effective in working with patients and fulfilling job responsibilities. In this way, negativity in the workplace contributes to negative outcomes for both nurses and patients.

It really depends on who you're working with too. The team makes all the difference. One day you can feel like 'I can take on the world, and know I'll succeed just because of the team I am working with today' and other days it's just like 'I'm drowning and no body even notices', those are the tough days when we usually go home in tears. (Participant 85)

In addition to conflict with nursing colleagues, six participants also cited unsupportive leadership as a contributing factor to compassion fatigue.

I feel that compassion fatigue is something that is present on the unit/clinic but resources for RNs at a front line level (i.e. management/clinical leaders) is nonexistent. (Participant 103)

Hunsaker et al., (2015) found that nurses who perceived support from their managers had lower secondary traumatic stress and burnout and higher compassion satisfaction.

According to Epp (2012), managers can play a key role in putting strategies into action to prevent burnout including improving communication, increasing interdisciplinary collaboration, providing for psychological counseling and decreasing moral distress by participating in care decisions for emotionally charged situations. Epp (2012) suggested that managers organize a time for debriefing after a difficult situation such as a patient death, as unresolved grief may lead to burnout in nursing staff. Four pediatric nurses cited a lack of debriefing after a traumatic event as being a contributing factor to compassion fatigue.

Client related theme. Issues that related to patients and families were incorporated into the client related theme. This included things like traumatic and highly emotional situations, patient deaths, bad diagnoses/prognoses, long-term patients, upset families and child abuse. Rourke (2007) stated that the death of a child is easily recognizable as traumatic for the family but less recognizable as traumatic to the healthcare professionals who cared for that child. Many of the pediatric nurses in this study acknowledged the impact that caring for dying children has on them.

Our work requires us to engage and genuinely care about our patients and families. We develop relationships with these children and families and truly hope for the best for them. It is difficult to see them suffer but it is really indescribably difficult to see them suffer and then have a poor outcome.

(Participant 96)

Jenkins and Warren in their discussion on compassion fatigue stated “research clearly supports that working with patients who are in pain, suffering, at the end of life, or may have been coded and expired may take an added toll on the physical and mental health of nurses” (2012, p. 394).

Participants also found the frequency with which traumatic events happened to be a trigger for compassion fatigue. This is a finding also noted by Berger et al. (2015) and Meadors et al. (2009).

Multiple traumatic events happening in a short time frame. (Participant 10)

Ten nurses mentioned that providing care to long-term patients and their families is a contributing factor to compassion fatigue.

Spending many months caring for a patient/family and then treatment fails.

(Participant 82)

Additionally, several nurses mentioned the practice of primary nursing and family-centred care as being factors. Maytum and colleagues (2004) interviewed pediatric nurses who work with children with chronic health problems about what they thought triggers for compassion fatigue were. In addition to witnessing suffering and death, nurses in their study said that other triggers included “a sense of unreasonable expectations on the part of some families, seeing kids unable to have a ‘normal’ life, and

being the sounding board for too many sad situations” (Maytum et al., 2004, p. 175).

Working with the same patients and families on a day-to-day basis can take a toll on the care provider. On the inpatient units at the IWK Health Centre, nurses are often required to provide one-on-one care and may care for the same patient several shifts in a row. The practice of primary nursing, where a patient is assigned to a core group of nurses, was designed to provide consistency and familiarity for the patient, but may also contribute to compassion fatigue for the care provider.

Lately we have had a lot of long-term patients on the floor who act as though we are more of a hotel than a hospital, which is taxing on our emotions. (Participant 43)

Additionally, some nurses stated that family members could be rude, aggressive or challenging. Approximately, one-fourth of the participants in the Maytum et al. (2004) study also identified angry and yelling families as a trigger. Rourke (2007) stated that parents of dying children “may be reacting with strong emotions that are more closely linked psychologically to their own traumatic experiences than to the objective aspects of the situations. These reactions can seem inappropriate, offensive, and often exasperating to healthcare providers” (p. 634).

Unfortunately, caring for children and families where known or suspected child abuse is a concern is not an uncommon practice for pediatric nurses. Three nurses in this study cited child abuse issues as a trigger for compassion fatigue. One participant expressed frustration that ‘the system’ prioritizes the rights of the parent and not the child in these cases. Additionally, two other nurses cited children with difficult home/parental situations and upsetting and uncomfortable situations that involve children as being

triggers for compassion fatigue. These cases can arouse a range of emotional responses in healthcare providers. Killian (2008) conducted a mixed-methods study with clinicians who work with survivors of childhood abuse. The participants in the qualitative interviews experienced symptoms of secondary traumatic stress and burnout that included headaches, trouble sleeping, interference in their intimate relationships, anxiety, panic and agitation. Many of the participants in the study by Berger et al. (2015) on compassion fatigue in pediatric nurses also cited situations involving child abuse as a trigger for compassion fatigue.

Home-life related theme. The third theme that emerged from the participants' responses had to do with their home and personal lives. Many participants struggled with work-life balance. Other issues included family emergencies, stresses at home, lack of support and caring for one's own children. Twenty-six percent of nurses said they felt stresses from their personal and family lives could be contributing to compassion fatigue.

Having to put aside any personal problems and emotions for the 12+ hours we are at work in order to prevent your personal life from affecting the care/environment of the patients/families. (Participant 86)

More than half of the participants in this study have children. Although being a parent did not result in higher secondary traumatic stress or burnout scores, many participants reported that it caused a fear in them that it could happen to them.

As a parent I empathize with these parents for their road is the most difficult to walk and as I experience this floor more and more it scares me to think that this can happen to anyone. It is hard to put into perspective that the diseases we deal

with on (hematology/oncology/nephrology unit) are rare. I know that they are but it is challenging because this is all we see. (Participant 96)

A difficulty coping with traumatic events that happen to children, or a feeling of being ineffective in these situations, has been suggested in previous research to be more problematic for healthcare providers who are parents themselves due to an emotional identification if the child is similar in age, gender or temperament to one's own (Alisic et al., 2014; Meadors & Lamson, 2008; Smith, 2013).

Five participants mentioned a lack of support at home or poor interpersonal relationships as being related to compassion fatigue. Von Rueden et al. (2010) also found that nurses with higher secondary traumatic stress had less social support.

Self-related theme. The final theme that emerged was self-related. Participants described an inability to separate oneself from work, a tendency to cross professional boundaries, poor coping skills, poor personal health and fatigue, and expecting too much from oneself. Some nurses described an inability to 'turn it off'.

Sometimes you just can't turn off what you have seen or dealt with that day.
(Participant 42)

We take things home with us; think about them constantly. Some nurses never leave the hospital even when they leave to go home. (Participant 87)

The inability to detach or separate oneself from work may have negative psychological effects for an individual as well as affect their performance at work. ten Brummelhuis and Bakker (2012) studied nurses' ability to detach from work and found that psychological detachment plays a key role in the recovery process. Their findings indicated that the effects of adequate off-job recovery time were strong enough to last

through the next work day. They also found a positive relationship between social off-job activities and next-day work engagement.

Some nurses cited a lack of ‘mental health days’ or not making use of vacation as a contributing factor.

I feel that there are days when you need to take a day off because you will be ineffective at work for a variety of reasons (recent trauma, home life, etc.).

(Participant 94)

Some participants mentioned that situations at work reminded them too much of their personal lives. Although not specifically addressed in this study, other researchers have found a relationship between people who have suffered trauma in their childhoods or other aspects of their personal life as influencing their compassion fatigue (Killian, 2008; Li et al., 2014). One participant mentioned personal trauma in their response.

Not dealing with personal problems as well as not dealing with emotional hurts from the past. (Participant 92)

This was a concern noted by Rourke (2007) in her discussion paper on pediatric palliative care providers.

Palliative care providers often encounter situations that echo losses in their own lives and reactivate their personal pain and grief, even if only temporarily.

