2023

Burnout and Positive Thinking Skills Among Critical Care Nurses

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Walden University
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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Nursing

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Abstract

Burnout is a global health problem with a significant negative impact on the physical, mental, and emotional health and well-being of critical care nurses, which in turn has serious effects on the critical care work environment. Positive thinking has the potential of transforming the work environment. The purposes of this quantitative, correlational study, guided by Lazarus's theory of stress, were to determine (a) if there was a relationship between the use of positive thinking skills and burnout among critical care nurses, and (b) if there was a difference between the use of positive thinking skills and burnout among critical care nurses who have been working in the critical care units for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year. A total of 242 critical care nurses working in acute care hospitals in the Southern United States participated in the study. Data were analyzed with Pearson correlation. Results showed a statistically significant negative correlation between positive thinking and emotional exhaustion ($p < .001$), a statistically significant negative correlation between positive thinking and depersonalization ($p < .001$), and a statistically significant positive correlation between positive thinking and personal accomplishment ($p < .001$). The findings provide new information which may promote a positive work environment, reduce and prevent burnout and can be used to assist with the development of formal training on positive thinking to empower critical care nurses to increase awareness of their personal strengths, which can affect positive social change. Future research should be directed towards interventional studies with pretest-posttest control groups to establish a causal link between positive thinking and burnout.

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Dedication

I would like to dedicate my Ph.D. in Nursing degree accomplishment to God Almighty, who makes all things possible. I thank God the Father, God the Son, and God the Holy Spirit, who is the source of all inspirations, vision, wisdom, and knowledge. I give thanks to God for his grace, guidance, immeasurable kindness and inexhaustible goodness, love, and mercy. I thank God for giving me the joy and passion for positive social change. "I can do all things through Christ who strengthens me (Phil 4:13)."

Finally, I would like to remember all the critical care nurses who unfortunately experienced burnout symptoms as they work tirelessly to care for very ill patients, especially during the COVID-19 pandemic surge, because many patients required ICU level of care. I hope they find my study promising and a source of inspiration in their daily work.

Acknowledgments

To my family, my children, and mother, I say a "big thank you" for your prayers, love, support, and encouragement. I truly appreciate all the sacrifices and for going the extra miles to support me in the pursuit of my academic goals. I also remember prayerfully the memories of my beloved loved ones who are no longer here on earth. I would like to cherish the memories of my father for laying the foundation and zeal for academic excellence. My father, known for exceptional academic excellence, instilled in me and my siblings the zeal to attain the highest academic ladder. I would also like to thank my siblings and their families for their prayers, love, and support. I would like to express my gratitude to my sister-in-law, relatives, friends, and Holy Spirit Catholic Charismatic Renewal Ministry for their prayers and positive contributions to make this journey a success.

I would like to thank Walden University for the educational and learning opportunity, for promoting positive social change, and for the "motto," "A higher degree, A higher purpose," all of which continually inspired and motivated me in my journey of academic success. I would like to thank my chair, Dr. Leslie Hussey, for her expertise, insight, guidance, ongoing support and approachable manner. Also, I thank Dr. Hussey for her encouragement and inspiration. Towards the end of my final study process, Dr. Hussey would often write in her messages to me "almost there;" this truly inspired and motivated me more, and I appreciated it. I would also like to thank my committee and URR members respectively, Dr. Mary Martin and Dr. Carolyn Sipes, for their insightful feedback and contributions.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Introduction

Burnout is a global problem that threatens the health and well-being of critical care nurses (Vahedian-Azimi et al., 2019; Wei et al., 2020; Zhang et al., 2020). There is still no identifiable solution for burnout despite the extensive studies and existing interventions on burnout (Bakhamis et al., 2019; Moss et al., 2016). Many burnout studies (Monroe et al., 2020; Moss et al., 2016; Ulrich et al., 2019) have focused on addressing factors in the nurses' work environment in order to combat burnout. In this study, I propose a different approach to combating the problem of burnout. This approach focuses on positive thinking and highlights the importance of interpretation and perception in stress, a key to understanding how stress occurs based on Lazarus's theory of stress. The interest in burnout has continued to grow over the past 15 to 20 years due to the serious consequences it has had on patient safety, quality, health care professionals, and the health care organization (Manzano-Garcia & Ayala, 2017). Burnout was first introduced in 1974 by the American psychologist Freudenberger to describe high levels of work-related stress, which he and his colleagues experienced while at a free clinic. Burnout is characterized by an overwhelming exhaustion, depersonalization, and reduced personal accomplishment due to prolonged exposure to stressors in the workplace (Maslach & Leiter, 2016). Burnout has been described in literature as an epidermic, denoting its widespread in occurrence (Bakhamis et al., 2019).

A widespread occurrence of burnout has been reported among critical care nurses. Swampy et al. (2020) reported that critical care nurses have the highest burnout rates of

all nurse specialties, with one third to more than half of critical care nurses reporting symptoms of burnout. The prevalence of burnout among critical care nurses has been attributed to the highly stressful nature of their work environment (Alharbi et al., 2016; Awajeh et al., 2018; Cishahayo et al., 2017). The intensive care unit (ICU) is a highly specialized area with very ill patients, and the ongoing exposure to trauma and death places critical care professionals at high risk for burnout (Moss et al., 2016). Burnout results due to an imbalance between the expectations of the individuals and the demands of the job (Moss et al., 2016).

Burnout is a significant health problem among the critical care nurses and has gained the attention of experts in the critical care community. The Critical Care Societies Collaboratives (CCSC) issued a joint statement entitled "A Call for Action" as an invitation for more research and interventions to address burnout (Moss et al., 2016). The CCSC convened a working group to raise awareness of the significance of the problem, including causes and prevention of burnout (Moss et al). The CCSC consists of the four major critical care experts: American Association of Critical-Care Nurses (AACN), American Thoracic Society, American College of Chest Physicians, and Society of Critical Care Medicine (Moss et al., 2016). The CCSC report provided a summary of literature on interventions on burnout, which included environmental, communications, team-based, practitioner-based interventions, and interventions to mitigate risk factors. The call for action report is an indication of the continuing challenge of burnout among critical care professionals, despite the available interventions.

There is a consensus among the critical care experts that burnout remains a challenge (Bakhamis et al., 2019; Moss et al., 2016), thus justifying the need for a different approach to combating the problem of burnout. The focus of my study was on burnout and positive thinking among critical care nurses. Positive thinking is a cognitive process that focuses on the favorable aspect of a situation, rather than the negative. Lazarus and Folkman (1984) stated that a person's perception and interpretation of an event gives meaning to the event and determines whether the event will be viewed in a positive or negative way. Manzano-Garcia and Ayala (2017) pointed out that the psychological interpretation of the work environment by the nurse plays a significant role in contributing to burnout and not only the characteristics of the work environment.

Positive thinking is a cognitive process that encompasses a hopeful perspective about things, focusing on the favorable, rather than the negative aspect of a situation, thereby helping a person to deal with problems more effectively (Matel-Anderson & Bekhet, 2018). Positive thinking helps a person to control negative thinking, thereby reducing the stress level (Kooshalshah et al., 2015) and improving the overall physical and emotional well-being (Tully & Tao, 2019). As a result, the nurse can function to their fullest potential to provide competent, compassionate, and empathic care to patients, therefore fulfilling an essential role (Hofmeyer et al., 2020). The physical and mental health of the nurse is crucial for engagement at work. Staff engagement and satisfaction has been linked to positive patient outcomes and enhanced organizational and financial well-being (Perlo et al., 2017), thus leading to a positive social change.

Studies on burnout are critical due to the high prevalence of burnout among critical care nurses and the adverse impact on patient safety and quality, nurses' wellbeing and health, and financial and organizational outcomes (Moss et al., 2016), hence justifying an urgent need for a solution to address the chronic problem. The 1999 Institute of Medicine landmark report titled "To Err is human, building a safer health system," placed patient safety as a top priority in health care, transforming the health care agenda. However, the continuing prevalence of burnout in health care, particularly in the critical care units, threaten to derail the progress made on patient safety. Talaee et al. (2020) reported that burnout has been linked to the frequency of medical errors and quality of care issues. More specifically, Dyrbye et al. (2019) reported that increased patient mortality and infection rates have been associated with burnout.

A significant threat exists on the impact of burnout on individual well-being and health. Physical and psychological symptoms associated with burnout include fatigue, overwhelming exhaustion, cynicism, anxiety, depression, frustration, headache, insomnia, and lack of empathy (Bakhamis et al., 2019,). This leads to decreased interest in work, increased absenteeism, turnover rates, and shortage of nurses (Moss et al. 2016). The Coronavirus pandemic (COVID-19) has compounded the problem of burnout. According to Shreffler (2020), the challenge of caring for very ill COVID-19 patients, fear of contracting the infection, the acute shortage of resources, and need for self and family care have all placed significant mental and physical burden on health care workers. Fernandez et al. (2020) noted that the significant impact of the COVID-19 pandemic on nurses is an indication of the need to implement strategies that will support and promote

nurses' health and well-being. Thus, through this study, I hope to improve the health and well-being of critical care nurses by reducing and preventing burnout so they can in turn provide safe and quality care to patients, therefore supporting the initiative to reduce burnout and promote joy in work launched by the Institute for Health Care and Quality.

Background

The problem of burnout among critical care nurses is a serious problem that needs urgent attention due to the toll it has taken on individuals, patient safety, quality, and organizational performance (Moss et al., 2016). Existing interventions against burnout have not offered any lasting solution, thus the urgent call for action by the CCSC (Moss et al., 2016). It is well documented in the literature that nursing is a highly stressful job due to the high demands of the roles and the work environment (Howell, 2021). According to Talaee (2020), highly stressful jobs are likely to contribute to burnout. The stressful nature of the nurses' role is not new; it has been present since the era of Florence Nightingale, the founder of modern nursing (Tye, 2020). However, the stress of nursing has gone unrecognized until recently when it started gaining attention in literature (Manzano-Garcia & Ayala, 2017) due to the serious negative impact on the wellbeing and health of the nurse, patient safety, quality of care, and organizational and financial outcomes (Moss et al., 2016; Perlo et al., 2017).

Florence Nightingale worked tirelessly during her era to care for the injured and dying soldiers during the Crimean War. She made rounds in the hospital at night carrying a lamp, which earned her the title "the lady with the lamp" (Tye, 2020). Florence Nightingale faced many stressors during her work, and she combined many roles, as she

led reforms in health care and made significant contributions in areas of hospital epidemiology, statistics, infection control, medical triage, patient education, and empowerment (Tye, 2020). McDonald (2020) reported that her persistence and dedication led to improvement in the sanitary condition of the environment, thus leading to decreased mortality rate of the soldiers.

Today in healthcare, the stressors in the nurses' work environment are similar to the Florence Nightingale era. It is well documented in the literature that critical care nurses are at a high risk for burnout due to the nature of their work environment. The critical care environment is a specialized unit with technical equipment and monitors, including mechanical ventilators to assist breathing for critically ill patients (Mushonga & Dube-Mawerewere, 2017). Scholtz et al. (2016) described the critical care unit as a unique environment where very ill patients receive care. As a result, it is fast paced, requiring critical decisions to be made quickly. The critical care nurses' experiences of trauma, end of life issues, human suffering, work pressure, and increasing job demands all contribute to a stressful work environment (Alharbi et al., 2019). According to Talaee (2020), caring for critical care patients is a known factor contributing to job burnout. Burnout diminishes the nurses' ability to perform the essential nursing role of providing compassionate and empathic care (Alharbi et al., 2019).

The emergence of COVID-19 pandemic in the late 2019 posed a significant threat to public health (Santos, 2020) and a source of unprecedented stress on critical care nurses. COVID-19 is a severe respiratory disease that is highly infectious and can be transmitted from human to human through respiratory droplet (Santos, 2020). Armstrong

et al. (2020) reported that the COVID-19 pandemic led to a high demand of intensive care worldwide, thus placing critical care nurses at a higher risk of contracting COVID-19 infection due to the constant care ICU patients require. The additional burden of acute shortage of personal protective equipment, supplies, and ventilators became a source of constant worry and anxiety for the ICU nurses (Howell, 2021).

Notable work on burnout among critical care nurses have been leadership driven and focused on addressing factors in the nurses' work environment, thus overlooking individual factors that also impact burnout, such as the perception and interpretation of stressors by nurses, as pointed out by Manzano-Garcia and Ayala (2017). The AACN implemented eight Healthy Work Environment standards to promote a healthy work environment: skilled communication, true collaboration, effective decision making, meaningful recognition, appropriate staffing, and authentic leadership (Ulrich et al., 2019). Also, existing interventions included in the official critical care societies' collaborative statement on burnout syndrome in the critical care addressed organizational, environmental, and individual based interventions. Despite the existing interventions, there is still no effective solution for burnout (Bakhamis et al., 2019). The use of positive thinking skills to address burnout has been overlooked by researchers.

