

COMPASSION FATIGUE AND ITS ASSOCIATION WITH WORKPLACE  
EMPOWERMENT IN ACUTE CARE SETTINGS

by

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE

in

THE FACULTY OF GRADUATE STUDIES

Master of Science in Nursing

We accept this thesis as conforming to the required standard

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May 2014

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### Abstract

Compassion fatigue has been found to influence nursing care providers in a variety of specialized healthcare settings. This study was undertaken to: (a) describe compassion fatigue in the workplace setting of a general medical nursing care provider and health care attendants (HCAs) and (b) determine to what extent workplace empowerment structures (i.e., opportunity, information, resources, and support) are associated with compassion fatigue in nursing care providers (i.e., registered nurses and licensed practical nurses) and HCAs who work on acute general medical units in a hospital context.

The study was carried out within a large urban health authority in British Columbia, Canada. Nursing care providers and health care attendants ( $N = 117$ ) from five medical care units within four hospital sites participated in the study. Descriptive statistics were employed to describe the sample. Multivariate linear regression and ordinal logistic regression analysis were used to examine variables that explain variation in compassion fatigue.

Findings revealed that 55% of the sample reported moderate to severe levels of compassion fatigue. Accessibility to resources was the only empowerment structure that explained variability in nursing care providers' and health care attendants' compassion fatigue ( $p < 0.01$ ). In addition, the variance of compassion fatigue was partially explained by the participant's highest level of education and marital status ( $p < 0.05$ ). An ordinal logistic regression further added interpretation to the data by revealing that a one-unit increase in perceived resource empowerment corresponds with being two times more

likely to be in a lower category of compassion fatigue, with all the other variables in the model held constant.

This research highlights three things: (a) that compassion fatigue exists in the nursing care provider and health care attendant in general medical unit settings within hospitals, (b) that one area to mitigate compassion fatigue onset may be enhanced access to resources (i.e., time to do the job and paperwork and acquiring temporary help when needed), and (c) people are divorced or have a degree in nursing may be more likely to experience compassion fatigue. Further research is needed to investigate empowerment structures and other potential predictors of compassion fatigue in general medical units.

## Table of Contents

Acknowledgements.....	9
Chapter One .....	10
Introduction .....	10
Project Description.....	11
Project Purpose and Objectives.....	12
Conceptual Definitions.....	14
Compassion fatigue .....	15
Related concepts .....	17
Workplace empowerment structures in nursing .....	19
Outline of Thesis.....	20
Conclusion .....	21
Chapter Two .....	22
Introduction .....	22
Search and Retrieval Strategies for Literature Review .....	22
Literature Review .....	24
The experience of compassion fatigue.....	25
Incidence of compassion fatigue in the workplace .....	26
Factors associated with compassion fatigue.....	27
Antecedents of compassion fatigue.....	27
Prevention of compassion fatigue .....	28
Outcomes of compassion fatigue.....	29
Compassion fatigue and empowerment structures.....	29

Conceptual Framework .....	30
Explanation of conceptual model.....	34
Conclusion .....	35
Chapter Three .....	36
Introduction.....	36
Research Design .....	36
Sampling Methods .....	37
Inclusion criteria .....	37
Sample size .....	37
Sampling strategy .....	38
Survey implementation .....	38
Data Collection Method .....	39
Survey administration.....	40
Response rate .....	41
Draw entry.....	42
Measurement instruments .....	43
Covariates.....	43
Secondary traumatic stress scale (STSS) .....	43
Conditions for work effectiveness II questionnaire (CWEQ-II).....	46
Methods of Analysis .....	48
Missing data.....	48
Sample description .....	49
Bivariate associations.....	49

Multivariate linear regression.....	49
Examination of regression assumption.....	50
Normality of continuous variables and independence of errors .....	50
Linearity .....	51
Homoscedasticity of residuals.....	51
Colinearity .....	51
Significant outliers .....	52
Residuals errors normality.....	52
Ordinal logistic regression .....	52
Ethics .....	53
Chapter Four.....	55
Introduction .....	55
Distribution of compassion fatigue .....	58
Distribution of empowerment structures .....	59
Bivariate Associations.....	63
Examination of regression assumption.....	67
Compassion fatigue (STSS) total score and subscale comparison .....	<b>Error!</b>
<b>Bookmark not defined.</b>	
Ordinal Logistic Regression .....	70
Examination of ordinal logistic regression assumptions .....	73
Conclusion .....	73
Chapter Five.....	75
Introduction .....	75

Summary of Findings.....	75
Describing compassion fatigue .....	75
Compassion fatigue and the association with workplace empowerment .....	75
Relation to the Literature .....	77
Compassion fatigue .....	79
Empowerment structures.....	80
Participant highest education level.....	83
Participant marital status .....	84
Relation to the literature summary.....	85
Limitations.....	85
Practical Implications.....	87
Future Research Directions .....	88
Conclusion .....	89
References .....	92
Appendix A: Table A – Literature Review .....	102
Appendix B: Managerial Recruitment Script.....	115
Appendix C: Participant Invitation .....	117
Appendix D: Follow-up Invitation .....	119
Appendix E: Consent Form .....	120
Appendix F: Compassion Fatigue and Empowerment Questionnaire .....	123
Appendix G: Employee Approach Script.....	129
Appendix H: Email Reminders.....	130
Appendix I: Draw Entry Form.....	131

Appendix J: Table J – Variables Selected .....	132
Appendix K: Table K – Instrument Review .....	134
Appendix L: Secondary Traumatic Stress Scale .....	136
Appendix M: Table M – Conditions for Work Effectiveness Questionnaire - II .....	137
Appendix N: Figure 5 – Scatterplots of CWEQ II Subscales.....	138

### **Acknowledgements**

This work has been a process that has thoroughly stretched me beyond that which I thought was possible. I would like to thank my supervisors Dr. Rick Sawatzky and Dr. Angela Wolff who guided me with encouragement, support, and honesty. To those who participated in my study, thank you for opening your hearts and minds to my passion and for supplying the data to make this research possible. To my friends Jenn, Naomi, Crista, Kimberlee, Katie, Joanne, Jocelyn, Kristine, and Glenda, without your listening, humor and encouragement, I do not think I would have made it! To my family, Mom, Suzanne, Joan, and Al, you have provided me with insight and support that no other people would have been able.

And last, but not least, I would like to thank Matt, my husband, for countless hours of editing, moral support, Kleenex, and hugs. I appreciate you keeping me from the ledge and for believing in me when I no longer could believe in myself. Without you, this would not have been possible.

## Chapter One

### Introduction

“Most nurses enter the field of nursing with the intent to help others and provide empathetic care for patients with critical physical, mental, emotional, and spiritual needs” (Lombardo & Eyre, 2011, para. 1). However, providing empathetic care can take a toll on nurses as they navigate through their profession (Hooper, Craig, Janvrin, Wetsel, & Reimels, 2010; Perry, Toffner, Merrick, & Dalton, 2011). With heavy patient care workloads, increased patient acuity, and high physical and psychological demands, caring for patients can result in decreased productivity and lower job satisfaction for individual nurses (Coetzee & Klopper, 2010; Lombardo & Eyre, 2011; Perry et al., 2011). Due to increased job demands and the additional emotional stress from caring for patients who have physical and emotional pain, nurses have the potential to develop compassion fatigue (Hooper et al., 2010; Michalec, Diefenbeck, & Mahoney, 2013; Perry et al., 2011). As Coetzee and Klopper (2010) discuss, compassion fatigue, if not identified and treated, “can permanently alter the compassionate ability of the nurse” (p. 235).

Compassion fatigue has been found to stem from the nurse/patient relationship as a result of intense nurse caring and identification of patient suffering (Aycock & Boyle, 2009; Coetzee & Klopper, 2010; Sabo, 2011). Austin (2011) proposes “that compassion fatigue as a whole as currently experienced by nurses may not arise predominantly from too great a demand for compassion but rather from barriers to enact compassionate care” (p. 158). There is a range of potential barriers associated with the environmental context that can affect how nursing care is provided. Some barriers include: feelings of powerlessness, exploitation, and marginalization interpersonal violence, amongst others

(Austin, Goble, Leier, & Byrne, 2009). In order to decrease compassion fatigue within the workplace, organizations are encouraged to provide better work environments for nurses (Aycock & Boyle, 2009; Marcial et al., 2013). Austin et al. (2009) further assert that current research “fails to capture fully the source of compassion fatigue and the personal, professional, and organizational factors that influence its development” (p. 198). Later, Yoder (2010) found that a combination of personal and organizational system issues can trigger the incidence of compassion fatigue. One potential organizational system issue that could influence the development of compassion fatigue is structural empowerment, which includes the workplace structures related to opportunity, information, resources, and support. Workplace empowerment in nurses refers to “the extent to which employees feel they have access to these structures in their work settings” (Laschinger, 2012a, p. 1). Current research has shown that workplace empowerment structures have been positively associated with nurse job satisfaction, decreased stress, and decreased burnout (Davies, Wong, & Laschinger, 2011). It may be a reasonable extension to assume that compassion fatigue is also affected by workplace empowerment.

### **Project Description**

Compassion fatigue has been researched in many specialty areas of nursing, including: critical care, oncology, cardiovascular care, emergency, and pediatrics. Despite these varied study contexts, a comprehensive search of the published literature did not reveal research on how compassion fatigue relates to nurses in general acute medical units. To address this gap in knowledge, this study provides a quantitative investigation using multivariate analysis to identify any associations between compassion

fatigue and workplace empowerment structures (i.e., access to opportunity, information, resources, and support) in registered nurses (RNs), licensed practical nurses (LPNs), and health care attendants (HCAs) who provide care on general medical units.

The aim of this study is to (a) describe compassion fatigue in nursing care providers and HCAs who work on acute care medical units and (b) identify the extent to which workplace empowerment structures explain compassion fatigue. This research is significant because compassion fatigue may have a negative impact on the wellbeing of medical nurses and HCAs and on the people they care for. If compassion fatigue is found to exist in this area, this research may point to a potential antecedent to mitigate its impact through workplace empowerment structures (Marcial et al., 2013; Potter et al., 2013). This study investigates whether empowerment structures can lead to a decrease in compassion fatigue amongst nursing care providers and HCAs on a general medical unit.

### **Project Purpose and Objectives**

Compassion fatigue has been known to result from increased emotional giving over time, given by the nurse to the patient, “that ultimately ends with an inability to attain a healthy balance of empathy and objectivity” (Aycock & Boyle, 2009, p. 184). Currently, in one large, urban health authority in British Columbia, the average length of stay in hospital is 8.1 days (Hart, Maitland, & Irving, 2014). Due to increased patient acuity and complex comorbidities, patients are staying on medical units for longer periods and nurses and HCAs are developing longer professional relationships with these individuals (Aycock & Boyle, 2009). Considering the lack of research on compassion fatigue in acute hospital medical units and the recognition that research on compassion

fatigue may not be readily transferrable across different contexts of care, the focus of this research examines compassion fatigue in the context of acute hospital medical units.

In addition, this study examines whether workplace empowerment is associated with nurses' and HCAs' development of compassion fatigue, within the general medical unit setting. Research in specialty nursing areas support the idea that to decrease compassion fatigue health care organizations need to be intentional in providing better environments for nurses (Aycock & Boyle, 2009). Brought to the forefront by Kanter in 1977, workplace empowerment structures have been researched throughout the decades as they relate to job satisfaction, burnout, job strain, and new graduate perceptions upon entering the nursing profession (Davies et al., 2011; Laschinger, Finegan, & Shamian, 2001; Laschinger, Finegan, Shamian, & Wilk, 2001). The act of imparting structural empowerment to employees providing direct patient care on medical units may allow nurses to better enact compassionate care without compassion fatigue as a consequence (Austin, 2011).

Laschinger, a Canadian health researcher, has spent many years studying structural empowerment within the nursing work environment in an attempt to find associations amongst organizational structures and a variety of issues impacting nursing including retention and burnout (Laschinger, 2012b). Research indicates that empowerment structures could influence the quality of patient care in nurses' work environments (Davies et al., 2011). That said, to date there have been no studies that focus explicitly on the potential association between workplace structural empowerment and compassion fatigue (Sabo, 2008).

Structural empowerment within the workplace can alter the context in which the relationship between the care provider and the patient unfolds. It is possible that lack of empowerment structures within the workplace is associated with compassion fatigue. It is with this in mind that this research explores the following two questions: (a) Does compassion fatigue exist in nurses and HCAs who work in medical nursing contexts? and, (b) To what extent is workplace empowerment (i.e., opportunity, information, resources, and support) associated with compassion fatigue in nursing care providers (i.e., RNs and LPNs) and HCAs working on acute medical units?

### **Conceptual Definitions**

To fully understand the magnitude of compassion fatigue and its effects on nursing professionals, one must first look at the background of this concept. The concept of compassion fatigue will be explored in detail by providing a working definition within the literature, citing symptoms of compassion fatigue, and discussing related concepts. In addition, definitions of burnout, vicarious traumatization, and moral distress will be examined to distinguish these concepts from compassion fatigue. Finally, workplace empowerment will be explored in relation to the concept of compassion fatigue.

Joinson, who was investigating burnout in emergency room nurses, first introduced the term ‘compassion fatigue’ within the literature in 1992; it was noted that these nurses seemed to have lost their ability to nurture. Compassion fatigue has been found to affect those in many “caring” professions including nursing, social work, genetic counseling, pastoral care, paramedics, law enforcement, firefighting, and lawyers (Jenkins & Warren, 2012; Joinson, 1992; Yang & Kim, 2012). The compassion fatigue phenomenon emphasizes and helps to conceptualize a feeling of hopelessness,

sleeplessness, and unexplained physical and emotional fatigue experienced by many people in caring professions (Jenkins & Warren, 2012).

**Compassion fatigue.** Despite several years of research in this area, a specific definition of compassion fatigue has not been uniformly embraced (Coetzee & Klopper, 2010). Joinson (1992) describes this phenomenon as a unique form of burnout that affects people in care giving professions. Figley (1999) defines compassion fatigue as “the natural, consequent behaviours and emotions resulting from knowledge about a traumatizing event experienced by a significant other. It is the stress resulting from helping or wanting to help a traumatized or suffering person” (p. 10). McHolm (2006) defines compassion fatigue as, “the emotional, physical, social, and spiritual exhaustion that overtakes a person and causes a pervasive decline in his or her desire, ability, and energy to feel and care for others” (p. 12). Yet another author defines compassion fatigue as “the final result of a prolonged, continuous, and intense contact with patients, the use of self, and exposure to stress” (Coetzee & Klopper, 2010, p. 237). For the purposes of this study, compassion fatigue will be defined using McHolm’s (2006) definition above. This definition is holistic and speaks to all the potential aspects a person may struggle with, should compassion fatigue result.

Compassion fatigue can manifest itself unexpectedly while caring for a person suffering from physical, emotional, or mental angst or trauma (Todaro-Franceschi, 2013a). This concept is comprised of the following three domains that originate from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* (2000) criteria for Post-Traumatic Stress Disorder: intrusion, avoidance, and arousal. *Intrusion* is described as the person re-experiencing the traumatic event (American Psychological

Association (APA), 2000). *Avoidance* refers to a persistent avoidance of stimuli related to the event or a lack of interest in previously enjoyed activities (Dominguez-Gomez & Rutledge, 2009). *Arousal* describes a person's ability to be agitated easily more so than in prior circumstances (Dominguez-Gomez & Rutledge, 2009).

The term compassion fatigue has been noted as a euphemism for Secondary Traumatic Stress (STS) throughout the literature (Figley, 2002). Many authors agree that compassion fatigue is a STS reaction that results from helping a person who is suffering from their own traumatic event (Burtson & Stichler, 2010; Gates & Gillespie, 2008; Young, Derr, Cicchillo, & Bressler, 2011). For the purposes of this thesis, compassion fatigue and secondary traumatic stress will be considered to be synonymous.

As far back as 1992, when the phenomenon of compassion fatigue was named, this concept has been used in relation to burnout (Joinson, 1992). Many believed that compassion fatigue and burnout were synonymous (Figley & Stamm, 1996). Further research showed that compassion fatigue and burnout are distinct, yet related, concepts (Figley, 2002). Current research continues to navigate the terms of burnout and compassion fatigue; however, as we will see, there are differences.

*Vicarious traumatization* and *moral distress* have also been used in an attempt to characterize the phenomenon of compassion fatigue (Aycock & Boyle, 2009). However, these concepts are considerably different from compassion fatigue. Due to a lack of conceptual clarity, compassion fatigue has often been associated with the terms of *burnout*, *vicarious traumatization*, and has been more recently linked to *moral distress* (Aycock & Boyle, 2009; Collins & Long, 2003; Lynch & Lobo, 2012; Todaro-Franceschi, 2013a). Some authors use these terms interchangeably which further adds to

the confusion (Beck, 2011). While these terms can arise from the therapeutic relationship developed between the care provider and the patient resulting in a negative impact on the care provider, there are significant differences (Lynch & Lobo, 2012). These closely related concepts of *burnout*, *vicarious traumatization*, and *moral distress* need to be differentiated.

***Related concepts.*** Joinson (1992), the first person to use the term compassion fatigue, described the concept as a unique form of burnout that affects workers in care giving professions. Many researchers agree that burnout is related to work environment and is not specific to those in caring work (Sabo, 2008; Todaro-Franceschi, 2013a). *Burnout* is defined as “a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do ‘people work’ of some kind” (Maslach, 1982, p. 3). The literature suggests that burnout relates to the work environment and a potential lack of personal and/or organizational support involving an extended response to chronic work-related stressors (Leiter & Maslach, 2009; Sabo, 2008; Tabor, 2011). Potter et al. (2013) goes on to describe burnout as a “chronic condition of perceived demands outweighing perceived resources” (p. 181). As Sabo (2008) points out, burnout can result from work overload, feelings of powerlessness, loss of reward, community deficit, lack of fairness, and personal value conflict. “The three key dimensions of this response [burnout] are an overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment” (Leiter & Maslach, 2009, p. 332).

While indicating that the concepts of compassion fatigue and burnout are different, research findings suggest that burnout may be an important precursor to

compassion fatigue development (Collins & Long, 2003; Lynch & Lobo, 2012; Potter et al., 2013; Thompson, 2013). Burnout results from continued exposure to work stresses and is gradual in onset; whereas, compassion fatigue can occur from a single exposure to an event where trauma and/or suffering was witnessed by the nurse and is usually acute in onset (Lombardo & Eyre, 2011; Thompson, 2013; Todaro-Franceschi, 2013a).

Throughout the research the primary difference between compassion fatigue and burnout lies in the factors that lead to the primary stress (Lynch & Lobo, 2012).

Researchers agree that *vicarious traumatization* (VT) is substantively different from compassion fatigue, yet these concepts are frequently linked in the literature (Aycock & Boyle, 2009; Lynch & Lobo, 2012; Tabor, 2011). VT is described as “the process by which professional caregivers begin to integrate the patient’s experience and emotion into their own and this changes the caregiver’s perspective on life issues” (Lynch & Lobo, 2012, p. 2128). Tabor (2011) goes on to explain, “VT negatively alters personal feelings, beliefs, values, and judgments” (p. 203). Tabor (2011) further comments that VT “may also affect sense of survival, safety and security, cognitive functioning, sense of love and belonging, self-esteem, and self-actualization” (p. 203). The primary difference between VT and compassion fatigue is that with VT caregivers undergo a *transformation* in every aspect of their lives and are forever changed. Those who experience compassion fatigue do not necessarily undergo a personal and/or professional life changing transformation (Sabo, 2006).

More recently, there has been an increase in research on the concept of *moral distress*. Originally conceptualized in 1984, Jameton defined moral distress as “feelings and/or psychological disequilibrium that occurs when nurses are conscious of the morally

appropriate action a situation requires, but cannot carry out that action because of institutionalized obstacles” (Corley, 2002, p. 636). Moral distress is associated with a lack of resources and economic and political structures in the health care environment (Pauly, Varcoe, Storch, & Newton, 2009). As with compassion fatigue, moral distress can relate to job satisfaction rates including a direct association to lowered nurse retention rates (Zuzelo, 2007). Compassion fatigue and moral distress both result from an empathetic relationship with a patient; however, compassion fatigue refers to the toll of bearing witness to suffering while moral distress manifests itself from participation in an action that is not seen as appropriate to the nurse from a moral/ethical standpoint (Corley, 2002; Todaro-Franceschi, 2013a). Despite the differences, it would be reasonable to suggest that moral distress may be associated with compassion fatigue.

**Workplace empowerment structures in nursing.** As previously mentioned, compassion fatigue is ultimately connected to the therapeutic relationship between the healthcare provider and the patient (Aycock & Boyle, 2008; Sabo, 2011). Literature on relationship-centered care indicates “health and health-related actions do not occur in isolation but are related to one another in time, space, and content” (Beach, Inui, & The Relationship-Centered Care Research Network, 2006, p. S4). B. Sabo suggests that context of care may be related to the development of compassion fatigue (personal communication, February 27, 2013). The majority of research on compassion fatigue has focused on the relationship with the patient; however, this relationship is formed within a particular context of care.

Workplace structural empowerment refers to “organizational factors that shape the work environment and also act as antecedents to nurse empowerment. Specifically

nurses' access to resources, support, opportunity, and information will impact their capacity for empowerment" (Rao, 2012, p. 399). The concept of workplace empowerment structures has been explored extensively in the nursing literature as a set of structures that, when in place, provide support to nursing staff which combats a variety of poor healthcare outcomes for both nurses and patients (Laschinger, Finegan, & Shamian, 2001). Laschinger, Finegan, and Wilk (2011) explain, "Empowerment practices are intended to increase employee control over the content and context of their work, thereby increasing work satisfaction and organizational commitment" (p. 125). Rao (2012) agrees that the application of empowerment is context-dependent in nature. Empowered staff have the potential to improve both nurse and patient outcomes (Rao, 2012). These positive outcomes can include: increased effectiveness of the nurse, increased commitment to the organization, decreased patient mortality rates, diminished experience of job strain, and reduced incidence of burnout (Laschinger, Finegan & Shamian, 2001; Laschinger, Finegan, Shamian, & Wilk, 2001; Rao, 2012).