During these times, health care providers may actually be responding emotionally as much to their own personal grief as to the present reality of the patient and family for whom they are caring. (Rourke, 2007, p. 634)

Participants’ responses in the open-ended question acknowledged the crossing of professional boundaries as potentially contributing to the development of compassion

fatigue, which echoes the findings from the analysis of the quantitative data. For pediatric nurses, especially those who work in a one-on-one relationship with a long-term patient, it is easy to understand how professional boundaries may be blurred. In some cases, long-term patients may not have a parent present to provide for their physical and emotional care. While rooming-in is encouraged and supported on inpatient care areas, some parents are unable to stay due to other responsibilities such as work or other children. In these cases the nurse in many ways becomes the primary caregiver for these children.

Stepping over the boundaries of care provider and representing a more emotional aspect of care. (Participant 87)

Some nurses described a burden of responsibility as part of their nurse-patient relationship.

Feeling singularly responsible for the patient and their family. (Participant 53)

Interestingly, one participant chose to offer what she believed to be a mitigating factor rather than a trigger.

I believe faith in God has an influence in preventing compassion fatigue, as there is comfort in doing your best and leaving it in His hands. (Participant 101)

In addition to these four themes that highlighted the potential triggers to compassion fatigue, some nurses made reference to compassion satisfaction.

*Despite the challenges this unit makes us face I do love working here to help these children and families through one of the most difficult times in their lives and I take great joy and satisfaction knowing that I can help them effectively.
(Participant 96)*

Some nurses used the comment section to reflect on the profession of nursing.

I think many people who go into nursing as a profession have to be caring, honest, and trustworthy people. The word compassion encompasses everything we do day by day to help our patients and their families. Sometimes we find ourselves complaining over the things we used to love about our jobs, not because we still don't love them, but because we see them so often; we forget what it feels like to be a completely new diagnosis and what that means for patients and families – just because we see it everyday. (Participant 87)

The qualitative data that was collected from the open-ended question provided a rich source of information that complemented the quantitative data. This contributed to a much greater depth of understanding of the thoughts and feelings of the pediatric nurses and the impact of compassion fatigue in this group. It is important to note that the open-ended question asked participants to give their opinion on what might be triggers to compassion fatigue and although many of the responses reflected a great deal of personal disclosure not all of the responses can be interpreted as if the individual was experiencing that which she stated. For example, some participants were offering hypothetical sources for compassion fatigue.

Caring for palliative patients, and being with them when they die. Or working in the emergency department and having to deal with very stressful, highly emotional situations with the patient and their family/friends. Luckily on (the surgical unit) these two situations don't occur very often, so I feel like I haven't had to deal with very much compassion fatigue. (Participant 108)

Thoughts on compassion fatigue. This study demonstrated a great deal of engagement with the pediatric nurses at the IWK Health Centre as evidenced by a very high response rate of 62%, of which 76% also responded to the open-ended question. Seventeen similar studies demonstrated response rates between 26.6% and 83% (Berger et al., 2015; Branch, 2013; Branch & Klinkenberg, 2015; Burtson & Stichler, 2010; Dasan et al., 2015; Dominguez-Gomez & Rutledge, 2009; Hegney et al., 2014; Hinderer et al., 2014; Hooper et al., 2010; Hunsaker et al., 2015; Kelly et al., 2015; Linn, 2011; Potter et al., 2010; Sacco et al., 2015; Smart et al., 2014; Von Rueden et al., 2010; Yoder, 2010), of which only two had response rates greater than 60% (Dominguez-Gomez & Rutledge, 2009; Hooper et al., 2010).

Sixty-seven percent of participants in this study had heard of the term compassion fatigue, but only 17% believed their workplace offered any programs or assistance in dealing with it. The IWK Health Centre in fact subscribes to a confidential counseling service that employees may engage, and has recently become involved with the *Trauma Informed Care* initiative. The results of this survey indicated that 81.5% of pediatric nurses in this sample were at moderate to high-risk for secondary traumatic stress and 72.2% were at moderate to high-risk for burnout. It is unfortunate that only 17% were aware that their institution has resources to deal with work-related trauma and burnout. Utilization of these resources is likely to be much lower than 17%.

Ninety-three percent of respondents felt that compassion fatigue was an important or very important issue in their workplace. Some nurses used the “comments” section on the questionnaire to voice their opinion on the importance of the topic, the value of the research, and the lack of resources available to front-line nurses.

Some people do struggle with emotional hurt from working with traumatized patients and this is a very valuable survey. (Participant 92)

I think this is a fantastic topic that needs more attention!! (Participant 94)

There needs to be more recognition around this issue of compassion fatigue. (Participant 95)

Care Area Comparisons

Four pediatric care areas were selected for inclusion in this study: the emergency department, the medical unit, the surgical unit and the hematology/oncology/nephrology unit. The pediatric intensive care unit and the neonatal intensive care unit were excluded from this study because they had recently been included in an intervention study examining empathy in nurses (Latimer et al., unpublished). An ANOVA was performed to assess for any differences in mean secondary traumatic stress, burnout and compassion satisfaction scores across the four care areas. This is a relatively small sample size to be performing such an analysis so care must be taken in interpretation of the results.

The hematology/oncology/nephrology unit nurses had the highest mean secondary traumatic stress scores and the medical unit nurses had the lowest, and these were significantly different ($p = .045$). Branch and Klinkenberg (2015) found that, consistent with this study's results, pediatric hematology/oncology staff had higher than average mean secondary traumatic stress scores and the emergency department staff had lower than average mean secondary traumatic stress scores. An interesting finding in this study is that the hematology/oncology/nephrology nurses were more likely to agree to a blurring of professional boundaries than nurses from other care areas. Here it is notable that only 7% of emergency department nurses agreed that professional boundaries are

sometimes blurred compared to 37% of the hematology/oncology/nephrology unit nurses. See Appendix S for a comparison by care area.

There may be other factors in addition to the blurring of boundaries. As many nurses noted in the open-ended question providing palliative care and caring for long-term patients may also be a trigger. Nurses on the hematology/oncology/nephrology unit are more likely to provide this type of care than nurses from the other care areas. Nurses in the emergency department also encounter pediatric deaths, but they are less likely to provide on-going care for the same child and family. It seems that there may be a notable effect on secondary traumatic stress based on the length and nature of the nurse-client relationship.

Significant differences were also noted in burnout scores with the surgical unit nurses having the highest mean scores and the medical unit nurses having the lowest mean scores ($p = .006$). Berger et al. (2015) reported the highest mean burnout scores among the pediatric medical/surgical unit nurses. In their study, pediatric oncology nurses and emergency department nurses had only slightly higher than average mean burnout scores. Burnout may be higher on a surgical unit due to the busy pace of this type of unit and higher patient-to-nurse ratios. In the current study, the surgical unit had the highest average patient assignment with an average of four patients to nurse compared to three or less for the medical and hematology/oncology/nephrology units. The results of Li and colleagues' (2014) study demonstrated that exposure to stressful events at the bedside was predictive of burnout. The surgical unit also had the highest percentage of full-time nurses, 96% compared to 59% for the emergency department. Surgical unit nurses were also considerably less likely to participate in hobbies and

leisure activities compared to nurses from other care areas. Only 7% of surgical unit nurses answered strongly agree to participation in hobbies and leisure activities compared to between 34% and 45% for the other three care areas. See Appendix T for a comparison by care area.

Significant differences were noted on scores for compassion satisfaction but the post-hoc Scheffé test did not isolate a significant difference between pairs of values. The medical unit and hematology/oncology/nephrology unit nurses had the highest mean compassion satisfaction scores and the surgical unit and emergency department nurses had the lowest mean scores. Berger et al. (2015) found pediatric oncology nurses to have the highest mean compassion satisfaction scores and medical/surgical unit nurses to have the lowest mean scores.