Problem Statement

Burnout is a serious global health problem that significantly impacts the health (physical, mental, and emotional) and well-being of critical care nurses, patient safety, quality of care, and organizational outcomes (Perlo et al., 2017; Vahedian-Azimi et al., 2019; Wei et al., 2020; Zhang et al., 2020). Burnout is characterized by an overwhelming

exhaustion, depersonalization, and reduced personal accomplishment due to prolonged

exposure to stressors in the workplace (Maslach & Leiter, 2016). Freudenberger (1974),

who first described the concept of burnout, stated that burnout usually occurs after 1 year

following employment. Therefore, burnout occurs over time. ICU nurses with more years

in experience are more likely to develop burnout due to prolonged exposure to work-

related stress (Abumayyaleh et al., 2016; Batran, 2019). This is consistent with a previous

study, which found that the level of stress increased among nurses with more years of

professional experience (Al Shehri et al., 2012). Clinical manifestations of burnout

include fatigue, anxiety, depression, headache, insomnia, irritability, lack of motivation,

cynicism (negative attitude), loss of compassion, and lack of empathy (Moss et al., 2016).

Research has shown that one third to more than one half of critical care nurses experience

burnout symptoms (Swampy et al., 2020). Critical care nurses are individuals with

specialized training to care for very ill or unstable patients with life-threatening

conditions across different care settings, including ICU (Alharbi, 2019). Waddill-Goad

(2017) noted that care and compassion are foundational to nursing practice. Pastores et al.

(2019) pointed out that the delivery of care by "caring and compassionate" providers is

critical to providing high quality care. The impact of burnout on critical care nurses is

deleterious as it diminishes the critical care nurses' ability to perform the core role of

providing compassionate, empathic, safe, and quality care to patients (Mudallall et al.,

2017; Perlo et al., 2017).

In a review of burnout in nursing, Dall'Ora et al. (2020) reported that evidence

from 17 studies showed a negative effect of burnout on the quality of care and patient

safety. These include adverse events, error reporting, medication error, infections, patient falls, patient satisfaction, and family complaints. Depersonalization (burnout dimension) was associated with nosocomial infections, and, in another study, all three burnout dimensions predicted medication errors. Another study showed an association between higher levels of emotional exhaustion (burnout dimension) and low personal accomplishment (burnout dimension) with patient dissatisfaction (Dall'Ora et al., 2020).

Organizational impacts of burnout include low employee morale, lower staff engagement, decreased productivity, excessive absenteeism, and intention to leave (Papazian et al., 2018; Perlo et al., 2017). Burnout leads to decreased job satisfaction, high nurse turnover, and nursing shortage (Nantsupawat et al., 2017). Dilig-Ruiz et al. (2018) found that job satisfaction is a key factor associated with high turnover rates among critical care nurses and has significant financial implications for the organization. In a systematic review of literature on work-related stress involving 15 studies (including the United States), the total estimated cost of work-related stress may range from $221.13 million to $187 billion, with productivity related losses accounting for majority of the total cost, between 70% to 90% (Hassard et al., 2018).

The high prevalence of the burnout rate among health care professionals has gained the attention of notable health and regulatory organizations. The World Health Organization (WHO, 2019) recently classified burnout as an "occupational phenomenon" that results from chronic work stress that is not managed appropriately. WHO has proposed to develop evidence-based guidelines that can only be used for work-related experiences. The Institute for Healthcare Quality published a white paper launching the

initiative on "Finding Joy in Work" to combat burnout among health care professionals (Perlo et al., 2017). Also, the Joint Commission (2019) issued a quick safety advisory on combating burnout among nurses, which emphasized leadership responsibilities. The growing trend of burnout is worrisome because there is still no identifiable cause despite existing interventions (Bakhamis et al., 2019).

The emergence of the COVID-19 pandemic compounded the already existing problem of burnout in nursing (Sultana et al., 2020). Zhang et al. (2020) reported that nurses who provide bedside care experienced considerable stress. However, nurses who cared for COVID-19 patients in the ICU experienced higher levels of burnout (Talaee et al., 2020). Taking care of infected patients posed a great challenge to ICU nurses due to the need for continuous close contact with infected patients over a prolonged amount of time (Talaee et al., 2020). The health and well-being of the health care worker is critical to ensuring a comprehensive and uninterrupted delivery of care to patients (Chang et al., 2020).

In a qualitative study conducted to examine the challenges experienced by ICU nurses while caring for COVID-19 patients, the nurses reported the following problems: lack of organizational support, high workload, inadequate personal protective equipment (PPE) such as, medical masks, N95 respirators, protective gowns, shields, latex and disposable gloves, protective goggles, and special protective gear (Moradi et al., 2021). The nurses reported starvation due to missing meals and inadequate fluid intake in order to avoid using the bathroom due to burden of wearing the PPEs, leading to dehydration, urinary tract infection, and constipation (Moradi et al., 2021). The nurses in the

qualitative study who cared for COVID-19 patients in the ICU were physically and

psychologically overwhelmed (Moradi et al., 2021) consistent with burnout symptoms

(Maslach & Leiter, 2016).

The problem of burnout among health care workers, which was exacerbated by

the COVID-19 pandemic, has gained national attention, including that of the lawmakers.

In August 2021, the U.S Senate unanimously passed the Dr. Lorna Breen Health Care

Provider Protection Act, a bipartisan legislation supported by the Joint Commission to

address serious health problems impacting health care workers, such as burnout, suicide,

mental, and behavioral health conditions (Joint Commission Online, 2021). The

legislation requires the US Department of Health and Human Services to provide a report

to Congress on improving health care personal mental health and resiliency, including

challenges to obtaining mental health care (Joint Commission Online, 2021).

Understanding how stress occurs is critical to finding an effective solution to

burnout. Manzano-Garcia and Ayala (2017) examined factors contributing to burnout and

found that perception and interpretation of work stressors by nurses also play a

significant role in contributing to burnout and not only the characteristics of the work

environment. Lazarus's (1984) theory of stress highlighted the critical role of perception

and interpretation in stress. According to Barto and Burk (2017), the stressful and

tumultuous nature of the ICU work environment is not likely to change, therefore; there

is a need to train critical care nurses on skills that will enable them to think differently

about stress as an effective way of coping with stress. Positive thinking focuses on the

favorable aspect of things rather than the negative as an effective way of coping with

stress (Matel-Anderson & Bekhet, 2018). Tully and Tao (2019) stated that the use of positive thinking skills in nursing is new because there was no prior study on positive thinking in managing work-related stress among nurses, therefore, recommended future research to be directed towards developing formal training for nurses on positive thinking skills. Therefore, this study addressed this gap identified in literature.

Purpose of the Study

The purposes of my study were to determine if (a) there was a relationship between the use of positive thinking skills and burnout among critical care nurses, and (b) if there was a difference between the use of positive thinking skills and burnout among critical care nurses who have been working in critical care units for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year.

Research Questions and Hypotheses

Research Question (RQ)1: What is the relationship between the use of positive thinking skills and burnout among critical care nurses?

$H_0$1: There is no relationship between the use of positive thinking skills and burnout among critical care nurses.

H_a1: There is a relationship between the use of positive thinking skills and burnout among critical care nurses.

RQ2: What is the difference between the use of positive thinking skills and burnout in critical care nurses who have been working in critical care units for 1 year or

less compared with critical care nurses who have been working in critical care more than 1 year?

$H_0$2: There is no significant difference between the use of positive thinking skills and burnout in critical care nurses who have been working in critical care units for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year.

H_a2: There is a significant difference between the use of positive thinking skills and burnout in critical care nurses who have been working in critical care units for 1 year or less compared with critical care who have been working in critical care more than 1 year.

The independent variable was positive thinking skills, and the dependent variable was burnout for RQ1. For RQ2, the independent variable was the length of time as a critical care nurse, and the dependent variable was positive thinking skills and burnout levels.

I used two instruments in my study: the Maslach Inventory Burnout (MBI) to measure burnout and the Positive Thinking Skills Test Scale (PTSS) to measure the frequency of use of positive thinking skills.

Theoretical and/or Conceptual Framework for the Study

Stress is not new and has existed for centuries (Lazarus & Folkman, 1984). The concept of stress has only recently been systematically analyzed and a subject of research (Lazarus & Folkman, 1984). Lazarus's theory of stress, coping, and adaptation has been extensively used in studies on stress and coping and has become the cornerstone of

research in this area (Obbarius et al., 2021; Sharifabad et al. 2020). Lazarus and Folkman (1984) defined stress as a transaction between the person and the environment that is appraised by the person as challenging and beyond their capacity, which negatively impacts their well-being. Thus, Lazarus's theory of stress is commonly known as a transactional based theory. Cognitive appraisal is a critical factor in the theory of stress. Lazarus and Folkman defined cognitive appraisal as a process by which a person evaluates and interprets the stressors in their environment. According to Lazarus and Folkman, stress is not determined by the event itself, rather by the interpretation and perception of the person appraising the event. Thus, a person's interpretation and perception of an event gives meaning to the event and determines whether the event will be viewed in a positive or negative way. Lazarus and Folkman posited that the way a person appraises an event strongly affects their emotional response and ability to cope with the situation. The quality of life is linked to the way people evaluate and cope with the stresses of living (Lazarus & Folkman, 1984). More details on Lazarus's theory of stress, coping, and adaptation are presented in Chapter 2.

Nature of the Study

I conducted a quantitative, correlational study to determine the relationship between the use of positive thinking skills and burnout among critical care nurses. Correlational studies are widely used in health care fields, where manipulation of the independent variable is not needed or possible (Curtis et al., 2016), and a change in one variable is associated with the change in another variable, either in the same direction (positive correlation) or opposite directions (negative correlations; Schober et al., 2018). I

administered two different surveys to critical care nurses: the survey on positive thinking

skills (independent variable) and another survey on burnout (dependent variable).

Definitions

Acute care hospital: A hospital that provides inpatient medical care, including

surgery and acute medical conditions or injuries, mostly for a short-term health condition,

Centers for Medicare and Medicaid (CMS), n.d.

Burnout: Burnout is a serious health problem characterized by overwhelming

exhaustion, depersonalization and reduced professional efficacy due to prolonged

exposure to work-related stressors (Maslach & Leiter, 2016).

Critical care nurses: Individuals with specialized training who provide care to

very ill or unstable patients with life-threatening conditions across different care settings,

including the ICU (Alharbi, 2019).

Critical care unit: Hospital units where very ill patients with life threatening

conditions requiring comprehensive care and continuous monitoring are cared for by

specially trained health care workers, such as critical care nurses (Mushonga et al., 2017).

Perception: A cognitive process by which an individual processes information for

the purpose of assigning meaning to the environmental stimuli (Qiong, 2017). Perception

involves three stages: selection, organization, and interpretation. Interpretation is the third

stage of perception, which enables the person to give meaning to the stimuli (Qiong,

2017).

Positive thinking: Positive thinking is a cognitive process that encompasses a

hopeful perspective about things, focusing on the favorable, rather than the negative

aspect of a situation, thereby helping a person to deal with problems more effectively (Matel-Anderson & Bekhet, 2018).

Stress: Stress is a transaction between the person and the environment that is appraised by a person as overtaxing and exceeding their ability to adequately cope with the event (Lazarus & Folkman, 1984).

Assumptions

The first assumption was that critical care nurses do not desire to experience burnout and would like to experience less burnout in their work environment. Another assumption was that critical care nurses could respond honestly to the survey questions. A final assumption was that critical care nurses desire to be able to control their level of burnout.

Scope and Delimitations

My study methodology was quantitative, using a correlational design to determine if (a) there was a relationship between the use of positive thinking skills and burnout level among critical care nurses, and (b) if there was a difference between the use of positive thinking skills and burnout level in critical care nurses who have been working in critical care for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year. I considered recruiting critical care nurses working in a hospital ICU as participants due to the high burnout that is prevalent among them and well documented in literature. I used convenience sampling. I could not conduct a qualitative study because the quantitative design is the design that best answered the

research questions I proposed. Gray et al. (2017) stated that it is the researcher's choice to select the research design that will best answer the research questions.

The inclusion criteria included critical care nurses who worked in the ICUs. Excluded were critical care nurses who did not work in the ICUs. Lazarus's theory of stress model was selected to guide the study rather than a different model because it provides a basic understanding of how stress occurs. Understanding how stress occurs is key to finding an effective intervention to combat stress (Lazarus & Folkman, 1984). Lazarus's theory of stress focuses on a person's psychological response to stress, with cognitive appraisal as the centerpiece of the stress theory. Cognitive appraisal is the cornerstone of my proposed intervention study. Another stress theory I considered included Selye's theory of stress; however, it centered on the body's physiologic response to stress, which was not relevant to my proposed study. Kolcaba's theory of comfort was also considered for burnout, but it did not address the root cause of the stress.

Limitations

Generalizability of my study results may be affected by the convenience sampling method I used to recruit the study participants. Another limitation was that the study population included only critical care nurses who worked in the ICU, so the results may not be generalizable to all nurses.