### **Outline of Thesis**

This thesis describes the current literature surrounding compassion fatigue and, in Chapter Two, discusses how this study addresses an identified knowledge gap within the compassion fatigue literature. Chapter Three describes the research design, methodology, measurement instruments, and the survey administration process carried out for this thesis. This chapter will outline research design, sampling methods, data collection, methods of analysis, examination of assumptions with hierarchical linear regression and ordinal logistic regression, and the ethics approval obtained for this study. Chapter Four will discuss sample characteristics, bivariate associations, and the findings

of this research. Finally, Chapter Five will draw conclusions from the analysis performed. This chapter will discuss commonalities between this research and current literature as well as provide implications for nursing practice and future recommendations. References and appendices are the final components of this paper. Tables and figures are included in the text of each chapter where applicable.

### **Conclusion**

Compassion fatigue is a significant topic that relates to nurses in all practice areas. This study will first describe compassion fatigue in nurses and HCAs working on acute general hospital medical units. Second, the associations between compassion fatigue and empowerment structures in the context of a medical nursing unit will be discussed. The results of this research will add to existing compassion fatigue literature. The findings will be unique to the compassion fatigue domain, as no research has specifically associated compassion fatigue with the general medical unit context or with empowerment structures.

## Chapter Two

### Introduction

A review of the current literature was done to ascertain the state of knowledge of compassion fatigue as it relates to nursing care providers and HCAs who work on general medical units. This chapter includes a discussion of the methods by which the researcher identified and selected articles for review as well as the rationale for terms selected or omitted from the literary search. Following this, a summary of current knowledge surrounding compassion fatigue is discussed and explored. Finally, the role of workplace empowerment structures on the incidence of compassion fatigue will be discussed through the conceptual framework outlined by Kanter's (1977, 1993) theory of organizational empowerment. The objectives for this literature review are as follows:

- (a) Describe the experience of compassion fatigue in detail
- (b) Explore the incidence of compassion fatigue in the nursing profession
- (c) Investigate known antecedents, preventions, and outcomes outlined in the current literature
- (d) Review compassion fatigue as it relates to empowerment structures

### Search and Retrieval Strategies for Literature Review

A multistage search was used to select relevant literature for this study. The literature search was conducted using two online citation indices (i.e., CINAHL and PubMed). The first stage involved separate searches of each database individually and was limited to English articles that were published between January 1992 (when the term *compassion fatigue* was first introduced) and January 13, 2013 (when the initial literature review was carried out). The terms "Compassion Fatigue" and "Secondary Traumatic

Stress” were searched separately and subsequently combined with “nurse, nurses, or nursing” using the Boolean operator AND. This resulted in 127 citations in CINAHL and 108 in PubMed. The results were imported into EndNote X6, a referencing software program (Thomson Reuters, 2012). After removal of duplicates 120 citations were retained for review.

When the discussion of compassion fatigue included discussion of burnout and/or vicarious traumatization, these articles were included because they discussed compassion fatigue as a separate entity. However, the terms “burnout” and “vicarious traumatization” were not explicitly included in the search. See Table 1 for the rationale behind these terms excluded from this literature search.

Table 1

*Rationale for Terms Excluded in Compassion Fatigue Literature Search*

Term	Rationale
Burnout	Burnout is a widely used term that applies to any job and not specifically to those in caring professions (Todaro-Franceschi, 2013a).
Vicarious Traumatization	Caregivers integrate their patient’s experiences into their own life and proceed to ‘transform’ their lives into something radically different to what it was prior to exposure (Sabo, 2008). VT is non-reversible and can occur from listening to a traumatic event, not necessarily from the care giving role.

On September 17, 2013 a second literature search was carried out through CINAHL and PubMed to determine if there were any articles published since the original literature search. This search was done identical to the first search of the selected journal

databases. The second search resulted in 11 new articles in CINAHL and 16 new articles in PubMed. Duplicates were eliminated via EndNote X6 leaving 18 additional papers for review. These two searches resulted in a total of 138 papers to review.

Relevant sources were identified using the following inclusion and exclusion criteria.

- (a) Inclusion criteria: publication in a peer reviewed journal, any method of discussion or analysis was accepted and included qualitative and quantitative study, research needed to be nursing specific, and only English articles were used.
- (b) Exclusion criteria: book reviews, commentaries, and letters to the editor.

In addition to the selected journal articles, three books that specifically addressed the topic of compassion in nursing were included in my literature review (Figley, 2002; Smith, 2009; Todaro-Franceschi, 2013a). After eliminating articles that did not fit the inclusion criteria, 26 articles and three books were included in this literature review.

### **Literature Review**

The 26 selected research articles used quantitative ( $n = 12$ ), qualitative ( $n = 11$ ), or mixed ( $n = 3$ ) research methods to explore compassion fatigue using a variety of commonly used measures of both the risk of compassion fatigue and the frequency of symptoms of compassion fatigue. Nine of these research papers used various revisions of the Professional Quality of Life Scale (ProQOL) (Stamm, 2005), two papers chose to use the Secondary Traumatic Stress Scale (STSS) (Bride, Robinson, Yegidis, & Figley, 2004), and one chose to use the Compassion Satisfaction/Fatigue Self-Test for Helpers

(Figley & Stamm, 1996). The other two quantitative articles chose less commonly used instruments to measure compassion fatigue as the dependent variable. These instruments included the Japanese version of the Impact of Event Scale Revised (Weiss & Marmar, 1997) and the Penn Inventory (Hammarnerg, 1992). The remaining 12 papers consisted of various qualitative methods including: descriptive qualitative, long answer interviews, semi-structured interviews, open-ended interviews, focus groups, and telephone interviews. See Appendix A for a summary of the 26 research papers reviewed. Overall, this review found a variety of methods and study on compassion fatigue and further highlighted the need for more research to be done on this phenomenon.

**The experience of compassion fatigue.** As previously mentioned, compassion fatigue has multiple definitions. However, many in the nursing profession sense the frustration, fatigue, and distress that can come with compassion fatigue, but are not able to fully define the phenomenon. Compassion fatigue “speaks to a unique experience: one of impotence, isolation, and meaninglessness, one that has been inadequately conceived of thus far within the health literature” (Austin et al., 2009, p. 196). Attributes of this phenomenon include establishing a relationship between the caregiver and the patient and having empathy as a caregiver (Lynch & Lobo, 2012). Compassion fatigue is known to be acute in onset resulting from caring for others (Dominguez-Gomez & Rutledge, 2009; Lombardo & Eyre, 2011; Thompson, 2013; Todaro-Franceschi, 2013a).

Varying symptoms indicative of compassion fatigue have been noted in the literature. These symptoms can be divided into three categories: work related, emotional and somatic (Lombardo & Eyre, 2011; Marcial et al., 2013; Smith, 2009). *Work related symptoms* include: decreased empathy towards patients, increased absenteeism, desire to

quit, and decreased job performance (Coetzee & Klopper, 2010; Lombardo & Eyre, 2011). *Emotional symptoms* include: irritability, decreased ability to cope, depression, apathy, isolation from others, decreased feelings of self-worth, and personal relationship struggles (Coetzee & Klopper, 2010; Smith, 2009). And *somatic symptoms* include: lack of energy, increased somatic complaints, headaches, and insomnia (Lombardo & Eyre, 2011; Smith, 2009).

**Incidence of compassion fatigue in the workplace.** It was noted that 20 of the 26 quantitative and qualitative studies on compassion fatigue were conducted in nursing specialty areas. Four studies included data collected from unknown nursing settings, one study commented on receiving data from various areas of nursing of which 91 out of 126 nurses were considered general “medical surgical” nurses, and one study investigated student nurses (Austin et al., 2009; Burtson & Stichler, 2010; Komachi, Kamibeppu, Nishi, & Matsuoka, 2012; Michalec et al., 2013; Neville & Cole, 2013). None of the articles specifically investigated compassion fatigue strictly within the general acute medical unit setting; however, some research may be comparable.

Compassion fatigue has been found to be extremely prevalent in the nursing profession. Several quantitative articles reviewed reported moderate to severe compassion fatigue in various areas of nursing practice including: hospice, labour and delivery, emergency, general nursing (i.e., unspecified practice area), community medical centers, and pediatrics (Abendroth & Flannery, 2006; Beck & Gable, 2012; Hooper et al., 2010; Komachi et al., 2012; Neville & Cole, 2013). The incidence of moderate to severe compassion fatigue varied greatly amongst practice areas ranging from 35% - 90% of the total nursing care providers within their specified areas. Three qualitative articles

discovered compassion fatigue was also experienced anecdotally when interview content was themed by the researchers (Maytum, Heiman, & Garwick, 2004; Melvin, 2012; Townsend & Campbell, 2009). Students from all four years of schooling were also studied and found to exhibit low to moderate compassion fatigue while enrolled in a baccalaureate nursing program (Michalec et al., 2013).

**Factors associated with compassion fatigue.** The 26 studies reviewed examined several variables associated with the incidence of compassion fatigue. Factors that were positively associated with the incidence of compassion fatigue included: personal trauma, patient trauma, turnover intention, anxiety, life demands, empathy variance, stress, nurse caring, work-related loss, lack of engagement with work, inadequate coping mechanisms, burnout, and specialized work environments (Abendroth & Flannery, 2006; Beck, 2013; Kenny & Hull, 2008; Melvin, 2012; Sung, Seo, & Kim, 2012; Van Der Wath, Van Wyk, & Van Rensburg, 2013; Wenzel, Shaha, Klimmek, & Krumm, 2011). Factors that were negatively associated with the incidence of compassion fatigue included: personal supports, compassion satisfaction, working through bereavement, stress management activities, health promotion behaviors, intervention programs, perceived preparedness during basic nursing education, and engagement with work (Aycock & Boyle, 2009; Dominguez-Gomez & Rutledge, 2009; Michalec et al., 2013; Neville & Cole, 2013; Perry, 2008; Potter et al., 2013; Sawatzky & Enns, 2012; Todaro-Franceschi, 2013b).

***Antecedents of compassion fatigue.*** Numerous antecedents to compassion fatigue have been identified throughout the literature. These antecedents place nurses at an increased risk of developing compassion fatigue and can be categorized as individual or organizational characteristics. *Individual characteristics* related to compassion fatigue

include: being an inherently empathetic person, a personal history of trauma, personal stress, shortage of resources, marginalization of the nursing profession, burnout, inexperience, inadequate energy, and a lack of self-care (Abendroth & Flannery, 2006; Austin et al., 2009; Collins & Long, 2003; Kenny & Hull, 2008; Lynch & Lobo, 2012; Potter et al., 2013; Sabo, 2008; Townsend & Campbell, 2009). *Organizational characteristics* related to increased compassion fatigue include: community breakdown due to increased work demands on the nurse, shift work, unrealistic expectations, direct contact with patients, higher patient acuity, and low levels of structural support (Austin et al., 2009; Kenny & Hull, 2008; Lynch & Lobo, 2012; Perry, 2008; Sabo, 2008; Townsend & Campbell, 2009). The literature suggests that each person who develops compassion fatigue has the potential to have a unique set of antecedents that led him or her to experience this phenomenon.

***Prevention of compassion fatigue.*** Of the qualitative and quantitative literature reviewed, there were six studies that specifically addressed compassion fatigue prevention, which inherently would relate to some of the antecedents of compassion fatigue. One article discussed the use of a resiliency program where longitudinal data was collected to determine the efficacy of the program at three and six month intervals (Potter et al., 2013). The longitudinal data in the study reported statistically significant results of decreased overall compassion fatigue ( $p \leq 0.001$ ) through implementation of a compassion fatigue intervention program (Potter et al., 2013). In three different articles, the authors discussed coping strategies identified by their sample groups. These coping strategies included: having and developing a support network, maintaining hobbies, use of medications (e.g., antidepressants), setting boundaries with patients, exercise,

maintaining a positive attitude, and maintaining a sense of humor (Maytum et al., 2004; Melvin, 2012; Von Rueden et al., 2010). Neville and Cole (2013) did a study that investigated the correlation between compassion fatigue and health promotion. Their results showed significant correlations with compassion fatigue and the following three health promotion activities: stress management ( $p < 0.01$ ), interpersonal relations ( $p < 0.01$ ), and spiritual growth ( $p < 0.01$ ) (Neville & Cole, 2013).

***Outcomes of compassion fatigue.*** When compassion fatigue is experienced there are many outcomes that develop as a result. These outcomes can be categorized as personal outcomes and organizational outcomes. *Personal outcomes* found in the literature include: decreased compassion satisfaction, interpersonal relationship dissatisfaction, inability to cope with stress and an increase in psychological distress (Abendroth & Flannery, 2006; Austin et al., 2009; Beck, 2013; Beck & Gable, 2012; Burtson & Stichler, 2010; Dominguez-Gomez & Rutledge, 2009; McGibbon, Peter, & Gallop, 2010; Melvin, 2012; Neville & Cole, 2013; Sung et al., 2012; Todaro-Franceschi, 2013b; Townsend & Campbell, 2009). *Organizational outcomes* of compassion fatigue include: lack of staff engagement with work, increased turnover intention, increased incidence of burnout, job dissatisfaction, and nurses desiring to leave the nursing profession (Abendroth & Flannery, 2006; Hooper et al., 2010; Neville & Cole, 2013; Sawatzky & Enns, 2012; Sung et al., 2012; Townsend & Campbell, 2009).

**Compassion fatigue and empowerment structures.** Additional research on stress in the workplace, namely burnout, suggests that empowerment structures (i.e., opportunity, information, resources, and support) play a role in minimizing outcomes such as turnover, incidence of burnout, job dissatisfaction, and poor patient outcomes

(Laschinger, 2012b; Rao, 2012). Many of these findings have also been associated with compassion fatigue (Aycock & Boyle, 2009; Sabo, 2011). The compassion fatigue studies reviewed did not explicitly research compassion fatigue and empowerment structures; however, several studies alluded to these structures within their findings.

Several studies noted the importance of social and/or organizational support within the workplace as a key component that mitigated compassion fatigue (Aycock & Boyle, 2009; Maytum et al., 2004; Townsend & Campbell, 2009). It was suggested that access to knowledge (i.e., empowerment structure subscale: access to opportunity) decreased compassion fatigue outcomes in nurses (Burtson & Stichler, 2010; Maytum et al., 2004; Todaro-Franceschi, 2013b). Additionally, there has been some acknowledgement that accessibility to resources (i.e., time to do job and paperwork and acquiring temporary help when needed) also diminishes the onset of compassion fatigue in the nursing population (Todaro-Franceschi, 2013b). Despite many authors alluding to the association between compassion fatigue and workplace empowerment structures, there have been no studies, to date, that explicitly explore this association which may play a role in the prevention and reduction of compassion fatigue amongst nurses.

### **Conceptual Framework**

Several theories of compassion fatigue were looked at in an attempt to find a conceptual framework for this thesis. The most frequently used conceptual framework in the compassion fatigue domain is the Professional Quality of Life Scale (ProQOL) in varying versions originally conceptualized by Figley and Stamm (1996). This framework describes how professional quality of life could result in either compassion satisfaction (i.e., the positive) or compassion fatigue (i.e., the negative) (Stamm, 2010). Stamm

(2010) believes that compassion fatigue arises and then splits into burnout and secondary trauma (see Figure 1).

Most research on compassion fatigue and/or burnout delineates these concepts from one another as separate entities. However, “the overall concept of professional quality of life is complex because it is associated with characteristics of the work environment (organizational and task-wise), the individual’s personal characteristics, and the individual’s exposure to primary and secondary trauma in the work setting” (Stamm, 2010, p. 10). This thesis focused on compassion fatigue as a separate entity, disparate to burnout. Therefore portions of Figley and Stamm’s (1996) theory were used to create a conceptual model along with Kanter’s (1977, 1993) theory of empowerment.

Kanter’s (1977, 1993) theory of organizational empowerment provides an explanatory framework for investigating the role of empowering work conditions on the incidence of compassion fatigue in nurses. Davies et al. (2011) report that Kanter’s (1977) work states that “structural factors within the work environment have a greater impact on employee attitudes and behavior than personal dispositions or social interactions” (p. 633). Kanter (1977, 1993) proposes that people react rationally to the situation which they are in. She believes when situations are structured to empower employees “the organization is likely to benefit both in terms of the attitudes of employees and the organization’s effectiveness” (Laschinger et al., 2001, p. 43). Compassion fatigue arises from the relationship between the caregiver and the patient (Sabo, 2008). With this relationship-centered viewpoint, it is recognized that the nurse-patient relationship is “the unique product of its participants and its context” (Beach et al., 2006, p. S6). A part of this context is the structure of empowerment within the

workplace. As Yoder (2010) indicates, there are both personal and systematic structures that influence compassion fatigue development.

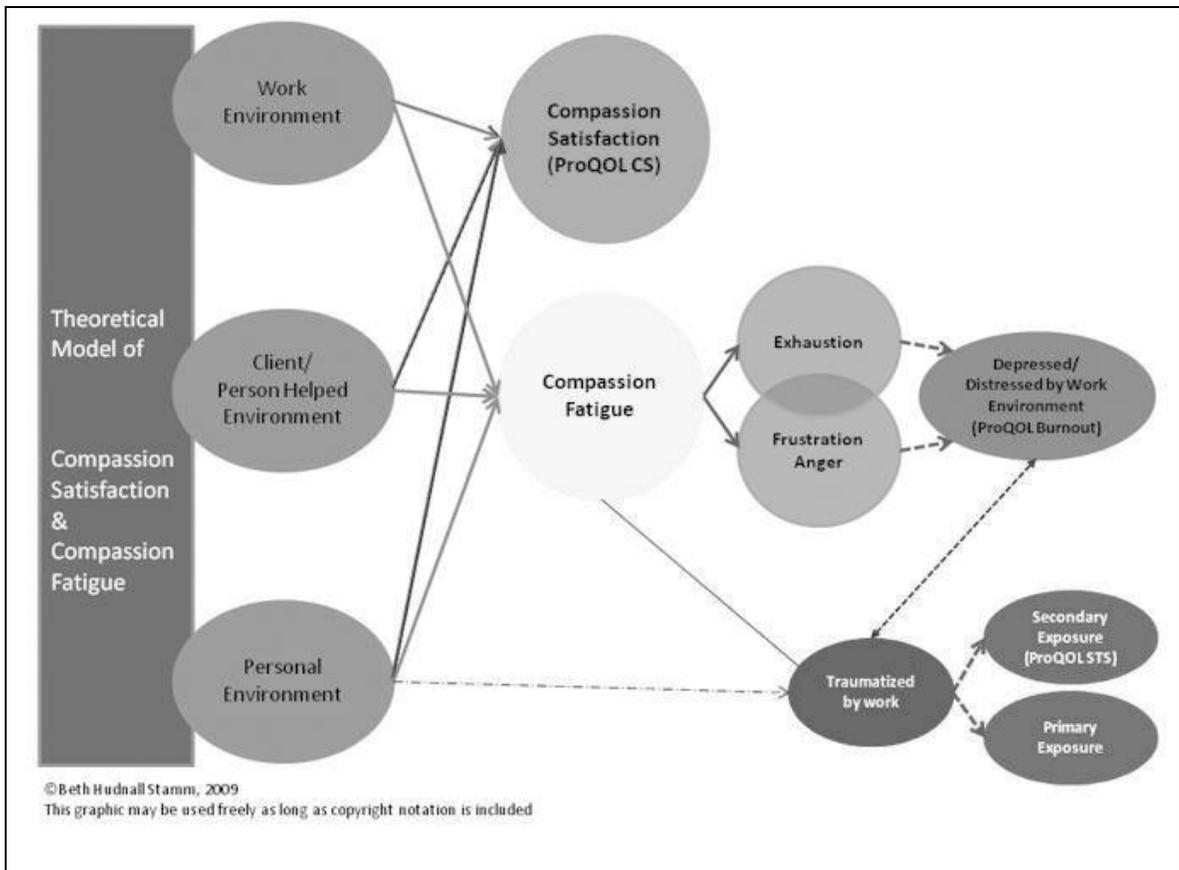


Figure 1. Professional Quality of Life Theoretical Model

Structural empowerment is defined as “the extent to which employees feel they have access to these structures in their work settings” (Laschinger, 2012a, p. 1).

Laschinger et al. (2001) go on to explain that Kanter’s social structures are important to the growth of empowerment and include access to: (a) opportunity, (b) information, (c) resources, and (d) support. *Access to opportunity* refers to the possibility for growth within an organization and the prospect of gaining knowledge and skills (Laschinger, 2012b). The *access to information* structure refers to having the technical knowledge and expertise necessary to accomplish the job and an understanding of the health authority’s

policies and decisions (Laschinger, 2012b). *Access to resources* relates to the nurse's ability to have the time, materials, and supplies that are required to do the job (Laschinger, 2012b). *Support* access refers to guidance and feedback received from subordinates, peers, and supervisors (Laschinger, 2012b).

These empowerment structures are essential to allow employees to perform their work with excellence. To be a successful practitioner in the nursing profession involves the use of self within the context of the hospital to provide therapeutic interventions (Coetzee & Klopper, 2010). The use of empowerment structures "plays an important role in creating positive work environments and can have a significant impact on how nurses respond to their work conditions and, ultimately, how they deliver care to clients" (Davies et al., 2011, p. 636). Compassion fatigue develops out of the relationship with the patient and this relationship occurs in conjunction with health care delivery (Sabo, 2008). Laschinger, along with several other researchers, has conducted a variety of investigations into the role of empowerment and nursing and has substantial evidence to support Kanter's theory in the nursing population. As mentioned above, structural empowerment results from employees knowing they have access to these structures within their workplace. For this thesis, nursing care provider's and HCA's perceived access to work empowerment structures is explored as these structures relate to compassion fatigue.

With Kanter's theory in mind, the researcher hypothesized that perceived access to work empowerment structures would be negatively associated with the degree of compassion fatigue experienced by nurses on a medical unit. Based on prior research, four social structures must be in place to increase empowerment within the workplace.

Accordingly, the purpose of this study was to discover to what extent these empowerment structures are associated with compassion fatigue (see Figure 2).