Trends noted across all three studies indicate that pediatric oncology nurses are able to maintain higher than average levels of compassion satisfaction despite having higher than average levels of secondary traumatic stress. Emergency department nurses have lower than average secondary traumatic stress and burnout despite an intense working environment with a high level of exposure to trauma, but they also have lower than average levels of compassion satisfaction. It is possible that emergency department nurses do not develop relationships with patients and families in the same way that inpatient care area nurses do. This may contribute to less blurring of professional boundaries in the nurse-client relationship but may also limit compassion satisfaction. Burnout seems to be independent of secondary traumatic stress as some care areas demonstrated higher than average levels on one but not the other. In the current study, the medical unit nurses demonstrated the best overall profile with the lowest mean

secondary traumatic stress and burnout scores, and the highest mean compassion satisfaction score. It is important to remember that the scores on these scales represent a snapshot of the professional quality of life of members in these care areas. Assessing trends over time would strengthen our understanding of the impact of providing care to pediatric patients in a specific care area.

Application to the Compassion Stress and Fatigue Model

The quantitative analysis of the Compassion Stress and Fatigue Model (Figley, 2002) demonstrated that the only factors to demonstrate significant correlations with secondary traumatic stress were the blurring of professional boundaries and the personal distress scale. Burnout demonstrated significant relationships with the empathic concern scale, the personal distress scale, physical activity and a supportive work environment. Based on this analysis, Figley's Compassion Stress and Fatigue Model (Figley, 2002) cannot be supported. According to the research findings, empathy seems to be more associated with compassion satisfaction than compassion fatigue. This is a similar finding to that of Linn (2011).

The findings in this study indicate that while compassion fatigue may be experienced by those with the trait of empathy, there is a much stronger relationship to compassion satisfaction that appears to have the potential to mitigate the negative consequences and provide a deeper and stronger capacity for fulfillment. (p. 78)

Secondary traumatic stress and burnout had a strong positive correlation but appear to be distinct constructs. It does not seem likely that the same pathway would

lead to both secondary traumatic stress and burnout as is suggested by Figley's Compassion Stress and Fatigue Model (Figley, 2002).

Incorporating both the quantitative and qualitative data that was collected in this study allowed for the creation of two preliminary models of the factors that were most related to higher secondary traumatic stress and burnout. Secondary traumatic stress seems to be associated with *traumatic events, poor coping skills, personal distress, and the blurring of professional boundaries*. Burnout seems to be associated with *heavy workload, an unsupportive workplace, personal distress in one's home-life, and poor work-life balance*. This is depicted in Figure 3 below.

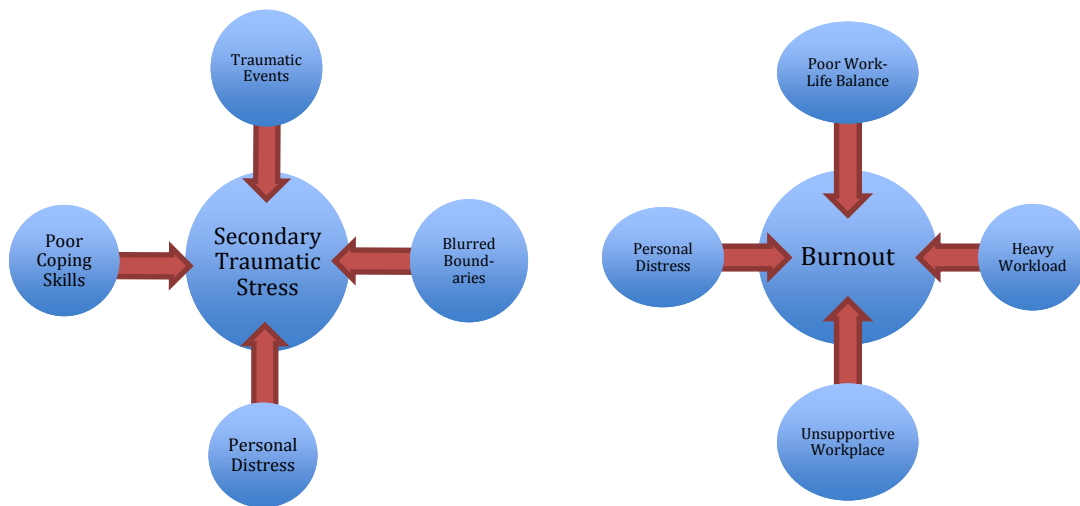


Figure 3. Models of factors associated with secondary traumatic stress and burnout

The results of this study suggest that secondary traumatic stress is related to a constellation of factors within the nurse-client relationship as well as self-related factors that influence the nurse's reaction to that relationship. Exposure to suffering individuals is implicitly necessary for the development of secondary traumatic stress, as there must exist a relationship with an individual who has suffered a primary trauma in order for secondary trauma to occur. However, the results of this study do not demonstrate any

effect for the length of exposure or the frequency of exposure. The emphasis here is on the powerful and lasting memories of this exposure to trauma and not the duration of exposure. The exposure to a suffering individual is reflected in the *traumatic events* sphere. The blurring of professional boundaries had a significant relationship with secondary traumatic stress in the quantitative results of this study and was also mentioned by participants in the open-ended responses. The *blurring of boundaries* sphere also includes an inability to detach and is reflected in the low fantasy scores as well as participant comments such as ‘can’t turn it off’. *Personal distress* scores were positively correlated with secondary traumatic stress scores. Personal distress, as it relates to secondary traumatic stress has to do with the amount of personal distress caused by the nurse-client interaction. Coping skills were not quantitatively measured in this study but many participants indicated this to be a factor in the open-ended responses. One participant noted that having faith in God may be a mitigating factor and this could be viewed as a coping skill. *Poor coping skills* may be related to secondary traumatic stress.

The results of this study suggest that burnout is less related to the nurse-client interaction and seems to be more associated with factors in the workplace and the ability, or lack thereof, for the nurse to recover in the off-job time and maintain adequate energy and motivation to be effective upon return to the workplace. *A poor work-life balance* was mentioned as a factor by many nurses in the open-ended responses. It was also noted that the staff in the care area with the most burnout participated in the least amount of hobbies and leisure activities and worked the most hours per week. *Heavy workload* was cited by 54% of participants in the open-ended responses as a contributing factor to compassion fatigue. This sphere encompasses other workplace issues such as high

patient acuity, busy working environment and stressful work conditions. An *unsupportive workplace* demonstrated a significant relationship with burnout and combined with poor attitudes by coworkers was mentioned by 39% of participants in the open-ended responses. This sphere incorporates unsupportive leadership, lack of resources, poor teamwork and feelings of being underappreciated or undervalued. *Personal distress* is included in both the secondary traumatic stress model and the burnout model because it was significantly positively correlated with both. In the burnout model personal distress is the distress caused by conflict with colleagues and stressors from one's personal life.

Compassion Satisfaction

While the focus of this research study was on examining factors that influence the development of compassion fatigue, it is also important to consider the value of compassion satisfaction. Stamm stated that "if there was a protective aspect of being satisfied with doing the work of caring, it would be impossible to understand the negative aspects of caring without knowing about the positive" (2002, p. 110). She noted that caregivers could acknowledge that they have compassion fatigue and still claim to like their work and feel positive benefits from it (Stamm, 2002). The results of this study support this notion. The pediatric hematology/oncology/nephrology nurses had the highest mean secondary traumatic stress scores but still maintained high mean compassion satisfaction scores. It is as though; if the stakes are not sufficiently high then it is hard to derive much satisfaction from the work. Most nurses probably have an intuitive understanding of this. All of the nurses in this study chose to work in pediatrics, knowing that they would be exposed to the suffering and occasionally even the death of a

child. It does not mean that they are immune to the emotional toll that takes on a human, but they probably feel as though they can make some positive impact to a terrible situation. This study demonstrated a strong negative correlation between burnout and compassion satisfaction. It appears that compassion satisfaction is influenced by the positive energy that results from the nurse-client interaction but the presence of burnout may be a barrier to this process.