Significance

My study contributes new knowledge to the literature because there are a few studies on positive thinking and burnout in nursing, and none of the studies were found in

critical care nursing in the United States. Given the highly stressful work environment of the critical care nurse (Awajeh et al., 2018; Barto & Burk, 2017), my study highlighted the significance of perception and interpretation of work stressors in reducing burnout, thus generating a new focus that can help critical care nurses to view their stressful environment in a positive rather than in a negative way in order to prevent and reduce burnout. The results of my study may be beneficial in developing formal training programs on positive thinking training for nurses as recommended by Tully and Tao (2019) in a prior study on positive thinking among acute care nurses. The results of my study may inform nursing policy, administration, and education. My study results may also be beneficial in providing information for developing wellness program to combat burnout among critical care nurses. The COVID-19 pandemic has highlighted the need to prioritize the health and well-being of nurses. Sovold et al. (2021) noted that frontline health care workers faced significant stressors and mental health challenges in their work during the pandemic, which poses a threat to quality care delivery. Sovold et al. recommended the need for urgent global public health priority on the mental and well-being of the healthcare workers, not only during a public health crisis, but on a day-to-day basis. Shah et al. (2021) cautioned that the United States may be facing an unstable nurse workforce in the future due to COVID-19 related burnout.

Positive Thinking

Positive thinking is a subfield in positive psychology. Positive thinking is a cognitive process that encompasses a hopeful perspective about things, focusing on the favorable, rather than the negative aspect of a situation, thereby helping a person to deal

with problems more effectively (Matel-Anderson & Bekhet, 2019). While burnout is associated with hopelessness and ineffective coping (Howell, 2021), positive thinking employs hopeful images and creativity that helps a person to cope more effectively (Bekhet & Zauszniewski, 2013). Positive thinking replaces negative thoughts present in burnout with positive thoughts. A person who uses positive thinking is less likely to be threatened by stressful events and will have better coping skills than those who have negative thoughts (Matel-Andersona & Bekhetb, 2019.). Frequent experiences of positive emotions and positive attitudes towards life have been linked to quality of life across one's lifespan (Park et al., 2016). Positive thinking reduces stress (Kooshalshah et al., 2015) and improves overall physical and emotional wellbeing (Tully & Tao, 2019). Therefore, the nurse can function at full potential to provide competent, compassionate, and empathic care to patients, fulfilling an essential role of the nurse (Hofmeyer et al., 2020). Higher staff engagement and satisfaction leads to reduced nurse turnover rates, which in turn promotes patient safety and quality, consequently improving financial and organizational performance outcomes (Perlo et al., 2017).

A positive work environment has been linked to positive outcomes (Ulrich et al., 2019). Copanitsanou et al. (2017) conducted a systematic review of literature on the effects of work environment on nurse outcomes and reported key findings linking positive outcomes to positive nursing work environment, which showed that patients who were hospitalized in a positive nursing work environment were more satisfied with the care they received from the nurses than patients who were not.

Summary

Nursing is a highly stressful job (Babapour, et al., 2022). Stress has long existed since the Florence Nightingale era, but it is now gaining more attention in literature due to the serious consequences of burnout on the nurses' health and wellbeing, patient safety and quality, and organizational and financial outcomes. The prevalence of burnout among critical care nurses is well documented in literature (Moss et al., 2016; Vahedian-Azimi et al., 2019; Wei et al., 2020; Zhang et al., 2020). The COVID-19 pandemic placed additional burden on the critical care nurses, compounding the problem. The problem of burnout has gained the attention of the critical care community and an urgent call to address the problem was issued (Moss et al., 2016). There is an urgent need to find a solution to burnout; however, key contributing factors to burnout, such as perception and interpretation of work stressors by nurses, have been overlooked by researchers. This gap revealed the need for my proposed study on burnout and positive thinking skills among critical care nurses. Chapter 2 includes a literature review on burnout and the theoretical framework of Lazarus's theory of stress.

Chapter 2: Literature Review

Introduction

The burnout epidemic among critical care nurses continues to worsen, and it has

been exacerbated by the COVID-19 pandemic. Burnout is a global problem that

adversely affects health care professionals (Vahedian-Azimi et al., 2019; Wei et al., 2020;

Zhang et al., 2020). Burnout occurs across all disciplines but has been reported to be

highly prevalent in the critical care environment among critical care nurses, affecting up

to 80% of critical care nurses (Kumar et al., 2021). Burnout results from prolonged

exposure to work-related stressors due to an imbalance in the work demands and

resources available to the individual (Elbarazi et al., 2017). The interest in burnout and its

effect on nurses has increased over the years due to the growing threat on the health and

well-being of the nurse, patient safety, quality of care, and organizational and financial

outcomes (Manzano-Garcia & Ayala, 2017). Numerous studies conducted have attributed

the high burnout rate among critical care nurses to the stressful nature of their work

environment (Alharbi et al., 2016, Awajeh et al., 2018; Cishahayo et al., 2017). However,

there are other equally important factors that contribute to the level of burnout, such as

the perception and interpretation of work stressors by the critical care nurse, which have

been understudied (Manzano-Garcia & Ayala, 2017).

Freudenberger (1974) first described the term burnout and noted that the

symptoms of burnout vary from person to person and often manifest after 1 year of

employment. Freudenberger classified burnout into physical and behavioral symptoms.

Physical symptoms include a feeling of exhaustion, tiredness, and a general feeling of

unwellness, frequent headaches, lingering cold, gastrointestinal upsets, insomnia, and

shortness of breath. Behavioral issues include irritability, being easily angered, and

frustration. Freudenberger noted that the burnout individual is often emotional and cries

easily. Burnout appears to be prevalent in the helping professions, such as nurses and

physicians (Maslach & Leiter, 2016). Maslach and Leiter (2016) did extensive studies on

burnout in psychiatry, which showed that the occurrence of burnout was due to the

difficult and challenging patients they encountered, and the accompanying violence,

anger, and hatred exhibited by the patients towards them. As a result, psychiatrists have

demonstrated obvious behavioral changes towards patients, such as irritability, appearing

fatigued, poor eye contact, and agitation (Maslcah & Leiter, 2016) Hence, burnout in

psychiatry has been linked to poor care for patients (Maslach & Leiter, 2016). Also,

psychiatrists may experience exhaustion, cynicism, low morale, and ineffective coping

due to excessive workload.

Dr. Hert (2020) studied burnout among physicians and noted that the symptoms

are complex and often vague and described five stages of burnout, stating that the

symptoms differ depending on the stage of occurrence: honeymoon phase, onset of stress,

chronic stress, burnout, and chronic habitual burnout (De Hert, 2020). The honeymoon

stage is marked by enthusiasm and usually occurs during the early part of employment.

The early part of the honeymoon stage is marked by sustained energy levels, optimism,

and commitment to work. Later in the honeymoon phase, stagnation occurs, which is the

onset of stress, and manifests as irritability, inability to focus, change in appetite, poor

relationships, sleep disturbances, and decreased productivity. If adequate coping

strategies are not identified, frustration follows. The stage of chronic stress as marked by

chronic exhaustion, cynicism, and aggression. The fourth stage is burnout and is marked

by apathy, persistent headaches, and gastrointestinal and behavioral issues. The fifth

stage is marked by chronic sadness, chronic mental and physical fatigue, and depression

(De Hert, 2020).

Patel (2018) reported that burnout in physicians manifest as depletion of energy,

where physicians feel drained from work, and this affects their relationships, resulting in

reduced commitment towards patients, colleagues, and families. Emotional impact

follows (i.e., aggression, agitation) and impacts the physician's sense of accomplishment,

motivation, and interest, which leads to despair. In a study conducted on burnout among

Ethiopian nurses, researchers found that burnout symptoms may manifest as a lack of

energy, motivation, frustration, tension and fatigue, and relationship problems due to

depersonalization (Hailay et al., 2020). Burnout is a widespread occurrence across

different disciplines; however, numerous studies around the world have shown that it is

highly prevalent among critical care nurses and warns of the need to address the

concerning trend (Alharbi et al., 2016; Awajeh et al., 2018; Moss et al., 2016). The

purposes of my study were to determine if (a) there was a relationship between the use of

positive thinking skills and burnout level among critical care nurses, and (b) if there was

a difference between the use of positive thinking skills and burnout level among critical

care nurses who have been working in critical care units for 1 year or less compared with

critical care nurses who have been working in critical care more than 1 year.

Literature Search Strategy

I conducted a comprehensive search through the different databases: CINAHL,

MEDLINE with Full Text/PubMed, PsycInfo, SocIndex, ScienceDirect, Academic

Search, and Google search. The search filters I selected included full text scholarly

articles, peer reviewed, from 2016 to 2021. I also used citation chaining in identifying

more citations and reviewed reference lists to identify related articles. Terms were

combined using Boolean phrases. Search terms included *burnout* or *burn-out* and *critical*

care or *intensive care* or *ICU and nurs** The search yielded 1,504 searches. Other search

combinations included *burnout* or *burn-out* or *burnout* and *nurs** and *positive thinking* or

optimism or *positivity.* The search yielded 109 items. Critical care or intensive care or

ICU was added to the search box and yielded seven articles.

Theoretical Framework

Lazarus and Folkman (1984) found that individual and group interpretations and

reactions differ in their response to stress, even under comparable condition. While one

person responds with anger, another with depression, another may feel challenged rather

than threatened. Critics of Lazarus's theory of stress have argued that the individual

differences in reactions are due to the environment. While Lazarus acknowledged that it

is possible that a small portion of stress may be due to the environment but stated that

stress is not entirely explainable by the environment. Lazarus's theory of stress highlights

that a stress response is highly influenced by the person's appraisal process. The theory

of stress emphasizes the relationship between the person and the environment, which

takes into consideration, on one hand, the person characteristics and, on the other hand,

the nature of the environment. The person and the environment relationship are consistent with the concept of illness, which has shifted because illness occurs not just based on the external organism but also on the susceptibility of the person (Lazarus & Folkman, 1984).

Lazarus reported that most of the early work on cognitive processes in stress came from field observations and studies of war, natural disasters, and debilitating diseases. The interest in stress research grew due to its significance in military combat in World War II and Korean War (Lazarus & Folkman, 1984). In the 1960s, Lazarus and his colleagues engaged in a systematic effort to study cognitive mediation. The study participants viewed the films of people being mutilated in primitive rites of passage and experiencing accidents in a woodworking shop. The premise was based on the tendencies for people to respond with stress at observing the plight of others. The heart rate and skin conductance were monitored during the study. Four methods were used to stimulate diverse stressors among the participants, and the results showed that cognitive appraisal processes mediated stress response levels.

Lazarus and Folkman (1984) described two main types of appraisals. Primary appraisal refers to the initial encounter with the event, where the person evaluates and interprets the event to determine its significance, whether it is irrelevant, benign-positive, and stressful. Stress appraisals include harm/loss, threat, or challenge. In secondary appraisal, the person evaluates their resources to determine whether they are able to appropriately manage the stress. Lazarus and Folkman noted that primary and secondary appraisal both shape the stress level and the strength and quality of the emotional

reaction. The transactional model emphasized the need for appropriate appraisal of events to avoid undesirable consequences. Sharifabad et al. (2020) conducted a study to evaluate the effect of a training based on Lazarus and Folkman transactional model on improving stress appraisal for hemodialysis patients (HD). Appraisals are key determinants of coping strategies, so correct appraisal of stress is critical to HD patients in order to cope effectively with the stressful nature of their disease condition (Sharifabad et al. 2020). Sharifabad et al. conducted a quasi-experimental study and randomly assigned 116 patients to an experimental and control group. The experimental group received 8 weeks of training. The results of the study showed that the training had a positive effect on primary and secondary appraisals of the HD patients and can be used to improve appraisals of individuals in stressful situations (Sharifabad et al., 2020).

Lazarus and Folkman (1984) stated that an effective stress management program is one that influences the person to appraise situations and/or cope with demands in new ways. This highlights the critical role of perception and interpretation in stress. Therefore, uunderstanding how stress occurs is key to the effective management of stress (Lazarus & Folkman, 1984), including burnout. Burnout is work-related stress and occurs from prolonged exposure to stressors at work (Salvagioni, 2017). Figure 1 provides a visual guide to understanding how stress occurs because understanding how stress occurs is critical to identifying an effective solution to burnout. Lazarus theory of stress highlights the critical role of perception and interpretation of stress during the primary appraisal, at the initial encounter of an event. During the primary appraisal, the individual either interprets the event in a positive or in a negative way. In the secondary appraisal, the

individual evaluates personal resources to determine if there are adequate resources to cope with the event. Depending on the outcome, the individual will either cope in an effective way or ineffective way, which leads to burnout. Coping involves identifying ways or resources to minimize, tolerate, or master the perceived threat (Lazarus & Folkman, 1984). In a study on work-related stress and positive thinking skills among acute care nurses, nurses with more positive coping skills reported that they used them when stressful events occurred (Tully & Tao, 2019).