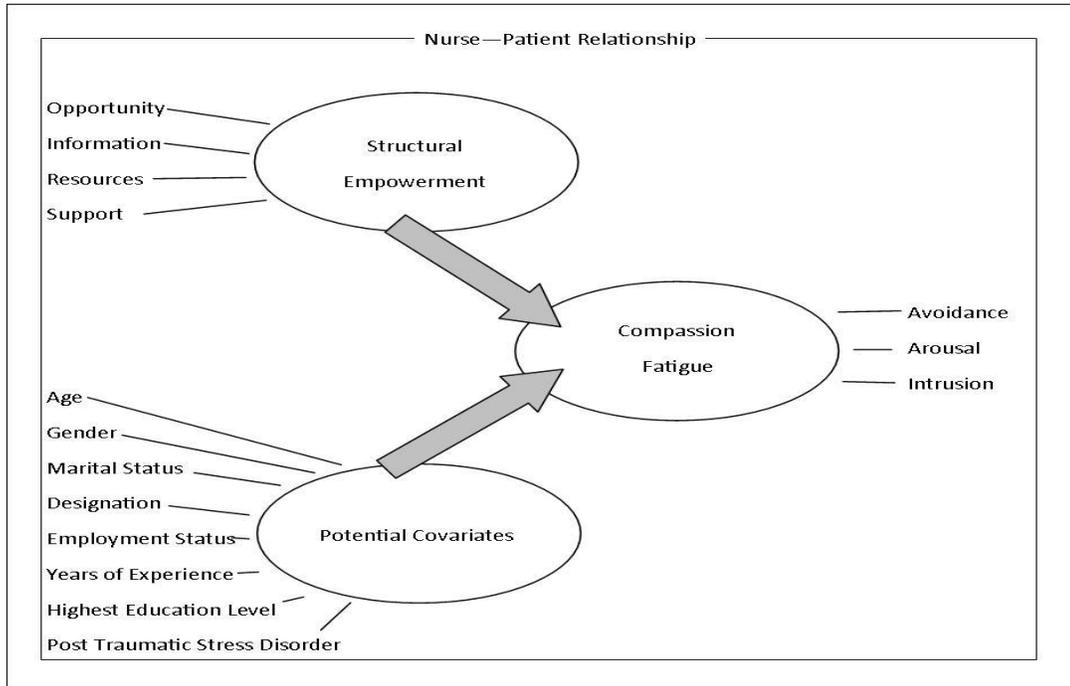


Figure 2. Conceptual model tested in this study.

**Explanation of conceptual model.** Figure 2 above helps illustrate the conceptual model tested in this study. This model uses the professional quality of life scale as a base and then utilizes Kanter’s work to create a conceptual model of compassion fatigue development. Structural empowerment, consisting of opportunity, information, resources, and support, is shown as a potential antecedent to the development of compassion fatigue.

Potential covariates are also shown as antecedents to compassion fatigue in this model and include: age, gender, marital status, designation, employment status, years of experience, highest education level, and post-traumatic stress diagnosis. This model was tested in this study to explore potential associations between compassion fatigue and empowerment structures, while considering potential covariates as control variables.

**Conclusion**

The findings of this literature review reveal that the concept of compassion fatigue is becoming an increasingly popular phenomenon of interest. The literature suggests that context plays a role in the incidence of compassion fatigue and that this phenomenon can result in increased turnover, decreased job satisfaction, and has a direct impact on patient outcomes. The literature continues to support that awareness and preventative measures are essential to decreasing the occurrence of compassion fatigue within the nursing profession. Kanter's theory of structural empowerment suggests that providing access to empowerment structures in the workplace can change the attitudes and overall work performance of employees within their organization. The literature implies that the intentional placement of empowerment structures in the workplace can mitigate the onset and incidence of compassion fatigue.

## **Chapter Three**

### **Introduction**

The purpose of this thesis is based on a perceived gap in the published research in the area of compassion fatigue amongst the nursing profession. This study examined compassion fatigue in nursing care providers and HCAs working on acute care medical units as well as explores the association between compassion fatigue and empowerment structures within the workplace. The research questions for this study were outlined in chapter one. It was hypothesized that (a) compassion fatigue does exist among nursing care providers and HCAs working on an acute general medical unit and (b) there is a negative association between compassion fatigue and empowerment structures. The following chapter provides an overview of the methods of this study. A review of the research design, study sample, variables, process, reliability and ethics will be discussed.

### **Research Design**

A cross-sectional survey design was used to answer the research questions and test the hypotheses that (a) nursing care providers and HCAs working on medical units experience compassion fatigue symptoms and (b) there is an association between empowerment structures and compassion fatigue in medical nursing care providers and HCAs. The survey design was chosen so as to collect data during a single period of time, as this was preferable given the timeline for a Master's thesis. The design of the study allowed for describing the status of the phenomenon of compassion fatigue and the potential relationships between this concept and other areas of interest including perceived work empowerment structures and potential covariates (Polit & Beck, 2012).

### **Sampling Methods**

The study was carried out within a large urban health authority in British Columbia. This health authority delivers health care via a program service model allowing for the study participants to be selected from a particular service area. For this survey the Medicine Clinical Program was selected. Medical units were selected because this is where the gap in the literature was found.

A clustered sampling strategy was used by: (a) a convenience sampling of hospital sites within the Medicine Program based on manager stakeholder buy-in and (b) inviting participation from all nursing providers and HCAs that provide direct patient care at these sites. For reasons of feasibility, the hospitals that were contacted initially were selected for being less than a one-hour drive from the researcher's residence.

**Inclusion criteria.** Medical units with a minimum of 75 employees were eligible to participate. The minimum requirement was created to enhance feasibility providing fewer units to visit, with more potential participants to sample. To account for differences in medical care units, a minimum of one tertiary and one community hospital was required. All staff from the manager approved medical units who met the following criteria were invited to participate provided they met the following criteria: (a) a registered nurse (RN), licensed practical nurse (LPN), or health care attendant (HCA), (b) could read and write in English, and (c) provided direct patient care as part of their job duties. Full time, part time, temporary full/part time, and casual employees were all invited to participate.

**Sample size.** To determine the appropriate sample size, a power analysis was conducted using the methods described by Polit and Beck (2012) and Soper (2013). In

reviewing previous research studies outlined in Appendix A, there were no relevant findings that could be used to estimate effect size. Drawing on the recommendation of Polit & Beck (2012), that the average correlation in nursing studies is approximately 0.20, a small to moderate effect size was used in the power analysis. The final analysis of this study involved a multiple linear regression with compassion fatigue as the dependent variable. Soper's (2013) multiple linear regression sample size calculator was used to estimate sample size. For a moderate effect size with an R-squared of 0.15 – 0.30, a significance level of 0.05, a power of 0.80, and four independent variables (the four structural empowerment factors) combined with 10 covariates, a sample size of 74 to 135 participants was required (Soper, 2013).

**Sampling strategy.** In the first stage of sampling, 10 managers from five hospital sites were contacted via email (see Appendix B). Four managers from four different hospital sites responded to the invitation for participation and provided email confirmation of their unit(s) participation. One manager provided two units from his or her site while the others provided one unit each. Five units run by the four managers were eligible for participation.

**Survey implementation.** Survey implementation was done in two waves, each with two hospital sites, one week apart. Managers, or a managerial designate in the case of vacation, provided all email correspondence on behalf of the researcher to maintain anonymity of participants. Initial invites were sent one week prior to the survey distribution to alert participants of the opportunity to participate in the impending study (see Appendix C). Managers were consulted on the best location to place the paper

survey for participants. Each manager selected this location based on the knowledge of his or her staff (see Table 2).

Table 2

*Paper Survey Locations by hospital Site and Unit*

Hospital Site	Unit	Location
Site A	Unit1	Box in staff room
	Unit 2	
Site B	Unit 3	Box in staff education room
Site C	Unit 4	Box at nursing station
Site D	Unit 5	Clinical Nurse Educator and Patient Care Coordinators distributed the survey to staff

**Data Collection Method**

During the past 15 years there has been a shift from using “predominantly single-mode surveys to using multiple modes in the same data collection effort to compensate for the inadequacies of each [method on its own]” (Dillman, Smyth, & Christian, 2009, p. 11). Bimodal survey administration was recommended to enhance participation in this survey (i.e., some people prefer the paper format whereas others prefer completing surveys online). For these reasons, the data were collected using a questionnaire that was administered in paper and electronic format. The self-report survey method was used as a means to collect data, given that nurses were able to answer the questions themselves and it was a feasible means to gain distributive information about the compassion fatigue phenomenon. Surveys also lend themselves towards anonymity, which allowed the participants to describe their answers free of potential or perceived ramifications. Once

collected, the data were exported from the online survey system into SPSS statistical software (IBM Corp, 2012).

**Survey administration.** Survey packages were made available to participants via employee email, site-specific location, and researcher contact. Each package included: (a) follow-up invitation, (b) consent form, (c) link to the online survey option, (d) draw entry form with separate envelope, (e) paper copy of the survey, and (e) an envelope addressed to the researcher to be returned via interhospital mail to the researcher's personal health authority office (see Appendix D, E and F). Electronic packages were sent via health authority employee email address and included a link to the online survey and PDF copies of the above documents. Electronic questionnaires were administered using FluidSurvey, a Canadian-based, secure, online survey provider (FluidSurveys, 2014). If participants filled out the data via paper, the researcher transferred the answers to Fluid Surveys; these were double checked by the researcher for accuracy after the survey closed. Only 12 out of 117 participants (10.3%) completed the survey online. The researcher was the only person who had access to the electronic survey data. The draw entry form was linked to the online survey electronically and was not connected with the online survey data.

Throughout the four week survey administration period, the researcher visited each unit weekly to promote the study, recruit participants, and distribute additional paper survey packages as needed. During these visits, the researcher approached potential participants with an introduction to the study purpose and intentions (see Appendix G). The researcher provided additional paper copies to individual participants during face-to-face encounters on the unit.

All electronic communication occurred via health authority employee email addresses through group email lists and was sent out from the unit manager, or designate. The respondents were sent a reminder via email two weeks following the original invitation. At completion of the study, one final thank-you email was sent to all potential respondents. See Appendix H for scripts sent at these designated intervals and Table 3 for the survey administration process and timeline.

Table 3

*Survey Administration Process*

Survey Process	Electronic Communication Sent Out	Timeline
Unit Selected	Participation Invitation	7 days prior to survey administration
Administration with Paper and Electronic Packages	Follow - up Invitation	Day 1
Researcher Visits and Participant Recruitment		1 visit per period: Day 1 - 7 Day 8 - 14 Day 15 - 21 Day 22 - 28
Participation Reminder	Email Reminder	Day 14
Completion	Final Thank You Email	Day 28

*Note.* Each unit was visited on different days by the researcher. All units followed the same timeline for survey administration.

**Response rate.** A total of 603 nursing care providers and HCAs, listed on the staff roster, were contacted via employee email, site-specific location, and/or researcher contact. This number total was obtained by adding up the amount of each designation on

the employee email fan out list for each unit and then combined together; the unit manager at each site provided this information. The researcher did not have access to the email lists to maintain anonymity of participants.

One hundred and thirty five participants filled out the survey (22.4% response rate). Five were removed because they were students and did not fit the inclusion criteria. Nine more surveys were removed as either the STSS or the CWEQ-II was 100% incomplete and no associations could be made. Four of the surveys completed electronically were blank. A total of 117 questionnaires that met the inclusion criteria were completed within the survey timeframe of one month, resulting in an aggregated response of 19.4% (see Table 4).

Table 4

*Response Rates by Employment Status*

Employment status	Number of people on staff roster <sup>a</sup>	Number of people who responded	Response rate
Full Time	167	65	38.9%
Part Time	110	25	22.7%
Casual	326	27	8.3%
Total	603	117	19.4%

<sup>a</sup>Numbers were based on individual manager staff rosters and did not account for leave of absences (e.g., medical leave, maternity leave etc.). All casual staff were contacted via email, some of whom would rarely work on the unit.

**Draw entry.** As a token of appreciation, participant’s names were entered for a small, random draw upon the participant’s completion of the draw entry form. The researcher provided four, \$15 Starbucks gift cards as prizes. Entry forms for the draw were submitted in their own sealed envelope with the completed survey to the researcher (see Appendix I).

Out of a potential 603 participants, 16 completed the online survey format and 101 completed the paper survey format. Draw entry forms completed electronically were transposed onto paper draw entry forms at the end of the study and added to the paper draw entry envelopes. These envelopes were left unopened until survey completion and four envelopes were selected at random for the winning participants. The winners were sent a gift card to the address provided on the draw entry form.

**Measurement instruments.** The survey questionnaire had three sections, which included: (a) Covariate information, (b) the Secondary Traumatic Stress Scale (dependent variable) and (c) the Conditions for Work Effectiveness II Questionnaire (independent variable). The variables selected for this study can be found in Appendix J. The table describes each variable, which instrument was used to measure the variable, the corresponding rationale for each of the variables chosen, and the question that was used.

**Covariates.** The covariate questions were adapted from the National Survey of the Work and Health of Nurses, 2005 (Canadian Institute for Health Information, 2009). These questions addressed basic demographic information including: age, gender, tenure, and educational background. The covariates also included the following variables pertaining to the respondents' professional activities: years of nursing experience, employment status, highest level of education (i.e., hospital based training, diploma, baccalaureate, or graduate), and designation (i.e., licensed practical nurse, registered nurse, or health care attendant). These covariates were selected with the intent to implement statistical control.

**Secondary traumatic stress scale (STSS).** Several instruments are available in the literature to measure various aspects of compassion fatigue. The four instruments

used most frequently for compassion fatigue measurement include: (a) the Secondary Traumatic Stress Scale (STSS), (b) the Compassion Fatigue Self-Test (CFST) and revisions, (c) the Compassion Fatigue Short Scale (CF-Short Scale), and (d) the Professional Quality of Life Scale (ProQOL) and revisions (Beck, 2011; Bride, Radey, & Figley, 2007). See Appendix K for a comparison of these four compassion fatigue/secondary traumatic stress scales.

The STSS was selected to identify the degree of compassion fatigue experienced by participants. This scale addressed the first research question and provided a way to describe compassion fatigue in the sample group. The STSS was the only scale that assessed for frequency of symptoms and the existence of compassion fatigue. The other three instruments (CFST, CF-Short Scale, and the ProQOL) measure the respondent's *risk* of developing compassion fatigue now or in the future. Because this thesis explores the association between compassion fatigue and perceived work empowerment structures, it was important to be able to measure the existence of compassion fatigue to (a) describe compassion fatigue in nursing care providers and HCAs working on general medical units and (b) make associations with the four aspects of structural empowerment.

The STSS was created by Bride et al. (2004) to specifically measure secondary trauma symptoms of those in helping professions. The STSS is a 17-item self-report instrument in which the items fall into the subscales of intrusion (items 2, 3, 6, 10, 13), avoidance (items 1, 5, 7, 9, 12, 14, 17), and arousal (4, 8, 11, 15, 16) (see Table 5 for specific item components). These subscales stem from the DSM-IV criteria for Post-Traumatic Stress Disorder (PTSD) (Bride et al., 2004). The wording of the items was

taken into account to investigate symptomology among those secondarily exposed to trauma (Bride et al., 2004).

The STSS instructs the participant to indicate the frequency of each symptom within the last 7 days. Each item is rated on a Likert scale ranging from 1 (never) to 5 (very often). A total score is obtained by summing the responses to all items and subscale scores are obtained by summing the responses to items from each respective subscale. A higher score on the STSS is indicative of a greater secondary traumatic stress experience of the participant. The STSS scores can be interpreted in the following two ways: (a) total score by percentile measurements to indicate degree of secondary traumatic stress (STS) and (b) through totaling individual subscale item scores then applying these scores in an algorithm to use the STSS as a screening tool for the presence of PTSD due to secondary exposure (Bride et al., 2007). See Table 6 for percentile interpretations

Table 5

*Secondary Traumatic Stress Scale Subscale Components*

Subscale	Item Number	Question
Intrusion	2	My heart started pounding when I thought about my work with clients.
	3	It seemed as if I was reliving the trauma(s) experienced by my client(s).
	6	Reminders of my work with clients upset me.
	10	I thought about my work with clients when I didn't intend to.
	13	I had disturbing dreams about my work with clients.
Avoidance	1	I felt emotionally numb.
	5	I felt discouraged about the future.
	7	I had little interest in being around others.
	9	I was less active than usual.
	12	I avoided people, places, or things that reminded me of my work with clients.

Subscale	Item Number	Question
Arousal	14	I wanted to avoid working with some clients.
	17	I noticed gaps in my memory about client sessions.
	4	I had trouble sleeping.
	8	I felt jumpy.
	11	I had trouble concentrating.
	15	I was easily annoyed.
	16	I expected something bad to happen.

Table 6

*STSS Percentile Interpretation*

Level of STS	Percentile	Total STSS score
Little to none	≤ 50 <sup>th</sup>	< 28
Mild	51 <sup>st</sup> – 75 <sup>th</sup>	28 – 37
Moderate	76 <sup>th</sup> – 90 <sup>th</sup>	38 – 43
High	91 <sup>st</sup> – 95 <sup>th</sup>	44 – 48
Severe	> 95 <sup>th</sup>	> 48

The internal consistency reliability scores for the STSS and its subscales are all at or above .80 (see Table 7). Construct validity of this scale is supported by evidence of convergent and discriminate validity, and factor analyses (Bride et al., 2004). See Appendix L for a copy of the STSS.

***Conditions for work effectiveness II questionnaire (CWEQ-II).*** The CWEQ-II was designed by Laschinger in 1996 (Laschinger et al., 2001) to measure the four aspects of empowerment derived from Kanter’s (1977) theory including: perceived access to opportunity, information, resources, and support in an individual’s work setting (Laschinger et al., 2001). This questionnaire was recreated by further distilling the items

from the Conditions for Work Effectiveness Questionnaire II created by Chandler in 1986 (Laschinger, 2012b).

Table 7

*STSS Internal Consistency Reliability Score (Cronbach's Alpha)*

STSS Variable	Items	Possible Score Range	Reliability Score in the Literature <sup>a</sup>	Reliability Score of Current Study
Intrusion Subscale	5	1 to 5	r = .80	r = .85
Avoidance Subscale	7	1 to 5	r = .87	r = .86
Arousal Subscale	5	1 to 5	r = .83	r = .83
STSS Total Scale	17	17 to 85	r = .93	r = .94

*Note.* N = 111 to 117. Higher STSS scores represent higher levels of compassion fatigue in the participant at the time of the study.

<sup>a</sup>As per Bride et al. (2004).

The CWEQ-II is a 12-item questionnaire that looks at four subscales of empowerment: opportunity, information, resources, and support. Each subscale is comprised of three questions. The three questions are summed and then averaged to get the subscale total score. The sum total of all the subscales gives a score for total structural empowerment (Laschinger, 2012b).

The 12 items of the CWEQ-II are measured using a 5-point Likert scale in which the participant provides discrete responses ranging from 0 (none) to 5 (a lot). The higher the total score, the greater the perceived empowerment of the participant (Laschinger, 2012b). The total scores of structural empowerment can be categorized as (a) low levels of empowerment, (b) moderate levels of empowerment, and (c) high levels of empowerment (Laschinger, 2012a). The internal consistency reliability estimates of the CWEQ-II and its subscales are presented in Table 8. See Appendix M for a copy of the QWEQ-II.

Table 8

*CWEQ-II Internal Consistency Reliability Scores*

CWEQ-II Variable	Items	Possible Score Range	Reliability Score in the Literature <sup>a</sup>	Reliability Score of Current Study
Opportunity Subscale	3	1 to 5	r = .75 to .88	r = .72
Information Subscale	3	1 to 5	r = .80 to .95	r = .88
Resources Subscale	3	1 to 5	r = .73 to .88	r = .79
Support Subscale	3	1 to 5	r = .73 to .90	r = .79
CWEQ_II Total Scale	12	4 to 20	r = .77 to .94	r = .77

*Note.* N = 111 to 117. Higher CWEQ\_II scores represent stronger perceived empowerment in the workplace.

<sup>a</sup>As per Laschinger (2012a).

**Methods of Analysis**

The population chosen was full-time, part-time, casual, nursing care providers (i.e., RNs and LPNs) and HCAs working on acute care medical units in an urban hospital setting. The dependent variable was compassion fatigue and the independent variables consisted of workplace empowerment structures (i.e., opportunity, information, resources, and support) and covariates. Data was collected over a one-month time frame.

**Missing data.** Each variable was assessed for missing data. SPSS 21.0 (IBM Corp, 2012) was used to assess missing data in the compassion fatigue (STSS) total score and each of the empowerment subscale average scores. When evaluating the compassion fatigue (STSS) total score, it was found that surveys completed with 17 out of 17 items produced a sample size of 118. If the survey was completed with 16 out of the 17 items the sample size increased by five ( $N = 123$ ). With 15 out of 17 items, the scale was 88% complete and increased the sample size by one ( $N = 124$ ). When evaluating each of the

empowerment subscales it was found that surveys completed with 3 out of 3 of the items were as follows: opportunity ( $N = 122$ ), Information ( $N = 120$ ), resources ( $N = 120$ ), and support ( $N = 122$ ). The only empowerment structure that had 2 out of 3 items (67% complete) completed was the resources subscale, and this increased the sample size to 121. To maximize the sample size, and considering the relatively small amount of missing data, mean imputation was used to compute the STSS total scores when at least 15 out of the 17 items were answered. Similarly, subscales scores were computed using mean imputation when at least 2 out of the 3 items of the corresponding empowerment subscale were answered.

**Sample description.** Descriptive statistics were used to describe the sample population as well as to describe distributions of both the dependent and independent variables. Frequencies were used to represent categorical variables. Means and standard deviations were used to review the continuous variables. Histograms were visually inspected for all continuous variables and skewness and kurtosis values were used to determine approximate distribution normality.

**Bivariate associations.** Bivariate analysis was used to determine any associations between compassion fatigue (dependent variable) and workplace empowerment structures as well as the covariates (independent variables). Compassion fatigue mean scores were also compared amongst categorical variables using an ANOVA (Polit, 2010; Polit & Beck, 2012).

**Multivariate linear regression.** Multivariate linear regression was performed to determine the relative impact of empowerment structures and covariates on the variance of compassion fatigue in participants. Specifically, a hierarchical linear regression was

performed to have independent variables entered into the regression equation in a series of steps (Polit, 2010). This allowed for the observation of how the independent variables (in this case, a block of empowerment structures then additional covariates) add to the variance of the dependent variable (i.e., compassion fatigue) (Polit, 2010).

