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Compassion Fatigue and Resilience in Long-Term Care Nurses

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Abstract

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MA, Western Governors University, 2015

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

At a time when the United States' aging population has an increasing demand for long-term care (LTC), retaining nurses in the LTC field has become more difficult. Contributing to the loss of nurses in the LTC workplace are increased compassion fatigue (CF) and reductions in resilience. Few researchers have examined CF and resilience in LTC settings. The purpose of this study was to investigate the association between CF and resilience in LTC nurses. Watson's caring theory was the theoretical foundation for the study. A survey containing demographic questions and items from the Professional Quality of Life Measure and the Connor-Davidson Resilience Scale survey was administered online to 111 LTC nurses from 10 states across the Eastern Seaboard. A simple linear regression analysis was performed to identify if there was an association between CF and resilience. The results indicated that the model was significant ($p<.001$). Results revealed an inverse relationship that with higher resilience scores, CF scores were lower and when CF was high, resilience was lower. The study may promote positive social change by highlighting the need for LTC facility managers to identify strategies that foster increased LTC nurse resilience such as improving work environments and developing programs that promote mental and emotional health of LTC nurses. Implementation of these strategies may reduce CF and promote nurse job retention and ultimately improve patient care. Recommendations for future research include quantitative studies to consider the effect of age, length of time in practice, and education level on resiliency and CF and qualitative studies on strategies for increasing resiliency among nurses in LTC facilities.

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Dedication

This dissertation is dedicated to my staunchest supporters. To my oldest and dearest friend and sister, Darlene, without whom I would never have been able to complete this multi-year process from ASN to Ph.D. To my son, Derius, who always supported and encouraged me when I wanted to give up, making me suppers and joking about all the shows I would be able to get watch once I finished my schooling. To my father, Tony, who always believed that I could accomplish whatever I set my mind to, I wish you were here to see this. To Windy, who was a constant encourager throughout this journey. I also dedicate this to all my other family and friends who have given me encouragement, support, and understanding when I would disappear for periods of time.

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Chapter 1: Introduction to the Study

The U.S. population is living longer (Henderson et al., 2017; Lenstra et al., 2019), and with longevity comes to an increase in chronic disease and comorbidities that require skilled care (Henning-Smith, 2016). As Lenstra et al. (2017) noted, the percentage of the U.S. population over the age of 65 is increasing and will soon surpass that of the 0-18 age range. Long-term care (LTC) facilities provide care to over five million residents under the age of 65 (Feder et al., 2000; Harris-Kojetin et al., 2019). There are over 15,000 LTC facilities in the United States, with over one million residents (Centers for Disease Control and Prevention, 2020). LTC nurses are called upon to carry a large portion of the burden of care for this increasing cohort of older adults who reside in nursing healthcare communities (Henderson et al., 2017). However, maintaining an adequate pool of LTC nurses to meet the demand for the growing population of patients in these facilities is challenged by a high turnover among nursing staff (Bratt & Gautun, 2018).

Further challenges for LTC facilities include state and local compliance issues, such as personal protective equipment requirements, as well as staff burnout (Costello et al., 2018). Heavier workloads and high resident-to-nurse ratios (about 28–40 residents per nurse in 2020; Harrington et al., 2020) may lead nurses to become dissatisfied with their work environment (Henderson et al., 2017). They may be subject to compassion fatigue (CF) and burnout. Because a decrease in CF could positively affect a nurse's resilience, nurses with low resiliency levels may not be able to withstand the heavy demands of the job, which may compromise patient care and outcomes.

In this study, I explored causes of dissatisfaction that lead to nurse turnover and lack of empathy. This knowledge may allow stakeholders to identify strategies for transforming LTC nursing in the United States. Increasing LTC nurses' job satisfaction can potentially lead to improved care, better nurse retention, and enhancements to LTC residents' lives. Specifically, I studied the association between CF and resilience in the nursing staff of LTC facilities. Multiple studies have been published on the topic of CF in LTC nurses (Kolthoff & Hickman, 2017; Steinheiser, 2018) and resilience in general (Delgado et al., 2017) and its effect on burnout (Yeatts et al., 2018). However, there is minimal research regarding the association between CF and nursing home staff or LTC nurses' resilience.

In Chapter 1, I will discuss my dissertation's background, purpose, and problem statement. The research question (RQ) and hypotheses, theoretical foundation, and nature of the study will be introduced, and key terms will be defined. I will also discuss the assumptions, scope and delimitations, limitations, and significance of the research.

Background

CF is an increasingly prevalent issue within the nursing profession (Mooney et al., 2017). Studies have shown that approximately 53% of nurses demonstrate some form of CF (Zhang et al., 2018). CF affects the nurse's emotional and spiritual state, negatively impacting their capacity to provide the level of patient-centered nursing care that the residents of LTC facilities require. As CF increases, the nurse's ability to adapt and overcome healthcare challenges (resilience) decreases (Mealer et al., 2012; Turner,

2014). The decrease in resilience affects the nurse's ability to do their job, particularly in facilities that may be understaffed and have a large resident population leading to an increased workload (Backhaus et al., 2016). Identifying and implementing strategies to decrease CF and increase resilience may encourage and empower nurses to reach their full potential as they strive to offer safe, culturally competent, patient-centered care, including responding appropriately to challenging situations (Yu et al.2019), ultimately resulting in increased job satisfaction and retention at their current job.

Most published research regarding CF and resilience considers nurses within the critical care and oncology areas of practice (Kelly et al., 2015; Kutluturkanet et al., 2016; Nejad et al., 2019). Few studies have been conducted on the nurses in LTC facilities (Chao, 2019; Gallardo & Rohde, 2018). I identified no studies on the association between CF and resilience in LTC. As the U.S. population ages and requires more long-term or nursing home care (see Soergel, 2017), the demand for nurses within the LTC nursing setting will increase (Zallman et al., 2019). Understanding the association between CF and resilience may encourage LTC management to seek out means of mitigating CF in order to decrease the turnover rate of nurses working in LTC facilities, ultimately ensuring better care for LTC residents.

Problem Statement

Compassion calls people into nursing (Cross, 2019), and resilience keeps them in the profession (Turner, 2014). Unfortunately, CF, which includes spiritual, emotional, and physical exhaustion, may cause nurses to lose their desire to help others (Lombardo

& Eyre, 2011) and may result in nurses leaving the profession, thus adding to the ever-growing nursing shortage (Haddad et al., 2020). CF has increased in prevalence (Mooney et al., 2017) and now affects over 50% of nurses in the United States (Zhang et al., 2018). Resilience allows nurses to adapt to whatever situation may arise during their daily experiences (Hart et al., 2012; Yu et al., 2019) and thereby may reduce CF among LTC nurses (Mealer et al., 2012; Turner, 2014). Studies have shown that pressure, high patient load, shortage of staff, and emotional exhaustion (circumstances experienced by medical professionals in LTC settings) increase CF and decrease resilience in nursing professionals (Kelly et al., 2015; Kleiner & Wallace, 2017; Xie et al., 2011; Yu-fang et al., 2017). In reviewing the literature, however, I found no current studies that specifically addressed the association between CF and resilience in LTC nurses.

As the population of the United States ages, there will be an increased need for LTC facilities. Yet, nurses are currently facing an overwhelming issue regarding CF and resilience, thus threatening the LTC population. Studies have shown an increase in CF experienced by LTC nurses (Kolthoff & Hickman, 2017, Steinheiser, 2018) and decreased resilience in the general nurse population (Delgado et al., 2017). Missing from the literature is research regarding the association between CF and resilience among LTC nurses. The literature on LTC nurses has shown a decrease in job satisfaction and an increase in burnout and turnover rates, which may occur when CF is high and resilience is low (Yee-Melichar, et l., 2014). Discovering the association between CF and resilience may provide insights into the possible causes of increased CF and decreased resilience.

Results may encourage LTC administrators to investigate prevention strategies for CF. Without this information, LTC administrators may not be incentivized to change working conditions that lead to CF or decrease resilience.

Purpose of the Study

The purpose of this quantitative, correlational research was to explore CF and resilience among nurses working in LTC facilities and determine if there was an association between CF and resilience consistent with what has been recorded independently in previous studies of nurses (Abbaszadeh et al., 2017; Öksüz et al., 2018). The two variables investigated in this study were CF and resilience. The participants were lpns and rns at over 100 LTC facilities across 10 states in the United States. The nurse participants were asked to rate their levels of CF and resilience. The results supported my hypothesis that CF and resilience have an inverse association. Understanding the association could inform the administration of LTC organizations of the need to address the issue of CF and low levels of resilience.

Research Question and Hypotheses

RQ: What is the association between CF and resilience among floor nurses in LTC facilities?

H_a: There is an association between CF and resilience among floor nurses in LTC facilities.

H_0: There is no association between CF and resilience among floor nurses in LTC facilities.

Theoretical Foundation

The framework for the research was Watson's (2020) grand theory of caring science. Watson's theory describes various "carative" (i.e., related to human caring) factors, such as humans being valued as individuals, health requiring harmony between the perceived and experienced self, and interpersonal associations being essential to human and nursing well-being (McEwen & Wills, 2014; Watson, 2009). The carative factors of hope, problem-solving, needs, and environment relate to this research; this theory aligns with the problem of the increase in CF and a decrease in resilience found within the nursing profession (Kleiner & Wallace, 2017). The background and RQ also aligned with Watson's theory regarding the value placed on nurses as humans who need to identify and manage their self-care, CF, and resilience if they are to maintain the best patient-centered care.

Nature of the Study

For this study, I used a quantitative cross-sectional, correlational survey design. A survey design defines a particular population's mindsets, points of view, or even trends (Creswell & Creswell, 2018). Two questionnaires were sent to nurses working in over 100 LTC facilities in an electronic survey format. This format enabled the survey to be offered to a potentially large sample size, ensuring the reliability of the research (Creswell & Cresswell, 2018). I used the G*Power software application to determine the adequate sample size for two continuous variables correlational analysis. The effect size was 0.3 with a probability of error of 0.05, and the power of 0.95 gave a sample size of

111 respondents. The independent variable was CF, and the dependent variable was resilience.

Definitions

Compassion fatigue (*CF*): Adverse emotional, physical, and spiritual impacts resulting from prolonged exposure to psychological, physical, and emotional stressors (Norton et al., 2016). CF can manifest itself in many ways, including burnout (Kelly, 2020; Zhang et al., 2018) and other stressors that affect job performance (Salmond et al., 2019). CF decreases the nurse's ability to nurture and care for vulnerable patients and residents (Nolte et al., 2017).

Long-term care facilities (*LTC*): Nursing homes, skilled nursing facilities, and assisted living facilities in which nursing staff provide care to individuals (Long-Term Care Facilities, 2020).