Figure 1

Stress Theoretical Framework Model

Stress Theoretical Framework Model
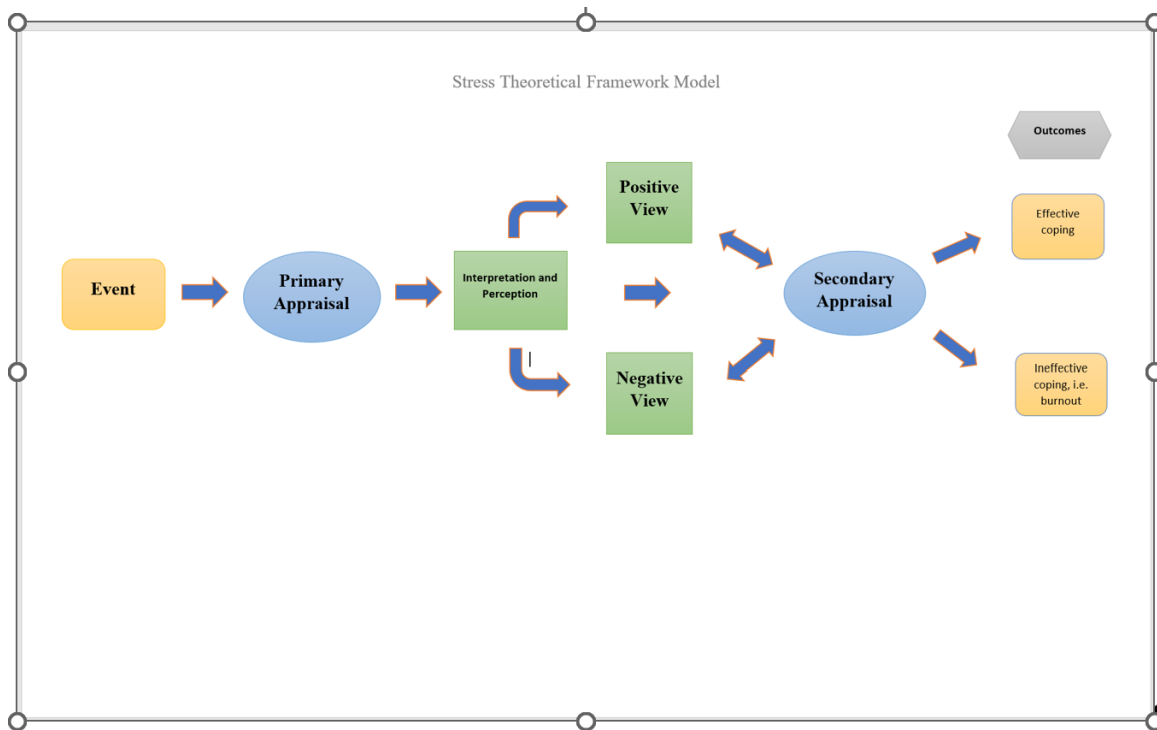
Literature Review Related to Key Variables and/or Concepts

Burnout: A Global Threat

Alharbi et al. (2016) conducted a quantitative study to explore the prevalence of burnout and job satisfaction among Saudi national critical care nurses. The findings showed that Saudi national critical care nurses reported moderate to high levels of burnout (up to 82% on emotional exhaustion) and low levels of job satisfaction. Also, the findings revealed that burnout was a predictor of job satisfaction. The high levels of burnout were attributed to the work and highly stressful condition of the critical care setting. The researchers recommended improving the working condition of nurses in the critical care setting. The prevalence of burnout among critical care nurses and the continual focus in literature on the working environment of the nurse without equal focus on other equally important factors (i.e., nurses' perception and interpretation of work stressors) justifies the need for a different approach to addressing the chronic problem for burnout.

Alotni and Elgazzar (2020) conducted a quantitative study in Saudi Arabia to investigate burnout and determine the associated factors and the impact on the quality of life among critical care nurses. The findings showed a high burnout rate of up 90% among the non-Saudi nurses and 55.6% among Saudi nurses. The findings of the high burnout rate among critical care nurses in the Elgazzar (2020) study is consistent with the Alharbi et al (2016) study. Both studies found additional key variables that showed the adverse effect of burnout. The Alharbi study evaluated the effect of burnout on job satisfaction and found that burnout negatively impacted job satisfaction for the critical

care nurses. Job satisfaction is a key metric for evaluating organizational performance and financial viability (Specchia et al., 2021). Alotni and Elgazzar found that the high burnout rate impacted the quality of life for the critical care nurses. Quality of life has been linked with decreased work performance, burnout, and early retirement (Alotni & Elgazzar, 2020). Burnout has also been linked with physical and psychological problems, absenteeism, increased nurse turnover, and negative impact on patient safety and quality (Alotni & Elgazzar, 2020) and showed the serious consequences of burnout on the wellbeing of the nurse and organizational performance.

Awajeh et al. (2018) conducted a quantitative study to explore the level of burnout among critical care nurses in Riyadh, Kingdom of Saudi Arabia. The findings showed a high burnout rate of 65.9% among the critical care nurses. The high burnout rate was attributed to the highly stressful work environment of the critical care nurses; high workload, nursing staff shortage, high nursing turnover, and compensation, including financial matters. The researchers reported a high turnover among the critical care nurses and the need to address the problem of burnout. The high burnout rate among critical care nurses reported in Awajeh et al.'s study is consistent with the findings in Alotni and Elgazzar's (2020) and Alharbi et al.'s (2016) studies, therefore validating the high prevalence of burnout among critical care nurses around the globe and the need for my study to address the global problem of burnout.

Swampy et al. (2020) conducted a quantitative study to evaluate the prevalence of burnout (including its contributing factors) among critical care nurses in Veterans Health Administration United States. Results showed that critical care nurses had the highest

burnout rates of all nurse specialties, with one third to more than half of the critical care nurses reporting symptoms of burnout. This finding is critical to my study justifying the need for selecting the critical care nurses as the population of interest. Also, a subtheme of work perception emerged in the Swampy study, highlighting work perception as a contributing factor to burnout. Perception of work is relevant to my study as it pertains to how stress occurs based on Lazarus's theory of stress.

Cishahayo et al. (2017) conducted a quantitative study to determine the levels of burnout among critical care nurses in Rwanda. Results showed a high level of burnout: 61.7% among the participants. High workload was identified as a significant contributor to burnout. Also, the intention to leave was associated with burnout. Intention to leave constitutes a major issue in the critical care units leading to the loss of experienced nurses (Nantsupawat et al., 2017) and the high cost of replacing a critical care nurse presents significant challenge (Kurnat-Thoma, 2017). The high burnout rate and significant negative impact on the organization indicate that burnout is a major problem that needs to be addressed.

Elay et al. (2019) conducted a quantitative study in Turkey to examine the prevalence and risk factors for burnout among critical care workers in the ICU. The critical care workers included physicians (46%), nurses (51%), and other workers (3%). Burnout was reported in at least one burnout subscale in 99% of participants and reported in all three burnout subscales (emotional exhaustion, depersonalization, and reduced personal accomplishment) in 15% of the participants. Also, most ICU workers with burnout intended to leave. The findings on the high turnover among critical care is

consistent with Awajeh et al.'s (2018) and Cishahayo et al.'s (2017) studies. According to Kurnat-Thoma et al. (2017), employee turnover is a key performance indicator for assessing the fiscal and operational effectiveness of any health-care organization. Kurnat-Thoma et al. reported that the cost of replacing an ICU nurse in the United States ranges from $36,657 to $88,000, thus indicating significant economic cost with negative impact on the organizational performance and financial wellbeing.

COVID-19-Related Burnout

The COVID-19 pandemic has worsened the problem of burnout among critical care nurses in the ICU. Greenberg et al. (2021) conducted a quantitative study to identify the rates of probable mental health disorder in staff working in ICUs in nine English hospitals during June and July 2020. The participants included physicians, nurses and other health care workers in the ICU. The authors reported that staff working in the ICU during the first wave of COVID-19 pandemic faced significant challenges and frustrations due to the high risk of COVID-19 exposure for prolonged time, issues with PPE, staffing and daily equipment shortages. About 175,000 patients admitted to the hospital with COVID-19 received critical care in specialized units in the United Kingdom. As a result, ICU workers were overwhelmed with the care of COVID-19 patients. Also, the ICU nurse patient ratio was modified to accommodate the surge, as existing staffing shortages were compounded by staff sickness and quarantines. The results of the study showed that physicians reported better mental health than nurses and the high rates of probable mental health disorders and thoughts of self-harm were mostly

prevalent among critical care nurses, indicating the need to improve their mental health and the ICU working environment (Greenberg et al., 2021).

Bruyneel et al. (2021) conducted a quantitative study to assess the prevalence of burnout among ICU nurses in Belgium and to identify their risk factors during the COVID-19 pandemic. The findings showed that the burnout prevalence rate was 68%. Two-thirds of ICU nurses were reported to be at risk for burnout. The high burnout rate was attributed to the workload during the pandemic. The main risk factors for burnout during the COVID-19 pandemic was the high patient to nurse ratio, greater than 1:2, a perceived increase in workload and a shortage of PPE. The COVID-19 pandemic worsened the problem of burnout among critical care nurses. The surge of very ill patients requiring ICU level of care during the COVID -19 pandemic highlighted the need to promote the health and well-being of the critical care nurses in order for the nurse to function at their full capacity to provide safe and quality care, since they cannot give what they do not have (Armstrong et al., 2020). The United States may be facing an unstable nurse workforce in the future due to the serious impact of COVID-19 related burnout (Shah et al., 2020). Thus, justifying the need for my proposed study to address burnout among critical care nurses.

Galanis et al. (2021) reported that nurses experienced high levels of stress during the COVID-19 pandemic attributable to the high workload due to the surge of patients. Also, the nurses in the critical care units experienced intense emotions from witnessing the suffering and death of many very ill patients. There was also the additional burden of acute shortage of PPE and the accompanying fear of contracting the disease and

transmitting it to other people, including family members (Shreffler, 2020). Ross (2020) stated that suicide is a likely consequence of COVID-related burnout among nurses, therefore, recommended that organizations should take proactive steps in preventing it. The rising rate of COVID-19 related burnout and its deleterious effects, including implications for future care support the need for my study to address the worsening problem of burnout.

Burnout and Patient Safety

Patient safety is at the forefront of the healthcare agenda since the landmark 1999 Institute of Medicine (IOM) report titled "To err is human: Building a safer health system." Bates and Singh (2018) in their study on the progress in patient safety noted that although additional work is still needed, there has been significant research and effective interventions for hospital-acquired infections and medication safety since the 1999 IOM report. Patients in the critical care units are severely ill with life threatening conditions, thus requiring the nurse to function competently in order to manage the complexity and high demands in a fast paced, high-pressure environment (Scholtz et al., 2016). Burnout diminishes the ability of the nurse to function at their full potentials to meet the patient care expectations due to overwhelming exhaustion, which can compromise patient safety (Mudallal et al., 2017).

Depersonalization, another key characteristic of burnout, manifests as negative attitude (cynicism), lack of empathy and detachment of the nurse from the patient (Kumar et al., 2021). The nurse becomes insensitive to patient care and may view the patient and colleagues as objects (Kumar et al., 2021). Unprofessional behavior and disruptive

behavior have been linked to burnout (Rehder et al., 2020). Disruptive behavior has serious consequences on patient safety, such as increased frequency of medical errors and quality of care issues and is harmful to the psychological safety and wellbeing of team members. (Rehder et al., 2020). Reith (2018) reported that high burnout rates have been linked with health care associated infections. Jia et al. (2019) stated that health care associated infection is a major problem worldwide and leads to significant increase in length of stay, morbidity, and mortality. The harmful consequences of burnout on patient safety and the health care organization justifies the need for my study to address the problem of burnout.

Mamari et al. (2020) conducted a quantitative study to determine whether there was a relationship between the variables fatigue, workload, burnout and work environment, and perceived patient safety among critical care nurses in Oman. The results showed that burnout was a predictor for perceptions of patient safety among critical care nurses. Perception of patient safety refers to the critical care nurses' point of view of the factors that impact patient safety (i.e., burnout. Perceptions of safety is important because it is crucial to putting systems in place to promote patient safety. Also, in the study, other variables, such as years of experience and intention to change department were significantly linked with burnout. The finding on the years of experience and burnout is consistent with the Al Shehri et al. (2012) study which found that the level of stress increased among nurses with more years of professional experience. Burnout was linked to lower perception of patient safety. The researchers highlighted that patient safety culture is an essential ingredient in delivering high quality

health care. Therefore, the need for my study to address the serious problem of burnout, which has negative impact on patient safety culture.

The impact of burnout on the health, well-being, job performance of critical care nurses and its association with patient safety and quality is well documented in literature. The nurse with burnout is unable to function to full capacity due to the reduced energy level from emotional exhaustion (Mudallal et al., 2017). Psychological symptoms include frustration, fear, anger, misery and a lack of interest in work (Barto & Burk, 2017). Other symptoms include cynicism, resentment, hopelessness and powerlessness (Mushonga et al., 2017) which lead to poor relationship with patients and colleagues and is detrimental to patient safety and quality (Howell, 2021 & Paraguassú-Chaves et al., 2021). Physical signs include exhaustion, fatigue, sleeplessness headache and gastrointestinal problems (Moss et al., 2016). Consequently, excessive absenteeism results which negatively impacts patient care (Moss et al., 2016). Loss of personal accomplishment, a key characteristic of burnout manifests as negative self-assessment and low self-esteem (Kumar et al., 2020). Suicidal tendencies have also been reported among critical care staff (Moss et al., 2016). Ruiz-Fernández et al. (2020) conducted a study to analyze the quality of life of nursing professionals. The results showed high levels of burnout have a negative impact on the quality of life. The impact on quality of life negatively affects the nurses' ability to function at an optimum level to provide quality and safe care (Mudallal et al., 2017). Therefore, justifying a need to address the serious problem of burnout.