Hierarchical linear regression was performed separately using compassion fatigue (STSS) total score and each of the compassion fatigue (STSS) subscales with the four empowerment structures. This was done to determine whether or not there were significant differences between  $R^2$  values of each of the compassion fatigue (STSS) subscales and the compassion fatigue total score. This comparison allowed the researcher to determine which score to use when performing the multivariate analysis. Covariate selection for the hierarchical linear regression was based on Pearson Correlations with compassion fatigue (STSS) total score. This was done to assess for magnitude and direction of the relationship between the dependent variable (i.e., compassion fatigue) and the independent variables (i.e., covariates).

The multivariate linear regression was performed with all four empowerment subscales as well as the two independent covariates that had statistically significant correlations ( $p < .05$ ) with compassion fatigue (STSS). The covariates included that had statistically significant correlations were participant highest education level and participant marital status.

#### **Examination of linear regression assumptions.**

*Normality of continuous variables and independence of errors.* The continuous variables in this study include: compassion fatigue (STSS) total score, access to opportunity, access to information, access to resources, and access to support. These

variables were visually assessed for normal distribution. The continuous variables were further assessed for normality with a Shapiro-Wilk test and a Durban-Watson Test.

**Linearity.** The data used for the initial regression analysis (Model 1) consisted of one dependent variable and four independent variables. All variables for Model 1 were continuous. These independent variables (i.e., each of the empowerment structures) were plotted against the dependent variable (i.e., compassion fatigue) and the scatterplots were visually inspected. To further explore the linearity of these variables an ANOVA was done. The compassion fatigue score (STSS) was divided into five categories of equal intervals and the means of each empowerment subscale across the compassion fatigue categories were plotted on a graph. The plotted means were inspected visually for linearity.

**Homoscedasticity of residuals.** For the homoscedasticity of residuals assumption to be met, the residuals are equal for all the values of the predicted dependent variable (Lund & Lund, 2013). Lund and Lund (2013) indicate that residuals will be equally spread over the predicted values of the dependent variable. To check for homoscedasticity of the residuals a scatterplot was created comparing studentized residuals against the unstandardized predicted values and was visually inspected.

**Colinearity.** A multiple linear regression was performed with the compassion fatigue (STSS) total score (with a minimum of 15 out of 17 scale items) as the dependent variable. The independent variables in this analysis included: the CWEQ\_II opportunity subscale (with a minimum of 2 out of 3 scale items), the CWEQ\_II information subscale (with a minimum of 2 out of 3 scale items), the CWEQ\_II resources subscale (with a minimum of 2 out of 3 scale items), the CWEQ\_II support subscale (with a minimum of

2 out of 3 scale items), participant highest level of education, and participant marital status.

***Significant outliers.*** Outliers were assessed while performing the multivariate analysis. There was one outlier in the sample as assessed by Casewise Diagnostics. The case outlier was checked against the corresponding survey and it was found that all responses were that of the participant. On assessment of Cook's distance values and safe leverage values, it was decided to include this outlier in the analysis.

***Residual errors normality.*** Normality of residuals was assessed through visualization of the regression standardized residuals histogram and a normal P-P Plot.

### **Ordinal Logistic Regression**

An ordinal logistic regression was used to add further interpretation to the data from the hierarchical linear regression, specifically, the magnitude of the effect (Field, 2005; Polit & Beck, 2012). "Ordinal logistic regression is used to predict an ordinal dependent variable given one or more independent variables" (Lund & Lund, 2013). This type of regression was chosen because it models the probability of an outcome (Polit & Beck, 2012). The logistic regression "transforms the probability of an event occurring into its odds" (Polit & Beck, 2012, p. 448). The regression coefficient ( $b$ ) can be interpreted as "the change in the log odds associated with a one-unit change in the associated predictor variable" (Polit & Beck, 2012, p. 448).

The proportional odds model was performed to determine the effect of access to opportunity, access to information, access to resources, access to support, participant's highest level of education, and participant marital status on the level of compassion fatigue experienced in nurses and HCAs working on an acute general medical unit. The

compassion fatigue total score was separated into five ordinal categories, as per Bride et al. (2007): little to no compassion fatigue (1), mild compassion fatigue (2), moderate compassion fatigue (3), high compassion fatigue (4), and severe compassion fatigue (5). This ordinal variable was used as the dependent variable for the ordinal logistic regression.

**Examination of ordinal logistic regression assumptions.** The assumption of collinearity was assessed using tolerance values for all variables in the model. The assumption of proportional odds was assessed by a full likelihood ratio test comparing the residual of the fitted location model to a model with varying location parameters and the deviance goodness-of-fit test. The Pearson goodness-of-fit test was also reviewed to determine if the model was a good fit to the observed data (Lund & Lund, 2013).

### **Ethics**

Ethical consent for this study was obtained from the Trinity Western Research Ethics Board and the health authority Research Ethics Board in May of 2013. Nurses and HCAs were given an opportunity to participate via online survey method or paper method and all surveys were anonymous. Each participant received a participant package, including a consent form. To maintain anonymity of the participants, the consent form indicated that participation in and completion of the questionnaire implied consent. If the participant wanted further information about the study, they were asked to contact the researcher via email or telephone. No participants contacted the researcher. To further maintain anonymity, once the survey was completed, withdrawal from the study was not possible. All survey data was kept in a locked filing cabinet for the duration of the study. Once the study has been completed, written up, and approved, all electronic data will be

kept for five years on a password-protected computer. All paper material containing data will be shredded. Access to the survey data has been limited to the thesis committee.

### **Conclusion**

This study has been designed to explore the phenomenon of compassion fatigue in nursing care providers and HCAs working on general medical care units. This study also explored any associations between compassion fatigue and empowerment structures in this unique sample population. The research questions outlined in Chapter One were answered, using the Secondary Traumatic Stress Scale and the Conditions for Workplace Effectiveness Questionnaire – II as measures of compassion fatigue and perceived empowerment in nursing care providers and HCAs. Despite a small sample size, this research contributes to the growing body of knowledge surrounding compassion fatigue in nursing care providers and HCAs.

## Chapter Four

### Introduction

This chapter will describe the survey results, data collection, and analysis that were completed for this thesis. First, the sample will be described using descriptive statistics. Bivariate analysis will be explored to discover associations between the dependent variable (compassion fatigue) and the independent variables (empowerment structures and covariates). The results of the Compassion Fatigue and Workplace Empowerment study will then be examined through hierarchical multivariate linear regression and ordinal logistic regression. The researcher will use the aforementioned analyses to explore how compassion fatigue is associated with empowerment structures within the sample group to address the questions: (a) Does compassion fatigue exist in nursing care providers and HCAs working on medical units? and (b) To what extent is workplace empowerment (i.e., opportunity, information, resources, and support) associated with compassion fatigue in nursing care providers (i.e., RNs, LPNs) and HCAs working on acute medical units?

**Sample description.** The nursing care providers in this sample ( $N = 117$ ) were employed at a British Columbian (BC) hospital in a large urban health authority. The sample was predominantly female (94.0%), which is consistent with the proportion of female nurses in BC (92.9%) (Canadian Institute for Health Information, 2012). With the average age of 39.5 years, the participants were slightly younger than the provincial average age of 45.6 years (CIHI, 2012). The highest level of educational of the nursing care providers ranged from HCA certification (9.6%), to LPN Diploma nurses (33.3%), to RNs with diplomas (16.7%), to RNs with baccalaureate or master's degrees (40.4%).

The numbers of baccalaureate or master’s degrees were consistent with that of the provincial average of 46.5% (CIHI, 2012). More than half of the participants worked on a full time (i.e., 30 or more hours per week) basis (55.6%). This is slightly higher than the provincial average of 49.6% (CIHI, 2012).

The overall experience of the participants ranged from less than one year to 43 years of experience, averaging 9.3 years of nursing experience. Over half of the participants were Registered Nurses (56.9%). The typical participant lived with a significant other (59.6% were married or common law). Further description of the participant characteristics is provided in Table 9.

Table 9

*Sample Description*

Variable	N	Percent <sup>a</sup>
Site <sup>b</sup>	117	
Site A	44	37.6%
Site B	17	14.5%
Site C	35	29.9%
Site D	21	17.9%
Unit <sup>c</sup>	117	
Unit 1	22	18.8%
Unit 2	22	18.8%
Unit 3	17	14.5%
Unit 4	35	29.9%
Unit 5	21	17.9%
Age Groups (Mean (SD))	110	39.5 (11.6)
20 - 29 years	26	23.6%
30 - 39 years	35	31.8%
40 - 49 years	26	23.6%
50 - 59 years	17	15.5%
60 years or greater	6	5.5%
Gender	116	
Male	7	6.0%
Female	109	94.0%
Marital Status	114	
Married	58	50.9%
Living Common Law	10	8.8%

Variable	N	Percent <sup>a</sup>
Widowed	2	1.8%
Separated	6	5.3%
Divorced	12	10.5%
Single/Never Married	26	22.8%
Designation	<i>116</i>	
Registered Nurse (RN)	66	56.9%
Licensed Practical Nurse (LPN)	38	32.8%
Health Care Attendant (HCA)	12	10.3%
Highest Education Level in Nursing Care Provider	<i>114</i>	
HCA Certificate	10	9.6%
LPN Diploma	37	33.3%
RN Diploma	19	16.7%
Bachelor/Master of Science in Nursing <sup>d</sup>	46	40.4%
Employment Status	<i>117</i>	
Full Time (30 hours or more per week)	65	55.6%
Part Time (Less than 30 hours per week)	25	21.4%
Casual/On call	27	23.1%
Years of Experience (Mean (SD))	<i>114</i>	9.3 (9.8)
Less than 2 years	20	17.5%
2 - 5 years	36	31.6%
6 - 10 years	26	22.8%
11 - 20 years	16	14.0%
21 years or greater	16	14.0%

*Note.* Total N = 117.

<sup>a</sup>Percentages rounded to one decimal place, <sup>b</sup>Specific site names are not provided to maintain anonymity, <sup>c</sup>Specific general medical units are not provided to maintain anonymity, <sup>d</sup>Less than 5 participants held an MSN; these were included with the BSN category.

Hospital sites were selected in urban areas within British Columbia, Canada, within one hour's drive from the researcher's home. There were one tertiary hospital and three community hospitals sampled. Unit size ranged from 23 to 52 patient beds. The most common reasons for hospitalization on these general medical units included Chronic Pulmonary Disease (COPD), Cardiovascular Disease (CVD) and Depression (Health & Business Analytics, 2012). The average nurse to patient ratio was one nurse to five patients during the day; with a one nurse to six patient ratio at night. Further description of the site sample characteristics are provided in Table 10.

Table 10

*Medicine Program Characteristics by Sample Site*

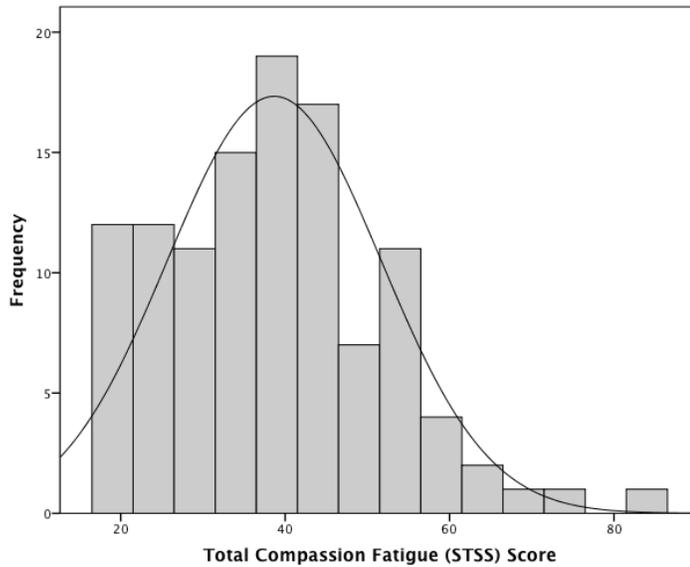
Site <sup>a</sup>	Patient Beds	Over-capacity Patient Beds	Population Age <sup>b</sup> (Rate <sup>c</sup> )	Leading Causes of Hospitalization	Permanent Employees <sup>g</sup>	Nurse to Patient Ratio Days	Nurse to Patient Ratio Nights
A	88	0	85+ (808.9)	COPD <sup>e</sup> CVD <sup>f</sup> Depression	95	1:4 or 1:5	1:8
B	23	4	85+ (872.0)	Depression Asthma Diabetes	27	1:4	1:5 or 1:6
C	34	2	85+ (875.1)	COPD <sup>e</sup> CVD <sup>f</sup> Depression	125	1:5	1:6
D	28	2	85+ (857.8)	Cancer Depression Dementia	30	1:5	1:6
H.A. <sup>h</sup>	568 <sup>d</sup>	65	85+ (878.3)	CVD <sup>f</sup> COPD <sup>e</sup> Injuries to hip and thigh	N/A <sup>i</sup>	N/A <sup>i</sup>	N/A <sup>i</sup>

*Note.* Information taken from Health & Business Analytics, Fraser Health Authority (2010) and Health & Business Analytics, Fraser Health Authority (2012).

<sup>a</sup>Specific site names are not provided to maintain anonymity, <sup>b</sup>Largest age group hospitalized, <sup>c</sup>Rate per 1,000 population, <sup>d</sup>Acute care in-patient services, <sup>e</sup>Chronic Obstructive Pulmonary Disease, <sup>f</sup>Cardiovascular Disease, <sup>g</sup>Full time and part time nursing care providers including RN, LPN, HCA, <sup>h</sup>Health Authority, <sup>i</sup>Exact information unavailable.

**Distribution of compassion fatigue.** The compassion fatigue total score variable had less than 10% missing cases with a mean distribution of 38.7 and a standard deviation of 13 (see Figure 3). This approximately normally distributed variable (skewness = 0.57, kurtosis = 0.25) indicates that more than half of the participants were experiencing symptoms of moderate to severe levels of compassion fatigue (54.9%) at the time of this study (see Table 8 and Table 11). The compassion fatigue total scores of

the sample were higher than that of expected percentiles as outlined in Bride et al. (2007) (see Table 12).



*Figure 3.* Histogram of compassion fatigue (STSS) continuous variable. Total compassion fatigue (STSS) score with a minimum 15 out of 17 items required. Score range = 17 to 85.

**Distribution of empowerment structures.** Details about the distribution of these variables are identified in Table 13. Each empowerment variable had less than 10% missing cases. Each variable will be discussed with regards to the subscale distributions. Each Subscale was rated on a zero to five Likert scale where zero indicated no access to the empowerment structure and five indicated the strongest access to the empowerment structure.

The participants of this study reported that they had strong access to opportunities within the workplace environment (on average scoring 3.7 out of 5). These results suggest that nursing care providers perceive having structural empowerment in their workplace, in one of the four areas: providing them with challenging work, opportunities

to gain new skills and knowledge, and had tasks that use their skills and knowledge (Mean = 3.7; SD 0.8).

Table 11

*Compassion Fatigue (STSS) Variable Descriptive Statistics*

Study Variable	N	Mean (SD)/ Percent	Scoring Range	Skewness (Kurtosis)
Compassion Fatigue Total Score <sup>a, c</sup>	117	38.7(13)	17 to 85	0.57(0.25)
Intrusion Subscale	113	11.1(4.1)	5 to 25	0.69(0.68)
Avoidance Subscale	114	16.0(5.6)	5 to 35	0.58(0.07)
Arousal Subscale	117	11.9(3.9)	5 to 25	0.40(0.03)
Compassion Fatigue <sup>a, d</sup>	111	2.9(1.4)	17 to 85	0.23(-1.30)
Little to no Compassion Fatigue <sup>a</sup>	23	20.7% <sup>e</sup>	17 - 28	
Mild Compassion Fatigue <sup>a</sup>	27	24.3% <sup>e</sup>	28 - 37	
Moderate Compassion Fatigue <sup>a</sup>	25	22.5% <sup>e</sup>	38 - 43	
High Compassion Fatigue <sup>a</sup>	11	9.9% <sup>e</sup>	44 - 48	
Severe Compassion Fatigue <sup>a</sup>	25	22.5% <sup>e</sup>	48 - 85	

*Note.* Total N 111 - 117.

<sup>a</sup>STSS, <sup>b</sup> Expected percentiles per Bide et al., (2007), <sup>c</sup>Total STSS score with minimum 15 out of 17 items required; sum total of all subscales, <sup>d</sup>Total STSS score divided into 5 categories for interpretation; <sup>e</sup>All percentages rounded to one decimal place

The CWEQ\_II – Access to Opportunity variable describes the participant’s perceived access to opportunity including access to challenging work, opportunities to gain new skills/knowledge, and access to tasks that utilize the participant’s skills. This variable was approximately normally distributed with a mean of 3.7 and a standard deviation of 0.8. This variable signifies that participant’s believed that they had between (1) ‘some’ and (5) ‘a lot’ of access to opportunity within their current workplace. Access to Opportunity was the most accessible empowerment structure in this study (see Figure 4).

Table 12

*Compassion Fatigue (STSS) Percentiles in the Literature as Compared to Sample Compassion Fatigue (STSS) Total Scores*

Expected Level of Compassion Fatigue <sup>a, b</sup>	Expected Total Compassion Fatigue Score <sup>a, b</sup>	Percentile <sup>c</sup>	Expected Sample N <sup>d</sup>	Measured N
Little to none	< 28	≤ 50 <sup>th</sup>	58	23
Mild	28 – 37	51 <sup>st</sup> – 75 <sup>th</sup>	29	27
Moderate	38 – 43	76 <sup>th</sup> – 90 <sup>th</sup>	18	25
High	44 – 48	91 <sup>st</sup> – 95 <sup>th</sup>	6	11
Severe	> 48	> 95 <sup>th</sup>	6	25

*Note.* Total N = 117. Higher STSS scores represent stronger perception of STSS Symptomology.

<sup>a</sup>STSS, <sup>b</sup>Expected STSS level and scores outlined in Bride et al. (2007), <sup>c</sup>Percentiles of STSS Instrument as measured per Bride et al. (2007), <sup>d</sup>Expected N calculated using study sample (N = 117) and based on Bride et al. (2007) percentile measurements.

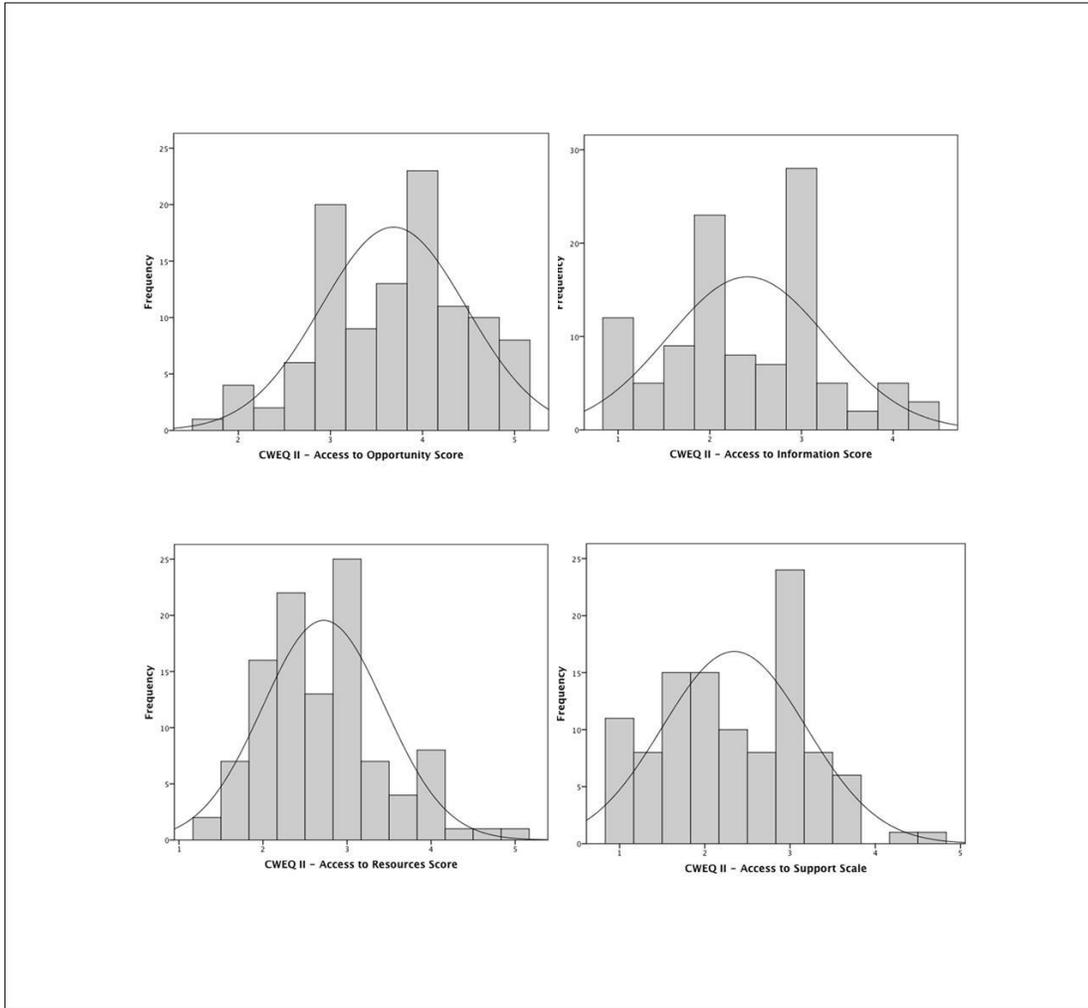
Table 13

*Workplace Empowerment Variable Descriptive Statistics*

Study Variable	N	Mean (SD)/ Percent	Scoring Range	Skewness (Kurtosis)
Work Empowerment Structures <sup>a</sup>	113			
Opportunity Subscale <sup>b</sup>	116	3.7(0.8)	1 to 5	-0.32(-0.48)
Information Subscale <sup>b</sup>	114	2.4(0.9)	1 to 5	0.31(-0.32)
Resources Subscale <sup>b</sup>	114	2.7(0.7)	1 to 5	0.48(0.31)
Support Subscale <sup>b</sup>	116	2.3(0.8)	1 to 5	0.15(-0.70)
Total Empowerment Score <sup>c, d, e</sup>	113	1.8(0.5)	4 to 20	-0.25(0.14)
Low Levels of Empowerment	28	24.8%	4 to 9	
Moderate Levels of Empowerment	79	69.9%	10 to 14	
High Levels of Empowerment	6	5.3%	16 to 20	

*Note.* Total N = 113 to 117.