Resilience: Nurses' capacity to adapt and overcome unexpected or difficult situations (Öksüz et al., 2018). Resilience is a complex phenomenon that is the subject of increasing research because it impacts a nurse's ability to be successful in their profession (Aburn et al., 2016).

Assumptions

An assumption is a belief that is accepted without actual proof. If it is untrue, it will invalidate the research (Gray et al., 2017). An assumption in this study was that the respondents would be honest while answering the questions. Offering the questionnaire through a third-party survey site allowed for anonymity that encouraged the truthfulness

of the respondents (Gray et al., 2017). By combining questions from two survey instruments, I sought to encourage the respondents to read the questions and answer honestly and completely. Another assumption was that an adequate number of nurses would respond. I sent the invitation for the survey to over 100 facilities in 10 states to allow for an adequate number of respondents. Based on the results of the G*Power software application (Faul et al., 2007), I needed 111 respondents for significance. A larger pool of nurses meant a better chance of having enough nurses respond to the survey.

Scope and Delimitations

The boundaries that are set forth by researchers are considered delimitations (Theofanidis & Fountouki, 2018). In contrast, the scope refers to the manner in which the researcher sets parameters to frame and research the problem (Simon & Goes, 2013). The research problem addressed the association between CF and resilience within the LTC nursing community. LTC nurses must handle a multitude of issues and situations. Increased CF and decreased resilience have an effect on their ability to appropriately perform their jobs and provide compassionate, culturally sensitive nursing care (Arimon-Pages, et al., 2017). Understanding the degree of, and association between, CF and resilience in participants may assist nursing leaders in ascertaining whether nurses require resources to perform their jobs at an optimal level. With a better grasp of the association between CF and resilience, LTC administrators may be able to enhance working conditions for nurses, leading to a beneficial social change in terms of resident care.

The population surveyed were nurses in over 100 LTC facilities dispersed across 10 states. I surveyed all licensed nurses, including RNs and LPNs, who agreed to participate. This allowed for the necessary number of respondents to foster good generalizability and internal validity. Watson's (2012) theory of caring was the theoretical foundation because of its alignment to the study's emphasis on the caring nature of nursing.

Limitations

Limitations in research are anything that can diminish the generalizability of the research (Gray et al., 2017). Identifying and addressing limitations and possible barriers to research is essential to producing a reliable and generalizable study, which provides direction for future research. The possible limitations of this research were the cost of sending the questionnaire to nurse participants and the cost of the statistical data-processing program to tabulate the data. To counter these limitations, I utilized money from student aid to assist with any costs related to the dissertation.

Another possible limitation was recruiting an adequate number of participants; I needed 111 respondents based on the G*Power program results. However, with over 100 facilities throughout the 10 states owned by one healthcare company, recruiting enough respondents was likely. I was able to get the 111 respondents needed for this research. Last, limitations could have arisen due to any number of unknown issues facing the various facilities related to COVID-19 such as anxiety, depression and additional stressors may have had an impact on nurses (Sampaio et al., 2021). My position as staff

development coordinator at a single facility was not a limitation or a conflict. I did not recruit respondents from the facility employing me; therefore, I had no authority over potential respondents.

Significance

The United States has an aging population and a corresponding demand for LTC nurses (Henderson et al., 2017). Compliance with federal and state regulations, such as the current monitoring requirements, along with high resident-to-nurse ratios and a shortage of LTC nurses, has resulted in a nursing shortage within LTC settings, however (Brühl et al., 2018; Mitchell et al., 2016). Research has shown that increased CF and decreased resilience are some of the reasons for the turnover rate (Kelly et al., 2015; Kleiner & Wallace, 2017; Xie et al., 2011; Yu-fang et al., 2017). I examined the association between CF and resilience.

The study results may help nursing leaders to improve job satisfaction and reduce the turnover rate of nurses in LTC facilities and, in so doing, improve the care provided to LTC residents. The research findings may demonstrate to the management and executives in LTC the need to improve working conditions or support for their employees to offer better resident care. Nurses who demonstrate lower CF and higher resilience may also exhibit higher work satisfaction levels and offer better care that is resident centered, safe, and culturally competent (Roney & Acri, 2018). As such, improved working conditions may promote positive social change for not only LTC nursing staff but for LTC residents as well.

Summary

CF and resilience are issues that affect the quality of nursing care available to LTC residents. Discovering whether there is an association between CF and resilience may clarify whether there is a need to change the environment within LTC facilities. With such knowledge, nursing leaders may be able to devise strategies to improve job satisfaction and reduce turnover rates of their nurses. In this chapter, I provided an overview of the research, which included the research's various limitations, assumptions, and scope and delimitations. The need for and focus of the research were also examined. In the following chapter, I will delve into the literature regarding both CF and resilience. The theoretical foundation will also be reviewed as it relates to this research.

Chapter 2: Literature Review

Introduction

The older adult population in the United States is increasing in size. The need for LTC facilities is growing (Silver et al., 2018). With healthcare advances sustaining human longevity, the older adult population with chronic and debilitating conditions will require increased care, such as that offered in LTC facilities (Henderson et al., 2017). A growing younger population also requires care in LTC facilities (Hay & Chaudhury, 2015).

LTC nurses' workload level has also risen for other reasons, such as increased state and federal documentation requirements, treatment expectations, staffing levels, and justifications or requests that must be completed for reimbursements. Given a higher workload and a decreased nursing labor pool—with an estimated shortage of over 11 million nurses (Haddad, 2020)—nurses who work in LTC are at risk for CF (Alharbi et al., 2019; Zhang et al., 2018). In addition, a decrease in resilience has been expressed by the nurses who work in LTC (Delgado et al., 2017).

The decline in resilience may diminish the nurse's ability to perform required duties and reduce their ability to adapt to various emergent situations. The American Psychological Association (2014) defined resilience as the ability to adapt to adversity adequately; therefore, a decrease in resilience will have the opposite effect. As CF increases, the nurse's ability to adapt to the job responsibilities of LTC is decreased, along with their functional capacity or level of resilience (Bonamer & Aquino-Russell,

2019). Researchers have examined CF and resilience within nursing's various fields (Jarrad & Hammad, 2020; Kutluturkan et al., 2016; Nejad et al., 2019; Zhang et al., 2018). However, due to the increasing demand for LTC nurses and the likelihood that CF increases when resilience decreases, there is a need to understand if there is an association between CF and resilience among LTC nurses. Understanding the association between the two phenomena might inform employers' decisions regarding adequate staffing levels and workflow (e.g., efficiency and scope of practice), which may lead to a decrease in the turnover rate for LTC nurses (Guo et al., 2018; Kelly et al., 2015).

The purpose of this quantitative, correlational research was to explore the CF and resilience of nurses working in LTC facilities and determine if there was an association between CF and resilience consistent with what has been recorded among nurses in other healthcare practice settings (Abbaszadeh et al., 2017; Öksüz et al., 2018). In Chapter 2, I describe the literature search strategy and the theoretical framework that underpinned this investigation of the association between CF and resilience. In the literature review that follows, I discuss crucial variables and concepts related to the research problem. The chapter ends with a summary of key points and conclusions from the literature review.

Literature Search Strategy

I used various resources to achieve an exhaustive review of the literature. Resources were obtained from databases such as Bioline International, BioMed Central, CINAHL, Medline, Merck Manual, Military and Government Collection, National Center for Health Statistics, National Science Foundation, ProQuest, PubMed, SAGE

Journals, Science DirectScience.gov, UNESCO, and WorldWideScience. I accessed resources from the Walden University Library and the Western Governors University Library.

I used search terms such as *compassion fatigue* and *resilience* to find articles on nurses' actions and reactions. *Long-term*, *long-term care*, *nursing homes*, *geriatric care*, and *nurse* were used to further narrow the search results. Various combinations of these terms were also used within multiple databases. The term combinations were *compassion fatigue* and *resilience*, *compassion fatigue* and *long-term care nurses*, *compassion fatigue* and *resilience in long term care nurses*, and *resilience* and *long-term care nurses*. When inputting the search terms, I uncovered over 2,000 articles. The terms were entered using *nursing* as a second term to narrow the search for relevant articles. To further refine the results, I excluded older data; therefore, the literature scope includes articles and research completed between January 2012 and March 2020, allowing for seminal works for the clarification of concepts and terms regarding the phenomena of CF and resilience. All articles are peer-reviewed and from scholarly and academic journals. I included journals from different countries to consider research conducted in various countries and universities.

I was able to reduce the over 2,000 articles to a more manageable number of approximately 500 articles. The articles were then reviewed to determine whether they were relevant to the research. Many articles were read and dismissed due to a lack of

relevance to the RQ. Other articles were reviewed and then dismissed for being opinion articles versus scholarly research articles.

I applied the hierarchy of evidence scale to determine the validity and usefulness of the articles. The articles were reviewed and either accepted or discarded based on the hierarchy. More specifically, articles on the lower levels of the scale, such as opinions, ideas, and case report studies (see Ingham-Broomfield, 2016), were evaluated and either chosen or rejected based on the applicability of the article to this research; most were rejected due to lack quality or reliability needed for this research.

Theoretical Foundation

Watson's theory of caring science was the theoretical foundation for this research. Caring is an integral part of nursing, linked to Florence Nightingale's inception of nursing in the 1800s (National Archives, 2018; Tye, 2020). The concept of caring has evolved into one of the grand theories of nursing. Watson (2012) considered caring to be a metaparadigm of nursing (see also Constantinides, 2019; Sitzman, 2017). The theory evolved from concepts from various psychologists such as Giorgi and Koch to focus on the ethical and spiritual dimensions of the process of human caring (McEwen & Wills, 2014). The concept of caring is a transpersonal association that places great significance on the relationship between the resident/patients and the nurse. Caring includes many values, abilities, and knowledge alongside the ethical principles that guide nursing and healthcare professionals (Sourial, 1996).

The basis of Watson's theory is the conceptualization of nursing as an art of caring, which focuses on the element of supporting others (Raso, 2018; Trukel et al., 2018). Watson (2020) created her theory based on a multitude of facets, such as being sensitive to self and others, practicing loving-kindness, and developing caring associations, all of which are related to the interactions between humans. Each interaction requires attention to maintain the ability to offer patient-centered care. Watson's theory evolved into 10 concepts (or caritas), which focus on cultivating associations, demonstrating compassion, nurturing sensitivity, having nonjudgmental interactions, and improving problem-solving (Durant et al., 2015; Norman et al., 2016; Sitzman, 2017). The caritas also include the concepts of balance, forgiveness, inspiration, and trust (Wei & Watson, 2019). These concepts may be impacted by a decrease in resilience and an increase in CF in that they affect nurses' ability to offer themselves to others (Kleiner & Wallace, 2017; Watson, 2009).