Burnout and the Nurses' Working Environment

Ulrich et al. (2019) conducted a mixed methods study to evaluate the current state of work environment of the critical care nurse. The results showed that patient and nurse outcomes have been associated with work environment. The key findings of the study were that 60% of participants reported inadequate staffing, 6017 participants reported physical and mental wellbeing issues, one-third of the participants expressed the intent to leave their current positions in the next 12 months. Evidence of positive outcomes were reported following the implementation of AACN Healthy Work Environment standards: skilled communication, true collaboration, effective decision making, meaningful recognition, appropriate staffing, and authentic leadership. Studies on burnout in the critical care setting focused on the work environment (Monroe et al., 2020; Moss et al., 2016; Ulrich et al., 2019), thus, overlooking other equally important contributing factors, such as factors relating to the way individuals perceive and interpret the work environment. Manzano-Garcia and Ayala (2017) pointed out that while factors relating to the working conditions play a large role in the development of burnout, other equally important factors, such as perception and interpretation of stressors by the nurse have been under studied. Perception and interpretation of stressors are key components in understanding how stress occurs as proposed in Lazarus' theory of stress, the theoretical framework for my study. Thus, justifying the need for my study.

Melnyk et al. (2021) conducted a quantitative study to investigate the associations among critical care nurses' physical and mental health, perception of workplace wellness support, and self-reported medical errors. Results showed that medical errors were

significantly higher among nurses who reported poor physical and mental health than nurses who were in better health. Burnout was found to have a negative impact on the wellbeing and health of critical care nurses. The researchers concluded that the key to combating burnout was to address system issues that contribute to it, such as inadequate staffing, long shifts. This approach focuses on the nurses' work environment overlooking other important factors that contribute to burnout, such as perception and interpretation of work stressors, as identified by Manzano-Garcia and Ayala (2017).

Kelly et al. (2021) conducted a quantitative study to identify the key elements of a healthy work environment associated with burnout, secondary trauma, and compassion satisfaction, as well as the effect of burnout and the work environment on nurse turnover. Results showed that 61% of the critical care nurses experienced moderate burnout. Kelly et al. (2021) identified authentic leadership, meaningful recognition and appropriate staffing as key predictors of burnout. In another study, Monroe et al. (2020) conducted a quantitative study to investigate which AACN healthy work environment standards have the strongest impact on professional quality of life in critical care nurses. Participants in the study reported a high burnout rate. Findings also identified authentic leadership, as a key predictor of burnout and recommended improvement in leadership style in order to combat burnout.

Wei et al. (2020) conducted a systematic review and meta-analysis to evaluate the impact of nurse leadership on nurse burnout. The review included 18 articles from 2010 to 2019. The results showed that nurse leadership played a significant role in reducing burnout. So, the recommendations for reducing burnout included: evaluating leadership

styles, appropriate staffing levels, promoting recognition, creating supportive, respectful and healthy work environment. Wei et al. (2020) focused on addressing factors within the nurses' work environment in order to combat burnout. Hence, leading to interventions that are work environment driven, which has not effectively addressed the problem of burnout, given that burnout remains a challenge. Contrary to the Kelly, Melnyk and Monroe studies, Manzano-Garcia and Ayala's (2017) in their study identified potentially important factors contributing to burnout in nursing that have been under researched. According to Manzano-Garcia and Ayala, although factors pertaining to the nurses' work environment contribute significantly to burnout, perception and interpretation of work stressors by the nurse equally play key role in contributing to burnout, so needs more research. Manzano-Garcia and Ayala stated that positive perception of work has been associated with decreased burnout rate and negative perception of work has been associated with increased burnout rate, therefore, recommended the need for nurses to be empowered to know their personal strength in influencing their work environment positively.

Burnout Interventions

Aryankhesal et al. (2019) conducted a systematic review of interventions on burnout among physicians and nurses. A total of 18 studies were included in the review from 2010-2017. The existing interventions were on improving communication skills, teamwork, participatory programs, and individual based interventions, such as Yoga, meditation, and mindfulness. The authors reported that 50% of interventions had a positive impact on physicians' burnout and 67% a positive impact on nurses' burnout.

Zhang et al. (2020) conducted a systematic review and meta-analyses to summarize

existing interventions to reduce burnout among physicians and nurses. A total of 22

studies from 2014 to 2019 were included. A variety of burnout interventions were

included in the study, such as individual-focused, i.e., yoga, mindfulness, meditation.

Organizational interventions, i.e., workload or schedule rotation, teamwork and focus

group. Combine interventions, such as improving interaction with colleagues through

personal training. The authors in the Aryankhesal et al. (2019) and Zhang et al. (2020)

studies acknowledged that burnout is a complex problem that still requires a solution. The

interventions in both studies focused mostly on the work environment and work

relationships. None of the interventions included positive thinking skills or addressed the

nurses' perception or interpretation of work stressors.

Luo et al. (2019) conducted a quasi-experimental study to evaluate the effect of

positive psychological intervention of recording three good things on reducing nurses'

burnout. The findings showed that burnout decreased among the nurses in the study

group upon completion of the intervention. In another study, Kooshalshah et al. (2015)

conducted a quasi-experimental study to evaluate the effect of positive thinking on the

nurses' job stress. 69.5% of nurses reported severe stress, 27.6% moderate and 2.9% had

low stress levels. The results showed a reduction in the nurses' stress test scores post

intervention based on the paired t-test results ($p <0.001$) and they concluded that the

positive thinking educational intervention reduced the job stress among the nurses. Luo et

al. (2019) and Kooshalshah et al. (2015) used positive psychology approach in their

studies and the nurses who participated in the studies worked in different nursing

specialties However, there are a lack of studies on the relationship between burnout and positive thinking skills among nurses who work in the critical care setting. Therefore, justifying the need for my study among critical care nurses.

Summary and Conclusions

Burnout is a global threat to the well-being, physical, mental and emotional health of critical care nurses with deleterious effects on patient safety and quality, financial and organizational outcomes. Burnout was first identified in 1974 by the psychologist, Freudenberger who also experienced burnout symptoms with his colleagues while working in a free clinic. The symptoms of burnout are debilitating and are consistent across disciplines. Burnout is characterized by three main dimensions: emotional exhaustion, depersonalization and feeling of lack of accomplishment (Maslach & Leiter, 2016). Serious consequences of suicidal ideations have been reported among nurses (Moss et al., 2016). The growing problem of burnout threatens to derail the progress on patient safety, which were highlighted in the Bates and Singh (2018) study. Consequences of burnout on patient safety include medical errors and hospital acquired infections. (Jia et al., 2019). Burnout is highly prevalent among critical care nurses (Alharbi et al; Alotni & Elgazzar, 2020). The COVID-19 pandemic has placed additional stress level on the critical care nurses due to the many patients requiring ICU level of care (Galanis et al. & Shreffler, 2020).

There is a consensus in the literature that burnout is a serious health problem deserving urgent attention (Bruyneel et al., 2021; Cishahayo et al., 2017 & Moss et al., 2016). However, there is no consensus on the solution to address burnout (Moss et al;

Tully & Tao, 2019). Identifying key contributing factors and causes of burnout is important in combating the problem of burnout. Therefore, understanding how stress occurs is critical to finding an effective solution. Lazarus theory of stress highlighted the importance of perception and interpretation in stress. Manzano-Garcia and Ayala (2017) pointed out that the way the nurse perceives or interprets work stressors will determine whether the work stressor will be viewed in a positive or negative way. Therefore, there is a need for my proposed study which includes the use of positive thinking skills among critical care nurses.

In Chapter 3, I will describe the research design, rationale and methodology of conducting my study. The population, sampling and sampling procedure, recruitment of participants, data collection will be detailed in this section.

Chapter 3: Research Method

The purpose of my study was to determine (a) if there was a relationship between the use of positive thinking skills and the burnout among critical care nurses, and (b) if there was a difference between the use of positive thinking skills and the burnout among critical care nurses who have been working in critical care units for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year.

Research Design and Rationale

I conducted a quantitative descriptive study using a correlational design in which I performed Pearson correlation to determine the relationship between the use of positive thinking skills and burnout among critical care nurses. Gray et al. (2017) stated that correlational design is used to determine the strength and direction of relationships among variables. I selected the correlational design because it was the design that would best answer RQ1. When selecting a research design, it is important to select the design that will best answer the research question (Gray et al., 2017). I also conducted a comparative analysis to determine the difference between the use of positive thinking skills and the level of burnout in critical care nurses who have been working in critical care for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year. I selected the comparative analysis design because it is the research design that would best answer RQ2. Gray et al. stated that comparative design compares two or more groups to determine the differences and does not involve manipulation.

Research Questions and Hypotheses

RQ1: What is the relationship between the use of positive thinking skills and the burnout among critical care nurses?

$H_0$1: There is no relationship between the use of positive thinking skills and burnout among critical care nurses.

H_a1: There is a relationship between the use of positive thinking skills and burnout among critical care nurses.

RQ2: What is the difference between the use of positive thinking skills and burnout among critical care nurses who have been working in critical care units for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year?

$H_0$2: There is no significant difference between the use of positive thinking skills and burnout among critical care nurses who have been working in critical care units for 1 year or less compared with critical care nurses who have been working in critical care units more than 1 year.

H_a2: There is a significant difference between the use of positive thinking skills and burnout among critical care nurses who have been working in critical care units for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year.

Methodology

Population

The target population was critical care nurses who worked in critical care units. Critical care nurses were recruited from an acute care hospital located in Southern United States.

Sampling and Sampling Procedures

I used convenience sampling. Convenience sampling is a method where participants are easily available and accessible. Convenience sampling is less time consuming and less expensive than other sampling methods (Gray et al., 2017), and it was the most feasible option for recruiting participants given the COVID-19 pandemic challenges, which exacerbated nurse staffing shortages and nurse turnover. Gray et al. (2017) recommended the need to apply reasonable knowledge and care when implementing the study to ensure sampling adequacy. Researchers can control for inherent issues in convenience sampling, such as biases, by identifying and thoroughly describing the issues, including taking action to improve the representativeness of the sample (Gray et al., 2017). I calculated the sample size with G-power. The sample size for my correlational study with one independent variable was 55 with a medium effect size of 0.15, alpha 0.05, and power 0.80 (Faul et al., 2007). The comparative design had two groups, one independent variable and two dependent variables; the sample size calculated was 158 (79 in each group), with a medium effect size of 0.625, alpha was 0.05, and power of 0.80. (Faul et al., 2007).

Procedures for Recruitment, Participation, and Data Collection

I began data collection after receiving IRB approval. I recruited participants using

the flyer (see Appendix A) to announce the proposed study; the flyer also contained the

inclusion and exclusion criteria. I posted the flyer on the critical care units at strategic

locations visible on the unit and included my contact information. I also distributed the

flyer during a briefing session to recruit study participants. The briefing session was

coordinated with the assistance of the critical care nursing leadership team. In the session,

I informed critical care nurses of my study purpose, online completion of the survey, and

that participation was voluntary, and they were given the opportunity to ask questions. I

informed them of confidentiality of their information and that I would not ask for any

personal information that would identify them.

I provided a SurveyMonkey link to participants through their emails. Upon

clicking on the SurveyMonkey link, the individual received an overview of my study and

my contact information and was asked to accept or decline to participate. If the individual

nurse clicked on agree button to participate, the survey advanced to the screening

questions (see Appendix B), which included the eligibility criteria. If the individual was

not eligible, the screen closed and thanked them for their time. If the individual was

eligible, the computer screen advanced to the demographic data sheet (see Appendix C),

after which they saw the MBI survey and finally the PTSS survey. Upon completion of

all surveys, they clicked the submit button to submit their responses and the screen closed

and thanked them for their participation. The de-identified data were available to me or

my research dissertation committee. I will retain the data for 5 years as required by the

IRB.

Instrumentation and Operationalization of Constructs

I used the MBI, which was developed by Maslach and Jackson in 1981 to

operationalize burnout. MBI is a leading measure for burnout and has been widely used

in studies involving health care professions, physicians, medical students, and nurses,

including critical care nurses (Maslach & Leiter, 2016). MBI is a self-administered

instrument that takes 10 to 15 minutes to complete (Maslach et al., 1997). The MBI is a

22 item-scale that measures burnout in three dimensions: exhaustion (9 items),

depersonalization (5 items), and personal achievement (8 items; Maslach et al., 1997).

Higher mean scores on the exhaustion and depersonalization subscales represent higher

degrees of burnout experienced (Maslach et al., 1997). In contrast to the exhaustion and

depersonalization subscales, the personal accomplishment subscale is independent, and

lower mean scores represent higher degrees of burnout experienced (Maslach et al.,

1997). The MBI is a continuous variable that uses a Likert scale, ranging from 0 to 7,

with 0 being *never* and 7 being *every day*. The scores for each response on the subscale

are added up and compared with the scoring results interpretation values to determine the

level of burnout: high, medium, and low (Maslach & Jackson, 1981).

MBI is a valid and reliable instrument that has been used globally to measure

burnout (Alharbi et al., 2016; Maslach & Leiter, 2016). According to Maslach and

Jackson (1981), reliability coefficients were established only on a second sample

(N=420). The first sample was not used to avoid inflating the reliability estimates due to

intercorrelations. Internal consistency was estimated by Cronbach's coefficient alpha,

with reliability coefficients of 0.83 (frequency) and 0.84 (intensity) for the 25-item scale.