<sup>a</sup>Subscale total with minimum 2 out of 3 items required, <sup>b</sup>Subscale mean score obtained by summing then averaging the items, <sup>c</sup>Total empowerment score divided into 3 categories, <sup>d</sup>Overall empowerment score calculated by summing the empowerment subscales, <sup>e</sup>Higher scores represent stronger perceptions of working in an empowered workplace.



*Figure 4.* Histogram of each CWEQ\_II subscales including: Access to Opportunity, Access to Information, Access to Resources, Access to Support. CWEQ\_II subscales total with minimum 2 out of 3 items required. Subscale score range = 1 to 5.

The CWEQ-II – Access to Information variable describes the participant’s perceived access to the current state of the hospital as well as the values and goals of top management. This variable was also approximately normally distributed with a mean of 2.4 (SD = 0.9). This study revealed that participants believed they did not have much access to information regarding the state of the hospital or the values and goals of top management (see Figure 4).

The CWEQ-II – Access to Resources variable assessed for the participant’s

perceived access to temporary help when necessary, and the availability of time to do paperwork and to accomplish job requirements. This variable was approximately normally distributed with a mean of 2.7 (SD = 0.7). This study indicated that participants perceived they had ‘some’ access to these resources within their workplace (see Figure 4).

The last empowerment structure, CWEQ\_II – Access to Support, investigated the participant’s perceived ability to access specific information about things they did well and could improve on as well as helpful hints or problem solving advice. This variable was approximately normally distributed with a mean of 2.3 (SD = 0.8) indicating that participants believed that they had between “none” and “some” access to support within their current workplace (see Figure 4). Overall, participants indicated that opportunity was the most accessible empowerment structure to the nursing care providers.

### **Bivariate Associations**

First, a Pearson's product-moment correlation was used to assess the association between compassion fatigue (STSS) total score and the four workplace empowerment structures subscales (opportunity, information, resources, and support) in all study participants; the only statistically significant continuous variable was the CWEQ\_II access to resources subscale. It was noted that an increase in perceived access to resources was moderately correlated with a decrease in compassion fatigue (STSS) total score of participants,  $r(113) = -.30, p < 0.001$ , with resource availability having an explained variance of 8.8% in compassion fatigue.

Second, bivariate correlations were performed using the four empowerment structure subscales and the three compassion fatigue (STSS) subscales (i.e., (intrusion,

avoidance, and arousal). The Pearson correlations of each of the STSS subscales with the CWEQ\_II subscales revealed similar results to that of the compassion fatigue (STSS) total score. Each of the three compassion fatigue (STSS) subscales was statistically significantly correlated with access to resources (see Table 14).

Table 14

*Pearson Correlations*

	Total STSS Score <sup>a</sup>	Intrusion <sup>b</sup>	Avoidance <sup>c</sup>	Arousal <sup>d</sup>	Opportunity <sup>e</sup>	Information <sup>e</sup>	Resources <sup>e</sup>
Intrusion <sup>b</sup>	.91*						
Avoidance <sup>c</sup>	.96*	.80*					
Arousal <sup>d</sup>	.93*	.77*	.84*				
Opportunity <sup>e</sup>	-.11	-.09	-.16	-.02			
Information <sup>e</sup>	.06	.05	.40	.02	.20**		
Resources <sup>e</sup>	-.30*	-.36*	-.23**	-.29*	.04	.09	
Support <sup>e</sup>	-.12	-.07	-.11	-.16	.07	.38*	-.37*

*Note.* Total N = 111 to 116. All Pearson Product Correlations rounded to 2 decimal places.

<sup>a</sup>Total STSS score with minimum 15 of 17 items required, <sup>b</sup>STSS Intrusion Subscale sum total (2, 3, 6, 10, 13), <sup>c</sup>STSS Avoidance Subscale sum total (1, 5, 7, 9, 12, 14, 17), <sup>d</sup> STSS Arousal Subscale sum total (4, 8, 11, 15, 16), <sup>e</sup>Subscale total with minimum 2 out of 3 items required.

\*Correlation is significant at the 0.01 level (2-tailed), \*\*Correlation is significant at the 0.05 level (2-tailed).

There were three covariates with statistically significant correlations with compassion fatigue (STSS) total score: participant marital status, participant designation (RN, LPN, HCA), and highest education level education ( $p < 0.05$ ). Specifically, participants who were divorced or separated had relatively higher levels of compassion fatigue (STSS) total score (mean = 45.3). The participants who were RNs had higher compassion fatigue (STSS) total score values (mean = 41.2) than those who held the

designation of LPN (mean = 35.3) and HCA (mean= 35.6). The correlation for the continuous covariates of age ( $r = 0.03$ ) and years of experience ( $r = -0.03$ ) were not found to be statistically significant. See Table 15 for comprehensive list of compassion fatigue means amongst categorical variables.

Table 15

*Mean Compassion Fatigue (STSS) scores for Categorical Covariates*

Variable	N	Mean(SD)	F <sup>d</sup>	Pearson Correlation <sup>e</sup>
Site <sup>a</sup>	117	38.7(12.8)	0.43	0.02
Site A	44	38.9(13.3)		0.01
Site B	17	38.8(12.5)		0.00
Site C	35	37.1(12.6)		-0.07
Site D	21	41.1(13.8)		Referent
Unit <sup>b</sup>	117	38.7(12.83)	0.59	0.04
Unit 1	22	36.9(13.2)		-0.11
Unit 2	22	40.9(13.2)		0.12
Unit 3	17	38.8(12.5)		0.00
Unit 4	35	37.1(12.6)		-0.07
Unit 5	21	41.1(12.8)		Referent
Gender	116	38.8(12.8)	1.12	0.10
Male	7	33.9(8.4)		Referent
Female	109	39.2(13.0)		0.11
Marital Status	114	38.8(12.9)	2.91	0.01
Married/Common Law	68	37.9(11.9)		-0.10
Separated/Divorced	18	45.3(13.3)		0.18**
Single/Never Married/Widowed	28	36.8(14.1)		Referent
Designation	116	38.7(12.9)	2.99*	0.20**
Registered Nurse	66	41.2(12.9)		0.18**
Licensed Practical Nurse	38	35.3(12.6)		-0.15
Health Care Attendant	12	35.6(11.8)		Referent
Highest Education Level	114	38.9(12.9)	1.97	0.21**
HCA Certificate	11	36.7(12.3)		-0.08
LPN Diploma	38	35.3(12.5)		-0.14
RN Diploma	19	41.2(14.8)		0.08
BSN/MSN <sup>c</sup>	46	41.5(12.2)		Referent
Employment Status	117	38.7 (12.8)	0.14	0.02
Full time (more than 30 hours per week)	65	39.2(12.3)		0.04
Part time (less than 30 hours per week)	25	37.6(11.8)		Referent

Variable	N	Mean(SD)	F <sup>d</sup>	Pearson Correlation <sup>e</sup>
Casual/On Call	27	38.7(12.8)		0.01

*Note.* Total N = 110 to 117. F-Test and Pearson Correlations rounded to 2 decimal places.

<sup>a</sup>Specific site names are not provided to maintain anonymity, <sup>b</sup>Specific unit are not provided to maintain anonymity, <sup>c</sup>Less than 5 participants held an MSN; these were included with the BSN category, <sup>d</sup>F-test based off ANOVA; <sup>e</sup>Pearson correlation between covariates and total STSS score with minimum 15 of 17 items required.

\* F-test is significant at the 0.05 level (1-tailed) \*\*Pearson correlation is significant at the 0.05 level (2-tailed).

### Hierarchical Linear Regression Analysis

The first model used only empowerment structures to predict compassion fatigue (Model 1) and was statistically significant with an  $R^2$  of .11,  $F(4, 104) = 3.12, p < 0.05$  (see Table 16). The full model used opportunity, information, resources, support, participant highest level of education, and participant marital status to predict compassion fatigue (Model 2) which was also statistically significant,  $R^2 = .20, F(9, 99) = 2.71, p < 0.01$ . Both models found the CWEQ\_II access to resource variable to be statistically significant to the explained variance of compassion fatigue ( $p < 0.01$ ).

For the hierarchical linear regression, participant designation was removed as participant education level is indicative of designation and further differentiates between the types of nursing care providers in the sample. Therefore, the two covariates selected for the second step of the hierarchical linear regression were marital status and highest education level. The addition of the participant’s covariate information (Model 2) revealed that the participant’s highest level of education, (specifically an LPN diploma) as well as participant marital status (specifically those who were divorced or separated) explained additional variance in compassion fatigue ( $p < 0.05$ ) (see Table 16). In other words, participants with perceived limited access to resources in the workplace and those separated or divorced were more likely to experience compassion fatigue. Results of the

hierarchical regression analysis indicate that nursing care providers who held an LPN diploma were less likely to experience compassion fatigue.

Table 16

*Hierarchical Multiple Linear Regression Predicting Compassion Fatigue (STSS) From Empowerment Structures and Study Demographics*

Variable	Compassion Fatigue <sup>a</sup>			
	Model 1		Model 2	
	B	Beta	B	Beta
Constant	57.29		54.22	
CWEQ_II - Opportunity <sup>b</sup>	-1.68	-.11	-1.28	-.05
CWEQ_II - Information <sup>b</sup>	1.40	.10	1.07	.08
CWEQ_II - Resources <sup>b</sup>	-5.14*	-.30	-4.71*	-.28
CWEQ_II - Support <sup>b</sup>	-.72	-.05	-1.14	-.03
Certificate (Referent = BSN/MSN) <sup>c</sup>			-7.34	-.18
LPN Diploma (Referent = BSN/MSN) <sup>c</sup>			-6.74**	-.16
RN Diploma (Referent = BSN/MSN) <sup>c</sup>			-1.68	.00
Married/Common Law (Referent = Single/Never Married/Widowed) <sup>c</sup>			2.58	.04
Separated/Divorced (Referent = Single/Never Married/Widowed) <sup>c</sup>			9.62**	.18
<i>R</i> <sup>2</sup>	.11		.20	
<i>F</i>	3.12**		2.71*	
<i>DR</i> <sup>2</sup>			.09	
<i>DF</i>			2.23	

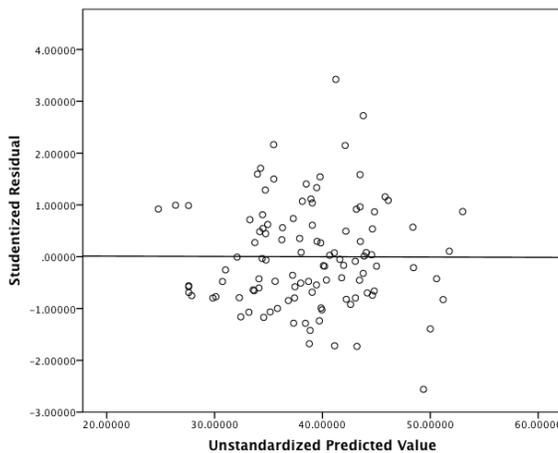
Note. N = 107. All values rounded to two decimal places.

<sup>a</sup>Total STSS score with minimum 15 of 17 items required, <sup>b</sup>Subscale total with minimum 2 out of 3 items required, <sup>c</sup>Dummy coded variables.

\**p* < 0.01, \*\**p* < 0.05.

**Examination of linear regression assumptions.** The continuous variables in this study included: compassion fatigue (STSS) total score, access to opportunity, access to information, access to resources, and access to support. These variables are all approximately normally distributed (see Figure 4). The continuous variables were further assessed for normality with a Shapiro-Wilk test (*p* < 0.05). There was an independence of residuals, as assessed by a Durbin-Watson of 1.63.

The means of compassion fatigue (STSS) total score and empowerment structures were plotted on a graph (see Appendix N). Visual inspection of the plotted means appeared linear. However, the scatter was not uniform across the regression line. The assumption of homoscedasticity was adequately met, as there is consistency of spread across the regression line. See Figure 6.



*Figure 6.* Scatterplot comparing studentized residuals against the unstandardized predicted values.

There were no colinearity problems as demonstrated by variable tolerance values less than 0.1 for all variables in the regression. Of the one outlier present, there was a safe leverage of 0.2 and a Cook's distance less than one. Because of these safe values, this outlier was included in the final analysis. The assumption of residual errors normality was met as both the histogram (see Figure 7) and P-Plot (See Figure 8) demonstrate approximate normality of the residual errors.

**Compassion fatigue (STSS) total score and subscale comparison.** The hierarchical linear regression was performed separately to compare  $R^2$  values between the compassion fatigue (STSS) total score and the compassion fatigue subscales. There were no substantial differences between  $R^2$  values of the subscales and compassion fatigue

(STSS) total score (see Table 17). Therefore, compassion fatigue (STSS) total score was used as the dependent variable for the hierarchical linear regression.

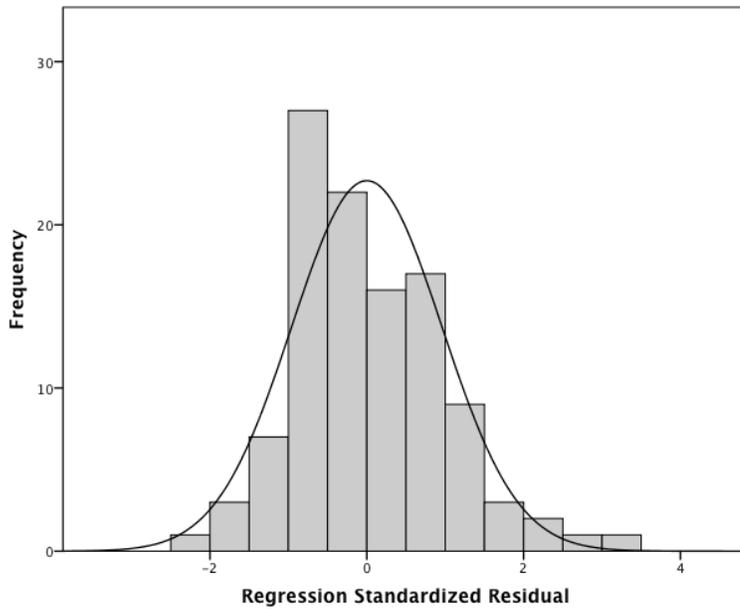


Figure 7. Histogram of regression standardized residual. Dependent variable: Total STSS score with minimum 15 of 17 items required.

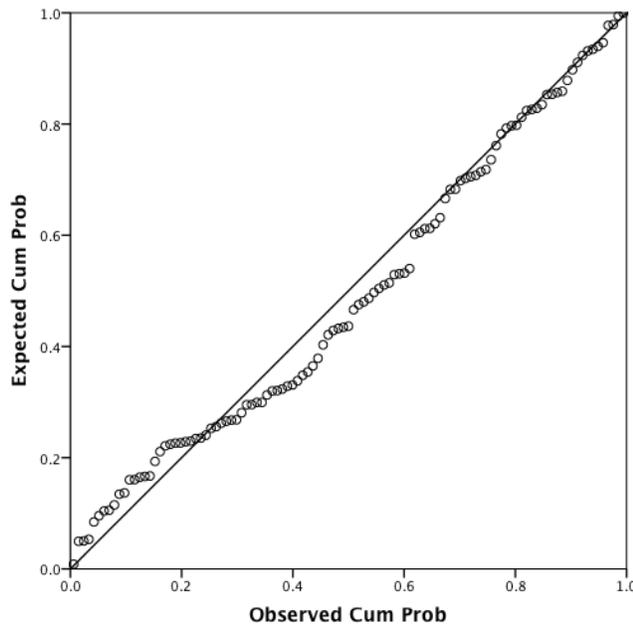


Figure 8. P-Plot representation of normality of residuals. Dependent variable: Total STSS score with minimum 15 of 17 items required.

Table 17

*Linear Regression Analysis Comparing Compassion Fatigue (STSS) Total Score with Compassion Fatigue (STSS) Subscales*

Compassion Fatigue <sup>a</sup> Variable	Opportunity <sup>e</sup>		Information <sup>e</sup>		Resources <sup>e</sup>		Support <sup>e</sup>		R <sup>2</sup>	F
	B	Beta	B	Beta	B	Beta	B	Beta		
Intrusion Subscale <sup>b</sup>	-.59	-.11	.23	.05	-2.23*	-.39	.16	.03	.15	4.41*
Avoidance Subscale <sup>c</sup>	-1.06	-.15	.55	.09	-1.56**	-.21	-.39	-.06	.07	2.05
Arousal Subscale <sup>d</sup>	-.54	-.01	.26	.06	-1.36*	-.26	-.47	-.10	.09	2.60**
Total Score	-1.68	-.11	1.40	.10	-5.14*	-.30	-.72	-.05	.11	3.12**

*Note.* Total N = 105 to 109. All values rounded to two decimal places.

<sup>a</sup>Total STSS score with minimum 15 out of 17 items required, <sup>b</sup>Sum total (STSS items 2, 3, 6, 10, 13), <sup>c</sup>Sum total (STSS items 1, 5, 7, 9, 12, 14, 17), <sup>d</sup>Sum total (STSS items 4, 8, 11, 15, 16), <sup>e</sup>CWEQ-II subscale total with minimum 2 out of 3 items required.

\* $p < 0.05$ , \*\* $p < 0.01$ .

**Ordinal Logistic Regression**

An ordinal logistic regression was used to add further interpretation to the data from the hierarchical linear regression, specifically, the magnitude of effect. The compassion fatigue variable was transformed into an ordinal variable using Bride et al., (2007) percentile interpretations. See Table 6 for percentile interpretation. These ordinal categories were as follows: little to no compassion fatigue (1), mild compassion fatigue (2), moderate compassion fatigue (3), high compassion fatigue (4), and severe compassion fatigue (5).

The final model predicted, with statistical significance, the dependent variable (i.e., compassion fatigue) over and above the intercept-only model,  $\chi^2 (9) = 22.35, p < 0.01$ . It was found that the availability of resources ( $p = 0.02$ ), participant highest level of education ( $p = 0.04$ ), and marital status ( $p = 0.03$ ) had a statistically significant effect on

the prediction of compassion fatigue incidence in medical nursing care providers and HCAs.

The ordinal logistic regression model confirmed that having access to resources was the only statistically significant empowerment structure for the medical nursing care providers and HCAs in this study. It was found that a relative increase in perceived resource accessibility was associated with a lower rating of compassion fatigue (OR = 0.51). This can be interpreted that with a one unit increase in perceived access to resources the participant is two times more likely to be in a lower category of compassion fatigue (1/effect = inverse odds ratio:  $1/0.51 = 1.96$ ; CI 95% [1.11 to 3.44],  $p < 0.05$ ).

Participant's highest level of education was also confirmed to be a statistically significantly associated with the development of compassion fatigue. The odds of a BSN/MSN holder having increased levels of compassion fatigue (OR = 0.30) was three times (OR =  $1/\text{effect} = 1/0.30 = 3.33$ ; CI 95% [1.37 to 7.69]), that of nursing care providers who held an LPN Diploma ( $p < 0.01$ ). Overall, compassion fatigue was found to be more likely in those whose highest educational background is a degree in nursing. It is noteworthy that 40.4% of the sample consisted of RNs with a BSN/MSN ( $n = 46$ ).

Marital status was also found to have a statistically significant effect on the development of moderate to severe compassion fatigue in nursing care providers and HCAs (OR = 5.39). The odds of divorced or separated nursing care providers reporting a higher level of compassion fatigue were five times (CI 95% [1.52 to 19.13]) that of individuals who were single, never married, or widowed ( $p < 0.01$ ). When compared to those who were married/common law, divorced or separated, nursing care providers and

HCAAs had similar chances of reporting higher levels of compassion fatigue,  $p = .08$ . See Table 18 for summary of parameter estimates.

**Examination of ordinal logistic regression assumptions.** The assumption of colinearity was met as evidenced by tolerance values of less than .01 for all variables in the model. The assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the residual of the fitted location model to a model with varying location parameters (i.e., Test of Parallel Lines),  $\chi^2 = 13.36, p = .77$ . The deviance goodness-of-fit test indicated that the model was a good fit to the observed data,  $\chi^2 (300) = 263.42, p = .94$ . The Pearson goodness-of-fit test also indicated that the model was a good fit to the observed data,  $\chi^2 (300) = 306.29, p = .39$ , but most cells were sparse with zero frequencies in 75% of cells. Due to the high amount of zero frequencies, the goodness of fit tests (i.e., Deviance and Pearson) should be treated with caution (Lund & Lund, 2013).

Table 18

*Ordinal Logistic Regression Parameter Estimates*

Parameter		Odds Ratio	95% Confidence Interval	
			Lower	Upper
Threshold	Little to No Compassion Fatigue (1) <sup>a</sup>	0.02	0.00	0.24
	Mild Compassion Fatigue (2) <sup>a</sup>	0.07	0.01	0.82
	Moderate Compassion Fatigue (3) <sup>a</sup>	0.20	0.02	2.40
Access to Opportunity <sup>b</sup>		0.80	0.49	1.32
Access to Information <sup>b</sup>		1.10	0.70	1.75
Access to Resources <sup>b</sup>		0.51**	0.29	0.90
Access to Support <sup>b</sup>		0.96	0.58	1.58
Married/Common Law		1.58	0.65	3.86

Parameter	Odds Ratio	95% Confidence Interval	
		Lower	Upper
Separated or Divorced	5.39*	1.52	19.13
Single, Never Married, or Widowed	1	.	.
Certificate	0.29	0.07	1.20
LPN Diploma	0.30*	0.13	0.73
RN Diploma	0.76	0.25	2.28
BSN/MSN	1	.	.

Note. N = 104. All values rounded to 2 decimal places.

<sup>a</sup>Total STSS score with minimum 15 of 17 items required placed in four ordinal categories, <sup>b</sup>Subscale total with minimum 2 out of 3 items required.

\*  $p < 0.01$ , \*\*  $p < 0.05$ .

**Conclusion**

The researcher conducted several analyses in an attempt to predict compassion fatigue outcomes in nursing care providers and HCAs on general acute care medical units. First, a hierarchical multiple linear regression was conducted to predict compassion fatigue from participant’s highest level of education and marital status along with workplace empowerment structures including access to: opportunity, information, resources, and support. The hierarchical multivariate regression revealed that the empowerment structure of access to resources was statistically significant ( $p < 0.01$ ) in both steps of the hierarchical model. This analysis suggests that access to time to do paperwork and job requirements, as well as acquiring temporary help when needed is associated with compassion fatigue occurrence in nursing care providers and HCAs on medical units. The hierarchical regression also revealed that those whose highest education level was an LPN diploma were less likely to develop compassion fatigue. Whereas, those who were divorced or who did not believe they had access to resources were at a greater risk of compassion fatigue development.