Whereas several theories could relate to CF and resilience (see Jackson, 2018; Sheppard, 2015), Watson's grand theory of caring science best fit this study's focus on how CF and changes in resilience affect the residents served by LTC nurses. Caring is an integral part of the nursing profession, especially when caring for older adults (Banerjee et al., 2018); thus, choosing a theory focused on caring is essential to conduct research based on that concept. I sought to determine whether there was an association between CF and resilience, which affects both the caring aspect and the nurse's ability to care for their patients or residents adequately. Several of the 10 caritas, such as hope, problem-

solving, needs, helping relationships, and expression of emotions (Watson, 2020), relate to the nurse's ability to care for residents. Both CF and resilience can directly impact caring.

Literature Review Related to Key Variables and/or Concepts

The main key variables presented in this section include CF and resilience. Many other variables can be considered, such as burnout, compassion satisfaction, or studying the population of nursing aides rather than nurses. Other variables that could merit further study would be whether LPNs versus RNs have different responses or levels of the variables. Variables such as the gender of the respondents could also spark further research. In this study, I focused only on the responses of licensed nurses (LPNs and RNs) in LTC facilities to the two variables of CF and resilience.

Because no literature was available to discuss the effect of CF and resilience in LTC nurses, this study's literature review covered CF in critical care and oncological nursing and their strategies to decrease CF. Resilience in critical care nurses, interventions to increase resilience, and resilience in critical care, emergency room (ER), and oncology nurses were also appraised. The different methods, such as qualitative and quantitative research utilizing the Connor Davidson and ProQOL Scale, were also discussed.

Compassion Fatigue

Various approaches have been taken to study the subject of CF. Research has been published that defines CF (Nolte et al., 2017; Salmond et al., 2019) as the harmful

physical and emotional toll of the stressors to which nurses may succumb. Some studies help determine CF causes, such as increased stressors, lack of positive feedback and encouragement, and a lack of resources (Coetzee & Laschinger, 2017).

Researchers have also sought to discover if there is an issue with CF within the nursing and healthcare community (Sinclair et al., 2017; Sorenson et al., 2016) and how severe that issue can be regarding impacts on patient care, as well as how to prevent CF (Ames et al., 2017; Duarte & Pinto-Gouveia, 2016). Ames et al. (2017) discuss how CF impedes nurses' ability to provide the highest quality of care to residents, the departure of nurses from the profession due to increased CF results. Duarte and Pinto-Gouveia (2016) discuss the need for education on mindfulness in order to diminish the effects of CF on the nurses, thus allowing them to provide a better level of care. Understanding the effects of CF is necessary to understand the need to increase CF research among nurses. Researchers have also sought to discover various means of predicting, alleviating, or mitigating CF's effects (Ames et al., 2017; Delaney, 2018; Gallardo & Rohde, 2018).

Compassion Fatigue Among Nurses

CF is a research topic for several acute care or critical care areas of healthcare. The effect of CF on oncology nurses (Kleiner & Wallace, 2017), critical care/intensive care (ICU) nurses (Jakimowicz et al., 2018; Mooney et al., 2017), and ER nurses (Alharbi et al., 2019; Kelly, Runge, & Spencer, 2015; Ocallaghan et al., 2020) have been studied. Kleiner and Wallace (2017) determined that oncology nurses with high CF levels experienced impacted home lives with increased personal conflicts. Alharbi et al. (2019),

Jaklimowicz et al. (2018), and Mooney et al. (2017) found that critical care nurses had increased adverse emotional and cognitive effects along with spiritual exhaustion, leading to perceived lower-quality patient care and an increase in the feeling of hopelessness. Kelly et al. (2015) and Kleiner and Wallace (2017) discovered an increased secondary traumatic stress, decreased efficiency at work, and a departure of nurses from the profession**.** This study, focusing on LTC nurses, will add to this substantial body of work.

Research has shown that the concept of CF resides not merely in the literature but is an issue that is very real within the profession of nursing (Cetrano et al., 2017). The need to create effective interventions and education is essential to assist the nurses in dealing with CF (Berg et al., 2016). Dev, Fernando, Lim, and Consedine (2018) stated that there is an association between CF and burnout and CF contributes to barriers regarding the nurse's ability to provide compassionate care to their patients.

The studies demonstrated a negative association between CF and nurses' mindfulness (Brown et al., 2017). This inverse correlation reflects a need to look into nurses' mental health to mitigate the onset of CF. Sorenson, Bolick, Wright, and Hamilton (2016) indicated that CF has a detrimental effect on interpersonal and interpatient associations. Unfortunately, there is a lack of research regarding the impact of CF on other areas of healthcare.

Resilience Among Nurses

Resilience is another topic that has garnered considerable research. Hart, Brannan, and Chesnay (2014) and Virkstis, Herleth, and Langr (2018) have defined resilience as

meeting basic psychological needs that increase the nurse's ability to recover from adversity and remain functional in the workplace and at home. Guo et al. (2018), Jackson et al. (2018), and Ju and Oh (2016) study the association between burnout and resilience in nurses. Yılmaz (2017) relates a nurse's resilience to the developmental process of learning to surmount adversity and diminish the increasingly difficult situations' negative impact on nurses.

Studies have been conducted to discover the possible causes of diminished resilience and the effectiveness of interventions for increasing resilience (Delgado et al., 2017; Mcdonald et al., 2012; Yu et al., 2019). Delgado, Upton, Ranse, Furness, and Foster (2017) conducted a literature review to determine how emotional dissonance leads to emotional issues and how that relates to resilience. The authors also looked into the concept's resilience and emotional labor within the nursing profession and how resilience can assist nurses when dealing with situations and issues. Mcdonald, Jackson, Wilkes, and Vickers (2012) completed a study regarding the means of achieving increased personal resilience. The authors found specific educational opportunities that enhanced the nurses' resilience who participated. Yu, Raphael, Mackay, Smith, and King (2019) performed a systemic review to understand how resilience can diminish the incidence of emotional exhaustion and play a significant role in attenuating the various effects of demands placed upon the nurses by nature of their job. The authors identified which resources can encourage and promote nurses' resilience to promote a positive work culture.

Resilience has also been studied in the nursing fields of oncology and emergency medicine. Multiple studies have focused on the decreased resilience experienced by oncology nurses working with cancer patients (Gibbons et al., 2019; Kutluturkan et al., 2016). Gibbons et al. (2019) determined a need for role adjustment to maintain resilience regarding caring for cancer patients, while Kutluturkan et al. (2016) demonstrated that there was a correlation between burnout and resilience amongst nurses working with cancer patients. Both articles also looked at interventions that would assist in increasing resilience amongst the caregivers, such as creating dyadic experiences that improve communications, education, and stress management.

Emergency room nurses have also been studied regarding the decrease in their resilience, possible causes, and means of intervention (Shin, Kim & Ji, 2018). Shin, Kim, and Ji (2018) performed Q-Method research to determine there was a need to discover the different causes of decreased resilience and means of intervening to improve the resilience of the nurses. The authors also mentioned a need to study further the decrease in resilience to develop other strategies to mitigate or prevent decreased resilience among newer nurses.

Critical care nurses have also been respondents concerning their resilience levels (Mealer et al., 2012; Yang et al., 2018). Mealer et al. (2012) studied intensive care nurses to determine that those with adequate resilience ability also have decreased psychological ramifications related to their professions. The authors determined that there was an increased need to study resilience to identify coping strategies to better care for their

patients. Yang et al. (2018) studied the levels of resilience and burnout amongst critical care nurses who care for transplant patients. The study of over 500 nurses concluded that there was a strong association between decreased resilience and burnout, and emotional exhaustion. As resilience increased, emotional exhaustion and burnout decreased. The authors also discovered several mitigating situations that could positively impact the nurse's resilience.

The research of Gillespie, Chaboyer and Wallis (2009) of over 1000 nurses demonstrated the need to assess a nurse's resilience before hiring due to the impact of resilience on the nursing profession. Understanding the nurse's level of resilience and the basis of the resilience assisted in understanding the nurse's capability to maintain resilience at the workplace. On the other hand, Byeon, Lee, and Park's (2019) research demonstrated the association between resilience and emotional labor. Gillespie et al. stated that there is a need to address the effects of emotional labor and personal support to improve the nurse's resilience. The nurse's ability to overcome, persevere, and bounce back from whatever situation can reflect the nurse's characteristics and personal life rather than the age or experience level of the nurses.

Studies of Compassion Fatigue and Resilience Featuring Quantitative or Qualitative Methods

Researching CF and resilience can be undertaken using quantitative and qualitative methods. Researchers have utilized qualitative research methods (Berg et al., 2016; Jackson et al., 2018). Berg et al. (2016) interviewed 12 members of trauma teams

to identify that CF is more than a mere concept but an actual, live issue that affects healthcare professionals. Likewise, Jackson et al. (2018) interviewed 11 nurses resulting in the determination that CF and resilience are two phenomena that need to be addressed within the workplace. Jackson (2018) studied the impact of resilience on burnout through a grounded theory qualitative study. Over 10 critical care nurses responded to the study, learning the different means of developing resilience in post-qualification nurses. Berg, Harshbarger, Ahlers-Schmidt, and Lippoldt (2016) also utilized a qualitative method to demonstrate that burnout and CF are actual issues that are experienced among nurses, not merely concepts to discuss. The authors also discovered a need to perform further research to determine methods to educate and intervene to mitigate the effects of CF and burnout. Other researchers have used a quantitative method to study both CF and Resilience's effects on nurses (Dev et al., 2018). Dev, Fernando, Lim, and Consedine (2018) performed a quantitative study with over 700 respondents to better understand the effects of burnout and the barriers to being able to offer compassionate care to patients and themselves.

Instruments for Measuring Compassion Fatigue and Resilience

The instruments of measure are found within the ProQOL and the Connor Davidson Resilience Scale. The ProQOL has been used in various research studies to determine the level of CF amongst nurses (Heritage et al., 2018). The ProQOL is a questionnaire that looks into the respondent’s views regarding their quality of life, CF, and satisfaction (Mooney et al., 2017). Their scale has proven helpful for researchers

studying the nursing profession (Almeida et al., 2020; Kelly et al., 2015). The Connor Davidson Resilience Scale is often observed in reviewing research articles testing the level of resilience in healthcare professionals including nurses (Keyhani, 2015; Mealer et al., 2016; Ren et al., 2018). Both questionnaires have been used to determine the association between CF and resilience in acute care military nurses (Weidlich & Ugarriza, 2015), suggesting that there is a benefit to using the two questionnaires together.

CF has been shown to impact nurses throughout the profession (Kolthoff & Hickman, 2017). It has also been demonstrated that resilience decreases throughout the nursing profession as patient-nurse ratios increase (Boston-Fleischhauer, 2020). Although there have been many research studies regarding CF and resilience in critical care nursing, there is little research regarding nurses in LTC facilities or nursing homes. Much research has been conducted on CF and resilience, as these phenomena affect nurses individually. However, there is little research regarding how they relate to each other. Considering that the number of LTC facilities is increasing and the need for LTC nurses is also growing, there is a need to discover whether there is an association between CF and Resilience in LTC nurses.