Maslach and Jackson reported the following reliability coefficients for the subscales: 0.89

(frequency) and 0.86 (intensity) for emotional exhaustion, 0.74 (frequency) and 0.74

(intensity) for personal accomplishment, 0.77 (frequency) and 0.72 (intensity) for

depersonalization, and 0.59 (frequency) and 0.57 (intensity) for involvement. All of the

coefficients for the test-retest reliability coefficients were significant beyond the 0.001

level: The test-retest reliability coefficients for the subscales were 0.82 (frequency) and

0.53 (intensity) for emotional exhaustion (EE), 0.80 (frequency) and 0.68 (intensity) for

personal accomplishment (PA), 0.60 (frequency) and 0.69 (intensity) for

depersonalization (DP), and 0.64 (frequency) and 0.65 (intensity) for involvement

(Maslach & Jackson, 1981).

Convergent validity was established in three ways First, MBI scores of an

individual were correlated with behavioral scores rated independently by someone who

knew the person, such as spouse. Second, MBI scores were correlated with specific job

characteristics that contributed to burnout. Third, MBI scores were correlated with

measures that were attributed to burnout. All three were reported to provide significant

evidence of validity. In a study on burnout among health care workers in critical care

units in Turkey, Elay et al. (2019) reported the following values for Cronbach's alpha

coefficients: 0.81 for EE, 0.70 for DP, and 0.77 for PA, and 0.92 for all 22 scale items. In

another study of burnout among critical care nurses done in Saudi Arabia, Alharbi et al.

(2016) reported that the Cronbach's alpha for the MBI was 0.80 with a range of 0.79 to

0.81 for the items and subscales, which is an acceptable level of reliability. I have

permission to use MBI in my study (see Appendices E- H). Thus, I provided MBI online

for the participants in my study to complete.

The second instrument I used for this study was the PTSS, which I used to

measure the frequency of use of positive thinking skills among critical care nurses. The

PTSS was first developed in 2013 by two nursing faculties following extensive literature

review (Matel-Anderson & Bekhet, 2019). Positive thinking is a cognitive process that

encompasses a hopeful perspective about things, focusing on the favorable, rather than

the negative aspect of a situation, thereby helping a person to deal with problems more

effectively (Matel-Anderson & Bekhet, 2018). The PTSS is used in measuring the

frequency of use of positive thinking skills. The PTSS is an 8-item scale that measures

eight skills used in positive thought process (Bekhet & Zauszniewski, 2013). The PTSS is

a continuous variable with a 4-point Likert scale and the following response options: 0 to

3 (0 = *never*, 1 = *sometimes*, 2 = *most of the time*, and 3 = *always*). The total scores range

from 0 to 24. Positive scores indicate higher scores, which means a higher frequency of

use of positive thinking skills (Bekhet & Zauszniewski, 2013).

The PTTS is a valid and reliable tool that measures the frequency of use of

positive thinking skills (Bekhet & Garnier-Villarreal, 2017; Matel-Anderson & Bekhet,

2019; Tully & Tao, 2019) and has been used among different populations, including

college students, caregivers in studies for autism spectrum disorders, depression, and

suicide (Bekhet & Garnier-Villarreal, 2017; Matel-Anderson & Bekhet, 2019). In a study

with caregivers of persons with autism spectrum disorders, Bekhet and Zauszniewski

(2013) reported the following acceptable internal consistency (alpha .90) and construct validity, using a measure of positive cognitions ($r = .53$; $p < .01$), resourcefulness ($r = .63$; $p < .01$), depression ($r = -.45$; $p < .01$), and general well-being ($r = .40$; $p < .01$). Tully and Tao (2019) reported that their study was the first to establish the reliability and validity of the PTSS among nurses. The internal consistency of PTSS was tested using Cronbach's alpha. The Cronbach's alpha was 0.89 for the 8-item scale, indicating adequate internal consistency. All items to total scale correlations ranged from .051 to 0.80, which were within acceptable range because they were higher than 0.33 (Tully & Tao, 2019). The construct validity of the PTSS was tested using confirmative factor analysis. The final mode assessment results were acceptable ($\chi 2$ /df, 2.92 (acceptable; Tully & Tao, 2019). A pilot study conducted following an online positive thinking training intervention showed that the mean scores of positive thinking skills scale improved for the intervention group and decreased for the control group in a sample of 73 caregivers (Bekhet & Garnier-Villarreal, 2017).

Data Analysis Plan

The data analysis plan is critical to a successful research outcome. Gray et al. (2017) stated the need to thoroughly plan out the details of the statistical analysis prior to data collection, pointing out that failing to do so can lead to collecting unnecessary data or not collecting data that will answer the research question. I used online surveys in my study, and this helped to minimize errors associated with manual data entry. Upon completion of surveys, I checked for completeness, errors, and accuracy of data. I checked for accuracy of the data by searching for values that were outside the range of

each variable. In addition, identifying ways to address missing data is an essential part of

data planning. If a large number of data are missing, I determined whether I had

sufficient data to run the statistical tests needed. According to Gray et al., in some cases,

the participants must be excluded from the analysis due to missing essential data. Missing

data can be estimated; however, it involves a complex procedure (Gray et al., 2017). I

analyzed my data with the statistical package for social sciences (SPSS) version 28. SPSS

is a commonly used software for data analysis (Gray et al., 2017) and has been used in

several studies, including the following studies on burnout among critical care nurses:

Alharbi et al., 2016; Alotni & Elgazzar, 2020; Awajeh et al., 2018.

I performed Pearson correlation to answer my RQ1, which was to determine if

there was a relationship between the use of positive thinking skills and the burnout level

among critical care nurses. The independent variable was positive thinking skills, and the

dependent variable was burnout. Pearson correlation is used to examine relationships or

association among variables (Gray et al., 2017). Correlation analysis provides

information on the strength and direction (positive or negative) of the linear relationship

between the two variables but does not provide information on causality, no matter how

strong the relationship is (Gray et al., 2017). Pearson correlation uses variables measured

at the interval level of measurement, as the case in this study. Gray et al. (2017)

highlighted the need to ensure that the independent variables are not strongly correlated

with one another leading to multicollinearity.

I used multivariate analysis of variance (MANOVA) to answer my RQ2, which

was to determine if there was a difference between the use of positive thinking skills and

burnout level among critical care nurses who had been working in critical care for 1 year

or less compared with critical care nurses who had been working in critical care for more

than 1 year. The MANOVA is an extension of a one-way analysis of variance (ANOVA;

Warner, 2013). The MANOVA is used to compare two or more groups and analyze the

differences in the pattern of means on the dependent variable (Warner, 2013). The

independent variable for RQ2 was length of time as a critical care nurse, and the

dependent variables were positive thinking skills and burnout level. The MANOVA is an

efficient way of comparing multiple groups, rather than conducting separate ANOVA for

each individual outcome, which can be cumbersome and can lead to Type 1 error

(Warner, 2013).

Threats to Validity

External Validity

External validity refers to the degree to which the research results can be

generalizable back to the population (Gray et al., 2017). Threat to external validity in this

study could result due to the selection of a specific specialty, the critical care nurses,

which limits the generalizability to all nurses in general.

Internal Validity

Internal validity refers to changes that occur in the dependent variable that are due

to extraneous factors, factors other than the independent variable. Threats to internal

validity include attrition. Gray et al (2017) described attrition as the loss of participants

after the study had started. The COVID -19, pandemic has led to nurses leaving the

profession (Shah et al., 2021) which could impact the study. According to Gray et al.

(2017), obtaining a large sample can be used to control for this issue. History is also a threat to validity. Gray et al. (2017) defined history as other factors external to the study that affects the outcome of the study. The COVID-19 pandemic associated burnout likely generated increased attention on the need to promote wellness and positivity among health care works (Melnyk et al., 2021). Gray et al. (2017) described statistical conclusion validity as the appropriateness of selecting the correct statistical test for the study. In preparation for the study, I had a one-on-one consultation with a statistician in order to address threats to statistical conclusion validity.

Ethical Procedures

Data collection is contingent upon approval by IRB. I received IRB approval # 32647-01. All IRB procedures pertaining to human participants were followed. I contacted the leadership team at my proposed hospital site for research to determine the feasibility of the study. The leadership staff expressed willingness to allow critical care nurses who were willing to participate and I met with them prior to the study to explain the study and answer any questions they had. I informed the critical care nurses that participation is voluntary, and they can elect to terminate anytime they choose to. Also, I informed them of the informed consent process. The informed consent is a critical piece of the study which validated autonomy and free of persuasion, manipulation or coercion (Perez et al., 2017). Confidentiality of data is vital and I strictly followed the IRB regulations. I or my dissertation committee had access to the data. I plan to destroy the data after five years consistent with university guidelines. I used cloud storage as a backup. Data were collected through SurveyMonkey. I emphasized the deidentification of

information to the critical care nurses to allay fears or anxiety which may arise relating to the sensitive information on burnout they provided.

Summary

In Chapter 3, I provided an overview of the methodology and research design for my proposed study. The study design was a correlational (RQ1) and comparative design (RQ2). I selected Pearson correlation and MANOVA statistical tests for my study as they are the statistical tests that will best answer RQ1 and RQ2 respectively. I used two instruments for my study, MBI and PTSS. The validity and reliability of MBI and PTSS are well documented in literature. MBI is termed the "gold standard" for measuring burnout (Williamson et al., 2018) and has been used globally in numerous studies, including burnout among critical care nurses. I provided details on the administration and scoring of the instruments. The surveys were completed online, including the study information content and demographics. No personal information was obtained to ensure confidentiality. All ethical procedures were followed according to IRB protocol. The recruitment process took place in the acute care hospital setting and eligible participants were recruited through convenience sampling. I conducted a power analysis using G power to calculate the sample size. In Chapter 4, I discuss data collection and the results of my study.

Chapter 4: Results

The purpose of my study was to determine (a) if there was a relationship between the use of positive thinking skills and burnout among critical care nurses, and (b) if there was a difference between the use of positive thinking skills and burnout among critical care nurses who had been working in critical care units for 1 year or less compared with critical care nurses who had been working in critical care more than 1 year. The research questions for my study were as follows:

RQ1: What is the relationship between the use of positive thinking skills and the burnout among critical care nurses?

$H_0$1: There is no relationship between the use of positive thinking skills and burnout among critical care nurses.

H_a1: There is a relationship between the use of positive thinking skills and burnout among critical care nurses.

RQ2: What is the difference between the use of positive thinking skills and burnout among critical care nurses who have been working in critical care units for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year?

$H_0$2: There is no significant difference between the use of positive thinking skills and burnout among critical care nurses who have been working in critical care units for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year.

H_a2: There is a significant difference between the use of positive thinking skills and burnout among critical care nurses who have been working in critical care units for 1 year or less compared with critical care nurses who have been working in critical care more than 1 year.

Data Collection

I collected data at two hospitals located in Southern United States. I had planned to collect data for 2 to 3 weeks following IRB approval; however, data collection was extended to achieve the minimum sample size for one of my RQ2 groups, critical care nurses who had been working in critical care for 1 year or less. As a result, data collection took place at two different hospitals. Data collection at the first hospital occurred from April 2022 to July 2022 and at the second hospital from August 2022 to September 2022. Both hospitals had similar characteristics and demographics. At the first hospital, the survey links were emailed to all critical care nurses (208 surveys) in the hospital, and 139 (66.8%) responses were received. At the second hospital, 263 survey links were emailed to critical care nurses in the hospital using the SurveyMonkey platform, and 155 responded (58.9%). The surveys were completed using SurveyMonkey platform. Data were exported to SPSS version 28 for data analysis. Data cleaning and screening was done. The sample was representative of the population at the hospitals where data were collected. A total sample size of 294 was received. The final sample size was 242 (82%). The excluded samples included individuals who were not critical care nurses as they had indicated on the survey, individuals who declined to participate, and

partial responses (individuals who responded only to demographic questions or did not respond to any question).

Results

Demographic data showed that the ages of most participants were 26 to 35 years (46.2%), they were mostly females (74.8%), single (52.1%), of Asian/Pacific (50.4%) origin, and had a bachelor's degree (71.1%). Demographic data are outlined in Tables 1 to 6.

Table 1

Age of the Participants

Age	Responses	Percentages
25 years or less	10	4.1
26-35	107	46.2
36-45	76	31.4
46-55	36	14.9
56-65	13	5.4

Table 2

Gender of the Participants

Gender	Responses	Percentages
Male	61	25.2
Female	181	74.8

Table 3

Marital Status of Participants

Marital status	Responses	Percentages
Married	116	47.9
Single	126	52.1

Table 4

Race of Participants

Race	Responses	Percentages
White	33	14.6
Black/African American	17	7.0
Hispanic/Latino	59	24.4
Asian/Pacific	122	50.4
Native American	1	.4
Other	10	4.1

Table 5

Level of Education of Participants

Level of education	Responses	Percentages
Associate degree	50	20.7
Bachelor's degree	172	71.1
Masters' degree	20	8.3

Data in Table 6, time as critical care nurse showed that most participants (43.4%)

worked as critical care nurses for 2 to 7 years, and the least number of participants (5%)

worked as critical care nurses for more than 25 years.