Compassion satisfaction may also have a positive impact on patient care indicators. Several studies have demonstrated that higher nurse satisfaction is correlated with higher patient satisfaction (McHugh, Kutney-Lee, Cimiotti, Sloane, & Aiken, 2011; Sengin, 2001; Tzeng, Ketefian, & Redman, 2002; Tzeng & Ketefian, 2002). Nurse caring has also been shown to have a positive correlation with compassion satisfaction and a negative correlation with burnout (Burtson & Stichler, 2010). Nurse satisfaction has also been linked to nurses' intent to stay in their current job (Larrabee et al., 2010).

CHAPTER SEVEN

Conclusion

The aim of this research study was to determine the levels of empathy, compassion fatigue and compassion satisfaction in a sample of pediatric nurses and gain a better understanding of the relationships between these concepts. These relationships are complex and while some factors emerged that can be seen to influence the development of compassion fatigue the exact process by which it develops remains unclear. In this chapter a summary of the main study findings is provided. The strengths and limitations of this research will be discussed as well as suggestions for future research in this area. Finally, the key findings of this study will be discussed in terms of their implications for nursing practice.

Summary of the Study

Pediatric nurses at the IWK Health Centre demonstrated higher than average levels of secondary traumatic stress and slightly lower than average levels of burnout and compassion satisfaction. Pediatric nurses in this sample had average levels of empathic concern, higher than average levels of perspective taking and considerably lower than average levels of personal distress and fantasy. Some concerns were noted with the appropriateness of using the IRI in a nursing population. Significant positive correlations were noted between the perspective taking and empathic concern subscales and compassion satisfaction. The personal distress subscale was positively correlated with secondary traumatic stress and burnout, and negatively correlated with compassion satisfaction. Secondary traumatic stress and burnout were significantly positively correlated. Compassion satisfaction demonstrated a significant negative correlation with

burnout, but not with secondary traumatic stress. The blurring of professional boundaries demonstrated a significant relationship with secondary traumatic stress, but not burnout. Many other potential triggers for compassion fatigue emerged from the open-ended responses. These triggers were divided into workplace, client, home-life and self-related categories.

Figley's Compassion Stress and Fatigue Model (2002) was the theoretical framework that guided this study. The relationships in this model that are purported to lead to compassion fatigue as suggested by Figley (2002) were tested. The results of this study do not support the relationships within this model. The analysis of these results was used to develop models of factors that are associated with secondary traumatic stress and burnout. The findings of this research study, as well as those of Linn (2011) and Robins and colleagues (2009), suggest that unlike previous thinking that empathy is a contributing factor to compassion fatigue, it is more likely that empathy (specifically perspective taking and empathic concern) exerts an effect on compassion fatigue through a positive and mitigating role via its relationship to compassion satisfaction. The value of compassion satisfaction as a mitigating factor against compassion fatigue emerged as a valuable area where future research on interventions could be directed.

Strengths and Limitations of the Study

An inherent limitation of all correlational research is the inability to make inferences of causality. In many cases it is impossible or unethical to manipulate a variable of interest and one is left to make assumptions about the development of a process that occurred naturally in a population. There is a growing body of evidence on the topic of compassion fatigue in nurses and it is hoped that by linking the results from

this study to other published studies it will strengthen the findings of this study. Attempts were made to compare the results from this study to others that employed similar methodologies, instruments and populations, such that these findings would hold more meaning.

A convenience sampling method was used to gather participants for this study. Convenience sampling, like all nonprobability sampling methods, is less likely to produce a representative sample of the population than probability sampling (Polit & Beck, 2012). For ethical reasons, it was not possible to gain information about those pediatric nurses who chose not to participate in this study, so it is impossible to know how well the sample represented the population of interest. The demographic characteristics of this sample were evenly distributed so it is likely the sample is somewhat typical of the overall population with respect to these characteristics. A considerable strength for this study is the participation rate of 62%, which is quite high for research of this nature. This strengthens the likelihood that a very inclusive sample was obtained. Offering both a paper version and an online version may have increased participation and allowed participants the flexibility to participate at a time and place that was most convenient for them. Participants who may have felt uncomfortable completing the questionnaire while at work had the option to complete it from home or even by using a handheld device. A concern when using a convenience sample for research on secondary traumatic stress and burnout, is that those who may be most affected by these conditions may be less likely to participate. It is possible that they may already feel too overwhelmed to be able to consider participating in research, or they may feel uncomfortable sharing their views on the subject matter. It is also possible that the

individuals who may be suffering the most from secondary traumatic stress or burnout were away from the workplace on illness or stress leaves and were therefore unable to participate. One participant commented in the open-ended response that a coworker was currently on stress leave as a result of a traumatic event that had recently occurred with a patient. For this reason, it is possible that the results of this study may have incurred falsely negative findings and that the actual levels of secondary traumatic stress and burnout may be higher in this population. There were also several horrific events of global significance that were widely reported in the media during the time that data collection took place including the terror attacks in Paris, France and San Bernadino, California. The questions on the ProQOL all inquire about feelings directly related to the professional role, but there may have been some elevation of baseline stress levels due to these global events.

The population of pediatric nurses at the IWK Health Centre is predominantly female and demonstrates limited ethnic diversity. The results from this study may not be generalizable to other populations of pediatric nurses. Only four care areas were included in this sample and they may not be representative of the total pediatric nursing population in this facility.

The results from this study represent a snapshot in time of the professional quality of life of pediatric nurses at the IWK Health Centre. Repeating this research after a period of time would gain a better understanding of the professional quality of life indicators in this population.

The instruments that were selected to measure professional quality of life and empathy were chosen because of their ability to measure multiple dimensions of a

construct and because of their previous usage in similar populations. However, no instrument will be able to perfectly measure a psychological phenomenon. Instruments such as the ProQOL are used as screening tools and therefore sometimes have a tendency to err on the side of being overly inclusive and have a tendency towards false positives. The ProQOL was created with input from healthcare professionals and has been widely used in research in this population, which allowed for the ability to compare results with those published by other researchers. The IRI was created with undergraduate psychology students as the sample and although it has been implemented in research with nurses, it was difficult to find an adequate comparison group in the published literature. Instruments of this nature can reduce these fluid psychological concepts to very black and white forced-choice answers. An open-ended question was added to allow participants the freedom to express their own thoughts and opinions. The open-ended question responses provided a rich source of data to complement the instruments. A couple of inconsistencies were noted between the quantitative data and the open-ended responses. For example, only two participants disagreed that their workplace was a supportive environment and two participants disagreed that their colleagues had a positive attitude about their work, but 17 participants discussed an unsupportive workplace and 15 discussed negative attitudes by coworkers in the open-ended responses. It is possible that the open-ended responses represented hypothetical sources of compassion fatigue and participants did not believe that they were actually present in their care area.

This research study was well received by both management and staff. Managers in each of the care areas helped to facilitate the research study and afforded the researcher

an opportunity to discuss the study with potential participants. Ninety-three percent of participants felt that this was an important area of research.

Future Research Directions

This study was exploratory in nature with the goal of describing a sample of pediatric nurses from a single health centre with respect to elements of empathy and professional quality of life. Results indicated that this sample of nurses had higher than average levels of secondary traumatic stress. Very few studies have tested the effects of interventions designed to reduce compassion fatigue and none were found that attempted to increase compassion satisfaction. Future research should examine the effectiveness of interventions at reducing secondary traumatic stress and burnout, and increasing compassion satisfaction.

The pathways that were purported to cause compassion fatigue according to the Compassion Stress and Fatigue Model (Figley, 2002) were tested in this research study. Many of the factors that Figley believed to be related to the development of compassion fatigue were not supported by the results of this research study. Alternative models of factors that may influence the development of secondary traumatic stress and burnout were proposed (Figure 3). Testing of this model is beyond the scope of the current research study. Further studies testing this model would be helpful in confirming these relationships. As previously indicated, this study represents a snapshot of professional quality of life in pediatric nurses at this facility. Longitudinal studies would be helpful in understanding how this changes over time.