Second, an ordinal logistic regression proportional odds model was used to predict the ordinal compassion fatigue (STSS) total score given the four empowerment structure variables. The ordinal logistic regression was able to add further interpretation to the hierarchical linear regression model findings to determine the effect of the variables on the dependent variable. It was found that of the four empowerment structures, access to resources predicted a decrease in compassion fatigue occurrence experienced by the nursing care providers and HCAs on a medical unit ( $p < .05$ ). The model predicts that, for every one-unit increase in perceived access to resources, the participant would be two times more likely to be in a lower category of compassion fatigue when all the other variables in the model are held constant. It was also found that marital status and participant's highest level of education were significant covariates in the prediction of compassion fatigue ( $p < 0.05$ ).

Overall, both models shed light to the association between empowerment structures and compassion fatigue incidence in nursing care providers and HCAs, specifically, with regards to resource accessibility. Both analysis models show that access to resources was the only statistically significant empowerment structure in the explained variance and odds of compassion fatigue development in medical nursing care providers and HCAs.

## Chapter Five

### Introduction

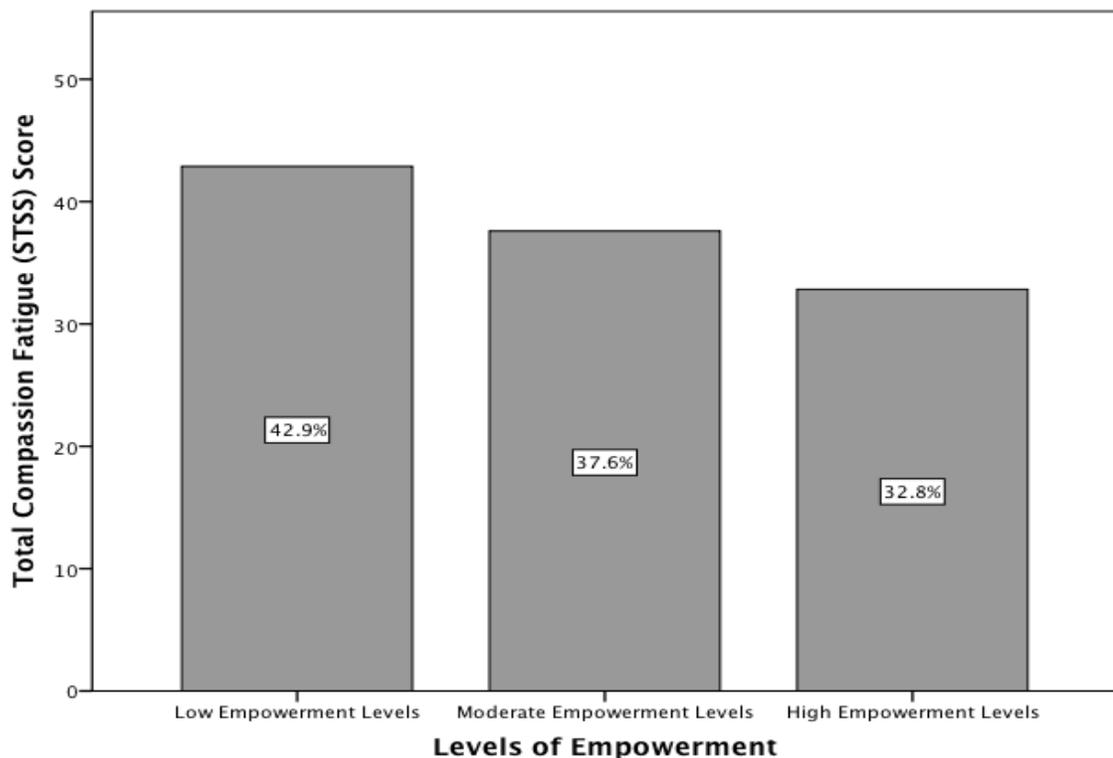
This research project is relevant to the current nursing profession as it describes compassion fatigue in the never before studied area of medical care units. This thesis aimed to explore the following questions: (a) Does compassion fatigue exist in nurses and HCAs who work in medical nursing contexts? and (b) To what extent is workplace empowerment associated with compassion fatigue in nursing care providers and HCAs working on acute medical units? This final chapter addresses the research questions by summarizing the study results, comparing the outcomes to current literature, outlining the limitations, and presenting final recommendations.

### Summary of Findings

**Describing compassion fatigue.** Compassion fatigue has been described in many workplace settings of nursing care providers; however, none have explored compassion fatigue within the acute medicine unit. This study confirms that compassion fatigue does not limit itself to specialty areas and that it is a large problem and a real issue for nursing care providers and HCAs working on a medical unit. Of those that were sampled ( $N = 117$ ), 56% participants were experiencing moderate to severe compassion fatigue within seven days leading up to this study. In other words, one out of every two nursing care providers and HCAs were experiencing moderate to severe compassion fatigue at the time of this study.

**Compassion fatigue and the association with workplace empowerment.** The results of this study support that organizational empowerment structures are associated with compassion fatigue in medical nursing care providers; in particular, the

empowerment structure of access to resources. A change in compassion fatigue total score of a participant was not predicted by access to professional opportunities, organizational information, or social support; however, a statistically significant relative decrease in compassion fatigue occurred with greater perceived access to resources. Nonetheless, it was noted that with an overall increase in perceived empowerment there was a relative decrease in mean compassion fatigue (STSS) total score values (see Figure 9). In other words, those that perceived to be empowered had less compassion fatigue at the time of this study.



*Figure 9.* Compassion fatigue (STSS) and levels of empowerment. The total compassion fatigue (STSS) score with a minimum 15 out of 17 items required and levels of empowerment divided into three categories.

In addition to resources impacting the incidence of compassion fatigue in acute medical nursing care providers and HCAs, it was also noted that the covariates of

participant's highest level of education and marital status were associated with higher compassion fatigue scores. In regards to marital status, divorced or separated individuals were approximately five times more likely to be in a higher category of compassion fatigue than those who were single, unmarried, or widowed. In regards to participant's highest education level, BSN/MSN holders were approximately 3 times more likely to be in a higher category of compassion fatigue when compared to those who held an HCA, LPN, or RN diploma.

When assessing the multivariate regression, access to resources, holding a BSN/MSN, and being separated or divorced were statistically significant and predictive of compassion fatigue occurrence in acute medical nursing care providers and HCAs. Lower compassion fatigue (STSS) total scores were predicted by greater perceived access to resources and having an LPN diploma. Higher compassion fatigue (STSS) total score was found in those holding a BSN/MSN and in those who were separated or divorced. It is important to note, that though significant factors were discovered that contribute to the explanation of the incidence of compassion fatigue in acute medical nursing care providers and HCAs, the explained variance of the statistical regression models was small (highest  $R^2 = .20$ ). This suggests that there are additional unknown factors that explain more than three quarters of the variance in overall compassion fatigue in nursing care providers and HCAs working in acute care medical units.

### **Relation to the Literature**

The literature review that was conducted provided insight into the research surrounding compassion fatigue amongst nursing care providers. Previous studies exploring compassion fatigue have been aimed towards specialty areas of practice (e.g.,

pediatrics, hospice, emergency, critical care) as these are commonly considered “stressful” work environments. High stress practice areas are not the only settings where compassion fatigue exists. Of all the studies reviewed, only one study explored compassion fatigue in medical nurses; however, the researchers did not differentiate between medical and surgical nurses. There were 20 out of 26 studies specifically designed to investigate compassion fatigue within specialty practice areas. The remaining five studies did not specify their target population practice area. There have been no studies exploring compassion fatigue solely on the nursing care providers and HCAs of acute care medical units. This study has addressed this gap.

Compassion fatigue has been characterized as an acute, overwhelming sense of exhaustion that affects the physical, emotional, and spiritual well-being of a caregiver arising from the *relationship* [emphasis added] between the patient and the care provider (Aycock & Boyle, 2009; Coetzee & Klopper, 2010; McHolm, 2006). It could be argued that due to prolonged length of stay on a medical unit, average length of stay being 8.1 days in hospital, nursing care providers and HCAs on medical units create more substantial relationships with the patient, which may result in the potential for higher levels of compassion fatigue (Hart et al., 2014).

Past research has been dedicated to exploring the ways to mitigate compassion fatigue in the health care provider. Many have performed analysis on compassion fatigue with concepts including, but not limited to: job satisfaction, compassion satisfaction, burnout and vicarious traumatization. However, compassion fatigue has never been explored through organizational context in which the nursing care provider performs his or her work. The investigation of compassion fatigue as it relates to a structurally

empowered work environment is a new concept addressed with this study. The literature will be viewed through the lens of this study's findings starting with compassion fatigue, then empowerment structures, and the statistically significant covariates demonstrated in this study.

**Compassion fatigue.** Despite a variety of measurement instruments being used to assess risk of compassion fatigue and symptoms of compassion fatigue, the findings of the current study are congruent with many other studies in which moderate to severe compassion fatigue was found in more than 50% of the sample population, including: emergency room nurses, intensive care nurses, nephrology nurses, oncology nurses, trauma and recovery teams, community center nurses, and hospice nurses (Abendroth & Flannery, 2006; Collins & Long, 2003; Hooper et al., 2010; Neville & Cole, 2013).

Two noteworthy studies that used the STSS to measure the frequency of symptom experiences regarding compassion fatigue in their participants further support findings of compassion fatigue existing in all areas of practice. Dominguez-Gomez and Rutledge (2009) performed an exploratory comparative study on emergency room nurses ( $N = 67$ ) using the STSS measure to find that one third (33%) of registered nurses experienced moderate to severe compassion fatigue (STSS mean score = 37.4;  $SD = 11$ ) (Dominguez-Gomez & Rutledge, 2009). While similar in measurement, STSS scores, and having a predominately female population, the sample differed slightly in that most held a diploma in nursing and worked in the emergency specialty area.

In a different area of practice, Beck and Gable (2012) performed a mixed methods convergent parallel design and used the STSS to measure compassion fatigue in labour and delivery registered nurses ( $N = 464$ ). This study found that approximately one third

(35%) of the nursing care providers were experiencing moderate to severe compassion fatigue (STSS) (mean = 33.7; SD = 12.3) (Beck & Gable, 2012). This sample was also similar to this research in STSS measurement, STSS scores, predominately female population, and most participants held a BSN or higher (78.8%); however, just over half (58%) of the nurses included were direct care nursing providers. The rest of the sample consisted of those who may not perform bedside nursing on a regular basis including: nursing managers, clinical nursing specialists, nursing midwives, staff development, nursing faculty, executives, nurse practitioners, case managers, or a combination of the aforementioned. Because nursing is structured differently internationally, it is difficult to find comparable studies that include licensed practical nurses and health care attendants.

Together, these studies, in addition to the current study indicate that nursing care providers have compassion fatigue and that the medical unit setting is included in this group. Through direct comparison to two other specialty practice areas, this study shows that nursing care providers and HCAs working on medical units may have a higher reported incidence of compassion fatigue than those in specialty areas. This study contributes to our knowledge that compassion fatigue is not unique to specialty areas of practice. As previously mentioned, the higher frequency of compassion fatigue symptoms experienced by the nursing care provider and HCA working in a medical unit setting could be related to the relationship developed over an extended hospital stay.

**Empowerment structures.** Structural empowerment has been characterized by a workplace that adheres to empowering practices, providing the employee with the right tools to do their job effectively (Rao, 2012). Having access to these empowerment structures (i.e., opportunity, information, resources, and support) further enhances the

capabilities of the employee and further benefits the organization through increased retention rates, decreased turnover, increased job satisfaction, and, ultimately, increased positive patient outcomes (Laschinger, 2012b). The findings of this study suggest that resource accessibility is associated with a decreased occurrence of compassion fatigue in medical nursing care providers and HCAs. The results did not reveal any associations between compassion fatigue and any of the other empowerment structures including access to opportunity, information, or support.

Kanter's theory suggests that all four empowerment structures must be in place to increase perceived empowerment within the workplace environment. Surprisingly, this study found the only empowerment structure that potentially impacts the development of compassion fatigue in the sample population was resource accessibility. Analysis of both steps in the hierarchical linear regression, found that access to employment opportunities, organizational information, and peer supports were not statistically significant in the prediction of compassion fatigue. However, the presence of greater perceived access to resources was statistically significant in predicting lower levels of compassion fatigue amongst the sample group.

Exploration of compassion fatigue through an ordinal logistic regression found the odds of compassion fatigue reduction were greater when access to resources were in place. For every one unit increase in perceived resource accessibility the individual was two times more likely to be in a lower category of compassion fatigue with all the other variables in the model held constant.

As previously mentioned, no studies have been designed that directly associate compassion fatigue with empowerment structures; however, many have alluded to the

importance of workplace empowerment structures on compassion fatigue. The responses provided in this sample of nursing care providers and HCAs working on medical units were different than several studies outlined in the literature review.

Three studies conducted on compassion fatigue have suggested that access to knowledge and skill (i.e., related to access to opportunity) had a negative association with compassion fatigue ( $p < 0.05$ ) (Burtson & Stichler, 2010; Todaro-Franceschi, 2013b). Maytum et al. (2004) also found that having adequate knowledge on the job was an important coping strategy for long-term compassion fatigue avoidance. This negative association was not demonstrated in this study despite one out of these three studies having a somewhat similar sample population involving general nursing care providers (i.e., medical and surgical nurses combined) (Burtson & Stichler, 2010). This divergence in findings may be in part due to differing analysis methods and covariate information such as: qualitative versus quantitative analysis, varying measurement instruments, and differing areas of nursing practice. However, further research is needed to understand these differing results.

Another three studies have suggested that access to support mitigated the onset of compassion fatigue. (Aycock & Boyle, 2009; Maytum et al., 2004; Townsend & Campbell, 2009). It was found in one study that the accessibility to support reduced the incidence of compassion fatigue scores amongst nursing care providers working in Sexual Assault Nurse Examiners (SANE) (Townsend & Campbell, 2009). The other two studies used qualitative analysis and found that nursing care providers working in pediatrics and oncology practice areas consider greater perceived access to support as a long-term strategy, rather than a predicting variable, to deal with compassion fatigue

(Aycock & Boyle, 2009; Maytum et al., 2004). These findings were not confirmed by this study. These differences among the findings may be attributable to the different sample populations and the varied use of qualitative and quantitative methods amongst the three cited studies.

Also, how this study operationalized and measured support is different than how others have studied it previously. This study operationalized support as specific information about things employees do well or could improve in their practice as well as receiving helpful tips and advice (Laschinger, 2012a). The three studies that mentioned support in their research focused on anecdotal data and collegial support as their definition of support (Aycock & Boyle, 2009; Maytum et al., 2004; Townsend & Campbell, 2009). The differences in how these studies operationalized and measured support may also attribute to differences in findings amongst these results.

Two studies suggested that time to provide presence to families and patients (i.e., similar to accessibility to resources) was negatively associated with compassion fatigue (Maytum et al., 2004; Todaro-Franceschi, 2013b). These findings are similar to those of the current study despite utilizing differing measurement instruments and exploring different areas of nursing practice.

**Participant highest educational level.** Out of the 26 studies reviewed, 16 articles provided education level as part of their covariate survey. Out of 16 articles, only nine discuss the association between highest education level and compassion fatigue scores. Five of these articles suggested that there was no significant difference between the participant highest level of education and the participant's compassion fatigue scores

(Hooper et al., 2010; Potter et al., 2010; Sung et al., 2012; Von Rueden et al., 2010; Yoder, 2010).

Contrasting these findings, some studies suggest that the level of education was found to be statistically significant to the variance in compassion fatigue amongst SANE and end of life nurses, ( $p < 0.05$  in all studies); these findings are consistent with this study (Burtson & Stichler, 2010; Todaro-Franceschi, 2013b; Townsend & Campbell, 2009). The findings of this current study are also congruent with the study conducted by Potter et al. (2010), where there was a trend of higher levels of compassion fatigue amongst nurses who work in cancer centers who held higher levels of education; however, this trend was not found to be statistically significant. Inconsistency in findings could be related to a multitude of differences in these studies including: practice areas, measurement instruments, and designation of the practitioner. These findings are inconclusive and further investigation is needed to assess for differences amongst results.

**Participant marital status.** All the studies reviewed that provided marital status demographic information ( $n = 5$ ) did not find marital status to be a statistically significant factor in the prediction of compassion fatigue. Despite having no statistically significant marital status data, Abendroth and Flannery (2006) found that those who were divorced had more risk of developing compassion fatigue when compared to those who were single or widowed ( $r = 0.15$ ). This finding is consistent with this study. There is some evidence to support the finding that those divorced or separated are more likely to experience compassion fatigue and all its subscales. Whether this is specific to nurses is unknown. In dealing with the personal stressors of divorce/separation it may be that individual's thresholds are lower to dealing with the emotional, physical, social, and

spiritual exhaustion that leads to a decline in caring for others. Further research is needed to confirm these findings.

**Relation to the literature summary.** Overall, this study adds to the growing knowledge surrounding compassion fatigue in the nursing population. While many studies have used the Professional Quality of Life Scale (ProQOL) to examine the *risk* of compassion fatigue in participants, this study used the STSS to describe compassion fatigue that *already* exists. Only two other studies have described compassion fatigue using the STSS in specialty care areas.

The results of this study show that (a) compassion fatigue does exist in nursing care providers and HCAs working on medical units, (b) compassion fatigue symptoms might be more apparent in non-specialized practice environments, (c) access to time to get paperwork and the job done, as well as acquiring temporary help when needed might impact the level of compassion fatigue experienced by the nursing care provider and/or HCA working on a medical unit, and (d) in some instances, level of education and marital status may be associated with the occurrence of compassion fatigue. In general, these findings are inconsistent with what would be expected based on the established literature on compassion fatigue. This study adds another dimension to this body of literature and highlights the need for more research to fully understand this complex phenomenon.

### **Limitations**

The results of this study are limited by the small sample size ( $N = 117$ ). This size of sample has the potential to provide a less precise estimate of the presence of compassion fatigue within the participants. Timing may have contributed to the decreased sample size and relatively low response rate (19.4%). This brings into

question the generalizability of these findings due to challenges of contacting participants as well as contacting casual employees. The response rate of full time and part time employees was significantly higher (32.5%).

This study was performed in the middle of the summer, a prime vacation time, over one month's time, which may have limited the amount of respondents. The sole use of email reminders also limits this study because those who do not read or access their employee email might have responded differently to a traditional mail out method. Also, the choice to limit unit participation to units with 75 or greater employees eliminated several smaller units that were willing to participate, which may have decreased overall sample size.

Besides limiting the overall sample pool, the use of unit selection criteria could have led to selection bias. By limiting participation to larger units the sample may have biased to those units with more employees that may have access to more resources. This would directly impact the idea of perceived empowerment structures in the workplace. Considering the low response rate, there was also potential for self-selection bias. This could have led to over-representation of the compassion fatigue findings given that those who were experiencing compassion fatigue may have chosen to complete the survey as a way to express their frustrations. This may have led to higher compassion fatigue occurrence portrayed in the nursing care provider and HCA working on an acute care medical unit.

Finally, while cross-sectional designs are appropriate for describing phenomena or relationships among phenomena at a specific point in time, this research design does not lend itself to confirming causality (Polit & Beck, 2012). That is, while there may be a

relationship seen (e.g., those who are divorced or separated have higher incidence of compassion fatigue), this does not imply that one variable (e.g., marital status) caused a particular outcome (i.e., compassion fatigue).

### **Practical Implications**

The results of this study contribute new information to the growing body of knowledge surrounding factors contributing to compassion fatigue in the nursing population. “The essence of compassion is core to nursing” and this study highlights that compassion fatigue is a concern for nursing care providers on acute care medical units, not just those in specialty areas (Neville & Cole, 2013, p. 353). Compassion fatigue has been known to cause a variety of distressing symptoms in the care provider including feelings of hopelessness, increased somatic complaints, sleeplessness and poor patient outcomes. With such a high percentage of nursing care providers and HCAs working on a medical unit experiencing compassion fatigue (56.6%) it is imperative that we find ways to mitigate this detrimental phenomenon from occurring. This study suggests that one area of mitigation may be access to resources (i.e., time to do the job and paperwork and acquiring temporary help when needed).

According to Rao (2012), “If organizations institute empowering work practices...there is the potential for improved nurse and patient outcomes” (p. 400). The proposition of overall compassion fatigue reduction has many implications for health care organizations including: greater patient, family, and nursing satisfaction, positive patient outcomes, increased nursing presence related to heightened work/life satisfaction, and decreased health care costs through nurse care provider retention, turnover reduction, diminished sick time, and reduced overtime use.

This study was supported by Kanter's theory of structural empowerment and adds new knowledge to the compassion fatigue domain in relation to nursing care providers and HCAs working on general medical units. The findings of the current study suggest that accessibility of resources put in place by an organization has the potential to reduce the occurrence of compassion fatigue on the medicine unit, although, more research is needed to further support this possibility.

Most research on compassion fatigue is about the individual. This study has revealed that context, in addition to individual characteristics, influence this phenomenon. Changing the context in which care is provided may be a way to mitigate compassion fatigue from occurring. The impact of compassion fatigue on the nursing care provider, as well as overall patient care outcomes, is significant, making this a vital topic for nursing research both locally and globally.

### **Future Research Directions**

Further research is needed to solidify the existence of compassion fatigue in the nursing care provider and HCA working in general medical areas of practice. More research is also required to determine if resource accessibility is the only empowerment structure needed to reduce compassion fatigue in the nursing care provider and HCA working on medical units. Throughout the literature, it has been consistently found that 50 percent or more of the nursing care provider population has moderate to severe compassion fatigue. There is potential to mitigate this phenomenon amongst nursing care providers and HCAs with more awareness, education, and understanding of how environment relates to the incidence of compassion fatigue. Also, providing an

empowered environment with increased accessibility to resources may be the key to decreasing compassion fatigue in this population.