Table 6

Time as Critical Care Nurse

Time as critical care nurse	Responses	Percentages
1 year or less	44	18.2
2-7 years	105	43.4
8-13 years	35	14.5
14-19 years	30	12.4
20-25 years	16	6.6
More than 25 years	12	5.0

I used two survey tools for my study, the MBI and PTSS, and prepared the data

analysis using the guidelines provided by the authors of both tools. The MBI had three

subscales: EE, DP, and PA. Each subscale had different items. EE had a total of 9 items, DP had 5 items, and PA had 8 items. I transposed the individual responses into the corresponding values on the MBI Likert scale of 0 to 6, with 0 = *never*, 1= *a few times a year or less*, 2 = *once a month*, 3 = *a few times a month*, 4 = *once a week*, 5 = *a few times a week*, and 6 = *every day*. I summed up the individual responses and calculated a total score for each subscale: EE, DP and PA. The highest possible score for EE was 54, for DP was 30, and for PA was 48, which were based on the number of items in each subscale multiplied by the highest number on the Likert scale. According to Maslach and Jackson, higher scores indicate higher degrees of burnout for EE and DP. Lower scores indicate higher degrees of burnout for PA. I labeled the variables accordingly in SPSS and used them in data analysis.

There were eight statements for the PTSS. The PTSS has a Likert type scale from 0 to 3, 0 = *never*, 1 = *sometimes*, 2 = *most of the times,* and 3 = *always*. I transposed the individual responses into the corresponding values on the PTSS Likert scale of 0 to 3. I totaled the individual responses and arrived at a total score of positive thinking skill for each individual. The highest possible score for PTSS is 24, which is based on the number of items in each subscale multiplied by the highest number on the Likert scale. I labelled the individual total scores for each variable in SPSS prior to running my statistical tests. According to Bekhet and Zauszniewski, the statements are phrased positively, so higher scores indicate more positive thinking. Descriptive statistics was obtained (see Table 7), which showed that EE had the highest burnout mean score (26.69).

Table 7

Descriptive Statistics

Descriptive statistics	Mean	*SD*
EE	26.69	12.420
DP	8.65	7.055
PA	34.41	7.981
PTSS	12.96	12.96

EE = emotional exhaustion; DP = depersonalization; PA = personal accomplishment;

PTSS = Positive Thinking Skills Scale.

Data in Table 8 show EE scores for respondents. Higher scores denote higher

degrees of burnout, and lower scores indicate lower degrees of burnout (Maslach et al.,

2018). The highest possible score for EE is 54 because the EE has 9 items and is

measured on a 0 to 6 MBI Likert scale. In the sample, 22.7% of respondents had the

highest EE scores of 36 to 54. The EE mean value is 26.69 out of 54 (49.42%), and the

corresponding mean response value on the MBI 0 to 6 Likert scale is 2.96, which means

that respondents' EE experiences were between once a month or less to a few times a

month ($N = 242$).

Table 8

Emotional Exhaustion (EE) Scores

EE scores	Respondents	Percent
0-17	67	27.7
18-35	107	44.2
36-54	55	22.7
	$N = 242$	

Data in Table 9 show DP scores for respondents. Higher scores denote higher

degrees of burnout, and lower scores indicate lower degrees of burnout (Maslach et al.,

2018). The highest possible score for DP is 30 because it has 5 items and is measured on a 0 to 6 MBI Likert scale. The results showed that 9.1% of respondents reported the highest DP burnout scores of 20 to 30. The DP mean value was 8.65 out of 30 (28.83%), and the corresponding mean response value on the MBI 0 to 6 Likert scale was 1.73, which means that DP experiences were between a few times a year or less to once a month or less ($N = 242$).

Table 9

Depersonalization (DP) Scores

DP scores	Respondents	Percent
0-9	151	62.4
10-19	69	28.5
20-30	22	9.1
$N = 242$		

Data in Table 10 show PA scores for respondents. Unlike the EE and DP scores, lower scores for PA denote higher degrees of burnout, and higher scores indicate lower degrees of burnout (Maslach et al., 2018) The highest possible score for PA is 48 because it has 8 PA items and is measured on a 0 to 6 MBI Likert scale. The results showed that 2.5% of respondents reported the lowest PA scores of 0 to 15, which denotes higher degrees of burnout. The PA mean value is 34.41 out of 48 (71.68%), and the corresponding mean response value on the MBI 0 to 6 Likert scale is 4.30, which means that respondents experienced PA once a week ($N = 242$).

Table 10

Personal Accomplishment (PA) Scores

PA scores	Respondents	Percent
0-15	6	2.5
16-31	74	30.6
32-48	162	66.9
N = 242		

Data in Table 11 show PTSS scores for respondents. Higher scores indicate more positive thinking (see Bekhet & Zauszniewski). The highest possible score for PTSS is 24 because it has 8 items and is measured on a 0 to 6 MBI Likert scale. The results showed that 33.5% of respondents reported higher PTSS scores of 16 to 24. The PTSS mean value was 12.96 out of 24 (54%), and the corresponding mean response value on the PTSS 0 to 3 Likert scale was 1.62, which means that respondents' usage of positive thinking skills was between sometimes and most times (*N* = 242).

Table 11

Positive Thinking Skills Scale (PTSS)

PTSS score	Respondents	Percent
0-7	24	9.9
8-15	137	56.6
16-24	81	33.5
N = 242		

I performed Cronbach's Alpha in SPSS to determine the internal consistency of the MBI and PTSS surveys. Warner (2013) stated that Cronbach's Alpha is the widely used for assessing reliability for multiple scales. According to UCLA Statistical Consulting Group (2021), a reliability coefficient of .70 or higher is considered

"acceptable" in most social science research situations. The EE, DP, PA and PTSS tools

are reliable tools based on the scores (see Table 12), which are above .70.

Table 12

Cronbach's Alpha

Research tool	Number of items	Cronbach's Alpha
EE	9	0.921
DP	5	0.792
PA	8	0.762
PTSS	8	0.909

Note. EE = emotional exhaustion; DP = depersonalization; PA = personal

accomplishment; PTSS = Positive Thinking Skills Scale

I performed Pearson correlation coefficient to answer RQ1, and I also tested for

the assumptions for Pearson *r* correlation. According to Gray et al. (2017), testing of

assumptions is necessary to determine whether Pearson correlation is the appropriate

statistic test for the study.

The first assumption of Pearson correlation requires that both variables for

correlation should be measured at the interval or ratio level of measurements (Gray et al.,

2017). The assumption was met because positive thinking skills was measured on a

continuous scale of 0 to 3 and burnout was measured on a continuous scale 0 to 6.

The second assumption of Pearson correlation is independence of observation,

which means that the observations are not related or influenced by other subjects. The

participants were emailed privately to participate in the study. Assumption 2 was met.

Assumption 3 of Pearson correlation is normality of at least one variable. According to

Warner (2013), the continuous variables for correlation should have nearly normal

distribution to meet the normality assumption. A visual inspection of the histogram in Figure 2 showed a nearly normal distribution. Also, there was adequate sample size for correlation ($N = 242$). According to the central limit theorem, normality can be assumed in a large sample no matter the shape of the sample data (Field, 2018), and the widely accepted value of a large sample size is 30 (Field, 2018). Thus, the assumption of normality was met.

Figure 2

Emotional Exhaustion (EE)
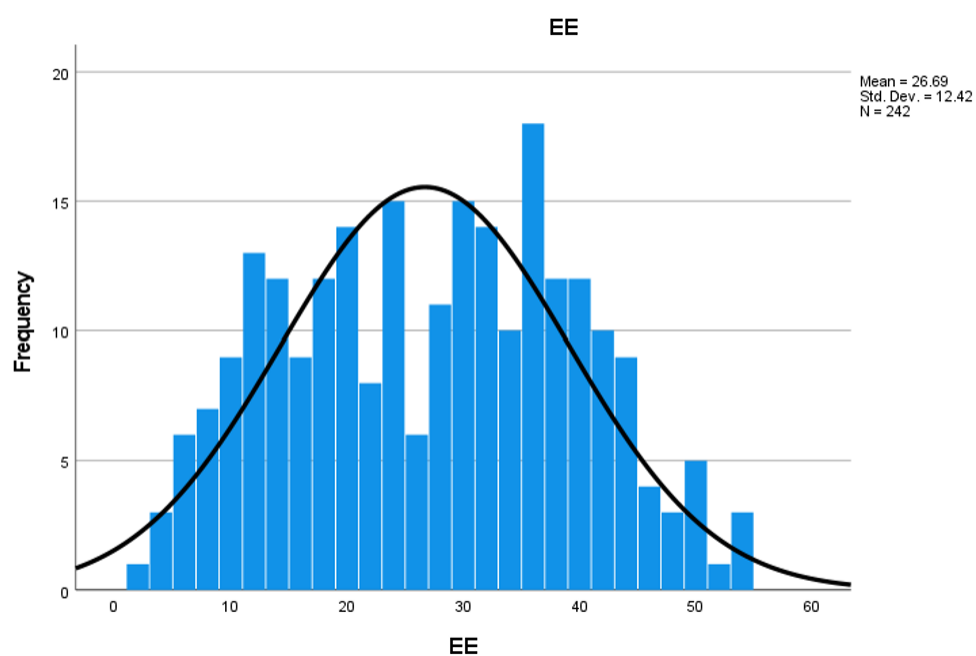
The fourth assumption was that there are no outliers. No outlier was found upon conducting a visual inspection of the boxplots in Figures 3 to 6 above or below the whiskers. Therefore, the assumption of no outliers was met.

Figure 3

Emotional Exhaustion (EE) Boxplot
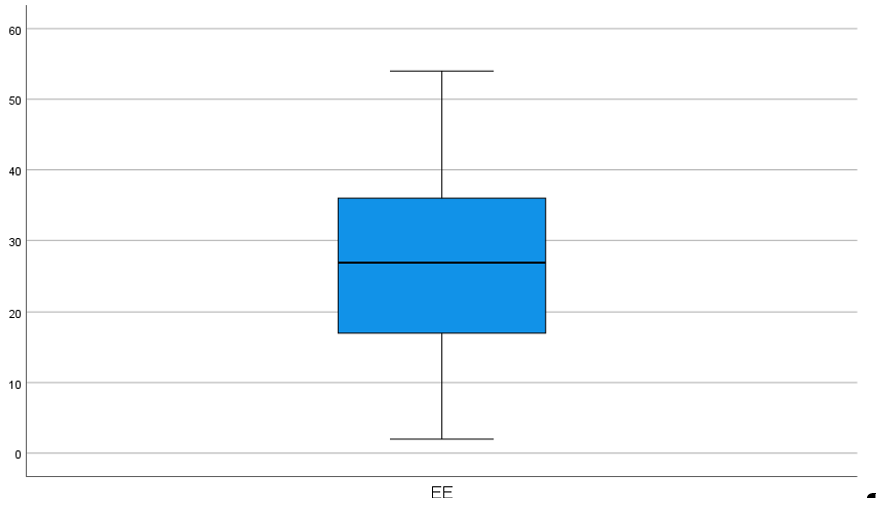
Figure 4

Depersonalization (DP) Boxplot
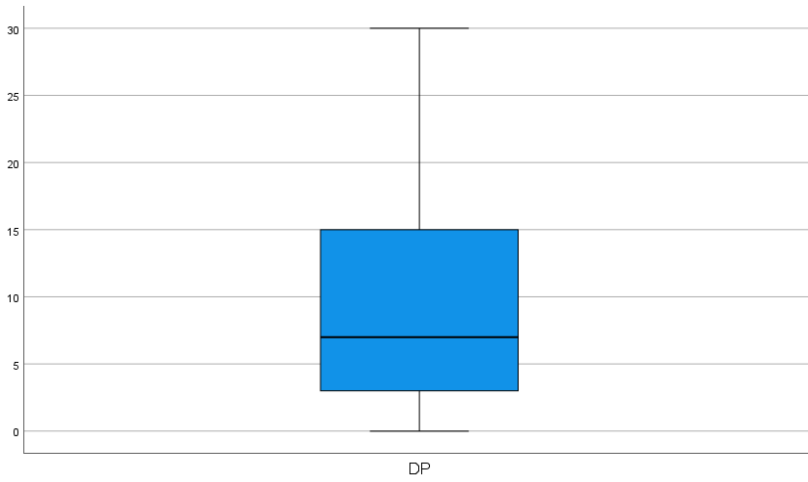
Figure 5

Personal Accomplishment (PA) Boxplot
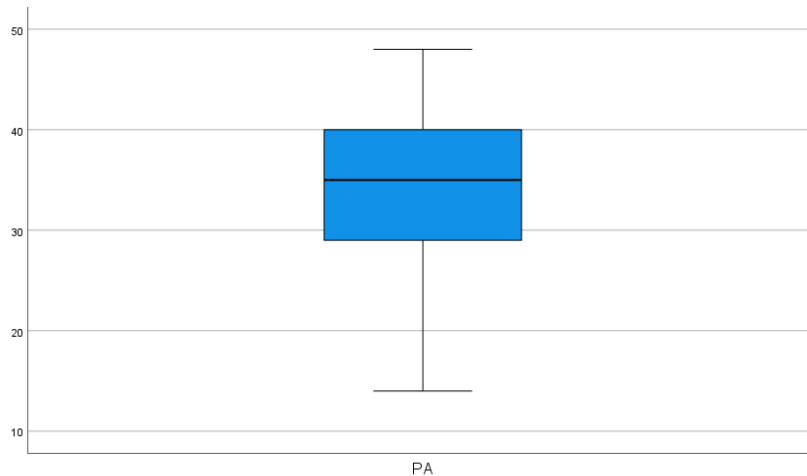
Figure 6