The ProQOL survey has been used in several studies regarding CF to quantify the impact of CF on the nurses' lives and their jobs (Kolthoff & Hickman, 2017). Kolthoff and Hickman (2017) utilized the ProQOL tool to determine the difference between experienced nurses and newer nurses working with older adults regarding their CF and

burnout levels. The tool was used to quantify the levels of each. The ProQOL 30-item tool breaks down the various experiences expressed by the nurses so that the association can be seen via numeric values.

Researchers have used the Connor-Davidson Resilience Scale (CD-RISC) to discover the resilience levels through a multi-item survey (Keyhani et al., 2015; Mealer et al., 2016). Keyhani et al. (2015) utilized the CD-RISC with 500 students and demonstrated the validity of the scale for research. Likewise, Mealer et al. (2016) verified the scale's validity when using the tool on over 700 nurses and determined that the scale had excellent psychometric properties and reliability. This survey has also been used multiple times to discover if there is an increase or decrease in the resilience levels of nurses in the various nursing fields (Gillespie et al., 2009). Gillespie, Chaboyer, and Wallis (2009) demonstrated that the scale had validity when researching operating room nurses and their resilience.

The ProQOL and Connor-Davidson scales can accurately discern CF and resilience levels from the respondents (Heritage et al., 2018; Kolthoff & Hickman, 2017; Mealer et al., 2016; Ren et al., 2018). Both scales have statistical significance related to their results, allowing for a reliable, valid, and reproducible quality of research.

Validity and Reliability of the Connor-Davidson Resilience Scale-10 and Professional Quality of Life Measure

Both Almeida et al. (2020) and Mealer et al. (2016) demonstrated the CD-RISC's validity and reliability. The CD-RISC scale is a 10-question Likert scale that has the

same validity as the full 36-question scale. Heritage Rees and Hegney (2018) discuss the ProQOL and its uses and reliability, determining that the item and personal characteristics maintained the requirements to ensure valid measurement of CF by the respondents.

The ProQOL is reliable and verifiable through multiple tests of reliability (Duracinsky et al., 2014; Lago & Codo, 2013). Duracinsky et al. (2014) demonstrated that the electronic version of the ProQOL scale maintains the same validity as the paper version, allowing for the ease of offering the scale to an increased number of participants due to the availability of being online and accessible virtually. Lago and Codo (2013) also demonstrated the scale's validity with over 200 respondents. Having verifiable and provable scales lends strength to the research. Offering the scales to nurses in over 100 LTC facilities will allow for a large enough number of respondents to ensure reliable results that can be generalized, which improves the reliability and veracity of the research.

Independent Variable (Compassion Fatigue)

The independent variable for this research was CF. Studies indicate that nurses are increasingly exposed to conditions that increase the prevalence of CF (Delaney, 2018; Jakimowicz et al., 2018) to such a degree that CF has become a part of the current lexicon nursing profession (Sinclair et al., 2017). CF is related to an increased workload and time constraints (Kleiner & Wallace, 2017) and a lack of available resources (Coetzee & Laschinger, 2017), which drastically influence the retention and turnover rate

of nurses (Kelly et al., 2015). The increase in CF leads to a decrease in the nurses' ability to nurture (Nolte, Downing, Temane, & Hastings-Tolsma, 2017) and hamper their ability to provide adequate care to their patients. One study indicates that over 40% of nurses state an increase in CF (Duarte & Pinto-Gouveia, 2016), which leads to the rise in burnout and turnover of the nurses (Gallardo & Rohde, 2018). There is a substantial need to recognize (Salmond et al., 2019) and further investigate CF to mitigate its effects on nurses (Mooney et al., 2017). There is still much to be learned about CF, especially regarding its impact on other nursing care areas and the nurses it affects.

Dependent Variable (Resilience)

Resilience was the outcome of interest, therefore the dependent variable. Studies demonstrate a need to understand better what resilience is (Yu et al., 2019) and how the medical profession can identify issues to mitigate the adverse effects of reduced resilience (Hart et al., 2014). It has been demonstrated that increased resilience will decrease nurses' turnover rate (Mealer et al., 2012). Burnout has been identified as a result of the unaddressed decrease in resilience (Guo et al., 2018; Ju & Oh, 2016). The reduction in resilience can be caused by increased emotional and physical exhaustion (Yang et al., 2018). There is a need to find interventions (Shin et al., 2018) to fix the issues (Virkstis et al., 2018) in order to improve nurses' ability to offer the highest level of competent patient care (Yılmaz, 2017). There is a need to investigate further (Delgado et al., 2017) and better find patterns (Gibbons, Ross, Wehrlen, Klagholz, & Bevans,

2019) and interventions to increase resilience (Mcdonald, Jackson, Wilkes, & Vickers, 2012) and reduce the adverse effects of a diminished resilience.

The Gap in the Literature

One weakness of the current research is that most studies have considered CF and resilience as individual issues (Mealer et al., 2012; Sorenson et al., 2016). The research has also focused on critical care areas, neglecting the growing number of LTC nurses who experience similar issues. Focusing merely on the critical care areas leaves out a growing population of nurses working in LTC (Kleiner & Wallace, 2017; Yang et al., 2018). Researchers have also completed many qualitative studies related to CF and resilience; however, to achieve real social change by encouraging administrators to view this as an issue, there needs to be more than anecdotal evidence. Quantifying the degree of CF and resilience will assist in demonstrating to LTC administrators that there is a significant problem plaguing their nurses, increasing staff turnover, and decreasing the level of compassionate, caring care that LTC residents deserve.

The RQ focused on whether there is an association between CF and resilience and what, if any, the association's effect is on LTC nurses. The currently available research focuses on addressing the issue of CF, determining what it is (Nolte et al., 2017), and what can be done to mitigate its effects (Cetrano et al., 2017) or even how to avoid it before it becomes an issue (Ahlers-Schmidt, & Lippoldt, 2016). Research also looks at resilience in the same manner. Resilience is defined (Virkstis et al., 2018), and its effects and possible remedies (Delgado et al., 2017) are studied; however, there is minimal

research conducted on the association between the two. Both CF and resilience are studied primarily in the profession's critical care and oncology sectors, neglecting the LTC facility population of nurses.

Summary and Conclusions

Whereas multiple studies have been conducted on CF and resilience, the majority have been regarding critical and acute care nursing staff. The studies focused on CF and resilience concepts independently, save for a select few pieces of research that looked concurrently at both themes. However, those were also relegated to acute and critical care nursing arenas. My literature review indicates a lack of research regarding the association between CF and resilience and how that association reflects nursing care in long-term settings. This research addressed the possibility of an association between CF and resilience in the LTC setting to discover if the increase of CF leads to a decrease in resilience amongst nurses caring for the ever-growing elder and LTC populations. The following chapter will discuss the methods reviewed and chosen to discern if there is an association between CF and resilience in the LTC nursing field.

Chapter 3: Research Method

Introduction

In this study, I sought to discover if there is an association between CF and resilience in nurses who work in LTC facilities. CF has increased in prevalence (Mooney et al., 2017) and now affects over 50% of nurses in th United States (Zhang et al., 2018). Resilience allows nurses to adapt to whatever situation may arise during their daily experiences (Hart et al., 2012; Yu et al., 2019) and thereby may reduce CF among LTC nurses (Mealer et al., 2012; Turner, 2014). Therefore, knowledge of the relationship between CF and resilience among LTC nurses is needed so that nursing leaders can develop new or more effective solutions. Such solutions may benefit both staff and administrators and the population they serve. This chapter focuses on the design, rationale, and methodology used for the research. I also discuss the instrumentation and data analysis plan, including the statistical programs that I used. Threats to validity and ethical considerations are also considered.

Research Design and Rationale

An independent variable is a variable that can also be considered the predictor variable of the dependent variable (Gray et al., 2017). In contrast, the dependent variable is the variable that is either altered or caused by the independent variable (Babbie, 2017). A covariate is a variable that can possibly affect the validity of the results by affecting the variables. The independent variable for this research was CF, and the dependent variable was resilience. The demographic identifiers were the participants' education, length of

time as a nurse, length of time at current job, age, and gender identity; these were included in the demographic portion of the survey.

The research design was quantitative descriptive, featuring an analysis of covariance between CF and resilience, holding constant the covariate variables to test my hypothesis. To answer the RQ, which concerned whether there was an association between CF and resilience, I performed a simple linear regression. The simple linear regression model determines if there is an association between the two variables using explanatory variables; the linear regression testing model allows for the existence of an extraneous variable that affects the dependent variable (Warner, 2013). I tested the hypothesis that there is an association between CF and resiliency.

Methodology

Population

The target population for this research was licensed nurses working in LTC. I sent the questionnaires to all the licensed nurses who worked in over 100 LTC facilities spread over 10 states along the Eastern Seaboard and the central United States. I collected data on LPNs and RNs. I offered the survey to over 1,000 nurses working for the Healthcare company in 2019, per its website. This number was higher than the required number of respondents, as stated per the G*Power program. Per the G*Power program, I required 111 respondents to acquire a large enough sample size to ensure valid and reliable research.

Sampling and Sampling Procedures

This research's sampling strategy involved sending the two surveys, the ProQOL and CD-RISC survey, through the secondary collection site, SurveyMonkey, to the nurses in over 100 LTC facilities in 10 states. The nurses received a link through an email to the secondary site, SurveyMonkey, which allowed them to access the survey when they were able, without interfering with their workflow. SurveyMonkey then collected the survey responses. The secondary site ensured the respondents' anonymity, thus encouraging respondents to complete the surveys honestly (Gray, et al., 2017). The consent agreement was on the first page that the respondent viewed upon opening the survey, accompanied by a statement that the respondent agreed to participate in the research by advancing to and completing the survey. If they decided not to give permission, there would be no repercussions. The respondents were offered the option to close the link, ending the process for them entirely. I had access to the secondary site to retrieve the results and work with the data as needed. All licensed nurses who worked in the LTC facility, whether LPN or RN, were included, excluding nurses in management positions. The current research did not distinguish between genders or age ranges, length of career, and the other demographic information to exclude certain demographic groups.

Per the G*Power (Faul et al., 2007) power analysis, for a valid and reliable sample size, I needed 111 respondents. I used an effect size (f^2) of 0.15 to calculate this research's power, and the alpha was set to 0.05. The effect size indicates the magnitude of the difference between the two variables (Warner, 2013). The alpha is a theoretical

number that focuses on the possible risk of committing a Type I error (Warner, 2013). To determine the sample size, I used a two-tail linear multiple regression fixed model with a single regression coefficient for the calculation in G*Power. Using a simple linear regression assisted in the determination of the hypothesis as this test uses the two distribution tails as regions for rejection of the hypothesis (Wagner, 2013). The power level for this research was .80, with the number of predictors being one. The power is the ability of the research to determine either the associations or differences between the variables (Gray et al., 2017).