According to this analysis, the explained variance of the models was limited, indicating that further research is needed to explore additional predicting variables in the explanation of compassion fatigue. While it was found that resource accessibility was an important factor in the incidence of compassion fatigue, more research is needed to discover if other empowerment structures also have an impact. One option to perform this research could include increasing sample size to provide greater generalizability to the acute care medical units.

### **Conclusion**

This thesis was undertaken to address two questions not yet presented in the published literature: (a) Does compassion fatigue exist in nurses and HCAs who work in medical nursing contexts? and (b) To what extent is workplace empowerment (i.e., opportunity, information, resources, and support) associated with compassion fatigue in nursing care providers (i.e., RNs and LPNs) and HCAs working on acute medical units. This thesis also explored whether or not covariates of the participants contributed to the presence of compassion fatigue.

First, previous research has indicated the presence of compassion fatigue in many specialty care areas but none have explored the existence of compassion fatigue in the medical nursing context. Through quantitative analysis outlined in this thesis, it was found that compassion fatigue does exist in medical nursing contexts. This research revealed that more than half (55% of the sample) of nursing care providers working on

acute medical units were experiencing moderate to severe compassion fatigue at the time of this study.

Second, this thesis explored the potential for the association between compassion fatigue and empowerment structures in nursing care providers and HCAs working on acute medical units. Only one empowerment structure was found to have a statistically significant association with compassion fatigue. It was found that for every one-unit increase in perceived access to resources, the individual was two times more likely to be in a lower category of compassion fatigue, with all the other variables in the model held constant. Additionally, covariates were also explored for their contribution to the development of compassion fatigue amongst these nursing care providers. This study found that higher levels of education and participant marital status contributed at a statistically significant level ( $p < 0.05$ ) to the presence of compassion fatigue in the sample population.

This research highlights three things: (a) that compassion fatigue exists in the nursing care provider and HCA working on a medical unit, (b) that one area to mitigate compassion fatigue onset may be access to resources (i.e., time to do the job and paperwork and acquiring temporary help when needed), and (c) individual characteristics such as nurses that are divorced may be more likely to experience compassion fatigue as are those with a degree in nursing. Future research is needed to further develop these findings.

This thesis emphasizes the need for healthcare to move to a more empowered environment for nursing care providers in the reduction of compassion fatigue incidence; in particular, potentially providing nursing care providers with time to do their job and

paperwork as well as getting temporary help when needed. The introduction of a more empowered environment could lead to decreased incidence of compassion fatigue, ultimately resulting in an increase in positive patient outcomes (Laschinger et al., 2001; Laschinger et al., 2001; Rao, 2012).

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APPENDIX A: Table A - Literature Review

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Austin, Goble, Leier, & Byrne, 2009	5 Nurses from unspecified areas	Canada	To have nurses who self-identified as having CF describe a change in their practice as a result of this phenomenon	Study CF as a psychological, environmental and cultural phenomenon	Descriptive Qualitative	Seven themes found in the data: (1) running on empty, (2) shielding myself, (3) being impotent as a nurse, (4) losing balance, (5) it overwhelms everything, (6) the kind of nurse I was, and (7) trying to survive.
Abendroth & Flannery, 2006	216 hospice nurses	United States	To study the prevalence and the relationships between nurse characteristics and CF risk	None identified.	ProQOL CSR-RII	78% of the sample was found to be at moderate to high risk for CF. Approximately 26% were at high risk. Variables of trauma, anxiety, life demands, and excessive empathy accounted for 91% (p < .001) of the variance of CF risk.

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Aycock & Boyle, 2009	103 Oncology nurses	United States	To identify resources available to oncology nurses who encounter CF.	None identified.	Long answer questionnaire	Increased accessibility to personal supports would best decrease CF risks
Beck & Gable, 2012	464 labor and delivery (L&D) nurses	United States	To examine the prevalence and severity of STS in L&D nurses; explore nurses' descriptions of experiences attending traumatic births	None identified. Provided definitions and concepts of STS, burnout and vicarious traumatization.	Mixed methods: (1) Secondary Traumatic Stress Scale and (2) qualitative descriptions of their experiences being present at traumatic births	35% of L&D nurse reported moderate to severe levels of STS. 6 qualitative themes: (1) magnifying the exposure to traumatic births, (2) struggling to maintain a professional role while with traumatized patients, (3) agonizing over what should have been, (4) mitigating the aftermath of exposure to traumatic births, (5) haunted by STS symptoms, and (6) considering foregoing careers in L&D to survive.

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Beck, 2013	464 labor and delivery (L&D) nurses compared and contrasted with 23 mothers of children with obstetric brachial plexus injuries	United States	To compare the experiences of shoulder dystocia from the perspective of the mother and the labor and delivery nurses.	None identified.	Secondary Analysis of previous data from Beck & Gable, 2012	Perspectives of the mother and their labor and delivery nurses were similar, including themes of: (1) in the midst of the obstetric nightmare; (2) reeling from the trauma that just transpired; (3) enduring heartbreak: the heavy toll on mothers; and (4) haunted by memories: the heavy toll on nurses.

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Burtson & Stichler, 2010	126 nurses in various hospital settings, 91 of the nurses came from medical/surgical units	United States	To study the relationships among compassion satisfaction, nurse job satisfaction, stress, burnout and CF to nurse caring	Used a synthesis of Maslow's theory of hierarchy of needs and Watson's theory of caring	The Mueller McCloskey Satisfaction Scale, the ProQOL, the Stress in General Scale, and the Caring Behaviours Inventory	Statistically significant relationships found between nurse caring and compassion satisfaction ( $r = 0.51$ , $P < 0.001$ ), nurse job satisfaction subscale ( $r = 0.16 - 0.28$ , $P < 0.05$ ), stress ( $r = -0.21$ , $P < 0.05$ ), and burnout ( $r = -0.22$ , $P < 0.01$ ). Statistically significant findings found between nurse knowledge and skill and CF ( $r = -0.22$ , $P < 0.01$ ).
Dominguez-Gomez & Rutledge, 2009	67 Emergency (ER) nurses	United States	To investigate the prevalence of STS in ER nurses	None identified.	Secondary Traumatic Stress Scale	Participation in stress management activities was associated with a decrease in STS

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Hooper, Craig, Janvrin, Wetsel, & Reimels, 2010	109 nurses from selected specialties: 49 emergency nurses, 32 intensive care nurses, 16 nephrology nurses, and 12 oncology nurses	United States	To investigate if Emergency nurses have a greater risk for CF than other specialty areas	None identified. The authors do describe definitions of key concepts.	ProQOL R-IV	Emergency nurses are not at a greater risk for CF and burnout when compared to intensive care, nephrology and oncology specialties. 86% of emergency nurses were within moderate to high risk for CF.
Kenny & Hull, 2007	18 intensive care nurses in U.S. military medical treatment facilities	United States	To examine the stressors of nurses working in the ICU of 2 U.S. military medical treatment facilities	None identified.	Long answer questionnaire developed by the authors	Increased stress increases CF in these nurses
Komachi, Kamibeppu, Nishi, & Matsuoka, 2012	176 nurses from unspecified setting	Japan	To evaluate the prevalence and factors associated with STS among general hospital nurses in Japan	None identified.	Eysenck Personality Questionnaire-Revised, the Accepting Responsibility subscale of the Stress Coping Inventory, and the Japanese version of the Impact of Event Scale	Highest risk for STS/CF related to staff caring for childbearing women. More than 90% of participants experienced secondary trauma.

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Maytum, Heiman, & Garwick, 2004	20 pediatric nurses working with children with chronic illness	United States	To identify the triggers and coping strategies that nurses who work with children with chronic conditions use to manage CF and prevent burnout	None identified.	Interview guide of 11 open-ended questions	CF commonly experienced by nurses in this field
McGibbon, Peter, & Gallop, 2010	23 pediatric intensive care nurses	Canada	To reformulate the nature of stress in nursing with attention to important contextual aspects of nurses' practice	Smith's sociological frame of institutional ethnography	In depth interviews, participant observation and focus groups	Six main themes: (1) emotional distress, (2) constancy of presence, (3) burden of responsibility, (4) negotiating hierarchical power, (5) engaging in bodily caring, (6) being mothers, daughters, aunts and sisters.

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Melvin, 2012	6 hospice palliative home care nurses	United States	To explore the prevalence of CF, the nature of its effects and any coping strategies used by the palliative care nurse	None identified.	Descriptive Qualitative research consisting of semi-structured interviews	Without adequate coping mechanisms in place, palliative care nurses were at risk of developing CF.
Michalec, Diefenbeck, & Mahoney, 2013	436 Bachelor of Science in Nursing students from all four years of schooling	United States	To investigate the effects of burnout and CF amongst student nurses.	None identified.	Maslach Burnout Inventory (MBI), the ProQOL - V and semi-structured interviews with only third and fourth year students.	Nursing students of all cohorts report low/moderate levels of burnout/CF with no significant differences between the cohorts.

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Neville & Cole, 2013	214 RNs staff nurses, clinical nurse leaders, and advanced nurse practitioners	United States	To examine relationships among health promotion behaviours, burnout, and CF.	Stamm's professional quality of life framework and Pender's health promotion model.	Non-experimental, descriptive, correlational design.  Used the ProQOL-R-V and the Psychometric evaluation of the health promoting lifestyle II (HPLP-II)	Health promotion behaviours were found to be positively associated with compassion satisfaction and inversely related to both burnout and CF. The relationship between health promotion behaviours and burnout was stronger than that of CF.
Perry, 2008	7 oncology nurses	Canada	To explore the lived experiences of exemplary oncology nurses and how they facilitate the avoidance of CF	None identified.	Descriptive phenomenological consisting of semi structured conversations	Three main themes: (1) moments of connection, (2) making moments matter, and (3) energizing moments.

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Potter, Deshields, Berger, Clarke, Olsen, & Chen, 2013	13 oncology nurses	United States	To evaluate a resiliency program designed to educate about CF.	None identified.	Pre-posttest longitudinal study using ProQOL - IV, MBI, IES-R, and the Nursing Job Satisfaction Scale	Show benefits gained from a CF intervention program.
Sawatzky & Enns, 2012	261 registered nurses in emergency departments	Canada	Explore the factors that predict retention of nurses working in emergency departments	The Conceptual Framework for Predicting Nurse Retention (CFPNR)	The Perceived Nurse Working Environment scale, Job Satisfaction single item question, the Engagement Composite Questionnaire, and the ProQOL R-IV	Engagement is a predictor for job satisfaction ( $P < 0.0001$ ), compassion satisfaction/fatigue ( $P < 0.0001/P = 0.003$ ) and burnout ( $P < 0.0001$ ).
Sung, Seo, & Kim, 2012	142 nurses	Korea	To identify relationships between CF, burnout, and turnover intention in Korean hospital nurses.	None identified.	Compassion Satisfaction/Fatigue self-test for helpers, Maslach Burnout Inventory, and a modified turnover intention measurement tool	There was a positive correlation between CF and burnout ( $r=.37, p < .001$ ) and turnover intention ( $r=.55, p < .001$ ). CF accounted for 29.6% of the variance for turnover in Korean nurses.

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Todaro-Franceschi, 2013	437 critical care nurses	United States	To explore whether critical care nurses perceive they have been adequately prepared during basic nursing education to care for the dying.	None identified.	Preparedness and Ability to Care for the Dying tool (PPACD) and the ProQOL - R - IV.	There is a relationship between the nurse's perceptions of preparedness and ability to care for the dying and their ProQOL. Higher compassion satisfaction scores, lower CF scores and lower burnout scores were noted for those who perceived themselves as prepared.
Townsend & Campbell, 2009	110 sexual assault nurse examiner (SANE) nurses	United States	To explore correlates of STS and burnout among SANE nurses	None. Described correlates of STS and burnout as: (1) Individual Characteristics (2) organizational characteristics, (3) social supports, (4) characteristics	Telephone interviews	Variables associated with higher levels of STS included: organizational support, goal diffusion, and prosecution orientation. Lower levels of STS were found with increased levels of peer support

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Van Der Wath, Van Wyk, Van Rensburg, 2013	11 emergency nurses	South Africa	To provide a description and give meaning to the experience of caring for survivors of intimate partner violence.	of traumatic events  Philosophical foundations of phenomenology as founded by Husserl.	Descriptive phenomenological consisting of unstructured conversations.	Nurses who work with those who survive intimate partner violence have symptoms of STS and seem to accurately capture the emotional impact and disruptive and recurrent memories experienced by these nurses.

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Van Sant & Patterson, 2013	12 psychiatric nurses	United States	To examine if interpersonal connection in the mental health setting can threaten nurses' health.	Participant observation.	Descriptive qualitative research consisting of semi-structured interviews, unstructured interactions, and participant observation	Findings highlighted connectedness as a personal decision. Authors evolved a model that may help nurses ease emotional labour, combat CF, enhance performance, and preserve the nurse's self.
Von Rueden, Hinderer, McQuillan, Murray, Logan, et al., 2010	262 nurses in a level 1 trauma center	United States	To determine the incidence of STS in nurses who primarily care for trauma patients	Secondary Traumatic Stress Reactions model that looks at: exposure to trauma, coping strategies, and personal and environmental characteristics as factors related to STS development	Demographic/behavioural survey, the Penn Inventory	STS was present in 7% of the staff.
Wenzel, Shaha, Klimmek, & Krumm, 2011	34 nurses from inpatient and outpatient adult and pediatric oncology units	United States	To determine facilitators and barriers to managing patient loss	None identified.	Descriptive qualitative	2 primary themes: (1) dimensions of work-related loss and (2) working through bereavement

Author/year	Sample	Country	Purpose of study	Conceptual Framework	Instruments	Results
Young, J. L., Derr, D. M., Cicchillo, V. J., & Bressler, S., 2011(Young et al., 2011)	45 nurses in heart and vascular intensive care units (HVICU) 25 nurses in heart and vascular intermediate care (HVIMC)	United States	To determine the prevalence of compassion satisfaction (CS), burnout (BO) and STS in heart and vascular nurses and to explore the differences between HVICU and HVIMU nurses	None identified.	ProQOL – V	<p>Statistically significant differences in BO and CS between HVICU and HVIMC nurses.</p> <p>Those in HVIMC had increased CS (Spearman = .43, p = 0) and decreased levels of BO (Spearman = .43, p = 0).</p> <p>When compared to HVICU nurses, STS levels between groups was not statistically significant (Spearman = -.20, p = .10)</p>

## APPENDIX B – Managerial Recruitment Script

Danielle Chatterton  
[Researcher Address Here]

Date: [Insert Date Here]

Manager name  
Hospital Address

Dear [Insert Manager Name Here]:

Hello. My name is Danielle Chatterton, [health authority] Clinical Nurse Educator, and I am conducting a study as part of the thesis portion of my Master's Degree at the Trinity Western University School of Nursing. The purpose of the study is to examine nurses' experience of distressing events in providing care to patient and how they respond to these situations at work in the acute medical setting. I would like [Insert Unit Here], to be a part of my study. The Health Authority Review Ethics Board and the Review Ethics Board at Trinity Western University have approved this study.

The findings from this research will help us identify how empowerment structures may improve the workplace and offset the effects of stress experienced by nursing care providers. This knowledge will help us to address the challenges of distress in nurses with the ultimate goal to improve patient outcomes and staff retention rates.

I am requesting permission to recruit nurses the unit you manage to participate in this study because this is an acute medical floor within the Health Authority. This research will involve asking RNs, LPNs, and HCAs to fill out a 20 – 30 minute questionnaire that will be available in both online and paper formats. They will receive invitations to participate via email and through direct in-person contact with myself.

To facilitate this, I am requesting that you assist me by having you send out the participant invitation letter one week before the study starts as well as my premade emails and survey at three intervals throughout the study – at the onset, midway through, and a final thank you. This is to ensure the anonymity of the staff that are participating. I would also like to visit the unit at least once per week to speak with the staff and to answer questions and distribute paper copies of the survey questionnaire. I would like to emphasize that I will not take away from patient care in any way and will respect that I am approaching participants during their working hours.

Participants complete the survey online or in paper form at a time of their choosing. They will have the option to return the paper-based survey through internal mail or they may hand it to me when I am physically on the unit.

Please contact me by email [researcher email] or phone to [researcher phone number] to briefly discuss the study indicate whether you provide approval [Insert Unit Here] to be part of the study.

Thank you for your time and consideration.

Sincerely,

Danielle Chatterton, RN, BScN  
[Health Authority] Clinical Nurse Educator

## APPENDIX C: Participant Invitation

Date: [Insert Date Here]

Dear Nursing Colleague:

You may be interested in participating in a research study that I am conducting as part of my Master of Science in Nursing at Trinity Western University.

The purpose of the study is to examine nurses' experience of distressing events in providing care to patients and how they respond to these stressful situations at work in the acute medical setting. The findings from this research will help us identify how empowerment structures may improve the workplace and offset the effects of stress experienced by nursing care providers. This knowledge will help us to address the challenges of distress in nurses with the ultimate goal to improve patient outcomes and staff retention rates.

This survey is important to your work setting. The survey will help me understand if there are supports for nurses that experience the day-to-day stressors of providing care to patients in medical settings. There is potential for this survey to change how your workplace provides support to you and enhance your daily work life, which, in turn, may positively impact your life outside of work!

You are being asked to participate in this study because you are a direct nursing care provider in an acute care medicine setting. If you agree to voluntarily participate in this research your participation will include a survey, either online or on paper. This survey will take approximately 20 – 30 minutes to complete and can be completed at your convenience. I would like to emphasize that your participation is voluntary and that any information you provide will remain anonymous. There is no way of tracking whether you have participated in the survey and refusal to participate will not in any way influence your employment with Fraser Health Authority.

The final deadline for the survey is [Insert Date Here].

In the week of [Insert Date Here] your manager will be emailing you a survey package with a consent form and a link to a secure electronic version of the survey questionnaire. Your manager will also be sending a reminder at two and four weeks following this date. Please ignore these emails if you do not wish to participate in this project. I will also be coming to your unit to answer any questions you may have about this project and to hand out a paper version of the survey questionnaire to those who prefer to complete the questionnaire in paper format.

Please feel free to contact me if you have any questions: [researcher email here] or you can call me at [researcher contact number].

Thank you for your time and consideration.

Sincerely,

Danielle Chatterton RN, BScN

[Health Authority] General Clinical Nurse Educator

Master of Science in Nursing Student, School of Nursing, Trinity Western University

## APPENDIX D: Follow-up Invitation

Dear Nursing Colleague:

Hi, my name is Danielle Chatterton, and I am currently doing my Master's Degree at Trinity Western University. I am very interested in the distress that nurses experience in their day-to-day work of providing care to patients. I am doing a survey on your unit about this topic. You may be interested in participating.

The findings from this research will help us identify how empowerment structures may improve the workplace and offset the effects of stress experienced by nursing care providers (i.e., RN, LPN, HCA). This knowledge will help us to address the challenges of distress in nurses with the ultimate goal to improve patient outcomes and staff retention rates.

This survey will take approximately 20 minutes or less to complete. You can fill out this survey online or you can fill it out in paper format. The paper survey can be sent to me through internal mail at [health authority]. You will find my contact information below, so that the survey gets to me. I hope to visit your unit at least once per week while this study is going on from the dates of [Insert Date Here] to [Insert Date Here]. If you complete the survey and do not want to send it through internal mail, I would be happy to have you hand it to me as well when I come to visit.

The final deadline for the survey is [Insert Date Here].

Attached you will find my survey for this research project along with a consent form and draw entry form. Please read these documents before completing the survey. This survey can be completed online here [\[Insert Link Here\]](#) or you can print off the survey and fill it out by hand.

If you have any questions, feel free to contact me via email or telephone.

Thank you for your consideration.

Sincerely,

Danielle Chatterton  
Email: [insert here]  
Phone: [insert here]

## APPENDIX E: Consent Form

**Participant Information and Consent Form****Workplace Empowerment and Compassion Fatigue among Acute Care Medical Nurses****Investigator:**

Danielle Chatterton, RN, BScN,

**Supervisors:**

Angela Wolff, PhD, RN, Director of Clinical Education, Professional Practice and Integration, Fraser Health Authority

Rick Sawatzky, PhD, RN, Associate Professor, Trinity Western University

**Purpose:**

The purpose of the study is to examine nurses' experience of distressing events in providing care to patients and how they respond to these stressful situations at work in the acute medical setting. The findings from this research will help us identify how empowerment structures may improve the workplace and offset the effects of stress experienced by nursing care providers. This knowledge will help us to address the challenges of distress in nurses with the ultimate goal to improve patient outcomes and staff retention rates.

**What Does This Study Involve?**

You are being asked to complete the attached survey at home or at work at a time and location that is convenient for you. It may take approximately 20 to 30 minutes to complete this survey. The survey will ask you about your current work experience including how work makes you feel, as well as what kind structures are in place that allows you to perform your job effectively. You may leave any question that you do not wish to answer blank. This study includes anyone who provides direct patient care in a medical setting who has the designation of Registered Nurse (RN), Licensed Practical Nurse (LPN) or Health Care Assistant (HCA). Anyone who works full time, part time, or casual can participate in this study.

This survey can be completed in paper or electronic format. Paper copies will be provided in your mail slots or through personal contact with the researcher. You can also print off a paper copy of this survey by clicking on the survey PDF attached to this email. Electronic questionnaires will be administered using Fluid Survey, a Canadian-based secure online survey provider.

**Privacy and Confidentiality:**

Your confidentiality will be respected. Any information resulting from this research study will be kept strictly confidential and will be protected in several ways.

1. The survey is administered anonymously and your responses cannot be linked to your name.
2. No names or other identifying information will be used in any research reports or publications resulting from this research.
3. Neither your employer nor your coworkers will know if you choose to complete this survey. No individual in your workplace will see your responses to the survey questions. Your completed survey will be mailed through internal mail directly to my office in the preaddressed envelope provided.
4. Because the surveys are collected anonymously, it will not be possible to withdraw your survey from this research once you have completed this survey and submitted it to the investigator.
5. Although I, Danielle Chatterton, am an employee at [health authority], I do not have access to the Human Resource database that contains information about the nursing care providing staff included in this study. A Human Resources representative will be providing me with how many RNs, LPNs, and HCAs are working on your unit, with no names associated, thereby protecting the privacy of [health authority] employees.
6. The completed questionnaires will be stored in a locked cabinet. The data from the surveys will be stored in password protected computer files.

Information obtained in this study may be used for subsequent research involving secondary data analysis. Prior approval from the [health authority] and Trinity Western University Research Ethics Board will be sought for any secondary analyses.