The open-ended responses added significantly to the understanding of compassion fatigue in this population. Further qualitative studies would help to gain a better

understanding of this and other related concepts. For example, participants in this study were not asked to distinguish between secondary traumatic stress and burnout in their responses, nor were they asked to discuss compassion satisfaction or empathy. Having nurses distinguish between these concepts may help to gain a better understanding of the interaction between these concepts.

The results of this study did not reflect a change in secondary traumatic stress, burnout or compassion satisfaction with increasing years in nursing, but many published studies indicate an improvement in these scores with increasing experience in a profession. It is speculated that this does not reflect a positive adaptive change in behaviour; rather it is believed that traumatized individuals leave the profession early in their career. This phenomenon may be more likely to occur in pediatric healthcare providers than non-pediatric healthcare providers, as other published research has noted lower levels of secondary traumatic stress and burnout in more experienced pediatric healthcare providers. Further research examining healthcare providers transferring in or out of pediatric care would be useful in understanding what individual characteristics sets a pediatric professional apart from other healthcare professionals.

The IRI was selected for use in this research because of its ability to capture the multidimensional nature of empathy. However, issues were encountered with the applicability of the personal distress and fantasy subscales to this population. The use of the personal distress subscale in nurses, especially emergency department or critical care nurses, is troublesome as many of the questions inquire about one's response in an emergency situation. This may lead to responses that reflect a nurse's trained response rather than an empathic reaction. Scores on the fantasy scale were noted to be

considerably lower in this sample than the norms for this scale. However, this was only noted for participants over 25 years old. Further research is needed to determine the usefulness of the IRI in this population. Other studies using the IRI in populations with a wide age range would be useful in understanding if this result was unique to this sample or if scores on the fantasy scale do in fact decrease with increasing age.

Implications for Nursing Practice

The pediatric nurses in this study had higher than average levels of secondary traumatic stress, yet very little awareness of any strategies to help with this issue. Very few studies have been published evaluating interventions aimed at addressing compassion fatigue and most have been very small scale or pilot projects (Anderson & Gustavson, 2016; Houck, 2014; Meadors & Lamson, 2008; Potter et al., 2013). Strategies that have been suggested focus on increasing social support, increasing resiliency, improving coping skills and decreasing stressors (Drury et al., 2014; Maytum et al., 2004; Meadors & Lamson, 2008; Mealer et al., 2012; Yoder, 2010). Participants in this study acknowledged the value of social support within the workplace and at home, and the value of activities to reduce stress such as yoga, hiking and reading. Figley (2002) suggested that one of the first things we should do is begin a dialogue with our colleagues about compassion fatigue. Figley (2002) suggested a four-pronged approach to combatting compassion fatigue which included: educating oneself, desensitizing oneself to the traumatic triggers, increasing the amount of exposure to traumatic triggers, and enhancing social support.

The blurring of professional boundaries was something that emerged from this study as being significantly related to secondary traumatic stress. Other researchers have

also identified this finding (Abendroth & Flannery, 2006; Maytum et al., 2004; Melvin, 2012; Robins et al., 2009; Smith, 2013), so it is unlikely to be unique to this particular sample. This finding implies that more discussion needs to happen in the workplace about professional boundaries with nurses in clinical practice. This may be a role for nursing management, or it may be better received in a peer-to-peer context. Additionally, nurses should periodically self-reflect on what professional boundaries should look like and use it as an opportunity to change their practice. A strategy for self-reflection is to consider if the thoughts or actions of the nurse are intended to make the client feel better or to make the nurse feel better. Serious violations of professional boundaries need to be brought to the attention of management and professional practice regulators.

The qualitative results of this study indicated that participants believed that supportive leadership and a positive working environment would mitigate burnout. Managers need to be visible and accessible. They need to have an understanding of the day-to-day issues impacting staff and be willing to be directly involved in helping to resolve them. Issues with workload and increasing patient acuity may require the involvement of hospital administrators to ensure patient safety is not compromised. Another strategy for managers to support their employees is to simply make them aware of the resources they have available to them and perhaps incorporate some opportunities for psychological care into the regular professional development activities, such as providing workshops for staff on self-care and conducting debriefing after a traumatic event.

Focusing on compassion satisfaction rather than compassion fatigue may unfortunately be an overlooked strategy. There is good evidence from this study and

others that compassion satisfaction may mitigate compassion fatigue. Reflecting on positive client experiences and the pleasure one derives from nursing may prove beneficial.

Conclusion

The results of this study contribute to the growing body of scientific literature on the topic of compassion fatigue. This study also adds to the limited research on the relationship between empathy and compassion fatigue. This is the only study to date to examine professional quality of life in pediatric nurses in Canada. The results of this study indicate that nurses in this population are at risk for secondary traumatic stress and burnout but are not accessing resources to deal with these issues. Models of factors associated with secondary traumatic stress and burnout were proposed. It is hoped that by raising awareness of these factors that pediatric nurses will gain a better understanding of how to protect themselves from compassion fatigue.

APPENDIX A

IWK Research Ethics Board Approval Letter



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Canada
tel: 902.470.8888
www.iwk.nshealth.ca

Approval – Delegated Review September 30, 2015

Principal Investigator: Rebecca de Champlain

Co-Principal Investigator: Dr. Margot Latimer

Title: Examining the Relationship Between Cognitive and Affective Components of Empathy to Compassion Fatigue, Burnout and Compassion Satisfaction in Pediatric Nurses

Project #: 1020156

On behalf of the IWK Research Ethics Board (IWK-REB) I have reviewed the documents included in this study. I am pleased to confirm the Board's full approval for this research study, effective today.

Best wishes for a successful study.

Yours truly,

Adam Huber
Co-Chair, Research Ethics Board

This approval includes the following study documents:

Document Name	Version Date
Recruitment Poster	2015/08/07
Script - Email to Mangers	2015/08/07
Questionnaire - Demographic and Personal Data	2015/08/07
Questionnaire - Quality of Life Scale	2015/08/07
Questionnaire - Interpersonnal Reactivity	2015/08/07
Questionnaire -Participants Thoughts about Compassion Fatigue	2015/08/07
Protocol - pagination changed	2015/08/07
Information Sheet	2015/09/28
EAS Form	2015/09/28

APPENDIX B

Recruitment Poster

Attention Pediatric Nurses!!!



Please complete and return the survey on compassion fatigue and empathy.

(You may fill out a paper survey or follow the link in your email/e-source for an online version.)

You will receive a \$2 Tim Horton's Gift Card for your participation and a chance to win one of two \$50 Gift Cards to Chapters

For more information contact Rebecca de Champlain RN, MN (student) at

rebecca.dechamplain@iwk.nshealth.ca

APPENDIX C

Email to Care Area Manager with Participant Recruitment Email Following

Dear _____ (Manger of Care Area)

As you may recall, we have been in communication about my Master of Nursing thesis research project on compassion fatigue in pediatric nurses. Now that I have received IWK Research Ethics Board approval I would like to begin the data collection process! Nurses on your unit are being invited to participate in this research project by completing a survey, which will take approximately 15 minutes of their time. They may fill out a paper version, which I will supply to you and ask that you distribute to potential participants, or they may follow the link in the email and complete the survey online. I would like to place a few recruitment posters (see attached) in areas visible to staff on your unit. I would also like to place a collection box in a convenient area somewhere on your unit to collect the surveys. I am also attaching, for your reference, the information sheet that all potential participants will receive in order to provide you with more information about the study. I would be happy to visit your staff at a time that is convenient for you so that I could further explain the study and answer any questions. Perhaps a few minutes during a staff meeting or education day would be a possibility. I will be visiting your unit next week to provide you with the paper copies of the survey. I will also be sending you a recruitment email that I would like you to forward along to registered nurses on your unit who have direct patient contact as part of their nursing role. I would also ask that you post the message on your unit's e-source discussion board as some staff may check e-source more frequently. If you have any questions please do not hesitate to ask. You may contact me directly using the contact information below or you may contact my thesis supervisor, Dr. Margot Latimer at mlatimer@dal.ca or 902-494-XXXX, or my research assistant Jill Moore at jill.moore@iwk.nshealth.ca or 902-470-XXXX. Thank you very much for your support in this matter.