Procedures for Recruitment, Participation, and Data Collection

I attached a recruitment flyer (see Appendix A) to a letter that I emailed to the facilities' staff development coordinators and CEOs (see Appendix B). I asked the coordinators and CEOs to disseminate the information to their nurses. Only licensed nurses with direct care job titles were offered the survey due to the research focusing on direct care nursing CF and resilience. The specific demographic information gathered were the educational degree level, whether the nurses were LPN or RN, the entry-level of education, any advanced education, and the length of time that respondents had worked in nursing (see Appendix C). Gender and age were requested, with age being asked in ranges such as 20–29 rather than a specific age to control for generational differences for demographic purposes.

There was a final explanation, reminding the respondents of the research's scope and nature, which followed at the end of the survey. I did not require any follow-up

directed at respondents from the survey; thus, no new work procedures were being developed. Last, respondents were informed where they could view the published results if they were interested in reading the completed research.

Instrumentation and Operationalization of Constructs

The two instruments used were the ProQOL and CD-RISC 10 tools. Stamm (2009) published the ProQOL tool in 2009; the instrument is now under the auspices of the Center for Victims of Torture (www.ProQOL.org). Connor created the CD-RISC along with Davidson (Connor & Davidson, 2016). Appendices D and E include letters of permission to use the respective instruments in my research. Appendices F and G contain the instruments themselves. Use of both tools allowed me to gather information regarding the participating nurses' level of CF and resilience.

Researchers have used the ProQOL and the CD-RISC 10 tools to discover CF and resilience among nurses in critical care, emergency, and oncology nursing. Weidlich and Ugarriza (2015) conducted a study utilizing the ProQOL and CD-RISC tools together to determine if there was an association between CF and resilience amongst military medical personnel. This study demonstrated that the two tools could be used together to determine if there is an association between CF and resilience. Whereas Weidlich and Ugarriza studied the association in military healthcare personnel, I studied nurses working in LTC facilities.

Cheng et al. (2020) conducted a study regarding the validity of the psychometric properties of the CD-RISC-10 tool. The researchers involved over 250 respondents from

three facilities, then compared the CD-RISC-10 to other tools such as the State-Trait Anxiety Inventory and the Beck Depression Inventory-II. Cheng et al. determined that there were measurement invariance and meaningfulness of the CD-RISC-10, demonstrating that the tool is a valid means of measuring resilience amongst its respondents. Per Cheng et al., the Cronbach alpha value evaluation put the CD-RISC-10 internal consistency at 0.92.

Aloba et al. (2016) compared the results of the CD-RISC-10 to other tools, such as the Rosenberg Self-Esteem Scale, using over 500 nursing students from four universities. The researchers determined that the reliability was satisfactory when compared to other tools confirming their hypothesis that the CD-RISC-10 is a valid tool to discover the level of resilience amongst nurses that does not add too many additional questions to the survey. Aloba et al. found its reliability, per the Cronbach alpha, was 0.81. Cronbach's alpha measures the index of internal consistency (Warner, 2013), comparing a chosen tool against other known tools. The closer the consistency is to 1, the better the internal consistency and, thus, reliability. A result of 0.92 and 0.82 indicates excellent reliability (Warner, 2013). For this reason, I chose the CD-RISC-10 for this research.

The ProQOL has had multiple studies to ensure its validity and reliability in many countries. One recent study of 215 nurses was conducted in Iran, focusing on determining the internal validity (Hassan Kalhori et al., 2019). The researchers determined that the ProQOL maintained its validity and had excellent psychometric properties when used on

nurses, with a Cronbach's alpha of 0.86. The score was confirmed by a root mean squared approximation error (RMSEA) of 0.09. Hemsworth, Baregheh, Aoun, and Kazanjian (2017), conducted another study regarding the psychometric reliability of the ProQOL. The authors conducted research on nurses in two countries comparing three tools and demonstrated the validity with similar scores, thus encouraging confidence with the ProQOL tool when used with nurses.

Heritage, Rees, and Hegney (2018) used the Rasch analysis to determine the reliability and validity of the ProQOL tool. The authors conducted research using over 1500 nurses from both the private and public healthcare sectors using the Rasch tool as a comparison. The research was able to show excellent reliability and validity of the tool when researching the level of CF, among other issues by the nursing professionals, with a Cronbach alpha of 0.90.

Scoring of the Tools

The CD-RISC-10 scale was scored based on the respondent's answers to the various questions. The tool used a five-point Likert-like scale ranging from one to five. The responses ranged from one that equals "not true at all" through five, representing "true nearly all the time." The columns were then added up and combined for a total number of 10 to 50. The questions were also broken down to describe the different aspects of reliability. Aspects such as optimism, focus under stress, and the flexibility of emotions were aspects tabulated within the tool (Connor & Davidson, 2016). The higher the score, the better the resilience of the nurse.

The ProQOL scale also used a five-point Likert-like scale, with one equal to "never" and five representing "very often" (ProQOL). This scale also looked at the various aspects of CF and burnout, and secondary traumatic stress. Scoring high on specific questions that pertain to burnout and secondary traumatic stress indicates a high level of each and scoring high on the questions that focus on CF indicated a high level of CF in the responding nurses.

Data Analysis Plan

The software to be used was Alteryx, a data harmonization cleansing and reporting tool (Alteryx, 2020). The data was cleansed by identifying any missing data points and addressing each one. Alteryx offered an in-system cleansing tool to dummy any missing variables to 0 (Alteryx, 2020). Any questions not answered were viewed as missing data and dealt with accordingly. Missing data were coded using the "do not wish to respond" code rather than remaining missing. The redistribution of the weight of the question or response created less bias, providing that there was less than 10% of missing information (Langkamp et al., 2010). The scores of each scale ranged from *never* through *very often* for the ProQOL scale and *not true* at all to *true nearly all the time* for the CD-RISC-10 scale. The ProQOL was scored, and any result scored below 22 indicated a low level of CF, and reversely any score above 42 was considered a high (ProQOL) level of CF. The CD-RISC was scored, with a higher score indicating a higher level of resilience and a lower score indicating a lower level of resilience.

RQ: What is the association between CF and resilience among nurses in LTC facilities?

H_a: There is an association between CF and resilience among nursing staff in LTC facilities.

H_0: There is no association between CF and resilience among nursing staff in LTC facilities.

Each hypothesis was tested using various statistical tests. The simple linear regression analysis was used to determine the relationship between CF and resilience in LTC nurses. CF was the independent variable, with resilience as the dependent variable. Linear regression has five assumptions that must be met. One assumption of the linear regression model was a linear association between CF and resilience with an equal distribution between errors and predicted values. Linearity sets up the variables on an axis, resulting in a straight line when mapped concerning each other. There was an expectation of being able to draw a line with the variables to predict the relationship. This assumption was checked with a scatterplot that established linearity. Nonlinearity would agree with the null hypothesis that there was no association between Cf and resilience.

Another assumption was concerning independence. Each variable was different and not influenced by any other result, given that no individual respondent gave the same answer as any other respondent. Normality was the third assumption. Normality means that the variables can be mapped into a normal distribution. If CF ranged from 0 to 100, I expected the majority of the responses to be around the midway mark of 50. The number

of responses began to fall off the further away from the results were from the centerline, regardless of direction. The fourth assumption was homoscedasticity (i.e., the variables experienced the same amount of background error). Homoscedasticity demonstrates that the distribution of the data is equal on both sides of the regression line (Gray, et al., 2017). This research was unable to capture every possible reality. No single variable will experience significantly more or less background error than another.

Covariates that correlate with each other will be removed to ensure the limited covariability of the variables. The linear regression will then be run to determine the significance of either the hypothesis or the null hypothesis. This research, however, did not have any covariates. The final assumption was that there would not be multicollinearity or an exceedingly high correlation between independent variables (Warner, 2013). The Pearson correlation will determine an association between any covariates and the dependent and independent variables. The Pearson correlation will remove any covariates that are not independent of the dependent and independent variables (Warner, 2013). Having only one independent variable means that there will not be any multicollinearity.

Threats to Validity

External Validity

This research was conducted as a quantitative description of the association between CF and resilience in LTC nurses (Creswell & Creswell, 2017). There were some possible threats to the external validity of the research. One possible threat was the st’dy's

limitation to a single-gender, such as male nurses; this would have narrowed the respondent pool, considering that men comprise under 10% of the nursing population (Gedzyk Nieman & Svoboda, 2018). Including nurses of all genders decreased this threat. Another possible threat was the inclusion of nurses who did not meet the inclusion criteria (floor nurses rather than management), which would have been considered as a threat to the ecological validity (Holleman et al., 2020).

Internal Validity

A threat to internal validity would have been the probability of past sexism or agism within the nursing profession. Historically, nursing has been a profession occupied by, until recently, primarily females, with under 10% of nurses being male (Gedzyk Nieman & Svoboda, 2018). There were more experienced female nurses than males in the professional age due to the historically female population. This research included age and experience ranges in decades to counter these possible threats to allow for the different ages and experiences without singling out any individual (to ensure anonymity). Another possible threat was the geographical location due to the different governing bodies and staffing and workflow laws. The questionnaire was offered to 10 states to counter this possible threat, allowing for differences in laws and work patterns. Using neutral language would also diminish the various threats of gender, age, and experience bias that could be viewed as threats.

Construct Threats

A construct threat occurs when the tool or research does not measure what it was purported to measure (Gray et al., 2017). The tools chosen for this research had a satisfactory Cronbach's alpha and were established to be valid research tools to measure CF and resilience (Aloba et al., 2016; Hassan Kalhori et al., 2019).

Validity

This research was reproducible because the questionnaire can be offered to other LTC facilities, and the results are run similarly to produce equitable results, thus ensuring reliability (Babbie, 2017). Using the linear regression should have predictive results if known R (a covariate), such as education or experience, can predict CF from all other variables (Frankfort-Nachmias & Leon-Guerrero, 2018). By default, linear regression provided predictability. A mathematical model was then used to predict CF without directly surveying CF itself. This model would also allow for the visualization of each variable's effect size.

Ethical Procedures

When the nurses opened the survey, they were presented with the background information regarding the research scope and design; they were also presented with the option to agree to continue with the research survey, thus granting permission to use their results or to refuse and exit out of the site. Recruitment was entirely voluntary, and there was information ensuring the respondents' anonymity without any jeopardy to their jobs or future advancement. A request was sent to the staff development coordinator and CEO

of each facility (see Appendix B) with flyers (see Appendix A) to post in the units and breakrooms to inform the nurses about the study. Without direct requests, the voluntary and anonymous nature of the research was ensured. Sending out the information via interfacility email ensured that only the appropriate people received the fliers and information, limiting the possibility of undue influence on the nurses.