**Benefits:**

There may or may not be direct benefits to you from taking part in this study (e.g., you may learn something about yourself and your workplace and work towards changing your environment or looking at your own work practices and how they impact your wellbeing). Your self-awareness of compassion fatigue may help you to better address the challenges of compassion fatigue. I am offering a few optional prizes as a token of appreciation for you taking the time to participate in my study: one of four \$15 Starbucks cards.

**Risks:**

I do not anticipate any risk to the study participants; however, there may be some emotional discomfort in answering some of the questions. Select questions will ask about your personal feelings about what happens in your workplace and this could possibly cause some emotional discomfort if you feel strongly about what has happened in your workplace. Participation in this study may cause some inconvenience to you, including time it takes to complete the survey.

**What Will the Study Cost Me?**

You will not be paid for participating in this study. However, all participants will be eligible to win one of four \$15 Starbucks cards as a token of appreciation of their time. To be eligible for a Starbucks gift card, please fill out the draw entry form attached and place in the small envelop and submit this envelop with your paper survey. Electronic draw forms will be linked to the electronic survey and can be filled out after survey completion.

**Consent:**

Your participation in this research project must be completely voluntary. You have the right to refuse to participate. This refusal will not influence your employment at [Health Authority]. By completing and submitting the survey questionnaire (online or in paper form) you are indicating that you consent to participate in this study and that your responses may be put in anonymous form and kept for further use after the completion of this study.

**Contact Information about the Study:**

If you have any questions, concerns, or desire further information with respect to this study, you may contact Danielle Chatterton at [researcher email address] or [researcher phone number].

If you are interested in receiving a collective summary of the results of this study of participating in future research projects, please let me know on your draw entry form.

**Contact for Concerns about the Rights of Research Subjects:**

If you have any concerns about your treatment or rights as a research participant, you may contact: (1) Ms. Sue Funk in the Office of Research, Trinity Western University at 604-513-2142 or [sue.funk@twu.ca](mailto:sue.funk@twu.ca) or (2) you may also contact Dr. Anton Grunfeld and/or Dr. Allen Belzberg, Research Ethics Board [REB] co-Chairs by calling 604-587-4681. You may also discuss these rights with the co-chairman of the [Health Authority] REB.

## APPENDIX F: Compassion Fatigue and Empowerment Questionnaire

## Compassion Fatigue and Empowerment in the Workplace

This thesis survey contributes to the understanding of the acute care medical setting and how providing nursing care in this area is unique and different when compared to other specialty areas. Understanding the medical workplace environment will result in increased awareness to this area and the nursing care provider's (RN, LPN, HCA) vast role in patient care and the effects of this care on the caregiver.

**The purpose of the study is to examine nurses' experience of distressing events in providing care to patients and how they respond to these stressful situations at work in the acute medical setting.** I believe that nursing care providers on medical units have a unique environment that deserves attention.

The findings from this research will help us identify how empowerment structures may improve the workplace and offset the effects of stress experienced by nursing care providers. This knowledge will help us to address the challenges of distress in nurses with the ultimate goal to improve patient outcomes and staff retention rates.

Now comes your part. **I need to understand your perspective to fully understand how your workplace impacts your ability to provide patient care.** The survey will take approximately 20 minutes to complete.

Please take the time to familiarize yourself with the following terms that are used frequently in the survey:

**Opportunity:** The possibility for growth and movement in the organization as well as the opportunity to increase your knowledge and skills.

**Information:** Having the formal and informal knowledge that is necessary to do your job well.

**Support:** Receiving feedback and guidance from subordinates, peers, and superiors.

**Resources:** Your ability to acquire the financial means, materials, time, and supplies required to do your work.

**Please read the enclosed consent form and keep a copy for your records. Note that as this is a survey, when you submit your response (whether online or on paper) this action implies consent.**

**Section A**

**The following is a list of statements made by persons who have been impacted by their work with patients. Read each statement, and then indicate how frequently the statement was true for you in the past seven (7) days by filling in the corresponding circle next to the statement.**

	Never	Rarely	Occasion-ally	Often	Very Often
1. I felt emotionally numb.	<input type="radio"/>				
2. My heart started pounding when I thought about my work with patients.	<input type="radio"/>				
3. It seemed as if I was reliving the trauma(s) experienced by my patient(s).	<input type="radio"/>				
4. I had trouble sleeping.	<input type="radio"/>				
5. I felt discouraged about the future.	<input type="radio"/>				
6. Reminders of my work with patients upsets me.	<input type="radio"/>				
7. I had little interest in being around others.	<input type="radio"/>				
8. I felt jumpy.	<input type="radio"/>				
9. I was less active than usual.	<input type="radio"/>				
10. I thought about my work with patients when I didn't intend to.	<input type="radio"/>				
11. I had trouble concentrating.	<input type="radio"/>				
12. I avoided people, places, or things that reminded me of my work with patients.	<input type="radio"/>				
13. I had disturbing dreams about my work with patients.	<input type="radio"/>				
14. I wanted to avoid working with some patients.	<input type="radio"/>				
15. I was easily annoyed.	<input type="radio"/>				
16. I expected something bad to happen.	<input type="radio"/>				

17. I noticed gaps in my memory about patient sessions.	<input type="radio"/>				
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**Section B**

The following is a list of questions to give me more information about your access to opportunity, information, support, and resources in your workplace. Please rate the degree to which you have access.

1. How much of each kind of opportunity do you have in your present job?					
	None		Some		A Lot
☛ Challenging work.	<input type="radio"/>				
☛ The chance to gain new skills and knowledge.	<input type="radio"/>				
☛ Tasks that use all of your own skills and knowledge.	<input type="radio"/>				

2. How much access to information do you have in your present job?					
	None		Some		A Lot
☛ The current state of the hospital.	<input type="radio"/>				
☛ The values of top management.	<input type="radio"/>				
☛ The goals of top management.	<input type="radio"/>				

3. How much access to support do you have in your present job?					
	None		Some		A Lot
☛ Specific information about things you do well.	<input type="radio"/>				
☛ Specific comments about things you could improve.	<input type="radio"/>				
☛ Helpful hints or problem solving advice.	<input type="radio"/>				

4. How much access to resources do you have in your present job?					
	None		Some		A Lot
☛ Time available to do necessary paperwork.	<input type="radio"/>				

• Time available to accomplish job requirements.	<input type="radio"/>				
• Acquiring temporary help when needed.	<input type="radio"/>				

**Section C**

Finally, I would like to know a bit more about you. Please complete the following questions about yourself and your work setting.

**1. What is your year of birth?**

<input type="text"/>
----------------------

**2. What is your gender?**

Male  
 Female  
 Other

**3. What is your marital status?**

Married  
 Living Common Law  
 Widowed  
 Separated  
 Divorced  
 Single/Never married  
 Other, please specify:

<input type="text"/>
----------------------

**4. What is your highest educational qualification in health care?**

Certificate  
 Licensed/Registered Practical Nurse Diploma  
 Registered Psychiatric Nurse Diploma  
 Registered Nurse Diploma  
 Bachelor in Nursing  
 Bachelor in Psychiatric/Mental Health Nursing  
 Nursing Assistant (Quebec)  
 Master's in Nursing  
 PhD in Nursing  
 Other, please specify:

--

<p><b>5. What is your designation as a nursing care provider?</b></p> <p><input type="radio"/> Registered Nurse</p> <p><input type="radio"/> Licensed Practical Nurse</p> <p><input type="radio"/> Health Care Attendant</p> <p><input type="radio"/> Other, please specify:</p> <div style="border: 1px solid black; width: 400px; height: 40px; margin-left: 20px;"></div>
--

<p><b>6. What is your current employment status on the medical unit where you received this survey?</b></p> <p><input type="radio"/> Full-time (30 or more hours per week)</p> <p><input type="radio"/> Part-time (less than 30 hours per week)</p> <p><input type="radio"/> Casual/ on call</p>
--

<p><b>7. How many years experience do you have in your current designation as a nursing care provider?</b></p>
<div style="border: 1px solid black; width: 200px; height: 40px; display: inline-block;"></div> <p style="margin-left: 10px;"><b>Years</b></p>

<p><b>8. Have you ever been diagnosed with Post Traumatic Stress Disorder?</b></p> <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p><input type="radio"/> Maybe</p>
--

**Section D: FINAL THANK YOU**

Thank you very much for taking the time to participate in my survey.

**If you have any questions feel free to contact me in the following ways:**

1. By phone: [Researcher phone number here]
2. By email: [Insert Here]

Draw Entry Form:

If you would like to participate in a draw for one of four \$15 Starbucks gift cards, please fill out the attached Draw Entry Form and place it in the smaller, labeled, envelope. Place this small envelope in the larger envelope, along with your completed survey.

**Returning your Survey:**

Place your completed survey into the pre-labeled envelope provided in your survey package and place in internal mail at your hospital site to the following address:

Danielle Chatterton  
[Office Address here]

APPENDIX G: Employee Approach Script

Hi,

My name is Danielle Chatterton and I am a Masters of Science in Nursing student at Trinity Western University.

I am doing a research study to examine nurses' experience of distressing events in providing care to patient and how they respond to these stressful situations at work in the acute medical setting.

Would be interested in participating in this study?

Do you have any questions?

[Survey package would be given to the potential participant]

## APPENDIX H: Email Reminders

**Reminder:**

Dear nursing colleague:

Two to three weeks ago you received an invitation to participate in a survey to examine nurses experience distressing events in providing care to patient and how they respond to these stressful situations at work in the acute medical setting.

Since the survey is anonymous, there have no way of tracking whether you completed the survey. If you have already completed and returned the survey, please accept my sincere thanks.

I appreciate your involvement and want you to know that this knowledge will help us to address the challenges of distress in nurses with the ultimate goal to improve patient outcomes and staff retention rates.

Please know that if you have not already completed the survey, there is still time for you to participate. I would encourage you to complete and return your survey at your earliest convenience and no later than [Insert Date Here]. This survey can be completed online here [Insert Link Here] or you can print off the survey and fill it out by hand. You can return the paper survey directly to me in person when I visit your unit on [Insert Date Here] or you can simply put your survey through internal mail to my office at the Charles Barham Pavillion

If you did not receive a survey, are unable to access the survey link, please contact me at [Researcher email address] and another copy of the survey will be provided to you. As a token of appreciation, if you fill out a draw form, your name will be entered to win one of four \$15 Starbucks gift cards.

Sincerely,  
Danielle Chatterton, RN, BScN

**Final Thank You:**

Dear Nursing Colleague:

Thank you very much for taking the time to participate in my survey about compassion fatigue and empowerment in the workplace.

The survey is now closed.

Once again, thank you for your participation.

Sincerely,  
Danielle Chatterton, RN, BScN

Appendix I: Draw Entry Form

Please provide your **full contact information** to enter the prize draw. If you win, the gift card will be mailed to you.

Please **PRINT** clearly.

Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Mailing address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

E-mail: \_\_\_\_\_

Would you like to receive a summary of the results of the study?

Yes

No

Would you like to be contacted to participate in future research projects?

Yes

No

Thank you for your valuable participation!

Danielle Chatterton, RN, BScN

Contact: [Researcher Email Address here]

APPENDIX J: Table J – Variables Selected

Variable	Variable description	Instrument	Rationale	Question(s)
Age	Nurse provider age	National Survey of the Work and Health of Nurses (NSWHN), 2005	Younger Employees are found to have increased risk of CF (Aycock & Boyle, 2008).	What is your year of birth?
Gender	Nurse gender (male/female)	NSWHN		What is your gender?
Marital Status	Nurse marital status (married, living common law, widowed, separated, divorced, single/ never married, other).	NSWHN	Being married has shown to be a positive variable in combating CF as compared with nurses who are unmarried or single (Aycock & Boyle, 2008).	What is your marital status?
Type of nurse	Type of nurse care provider (Registered nurse, licensed practical nurse, health care attendant, other)	NSWHN		What is your designation as a nursing care provider?
Highest educational qualification in nursing	Certificate, Licensed/Registered Practical Nurse Diploma, Registered Psychiatric Nurse Diploma, Registered Nurse Diploma, Bachelor in Nursing,	NSWHN		What is your highest educational qualification in health care?

Variable	Variable description	Instrument	Rationale	Question(s)
Experience Level (years)	Bachelor in Psychiatric Nursing / Mental Health Nursing, Nursing Assistant (Quebec), Masters in Nursing, PhD in Nursing Nurse Experience Level		Less experienced nurses have been found to have increased risk of CF (Aycock & Boyle, 2008).	How many years experience do you have?
Working status	Workplace status (full time, part time, casual)	NSWHN		What is your current employment status on the medical unit where you received this survey?
PTSD Diagnosis	Yes/No/maybe		The STSS has also been found to screen for PTSD in survey respondents. Should the participant have been diagnosed with PTSD their scores will be higher and may reflect a PTSD rather than CF.	Have you ever been diagnosed with Post Traumatic Stress Disorder?

APPENDIX K: Table K – Instrument Review

Instrument	Items	CF definition	What is measured	Subscales	Reliability and Validity	How to interpret the data collected
Secondary Traumatic Stress Scale	17	STS and CF are considered equivalent per Figley's (2005) definition in which CF is a friendlier term for STS. Explores STS as an associate of post traumatic stress syndrome	Assesses for frequency of symptoms associated with indirect exposure to traumatic events through clinical work with traumatic populations	1. Intrusion 2. Avoidance 3. Arousal	Total score: r = .93 Intrusion: r = .80 Avoidance: r = .87 Arousal: r = .83 <sup>1</sup> Construct validity demonstrated through convergent, discriminate, and factorial analyses.	If the score is within the 50th percentile (total score < 28) it is interpreted that the individual has little or no STS. If the score is between the 51-75th percentiles, (28-37) it is interpreted as mild STS. 76 - 90th percentile (38-43) interpreted as moderate STS. 91-95 (44-48) interpreted as high, and <96th percentile (>48) is interpreted as severe STS.

<sup>1</sup> r-values represent Cronbach Alpha internal consistency estimates

Instrument	Items	CF definition	What is measured	Subscales	Reliability and Validity	How to interpret the data collected
Compassion Fatigue Self-Test (CFST), Compassion Satisfaction and Fatigue Test (CSFT), and Compassion Fatigue Scale (CFS)	66	Created by Figley with the definition that STS is equivalent to CF	Assesses for risk of compassion fatigue	1. Compassion satisfaction 2. Burnout 3. Compassion fatigue	Total score: r = .84 - .94 Compassion Satisfaction r = .87 Burnout r = .90 Compassion Fatigue r = .87	On the CF subscale, where the total score was <26, indicates very low risk, scores of 27-30 indicate low risk, scores of 31-35 indicate moderate risk, scores of 36-40 indicate high risk, and scores >40 indicate extremely high risk
Compassion Fatigue Short Scale (CF-Short Scale)	13	Another version of the CFST	Identifies the risk for compassion fatigue and burnout	1. Burnout 2. Compassion fatigue	Total score: r = .90 Burnout: r = .90 Compassion Fatigue: r = .80	
Professional Quality of Life Scale (ProQOL)	30	Was a revision of the CFST done by Figley and Stamm	Assesses for risk of compassion fatigue, burnout, and compassion satisfaction	1. Compassion satisfaction 2. Burnout 3. Compassion fatigue	1. Compassion satisfaction r = .87 2. Burnout r = .72 3. Compassion fatigue r = .80 There are no studies that have published internal validity of this scale.	The CF subscale considers scores > 17 indicative that there may be cause for concern of problems in the STS domain.

APPENDIX L: Table L - Secondary Traumatic Stress Scale

The following is a list of statements made by persons who have been impacted by their work with traumatized patients. Read each statement then indicate how frequently the statement was true for you in the past **seven (7) days** by circling the corresponding number next to the statement.

	Never	Rarely	Occasionally	Often	Very Often
1. I felt emotionally numb.	1	2	3	4	5
2. My heart started pounding when I thought about my work with patients.	1	2	3	4	5
3. It seemed as if I was reliving the trauma(s) experienced by y patient(s).	1	2	3	4	5
4. I had trouble sleeping	1	2	3	4	5
5. I felt discouraged about the future.	1	2	3	4	5
6. Reminders of my work with patients upsets me.	1	2	3	4	5
7. I had little interest in being around others.	1	2	3	4	5
8. I felt jumpy.	1	2	3	4	5
9. I was less active than usual.	1	2	3	4	5
10. I thought about my work with patients when I didn't intend to.	1	2	3	4	5
11. I had trouble concentrating.	1	2	3	4	5
12. I avoided people, places, or things that reminded me of my work with patients.	1	2	3	4	5
13. I had disturbing dreams about my work with patients.	1	2	3	4	5
14. I wanted to avoid working with some patients.	1	2	3	4	5
15. I was easily annoyed.	1	2	3	4	5
16. I expected something bad to happen.	1	2	3	4	5
17. I noticed gaps in my memory about patient sessions.	1	2	3	4	5

NOTE: Reprinted with permission from Bride et al. (2004). Development and validation of the STSS. *Research of Social Work Practice*, 27, p. 33.

APPENDIX M: Table M - Conditions for Work Effectiveness Questionnaire – II

<b>How much of each kind of opportunity do you have in your present job?</b>					
1 = None	2	3 = Some	4	5 = A Lot	
1. Challenging work				1	2 3 4 5
2. The chance to gain new skills and knowledge on the job				1	2 3 4 5
3. Tasks that use all of your own skills and knowledge				1	2 3 4 5
<b>How much access to information do you have in your present job?</b>					
1 = No Knowledge	2	3 = Some	4	5 = Know A Lot	
1. The current state of the hospital				1	2 3 4 5
2. The values of top management				1	2 3 4 5
3. The goals of top management				1	2 3 4 5
<b>How much access to support do you have in your present job?</b>					
1 = None	2	3 = Some	4	5 = A Lot	
1. Specific information about things you do well				1	2 3 4 5
2. Specific comments about things you could improve				1	2 3 4 5
3. Helpful hints or problem solving advice				1	2 3 4 5
<b>How much access to resources do you have in your present job?</b>					
1 = None	2	3 = Some	4	5 = A Lot	
1. Time available to do necessary paperwork				1	2 3 4 5
2. Time available to accomplish job requirements				1	2 3 4 5
3. Acquiring temporary help when needed				1	2 3 4 5

NOTE: Reprinted with permission from Laschinger, H. K. S. (2012a). *Conditions for work effectiveness questionnaire I and II*. Ontario: Western University, p. 10.

APPENDIX N: Figure 5 - Scatterplots of CWEQ II Subscales

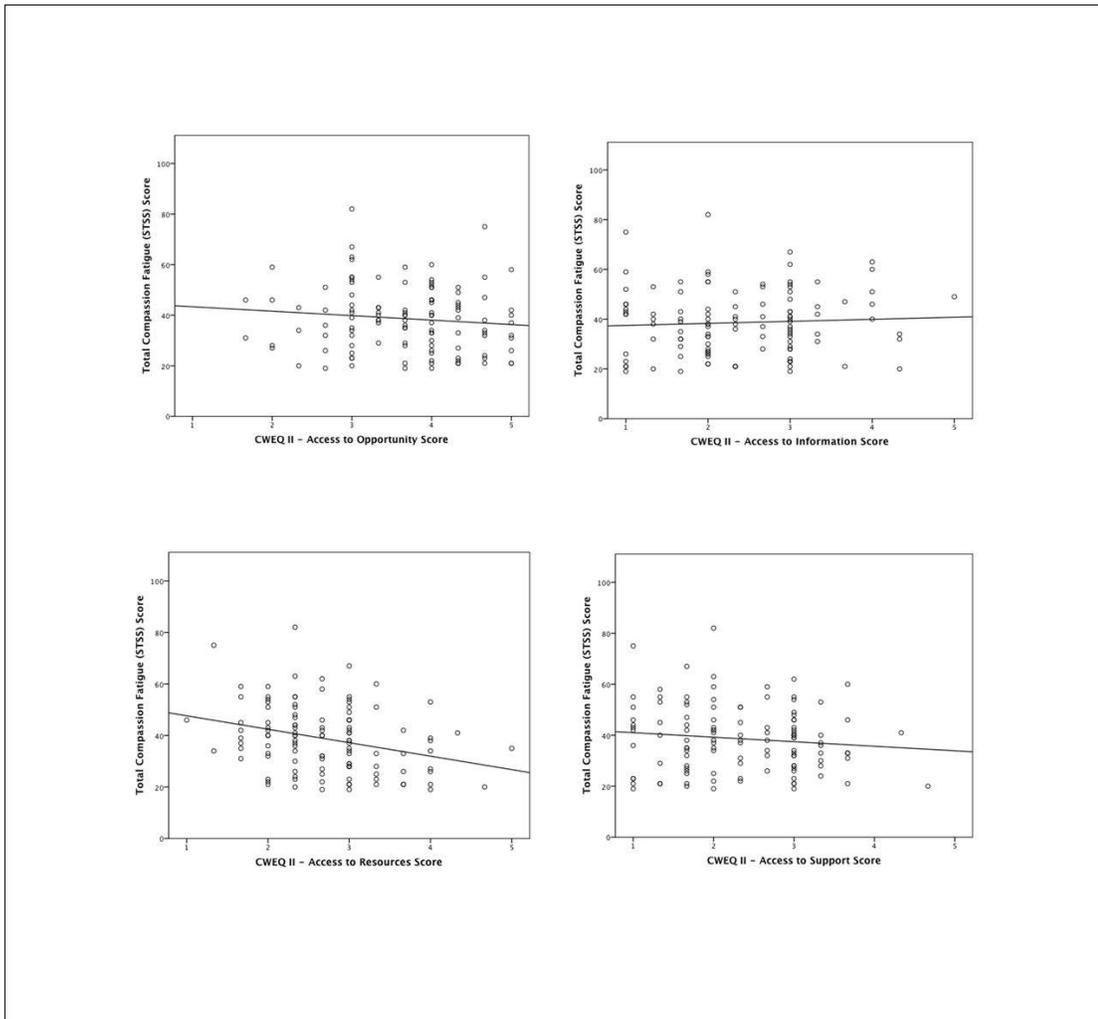


Figure 5. Scatterplots of CWEQ\_II subscales. Regression line depicted. Total compassion fatigue (STSS) score with a minimum 15 out of 17 items required. CWEQ\_II subscale total with minimum 2 out of 3 items required.