Rebecca

Rebecca de Champlain

Rebecca.dechamplain@iwk.nshealth.ca

902-476-XXXX

Dear Nursing colleague,

I would like to introduce you to Rebecca de Champlain who is a Master of Nursing student at Dalhousie University. Rebecca is also a registered nurse in the Emergency Department. She is conducting a research study on compassion fatigue in pediatric nurses and would like to invite you to participate in this project. Participation involves completing a short survey (approx. 15 minutes) on paper *or* online. Participation is optional. Please read the information sheet carefully before completing the survey. As a thank you for completing the survey you will receive a \$2 Tim Horton's gift card and will also be entered into one of two draws for a \$50 Chapters gift card.

Paper copies of the survey and a collection box have been left on your unit. Or you may follow this link to complete the survey online <https://surveys.dal.ca/opinio/s?s=PediatricNurses>

Thank you.

APPENDIX D

Study Information Sheet

Short Title: Examining Empathy and Compassion Fatigue in Pediatric Nurses

Research Title: Examining the Relationship Between Cognitive and Affective Components of Empathy to Compassion Fatigue, Burnout and Compassion Satisfaction in Pediatric Nurses

Researchers:

Principal Investigator: Rebecca de Champlain, RN, BScN, MN (student), Dalhousie University and IWK

Co-Investigators: Margot Latimer, RN, PhD (supervisor), Dalhousie University and IWK
Eleanor Fitzpatrick, RN, MN, Dalhousie University and IWK
Audrey Steenbeek, RN, PhD, Dalhousie University

Funding

Dalhousie Nursing Research and Development Fund

Introduction

You are being invited to take part in a research study. This form provides information about the study. Before you decide to take part, it is important that you understand the purpose of the study, how it may affect you, the risks and benefits of taking part and what you will be asked to do. You do not have to take part in this study. Taking part is entirely voluntary. Informed consent starts with the initial contact about the study and continues until the end of the study. A staff member of the research team will be available to answer any questions you have.

Completion of the research questionnaire is considered implied consent for participation so please read the following information carefully before proceeding to the questionnaire.

Why is the researcher doing this study?

Compassion fatigue and burnout are known to have negative consequences for nurses, their patients, and the healthcare system. Empathy is a necessary element of the nurse-patient relationship and it is also thought to play a role in the development of compassion fatigue. The relationship between empathy and compassion fatigue, burnout and compassion satisfaction is not well understood. The researcher would like to gain a better understanding of this relationship as well as other factors that might contribute to the development of compassion fatigue in pediatric nurses.

How will the researcher do the study?

The researcher would like to collect information from pediatric nurses about aspects of their personal and work-life that might contribute to the development of compassion fatigue. A questionnaire was created to gather this information, as well as to assess levels of compassion fatigue, burnout, compassion satisfaction and empathy in pediatric nurses.

Who is eligible to participate in this study?

Registered nurses who provide direct patient care as their primary role are eligible for participation.

What will I be asked to do?

You are being asked to complete the questionnaire on compassion fatigue, burnout, compassion satisfaction and empathy. You may complete this questionnaire in paper format **or** online. The questionnaire will take approximately 15 minutes to complete. You may complete it at a time that is most convenient for you.

What alternatives to participation do I have?

You do not have to participate in this research study. Participation is optional and will in no way reflect negatively upon you or your position as an IWK employee. You may choose to omit any questions you do not feel comfortable answering.

Can I withdraw from the study?

You may decide to stop completing the questionnaire if you wish. However, once you have submitted your responses online or placed your paper copy in the collection box it will be impossible to separate it from other questionnaires as they will be deidentified.

What are the burdens, harms and potential harms?

The completion of this questionnaire will require a small commitment of time, approximately 15 minutes. There are no anticipated harms as a result of participation; however, some questions may cause you to reflect on some difficult patient-care experiences you may have had. This may be distressing for some individuals. You may choose to omit any questions you do not wish to answer. If you continue to feel any distress as a result of this questionnaire, or due to your work in general, you may wish to contact the IWK's Employee Assistance Program for support. **To access services available through your EAP call: English 1-800-461-XXXX, en français 1-800-363-XXXX, or access online at: www.fgiworldmembers.com Username: nsaho Password: XXXXXX.** If you would like to know your results on the compassion fatigue, burnout and compassion satisfaction survey please contact the study's research assistant at (902) 470-XXXX to obtain a self-scoring version of the survey.

What are the potential benefits?

There are likely to be no direct benefits to you from participating in this study; however, it is hoped that the results of this study may be used to help to improve the professional quality of life for pediatric nurses in the future. You may feel good in knowing that you contributed to this type of research. You will be provided with a \$2 Tim Horton's gift card as a "Thank You" for your participation. Your name will also be placed into a draw for one of two \$50 gift certificates to Chapters.

Will the study cost me anything?

You will not incur any financial costs for participating in this study.

How will I be informed of the study results?

A summary of the study findings will be sent to all nursing staff on the study units via their work email as well as through the e-source discussion board.

How will my privacy be protected?

Your name will in no way be associated with your answers to the research questionnaire. Additionally, there are no questions on the questionnaire that may be used to identify you, such as gender, ethnicity, or education level. If you choose to complete the questionnaire in paper format we ask that you print your name on the bottom of this form, detach it, and place it in the collection box separately from your questionnaire so that we may provide you with your gift card and enter your name into the prize draws. Paper questionnaires will be stored in a locked

research office at the IWK and only accessible to research staff. If you choose to complete the questionnaire online your responses will be encrypted and stored on a secure server at Dalhousie University, accessible only by research staff. No identifying information such as name or email address will be associated with your answers. You may choose to submit your name separately for the purpose of receiving your gift card and entry into the prize draws.

Are there any conflicts of interest?

This research study is a requirement for completion of the Master of Nursing program at Dalhousie University. The researcher does not stand to gain financially by conducting this research. The researcher is a staff nurse at the IWK and may be known to potential participants. Elements of the research study that may be seen as a conflict of interest, such as the awarding of gift cards, will be conducted by a research assistant.

What if I have study questions or problems?

If you have any questions or problems you may contact the principal investigator, Rebecca de Champlain, at (902)476-XXXX, or at rebecca.dechamplain@iwk.nshealth.ca; or Dr. Margot Latimer (study supervisor) at (902)494-XXXX, or at m.latimer@dal.ca. If you have questions related to this, or any research at the IWK, you may contact IWK Research Services at (902) 470-XXXX, Monday to Friday between 8 a.m. and 4 p.m.

If you would like to receive a \$2 Tim Horton's gift card and be entered into the draw for one of two \$50 gift certificates to Chapters, please fill out the form below, detach it and place it in the collection box. In order to maintain the anonymity of your answers please ensure it is not attached to your questionnaire.

Name: _____

Unit: _____

APPENDIX E

Research Questionnaire

Examining Compassion Fatigue and Empathy in Pediatric Nurses

Thank you for agreeing to complete this questionnaire on factors that affect compassion fatigue and empathy in pediatric nurses. Compassion fatigue is the stress that results from helping or wanting to help a traumatized or suffering individual. The answers you provide will help us to better understand this phenomenon as it might relate to pediatric nurses. Please take the time to read each question carefully and answer honestly. You may omit any questions that you do not feel comfortable answering.

APPENDIX F

Demographic, Personal and Work-life Questions

Questions About You

Which unit do you work on?

- Emergency Department
- Pediatric Medical Unit
- Medical, Surgical and Neuroscience Unit
- Hematology, Oncology, and Nephrology Unit

How old are you?

- 20-25
- 25-35
- 35-50
- 50 or older

How long have you worked on your current unit?

- 0-2 years
- 2-5 years
- 5-15 years
- 15 years or more

How long have you been a pediatric nurse?

- 0-2 years
- 2-5 years
- 5-15 years
- 15 years or more

How long have you been a nurse?