Using a secondary site ensured the security of the collected data per the site's security policies; the nurses completed the survey, and SurveyMonkey, the secondary site, sent data to this researcher. Security such as encryption and vulnerability management were used by the site (Security, 2020). Any information collected was then placed on a flash drive that will be kept in a locked case during the research phase. With no identifying information collected by the respondents, there was less of a risk of a breach of confidentiality or anonymity than if personal or confidential information was collected. Whereas the survey was sent to the facilities within the healthcare corporation, the facility where I was employed was not included. To mitigate any bias or conflict of interest, this facility's nurses were not provided with the survey information.

Summary

The linear regression methodology was used to take the questionnaire results to determine whether there was an association between CF and regression amongst the nurses in LTC facilities. The covariate of education level was also reviewed to determine if they affected the association. The following chapter will show the results utilizing the

methodology mentioned above to determine the association between CF and resilience in either direction.

Chapter 4: Results

Introduction

I designed this quantitative correlational research study to explore CF and resilience among nurses working in LTC facilities. I wanted to determine if any association between CF and resilience was consistent with findings from previous studies of nurses. This RQ is compelling given the aging of the U.S. population but is also relevant as the global COVID-19 pandemic enters its third year. Understanding the association between CF and resilience is essential because it may spur care facility administrations to address and possibly alleviate some of the issues causing burnout and departures of nurses from the profession. The RQ asked if there is an association between CF and resilience among floor nurses in LTC facilities. The alternative hypothesis was that there is an association between CF and resilience in LTC nurses. Therefore, the null hypothesis is no association between CF and resilience in LTC nurses. I used G*Power to calculate the sample size needed for the analysis. A simple linear regression was used to determine the required number of respondents for the study (Faber & Fonseca, 2014). I conducted a Cronbach's alpha to determine the internal consistency reliability of the results of each of the surveys.

This chapter begins with a description of the data collection and the calculation method. I also describe participants' demographics. All the statistical test assumptions will be addressed, and the examination of the data tabulation along with each test's statistical analysis and explanation with appropriate tables and figures will follow. A

summary of the tests and results will conclude this chapter. The Walden University Institutional Review Board approval number for this study was 04-28-21-0720840.

Data Collection

I emailed the survey, which included demographic questions and questions on CF and resilience, along with a cover letter, to 100 facilities in 10 states. The material was emailed to the facilities in August 2021 to begin the recruitment for data collection. The responses were collected from August 2021 through November 2021. The most significant number of responses were collected in October 2021. There were minimal discrepancies from the proposed collection plan. One of the discrepancies was that management instructed me to send the cover letter and survey link to both the staff development coordinators and the CEOs of the facilities rather than merely the coordinators. The other discrepancy was using SPSS rather than Alteryx for data analysis. Alteryx was unavailable when the data collection was completed; therefore, I used the SPSS program to clean the data and run the statistical tests.

Results

Descriptive Statistics

I received 342 responses to the survey. The data were then cleaned to remove certified nursing assistants (CNAs) and nurses with a master's degree and/or higher educational level from the population. This cleaning allowed the research to focus on the floor nurses who work in an LTC facility. The sample size after cleaning the data was 111, which corresponded with the required number as determined by the G*Power

analysis. This meant that my study met the required power, where the statistical tests produced a result that demonstrated that the effect exists between the two variables (Gray, 2017). This power was needed to reduce the chance of a Type II error, which is when the null hypothesis is not rejected even if it has been proven false (Warner, 2013).

The most frequently observed nurses, 66% (n = 67), were female; 32% (n = 36) were male, and the remaining nurses were nonbinary or chose not to say. The education level was limited to LPNs and vocational nurses, associate degree nurses, and bachelor's degree nurses. The majority of the respondents, 44% (n = 49), were bachelor nurses, followed by LPNs 39.6% (n = 44). Associate nurses were least represented at only 16.2% (n = 18). Almost half, 45% (n = 50), of the participating nurses were under 40. Most participating nurses, 49.5% (n = 55), had under 10 years of experience as a nurse, and 65.8% (n = 73) had experience within the LTC realm of nursing. Table 1 shows the demographics of participants.

Table 1

Demographics of Sample

Variable	Frequency	Percent
Education		
LPN/Vocational nurse	44	39.6
Associate degree	18	16.2
Bachelor's degree	49	44.1
Total	111	100
Age range		
20-30	28	25.2
31-40	22	19.8
41-50	26	23.4
51-60	21	18.9
> 60	14	12.6
Total	111	100
Years of experience as a nurse		
< 10	55	49.5
10-19	23	20.7
20-29	23	20.7
30-40	7	6.3
> 40	3	2.7
Total	111	100
Years in long-term care		
< 10	73	65.8
10-19	21	18.9
20-29	13	11.7
30-40	3	2.7
> 40	1	.9
Total	111	100
Gender identification		
Male	36	32.4
Female	67	60.4
Nonbinary	5	4.5
Choose not to say	3	2.7
Total	111	100

Table 2 shows the distribution of resilience and CF scores.

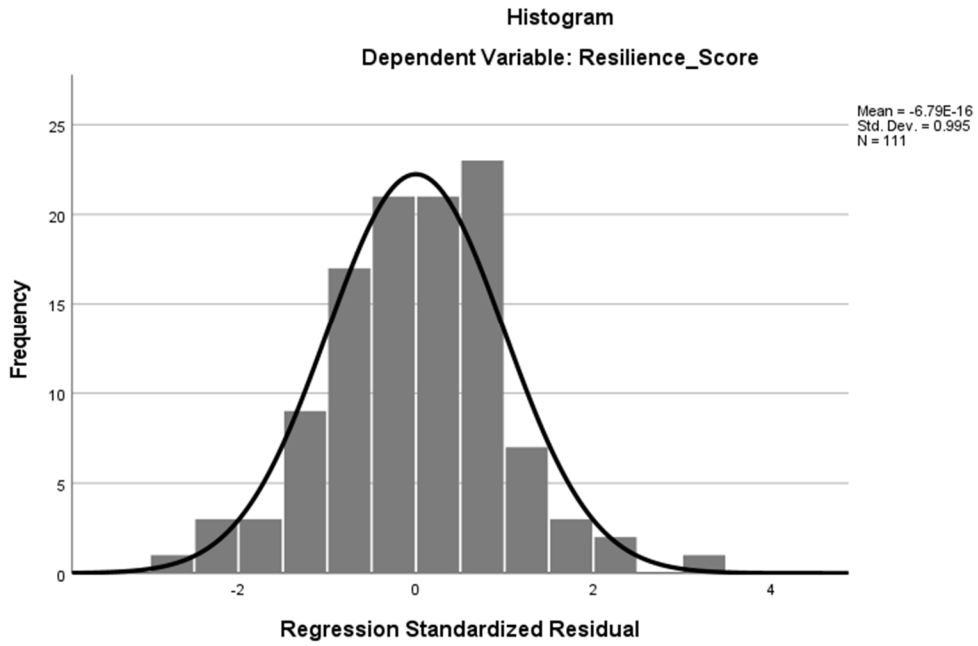
Table 2

Distribution of Resilience and Compassion Fatigue Scores

	M	*Mdn*	*SD*	Min	Max	Skewness	Kurtosis
Resilience	35.2523	34.000	6.15773	21.00	50.00	.109	-.337
ProQOL	55.8108	56.000	10.1735	27.00	81.00	-243	-.156

Figure 1

Histogram of Dependent Variable Resilience Score

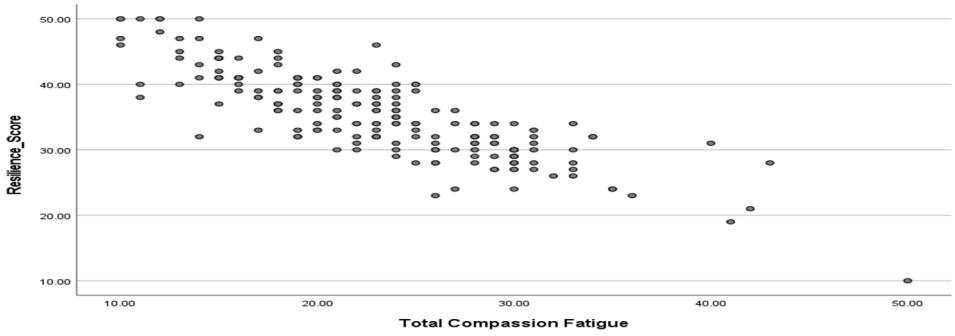


I ran a histogram to determine if the sample scores for resilience were normally distributed. Figure 1 indicates a relatively normal distribution of respondents' scores. The histogram shows a slight asymmetry (skewness = 0.109) with a mean resiliency score of 35.25 (*SD* = 6.15) and a median of 34. The data demonstrate a leptokurtic kurtosis with its peaked distribution and kurtosis of -.337 and a confidence interval of 95% *CI* [21,50].

There are minimal outliers that contribute to the slight skewness of the results (0.109). Figure 2 shows a scatterplot of predicted values.

Figure 2

Scatterplot of Predicted Values



The Pearson R statistical analysis results show a CF and resilience responses scatterplot. The lower Pearson R number indicates a wider scatter, whereas a higher number would show a tighter graph with less spread. The scatter of the plot for this research is consistent with the Pearson R of .316 (see Table 3). Figure 2 demonstrates the negative association between CF and resilience. There is a distinct negative association between the two. Where total CF increases, the resilience of the nurses decreases. This indicates the acceptance of the hypothesis that there is an association between CF and resilience rather than accepting the null hypothesis, meaning there is no association between the two. There is homoscedasticity, as the scatterplot has a consistent trend with higher standard residual values.

Statistical Assumptions for Linear Regression

There are six assumptions for a linear regression statistical analysis (Casson & Farmer, 2014). The assumptions are used to ensure all variables are continuous and independent. In my study, the assumptions also indicate a linear relationship between the variables with minimal to no outliers. Homoscedasticity and normality are the final assumptions. All the above assumptions will be addressed below. Assumptions are essential to linear regression because the violation of one or more assumptions would render the results of the statistical tests misleading or unreliable.

Assumption 1

The first assumption for linear regression is that both variables are continuous (Casson & Farmer, 2014). In my study, assumption one is met as both variables are continuous. The survey used five-point Likert-like scales that were ordinal level, although treated as interval level variables in my study. Ordinal variables have a distinct order to the responses, and the survey answers all have a distinct order for calculation. The responses were all calculated with a scale from 1-5, with one being the lower scoring response and five being the highest.

Assumption 2

The second assumption is linearity (Jupiter, 2017). I did observe a linear relationship between the variables, as seen on the scatterplot (see Figure 2). I created a scatterplot in SPSS demonstrating that as CF increases by one unit, the resilience decreases by 0.316 units (see Table 5). Figure 2 demonstrates the linear association

between CF and resilience. The relationship, however, is a negative linear relationship trending downwards with regards to the association between the results of CF and resilience. The scatterplot demonstrating the linearity indicates that this assumption is met.

Assumption 3

The third assumption is that there are no outliers. There are minimal outliers noted in the results and the resulting graphs in my analysis. Outliers can skew the research and have a negative effect on the linear regression analysis. This research demonstrated minimal outliers (see Figures 1 and 2); the scatterplot, and the histogram showed minimal outliers indicating the assumption was met.

Assumption 4

The fourth assumption is the independence of errors (Jupiter, 2017). The statistics show the independence of the results per the Durbin- Watson statistical result. The Durban-Watson test is run when running a linear regression to test whether an autocorrelation would occur. This would indicate that the observations would be correlated. The Durbin-Watson test ranges between 0-4, with a result close to 2 indicating no correlation between the results and the residuals. A Durbin-Watson result of 1.886 (see Table 3) resulted when running the regression for this research. This result is close to two, indicating that the results are independent of residuals, which would translate into errors. This assumption was met because there is no correlation between the residuals and the results.

Assumption 5

The fifth assumption is homoscedasticity; see Yang et al. (2019). The variance remains relatively consistent with the increasing variables with a reasonably normal plot distribution (graph 2). As assessed by the scatterplot (graph 2), homoscedasticity was demonstrated a consistent trend with higher standardized residual values. Thus, this assumption was met.

Assumption 6

The sixth and final assumption is normality, see Jupiter, (2017). There is normality to the plot as per the sixth assumption. The histogram (see Figure 1) verifies normality (Schmidt & Finan, 2018). The curvature superimposed on the graph demonstrates that the plot is relatively normal with a slight bimodal trend with overall normalcy. The histogram is neither skewed in either direction nor is there any kurtosis indication, thus demonstrating the normalcy required to prove this assumption. None of the assumptions were violated; therefore, the results can be interpreted without misleading or invalid conclusions.

Linear Regression Data Tabulation

A simple linear regression was conducted to investigate the association between CF and resilience. The predictor value was CF, and the outcome was resilience. The predictor variable was found to be statistically significant [$\beta = -.316$, 95% C.I., $p < .05$], indicating that for every one-unit increase in CF, resilience decreased by .316 units. The model explained approximately 10% of the variability [$R^2 = .100$] Therefore, the null

hypothesis is rejected, and the hypothesis is retained. The linear regression statistical test assumptions were met, so I proceeded with conducting the simple linear regression of nurses' levels of CF and resiliency. The regression results indicated a negative linear relationship between CF and resilience (see Figure 2).

Table 3

Pearson R

Model	R	R Square	Adjusted R Square	*SE* of the estimate	Durbin-Watson
1	-.316[a]	.100	.091	5.86979	1.839

a. Predictors: (Constant), Total_ProQOL

b. Dependent Variable: Total_Resilience Resilience_Score

The first test is the Pearson's R to indicate the linear strength or weakness of the association between the two variables. The distribution of the Pearson's R is divided into three ranges with (+ / -) 0.00-0.29 indicating a weak negative association, (+ / -) 0.30 - 0.40, a moderate association, and (+ / -) 0.5 -1.00 indicating a strong association (Gray, 2017). The Pearson's R for this research is r = - 0.316, reflecting a moderate negative relationship (p = 0.000) between resiliency and CF. The R^2 value suggests that 10 % of the variability is due to the model (R^2 = 0.100). As the ProQol score increased by one unit, the dependent variable decreased by 0.316 (se = 0.032) (p = 0.000).

The significance in the following reported result aids in either accepting or rejecting the null hypothesis. The one-way analysis of variance demonstrated that the relationship between CF and resilience was significant F (12.056) the degree of freedom

(*DF* = 1,198) compared to the accepted F distribution table result (3.84). The *DF* (110) is greater than the accepted value (3.84), which gives a significant value (*F* 12.056), exceeding the critical value to *s* = .000, higher than the accepted nominal alpha level of *α*.05. This result indicates the null hypothesis that there is no association between CF and resilience can be rejected and the hypothesis that there is an association between CF and resilience can be accepted.

Table 4

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	415.399	1	415.399	12.056	.001[b]
	Residual	3755.538	109	34.454		
	Total	4170.937	110			

a. Dependent Variable: Total_Resilience Resilience_Score

b. Predictors: (Constant), Total_ProQOL

I ran the ANOVA (see Table 4) to see if the model was significant (Gray, 2017). The one-way analysis of variance demonstrated that the relationship between CF and resilience was significant *F*(12.056) the degree of freedom (*DF* = 1,198) compared to the accepted *F* distribution table result (3.84). The *DF* (110) is greater than the accepted value (3.84), which gives a significant value (12.056), exceeding the critical value to determine that there is, in fact, a statistical significance for this research. This degree of freedom indicates a significant correlation between CF and resilience, where the higher the CF, the lower the resilience. A significance level of .001 is less than the accepted 0.05, indicating that the model, in general, is statistically significant.

Table 5

Coefficients

Coefficients	Unstandardized		Standardized Coefficients			95.0% Confidence Interval for B	
Model	B	std.error	Beta	t	Sig	95.0% confidence Lower Bound	Interval for B Upper Bound
(constant)	45.913	3.120		14.714	.000	39.728	52.097
Total ProQOL	-.191	.055	-.316	-3.472	.001	-.300	-.082

The β coefficient represents the magnitude of variation between the two variables in an easier-to-understand percentage (Warner, 2013). The tabulation of the data collected determined a β coefficient of - .191 unstandardized and - .316 standardized β coefficient. The results indicate that for each increased unit of CF, the resilience decreases by .191 units per the unstandardized and .316 per the standardized β coefficient. The standardized β coefficient is the preferred method of reporting. It has set limits with no higher than 1 or lower than -1, whereas the unstandardized has no set limits. The data demonstrates that the higher the degree of CF, the lower the nurse's reported resilience. This test assists with predicting the association between CF and resilience; this also has a significance of 0.000, which validates the test as significant for this research.

Table 6

Assumptions/Residuals Statistics

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	30.4408	40.7555	35.2523	1.94329	111
Std. Predicted Value	-2.476	2.832	.000	1.000	111
Residual	-17.08133	19.55924	.00000	5.84305	111
Std. Residual	-2.910	3.332	.000	.995	111

a. Dependent Variable: Total_Resilience Resilience_Score

The residual of any regression model shows the degree of influence that other variables may have on the results (Warner, 2013). Variables such as the respondent's age, years of experience, and educational background may influence the results. The residual may also include unknown variables such as the effect of the prolonged COVID-19 pandemic on the nurses. It is desired to have a low residual, showing minimal variance related to these statistics (Warner, 2013). This research has a residual of 0.000, showing minimal influence from other variables related to this research (see Table 6).

Summary

As part of the study's quantitative design, I performed a simple linear regression to analyze the survey data. The survey was sent out to 100 LTC facilities; once the responses were cleaned for the educational level, 111 of the 342 surveys fell into the appropriate demographic for floor nurses. The results were then tabulated to explore if there was an association between CF and resilience.

The results were statistically significant from the ANOVA result, thus warranting proceeding to the subsequent research analysis. There was also evidence of

homoscedasticity with minimal kurtosis and skewness to the results and resulting graphs. The linear regression results demonstrated a negative association between CF and resilience. The remaining tables and graphs show the negative association between CF and resilience, indicating that for each unit that CF increases, the nurse's resilience decreases by .316 units, which indicates that increased investigation is warranted to influence changes in LTC facilities further to improve nursing care, ultimately creating positive social change for residents. A complete interpretation of the results demonstrated by the data will be included in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

In this quantitative correlational study, I examined the relationship between CF and resiliency among nurses in LTC settings. A sample of over 100 LTC nurses completed a demographic survey and two other surveys, one of which measured levels of CF and the other, resiliency. The data indicated that the research was significant and that there was a negative association between CF and resilience. Results of the simple linear regression used to analyze the survey indicated that as resiliency increased, CF decreased, indicating that resiliency has a mitigating effect on CF.

The need to retain experienced nurses in LTC treatment facilities is critical to the quality of care available to LTC residents. This issue is compounded by the global pandemic's impact on the nursing labor market. Understanding the effect of CF and resilience on nurses may encourage LTC management to address nurses' working conditions. Initiatives and practices that improve resilience (Smith &King, 2019) among nurses could serve to decrease CF, thus improving the care offered to LTC residents.

Interpretation of the Findings

The discovery that an association exists between CF and resilience could bring a positive social impact. The impact would be LTC organizations addressing the need to develop initiatives and programs in support of nurses' resilience and self-care needs while decreasing nursing staff turnover. The potential initiatives could increase the

nurses' resilience and decrease CF, thus increasing the nurses' ability to offer safe, competent care to the residents in the LTC facilities and the patients well-being.

Watson's theory of caring framework outlines 10 carative factors. These factors include hope, sensitivity to self/others, expressing feelings, and existential-phenomenological forces (McEwen &Willis, 2014). My research related directly to this theory with regard to the components of CF and resilience and their consequences on LTC nurses. Caritas, such as being authentically present and sustaining hope, sustaining helping and trusting relationships, and practicing loving kindness of self (Watson, 2020), can all be impacted by CF and the decrease of resilience (Griffin et al., 2021).

This research demonstrated that as CF increased by one unit, there was a reported decrease in resilience of 0.316 units, which correlates with what Sinclair et al. (2017) and Jakimowicz et al. (2018) found in nurses working in other areas within the nursing field. The decrease in resilience found in this study also agrees with the findings of Gibbons et al. (2019), indicating a decrease in resilience found in both LTC settings and other areas of nursing. This decrease in resilience may be the reason there is an exodus of nurses (OnShift, 2022). Increasing LTC nurses' resilience should lead to a decrease in CF, leading to a reduction in the number of nurses leaving the profession. The negative correlation observed between CF and resilience in LTC nurses agrees with Weidlich and Ugarriza (2015), who studied the correlation between CF and resilience in critical care military nurses. Both studies found that as CF increased, resilience decreased, indicating

that this is an issue not limited to LTC nurses but can be found in other nursing specialties.

Limitations of the Study

This research has some limitations. Other potential limitations were not realized. For instance, the costs of the questionnaire or the statistical data processing program were ultimately not limitations. The recruitment of respondent nurses was not a limitation; however, I could not use randomization, which would have improved the generalizability of the study. I only sent the study to one national organization along the Eastern Seaboard and the central United States; this may be a limitation. The survey was offered to all facilities within that organization. Over 300 responses were received; however, the sample of nurses after non-RNs was removed did not leave a large enough sample to meet the power requirements and randomly select participants to include in the study. I might have had a larger sample to allow random selection if I had access to LTC nurses in additional states and organizations. Over 1,000 nurses were given access to the survey, yet only 342 responded. Of these respondents, 231 were removed due to not falling within the criteria for this research. Even though the survey eligibility information indicated that I was seeking responses from floor nurses (LPN, RN, BSN), others within the nursing field such as CNAs and those in management positions completed the survey as well.