- 0-2 years
- 2-5 years
- 5-15 years
- 15 years or more

What is your relationship status?

- Single
- Married or common law
- Separated, divorced or widowed
- Prefer not to say

Are you a parent?

- Yes
- No

What is your Full-time Equivalent (FTE)?

- casual
- less than or equal to 0.4
- between 0.45 and 0.75
- between 0.8 and 1.0

Do you work shift work?

- Yes
- No

How often do you work an extra shift (in excess of your regular FTE)?

- More than once per month
- Once every 1 – 3 months
- Rarely
- Never

How often do you engage in physical activity?

- Frequently (at least three days per week)
- Often (at least three days per month)
- Rarely
- Never

Please answer the following questions by indicating how much you agree or disagree with the following statements.

I participate in hobbies and leisure activities

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

The unit I work on is a supportive work environment

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

My colleagues demonstrate a positive attitude towards the work we do

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

Sometimes I feel that professional boundaries become blurred in my relationship with patients and families

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

APPENDIX G

Professional Quality of Life Scale Version 5 (Stamm, 2009)

When you help people, you have direct contact with their lives. As you may have found, your compassion for those you help can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a helper. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the last 30 days.

Answer Scale:

1 = Never 2 = Rarely 3 = Sometimes 4 = Often 5 = Very Often

- ___ 1. I am happy.
- ___ 2. I am preoccupied with more than one person I help.
- ___ 3. I get satisfaction from being able to help people.
- ___ 4. I feel connected to others.
- ___ 5. I jump or am startled by unexpected sounds.
- ___ 6. I feel invigorated after working with those I help.
- ___ 7. I find it difficult to separate my personal life from my life as a nurse.
- ___ 8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I helped.
- ___ 9. I think that I might have been affected by the traumatic stress of those I help.
- ___ 10. I feel trapped by my job as a nurse.
- ___ 11. Because of my helping, I have felt "on edge" about various things.
- ___ 12. I like my work as a nurse.
- ___ 13. I feel depressed because of the traumatic experiences of the people I help.
- ___ 14. I feel as though I am experiencing the trauma of someone I have helped.
- ___ 15. I have beliefs that sustain me.

Answer Scale:

1 = Never 2 = Rarely 3 = Sometimes 4 = Often 5 = Very Often

___ 16. I am pleased with how I am able to keep up with nursing techniques and protocols.

___ 17. I am the person I always wanted to be.

___ 18. My work makes me feel satisfied.

___ 19. I feel worn out because of my work as a nurse.

___ 20. I have happy thoughts and feelings about those I help and how I could help them.

___ 21. I feel overwhelmed because my workload seems endless.

___ 22. I believe I can make a difference through my work.

___ 23. I avoid certain activities or situations because they remind me of frightening experiences of the people I help.

___ 24. I am proud of what I can do to help.

___ 25. As a result of my work as a nurse, I have intrusive, frightening thoughts.

___ 26. I feel "bogged down" by the system.

___ 27. I have thoughts that I am a "success" as a nurse.

___ 28. I can't recall important parts of my work with trauma victims.

___ 29. I am a very caring person.

___ 30. I am happy that I chose to do this work.

APPENDIX H

Interpersonal Reactivity Index (Davis, 1980)

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale: A, B, C, D, or E. When you have decided on your answer, fill in the letter next to the item number. Read each item carefully before responding. Answer as honestly as you can.

Answer Scale:

- | A | B | C | D | E |
|---------------------------|---|---|---|------------------------|
| Does Not Describe Me Well | | | | Describes Me Very Well |
- ___ 1. I daydream and fantasize, with some regularity, about things that might happen to me.
 - ___ 2. I often have tender, concerned feelings for people less fortunate than me.
 - ___ 3. I sometimes find it difficult to see things from the "other guy's" point of view.
 - ___ 4. Sometimes I don't feel very sorry for other people when they are having problems.
 - ___ 5. I really get involved with the feelings of the characters in a novel.
 - ___ 6. In emergency situations, I feel apprehensive and ill-at-ease.
 - ___ 7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.
 - ___ 8. I try to look at everybody's side of a disagreement before I make a decision.
 - ___ 9. When I see someone being taken advantage of, I feel kind of protective towards them.
 - ___ 10. I sometimes feel helpless when I am in the middle of a very emotional situation.

Answer Scale:

A

B

C

D

E

Does Not
Describe Me
Well

Describes
Me Very
Well

___ 11. I sometimes try to understand my friends better by imagining how things look from their perspective.

___ 12. Becoming extremely involved in a good book or movie is somewhat rare for me.

___ 13. When I see someone get hurt, I tend to remain calm.

___ 14. Other people's misfortunes do not usually disturb me a great deal.

___ 15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

___ 16. After seeing a play or movie, I have felt as though I were one of the characters.

___ 17. Being in a tense emotional situation scares me.

___ 18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.

___ 19. I am usually pretty effective in dealing with emergencies.

___ 20. I am often quite touched by things that I see happen.

___ 21. I believe that there are two sides to every question and try to look at them both.

___ 22. I would describe myself as a pretty soft-hearted person.

___ 23. When I watch a good movie, I can very easily put myself in the place of a leading character.

___ 24. I tend to lose control during emergencies.

Answer Scale:

A

B

C

D

E

Does Not
Describe Me
Well

Describes
Me Very
Well

____ 25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

____ 26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

____ 27. When I see someone who badly needs help in an emergency, I go to pieces.

____ 28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

APPENDIX I

Thoughts about Compassion Fatigue

Prior to being asked to participate in this research study, had you ever heard of the term “Compassion Fatigue”?

- Yes
- No
- Not sure

Does your workplace offer any programs or assistance in dealing with Compassion Fatigue?

- Yes
- No
- Not sure

How important an issue do you feel Compassion Fatigue is in your workplace?

- Very important
- Somewhat important
- Not important
- Not sure

In your opinion, what are some possible triggers or other contributing factors to developing Compassion Fatigue?

Thank you for participating in this research study. Please return your completed survey to the collection box.

Comments:

APPENDIX J

Demographic and Personal Data of Participants

Variable	% (n)
<hr/>	
Age	
20-25	9 (10)
26-35	41 (44)
36-50	38 (41)
51 or older	12 (13)
<hr/>	
Relationship Status	
Single	26 (28)
Married or common-law	69 (75)
Separated, divorced or widowed	5 (5)
<hr/>	
Are you a parent?	
Yes	53 (57)
No	46 (50)
Missing	1 (1)
<hr/>	
Engage in physical activity	
Frequently (>3 days/week)	51 (55)
Often (at least 3 days/month)	32 (35)
Rarely	17 (18)
Never	0 (0)
<hr/>	
Participation in hobbies and leisure activities	
Strongly agree	32 (35)
Agree	51 (55)
Neutral	13 (14)
Disagree	4 (4)
Strongly disagree	0 (0)

APPENDIX K

Work Related Data

Variable	% (n)
<hr/>	
Care area	
Emergency Department	27 (29)
Medical Unit	20 (22)
Surgical Unit	25 (27)
Hematology/Oncology/Nephrology Unit	28 (30)
<hr/>	
Years as a nurse	
0 – 2 years	15 (16)
3 – 5 years	16 (17)
6 – 15 years	31 (33)
15 years or more	38 (41)
Missing	1 (1)
<hr/>	
Years as a pediatric nurse	
0 – 2 years	19 (21)
3 – 5 years	16 (17)
6 – 15 years	31 (34)
15 years or more	32 (35)
Missing	1 (1)
<hr/>	
Years on current unit	
0 – 2 years	28 (30)
3 – 5 years	15 (16)
6 – 15 years	32 (35)
15 years or more	25 (27)
<hr/>	
Hours worked per week	
Casual	5 (5)
16 or less	2 (2)
17 to 31	15 (16)
32 or more	79 (85)
<hr/>	
Shift work	
Yes	85 (92)
No	14 (15)
Missing	1 (1)
<hr/>	
Extra shifts	
More than once per month	13 (14)
Once every 1 – 3 months	32 (35)
Rarely	38 (41)
Never	16 (17)
Missing	1 (1)

APPENDIX L

Attitudes in the Workplace Data

Variable	% (n)
<hr/>	
My colleagues demonstrate a positive attitude towards the work we do.	
Strongly agree	19 (21)
Agree	65 (70)
Neutral	14 (15)
Disagree	2 (2)
Strongly disagree	0 (0)
<hr/>	
Sometimes I feel that professional boundaries become blurred in my relationship with patients and families.	
Strongly agree	1 (1)
Agree	19 (21)
Neutral	8 (9)
Disagree	47 (51)
Strongly disagree	24 (26)
<hr/>	
The unit I work on is a supportive work environment.	
Strongly agree	24 (26)
Agree	58 (63)
Neutral	16 (17)
Disagree	1 (1)
Strongly disagree	1 (1)

APPENDIX M

Interpersonal Reactivity Index Results

Mean Scores for the Perspective Taking, Fantasy, Personal Distress and Empathic Concern Subscales of the Interpersonal Reactivity Index

	IRI Female (Davis, 1979, 1980) <i>N</i> = 582 Mean (<i>SD</i>)	Pediatric Nurses <i>N</i> = 108 Mean (<i>SD</i>)	Pediatric Nurses < 26 years <i>n</i> = 10 Mean (<i>SD</i>)	Pediatric Nurses > 26 years <i>n</i> = 98 Mean (<i>SD</i>)
Perspective Taking	17.96 (4.85)	19.74 (3.82)	19.10 (5.64)	19.80 (3.62)
Fantasy	18.75 (5.17)	12.94 (5.51)	18.40 (4.33)	12.39 (5.32)
Personal Distress	12.28 (5.01)	8.32 (4.13)	11.00 (4.99)	8.05 (3.96)
Empathic Concern	21.67 (3.83)	21.48 (3.61)	23.40 (2.41)	21.29 (3.67)

Mean Fantasy Scale Scores by Age Category

Age	<i>n</i>	Fantasy Scale Mean (<i>SD</i>)
20-25 years	10	18.40 (4.33)
26-35 years	44	13.50 (6.35)
36-50 years	41	12.00 (4.26)
51 and older	13	9.85 (3.44)

APPENDIX N

Frequencies of Workplace Related Triggers for Compassion Fatigue

Trigger	Frequency % (<i>n</i>)
Heavy workload, high patient acuity, complex assignments, not enough time for emotional support, busy unit, constant interruptions, feeling overworked, too much overtime, poor staffing, pressure to cover sick calls	54 (44)
Unsupportive workplace, unsupportive leadership, lack of allied health support, lack of resources, performing too many non-nursing tasks	21 (17)
Conflict with other nurses and colleagues, negative attitudes, poor morale, high-strung/stressed coworkers, poor teamwork	18 (15)
Length of time in high stress environment	7 (6)
Lack of debrief/time to reflect after a death or traumatic event	5 (4)
Lack of breaks/time to relax during shift	5 (4)
Shift work, scheduling	5 (4)
Primary care nursing	5 (4)
Medical staff not listening to you, communication breakdown, not being treated like a professional	4 (3)
Sense of futility to make changes/improvements, not able to do a good job	2 (2)
Junior staff having too busy/unfair assignments, not having enough preceptorship	2 (2)
Difficulty attending education sessions, trouble keeping up with changing nursing best practice	2 (2)
Underappreciated, lack of positive feedback	2 (2)
Not all nurses adhere to nursing best practice	1 (1)
Extra work duties (e.g., committees)	1 (1)
Underpaid	1 (1)

APPENDIX O

Frequencies of Client Related Triggers for Compassion Fatigue

Trigger	Frequency % (<i>n</i>)
Traumatic events, continuous exposure to highly emotional situations, patient deaths, multiple deaths in a short period of time, providing palliative care, bad diagnosis/prognosis, unexpected complications, very sick/complex patients	41 (34)
Long-term patients	12 (10)
Rude/aggressive/challenging family members, upset families, emotionally taxing families, people being mean to you	9 (7)
Child abuse	4 (3)
Practicing family-centred care to an extreme degree, families treating hospital like a hotel	2 (2)
Being involved in a procedure where the child is traumatized, witnessing the suffering of a child	2 (2)
Patients with difficult home/parental situations	1 (1)

APPENDIX P

Frequencies of Home-Life Related Triggers for Compassion Fatigue

Trigger	Frequency % (<i>n</i>)
Personal/family emergencies, stresses at home, financial strain, illnesses in family, caring for your own children, personal commitments, busy personal life	26 (21)
Not having a good balance between home and work life, not prioritizing non-work activities/hobbies	13 (11)
Lack of support outside of work, poor interpersonal relationships	6 (5)
Having a child/someone close to you that reminds you of a patient, fear that it could happen to your child/someone you love	4 (3)
Personal experiences reflected at work and vice versa	2 (2)
Lack of a full life outside or work	1 (1)

APPENDIX Q

Frequencies of Self-Related Triggers for Compassion Fatigue

Trigger	Frequency % (<i>n</i>)
Being unable to separate yourself from the work you do, caring too much for too long, can't "turn it off"	10 (8)
Failure to maintain professional boundaries, getting too close to families, strong bond with families	6 (5)
Poor coping skills	6 (5)
Expecting too much from yourself, not giving yourself permission to take a break, not taking vacation time or mental health days, trying to deal with too much at the same time	6 (5)
Personal health/fatigue	6 (5)
Feeling a burden of responsibility toward patients/families	5 (4)
Lack of job satisfaction	1 (1)
Past personal traumas	1 (1)
Difficulty putting it all in perspective	1 (1)
Faith in God may mitigate compassion fatigue	1 (1)

APPENDIX R

Thoughts on Compassion Fatigue Data

Variable	% (n)
<hr/>	
Prior to being asked to participate in this study had you ever heard of the term “compassion fatigue”?	
Yes	67 (72)
No	30 (32)
Not sure	4 (4)
<hr/>	
Does your workplace offer any programs or assistance in dealing with compassion fatigue?	
Yes	17 (18)
No	13 (14)
Not sure	70 (76)
<hr/>	
How important an issue do you feel compassion fatigue is in your workplace?	
Very important	66 (71)
Somewhat important	27 (29)
Not important	4 (4)
Not sure	4 (4)

APPENDIX S

Responses to Blurring of Professional Boundaries by Care Area

Sometimes I feel that professional boundaries become blurred in my relationship with patients and families	Care Area				Total % (n)
	Emergency Dept. % (n)	Medical Unit % (n)	Surgical Unit % (n)	Hematology Oncology Nephrology Unit % (n)	
Strongly agree	0 (0)	0 (0)	4 (1)	0 (0)	1 (1)
Agree	7 (2)	23 (5)	11 (3)	37 (11)	19 (21)
Neutral	7 (2)	9 (2)	7 (2)	10 (3)	8 (9)
Disagree	52 (15)	45 (10)	59 (16)	33 (10)	47 (51)
Strongly disagree	34 (10)	23 (5)	19 (5)	20 (6)	24 (26)
Total	100 (29)	100 (22)	100 (27)	100 (30)	100 (108)

APPENDIX T

Hobbies and Leisure Activities by Care Area

I participate in hobbies and leisure activities	Care Area				Total % (n)
	Emergency Dept. % (n)	Medical Unit % (n)	Surgical Unit % (n)	Hematology Oncology and Nephrology Unit % (n)	
Strongly agree	34 (10)	45 (10)	7 (2)	43 (13)	32 (35)
Agree	45 (13)	50 (11)	67 (18)	43 (13)	51 (55)
Neutral	17 (5)	5 (1)	22 (6)	7 (2)	13 (14)
Disagree	3 (1)	0 (0)	4 (1)	7 (2)	4 (4)
Strongly disagree	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Total	100 (29)	100 (22)	100 (27)	100 (30)	100 (108)

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