My role in the partner organization may have been a limitation. However, the possible limitation of my working with the direct care nurses was eliminated when I

accepted a new role within the corporation, removing me from any contact or direct supervision of LTC nurses. My new role still allowed for the use of the facilities but removed the possibility of any conflict of interest that could have arisen with my previous position.

The limitation to generalizability would be that the survey was only offered to the facilities of one parent company in one (albeit large) geographic area (U.S. Eastern Seaboard). Including different states, or regions with different regulations and support systems, could possibly have an effect on the responses received from the LTC nurses. Any possible limitation related to the continued effects of the COVID-19 pandemic on the nurses remains unknown. The ongoing pandemic affects nurses differently than other members of the broader population. Issues such as sleep disturbances, anxiety, and fear for self-well-being and the ability to care for others, have the potential to affect nurses differently as a cohort, with individual differences within the nursing population (Sampaio et al., 2021). Without further research, this is one limitation that I cannot adequately address for this research at this time. The possibility of the impact of race or ethnicity on responses was not considered. This may also cause a limitation on the generalizability of this research.

Recommendations

One recommendation would be to offer the survey to a more extensive and more varied population of LTC nurses across the United States, rather than limiting the results to the Eastern Seaboard and central states. Other variables such as years of nursing

experience or educational level would be recommended avenues for further study. Another recommendation would be to conduct a qualitative study to determine what, if any, programs different nursing facilities have done to decrease CF and increase resilience.

Further research should be completed regarding age, ethnicity, nursing experience, or educational level and their association between CF and resilience. Studies of this association should also be performed to see if CNAs and nurses in management roles also have the same negative association as with this study. Finally, an option could be reaching out to nurses throughout the entire nation to see if there is an association with the different states or regions within the United States.

Implications

Implications for Practice

The implications for practice in LTCs are that the study findings may support administration considering the effects of work conditions on nurses in LTC settings (see OnShift, 2022). I collected the survey data at the end of the second year of the COVID-19 pandemic. At the time of writing, halfway into the third year of the pandemic, working conditions for nurses, including LTC nurses, continue to be challenging (Li et al., 2021). Stressors faced by LTC nurses may continue to increase as attrition of nurses from the field to other, less difficult lines of work, lead to LTC staffing shortages. This said, the number of LTC residents will likely remain stable or even increase, due to an aging population and possibly even due to post-COVID-19 effects.

There is a statement often heard in the nursing field: "We have always done it that way." This statement, however, no longer represents a practical philosophy. The problems of nurses leaving the profession because of increased CF and complete burnout require attention. Nurses know when they are unable to provide the level of care they must offer and that the residents deserve. Observed increases in CF and related decreased resilience are not necessarily something they can overcome without the intervention of the facility management (Zhang et al., 2018).

Implications for Social Change

The first step in initiating a social change is to identify that there is an issue; no change will occur until the issue is recognized (Remen, 2021). This research is intended to drive social change. It demonstrates an issue regarding the decreasing resilience and increasing CF of the floor nurses in LTC facilities and makes the case that this knowledge should encourage LTC management to realize that there is a need to foster a workplace that encourages initiatives in support of nurses' resilience. This research shows a definite negative association between CF and resilience. The results support my hypothesis that there is an association between CF and resilience; however, the fact that it is a negative association implies that there is a requirement to improve LTC nurses' resilience, including by improving their working conditions.

Whereas the decrease is not as substantial as expected, there is still a downward trend regarding nurses' resilience as the reported CF increases. This indicates that the nurses are becoming less able to deal with changes and adapt to developing issues.

Unfortunately, nursing requires the ability to adapt quickly to evolving situations, which is a frightening trend for the nurses and, by default, for the residents to whom they offer care to. A decreased ability to adjust rapidly can potentially put the residents and possibly the nurses in danger**.** Nurses often do everything they can to maintain safe and resident-specific care, but they do so at the cost of their self-care (Thieman, 2018, Wayment et al., 2019). This indicates a need for the administration to look at the nurses' working conditions closely. There is a need to reevaluate the staffing levels and resident-to-nurse ratios in LTC facilities. Mandatory overtime needs to be reevaluated regarding its effect on nurses' ability to offer the level of care they wish to offer and the residents require.

Methodological/Empirical Implications

More research is needed to fully understand the association between CF and resilience. Specifically, researchers should focus more closely on factors such as educational status or years of nursing experience in LTC facilities. The raw data also included CNAs and advanced degree nurses, but these data were cleaned from the data set. It would be beneficial for future researchers to determine if CNAs and advanced practice nurses demonstrate the same association between CF and resilience.

Recommendations for Practice

The results of this study are important because they show that as respondents' CF increased, their resilience decreased, which is essential to know as LTC management struggles to retain nurses. The pandemic has also placed further demands on staffing and nursing positions in acute and LTC facilities, resulting in nurses leaving the profession

(OnShift, 2022). Knowing that CF occurs in the nursing profession and that efforts to improve resiliency could mitigate the fatigue nurses experience should provide the impetus for LTC management to reevaluate the working conditions and find ways to promote the mental and emotional health of LTC nurses. The trend of the attrition of nurses needs to be countered, and the encouragement of self-care is essential to turn the tide of the great resignation (Cook, 2021, Rae, 2022) that the United States is experiencing.

My recommendation would be that the management of LTC facilities consider options and methods that can help decrease the CF the nurses are experiencing and thus increase their resilience, which is essential for safe and compassionate resident-centered care. The development and implementation of initiatives to build nurses' resilience can assist in creating a safe nursing environment that will foster the desire of nurses to continue in this critical field. The creation of educational opportunities regarding self-care in the effort to decrease the effect of CF (Berg et al., 2016) is invaluable in the effort to retain nurses in this field. Increased mental health awareness of the floor nurses by management should also be researched (Allen, 2020). It would be worthwhile for management to explore other self-care practices and therapies, such as movement and dance therapy (Yilmazer et al., 2020) to assist with CF. Strategies, such as education, to increase resilience may be implemented to increase resilience (Stacey et al., 2019; Yu et al., 2019).

Conclusion

Self-care and resident-care are synonymous in nursing. The association demonstrated in this research of the link between increased CF and decreased resilience makes a strong case for LTC management to support nurse resilience. Management can no longer dismiss the nurses' working conditions and need to seek ways to mitigate low levels of nurse resilience actively. Without action, the nursing shortage will continue to grow and develop into an undesirous situation where the safety of the residents and nurses may be severely impacted.

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Appendix A: Recruitment Flyer

Doctoral Student looking for nurses to answer a survey to complete dissertation.

Please go to XXXX@XXXX (site) to access the consent and survey.

Will only take about 10 minutes of your time.

Thank you

Dierdre de Gravina

Appendix B: Letter to Other Facilities

Good day,

My name is Dierdre de Gravina. I am the Staff Development Coordinator (SDC) at the Newburgh facility in Southern Indiana. I am also currently working on my dissertation for a Doctorate in Nursing, for which I am seeking survey respondents.

For my dissertation, I am seeking to understand the association between compassion fatigue and resilience in nurses working in long-term care. To this end, I would like to offer a survey on these topics to the nurses at your facility. I have included the IRB and Signature approval to offer the survey.

It would be most helpful to me if you could post the flyers around your facility to inform the nurses about my research and the request for respondents.

Please feel free to contact me if you have any questions.

Thank you for your time in supporting me in this research.

Dierdre de Gravina RN, MSN, PhD(c)

Walden Doctoral Candidate

SDC Signature Healthcare of Newburgh

[email address redacted]

[email address redacted]

[telephone number redacted]

Appendix C: Demographic Questions

Demographic Information to be collected as part of the survey

The following questions will be included in the survey:

What is your current age range?

1- 20-30

2- 31-40

3- 41-50

4- 51-60

5- >60

How many years of experience do you have as a nurse?

1- <10 years

2- 10-19 years

3- 20-29 years

4- 30-40 years

5- >40 years

How many years have you worked in Long-term care/Nursing home?

1- <10 years

2- 10-19 years

3- 20-29 years

4- 30-39 years

5- >40 years

What is your education level?

1- CNA

2- LPN/VN

3- ASN

4- BSN

5- MSN/DNP/Ph.D./NP or another advanced degree

What gender do you identify as?

1- Male

2- Female

3- Nonbinary

4- Genderfluid

5- Choose not to say

Appendix D: Permission to Use the Professional Quality of Life Measure

Thank you for your interest in using the Professional Quality of Life Measure (ProQOL).

Please share the following information with us to obtain permission to use the measure:

Please provide your contact information: Email Address

[redacted]

Name

Dierdre De Gravina

Organization Name, if applicable

Walden University School of Nursing

Country

USA

Please tell us briefly about your project:

I am completing my Dissertation regarding the association between the increase in Compassion Fatigue and decrease in Resilience in Long-Term Care nurses.

What is the population you will be using the ProQOL with?

Long-Term Care/ Nursing Home Nurses

In what language/s do you plan to use the ProQOL?

Listed here are the languages in which the ProQOL is currently available (see https://proqol.org/ProQol_Test.html). If you wish to use a language not listed here, please select "Other" and specify which language/s.

English

The ProQOL measure may be freely copied and used, without individualized permission from the ProQOL office, as long as: You credit The Center for Victims of Torture and provide a link to www.ProQOL.org; It is not sold; and No changes are made, other than creating or using a translation, and/or replacing "[helper]" with a more specific term such as "nurse."

Note that the following situations are acceptable: You can reformat the ProQOL, including putting it in a virtual format. You can use the ProQOL as part of work you are paid to do, such as at a training: you just cannot sell the measure itself

Does your use of the ProQOL abide by the three criteria listed above? (If yes, you are free to use the ProQOL immediately upon submitting this form. If not, the ProQOL office will be in contact in order to establish your permission to use the measure.)

Yes

Thank you for your interest in the ProQOL! We hope that you find it useful. You will receive an email from the ProQOL office that records your answers to these questions and provides your permission to use the ProQOL.

We invite any comments from you about the ProQOL and the experience of using it at proqol@cvt.org. Please also contact us if you have any questions about using the ProQOL, even if you noted them on this form. Note that unfortunately, our capacity is quite limited so we may not be able to respond to your note: however, we greatly appreciate your engagement.

Appendix E: Permission to Use the Connor-Davidson Resilience Scale-10

Re: RISC Dierdre de Gravina
Jonathan Davidson, M.D. <email address redacted>
Tue 6/30/2020 9:28 PM
To:

- Dierdre De Gravina <email address redacted>

3 attachments (6 MB)
Scoring the CD-RISC.pdf; aRISC Manual 06-01-20_F.pdf; aCD-RISC-10 01-01-20 F_CR.pdf.
Thank you Dierdre:

Please find attached RISC-10 and related materials. Let me know if I can be of further assistance.

With good wishes,

Jonathan Davidson