Positive Thinking Skills Scale (PTSS) Boxplot
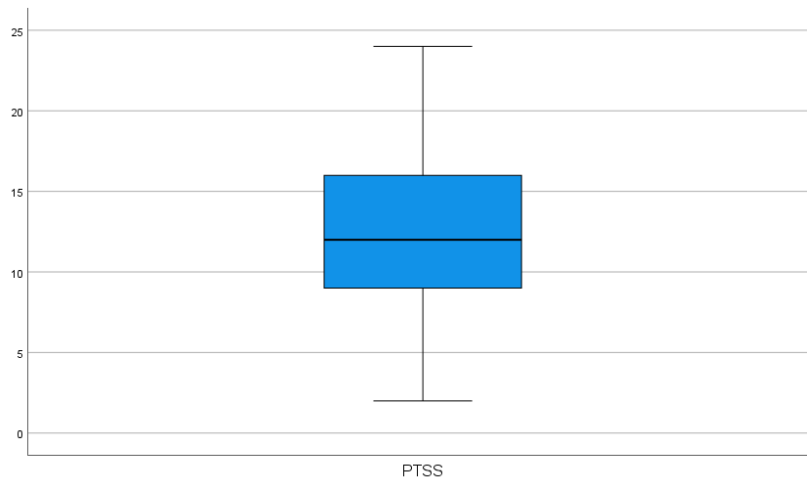
The fifth assumption of Linearity means that a straight-line relationship needs to exist between the two variables for correlation. I assessed linearity by visually inspecting the scatter plot (Figures 7 -9) with the straight line showing a linear relationship between the variables. Therefore, the assumption of linearity was met.

Figure 7

Scatter Plot of Emotional Exhaustion (EE) by Positive Thinking Skills (PTSS)

Scatter Plot of EE by PTSS

R^2 Linear = 0.186

y=41.19-1.12*x
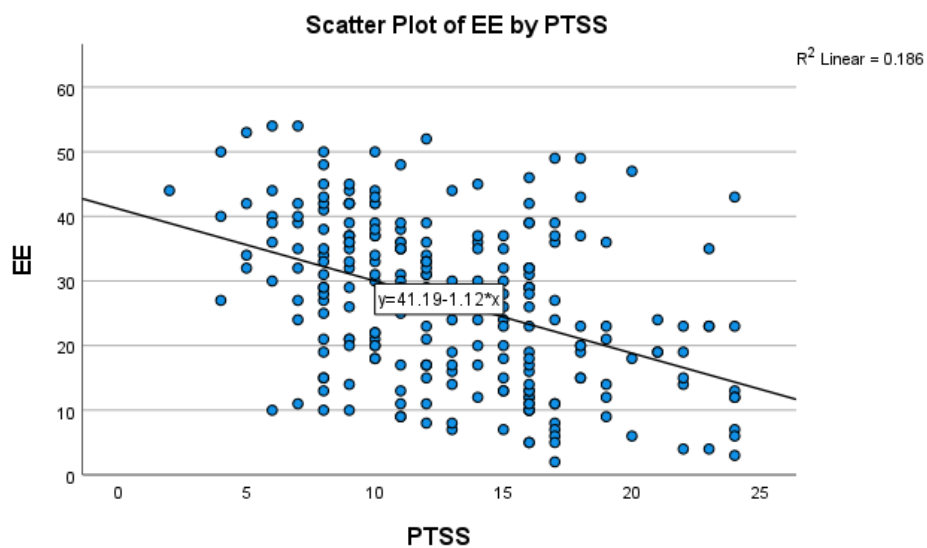
Figure 8

Scatter Plot of Depersonalization (DP) by Positive Thinking Skills Scale (PTSS)

Scatter Plot of DP by PTSS

R^2 Linear = 0.126

y=15.43-0.52*x
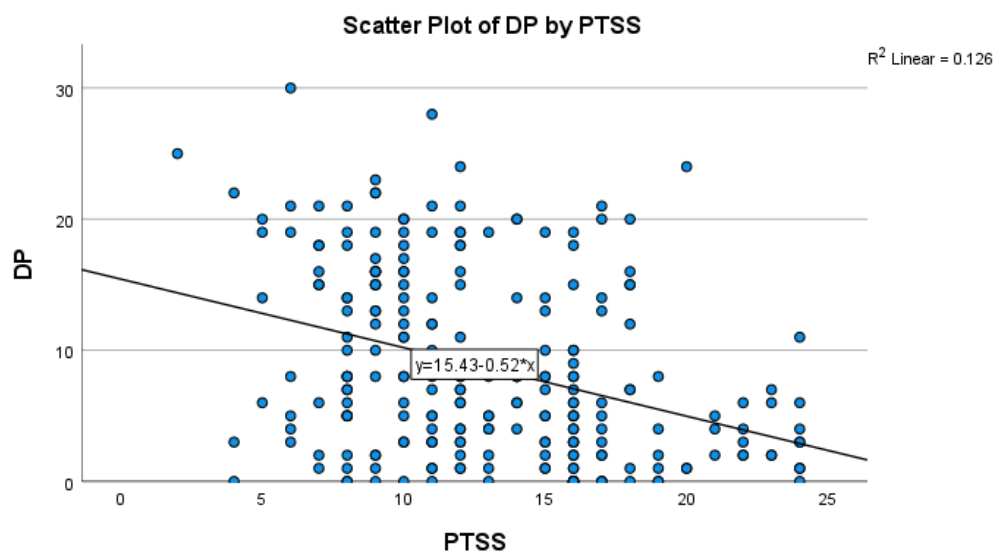
Figure 9

Scatter Plot of Personal Accomplishment (PA) by Positive Thinking Skills Scale (PTSS)

Scatter Plot of PA by PTSS

R^2 Linear = 0.280

$y=23+0.88*x$
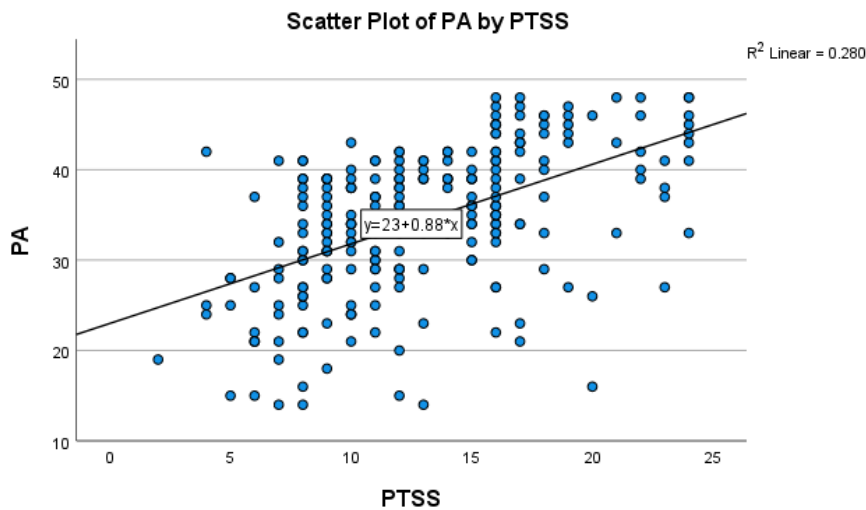
The sixth assumption of MANOVA is homoscedasticity, which requires that there are equal variances in different variables being compared, as unequal variances can lead to inaccurate or skewed results (Field, 2018). A visual inspection of the data below (Figure 10-13) showed evenly dispersed data between the two groups and EE, DP, PA and PTSS, thus, satisfying the assumption of homoscedasticity.

Figure 10

Scatter Plot of Dependent Variable Emotional Exhaustion (EE)
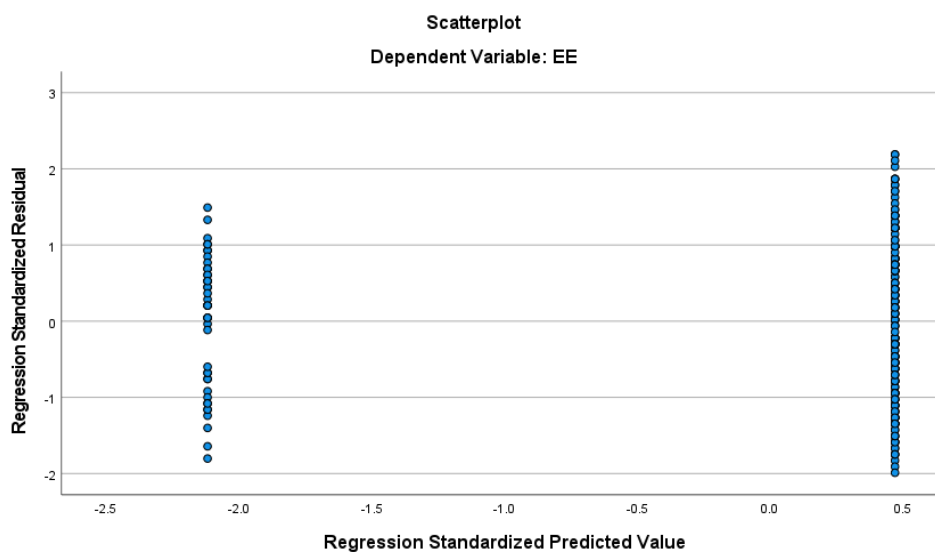
Figure 11

Scatter Plot of the Dependent Variable Depersonalization (DP)
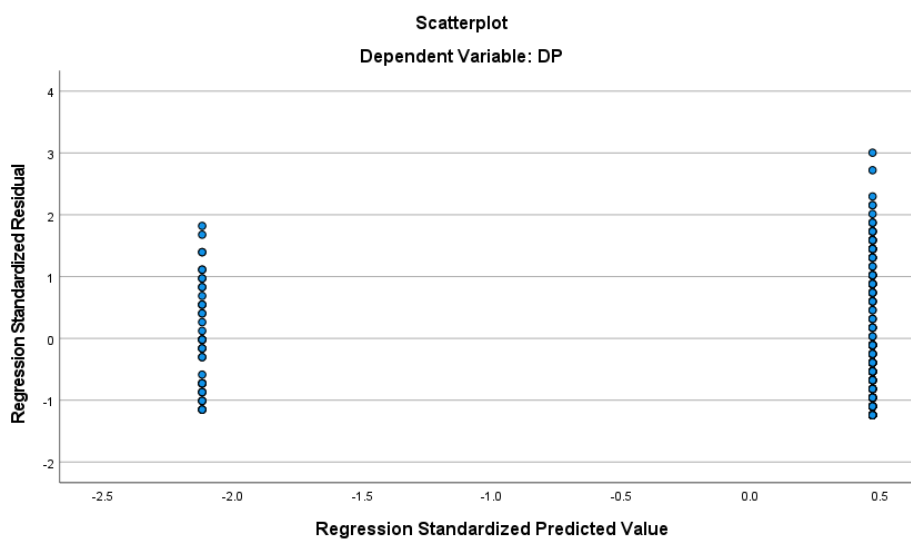
Figure 12

Scatter Plot of Dependent Variable Personal Accomplishment (PA)
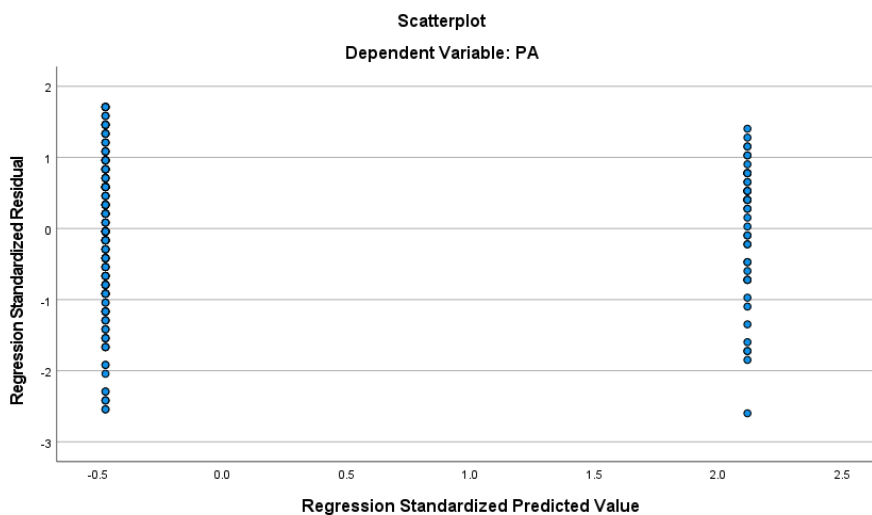
Figure 13

Scatter Plot of Dependent Variable Positive Thinking Skills Scale (PTSS)
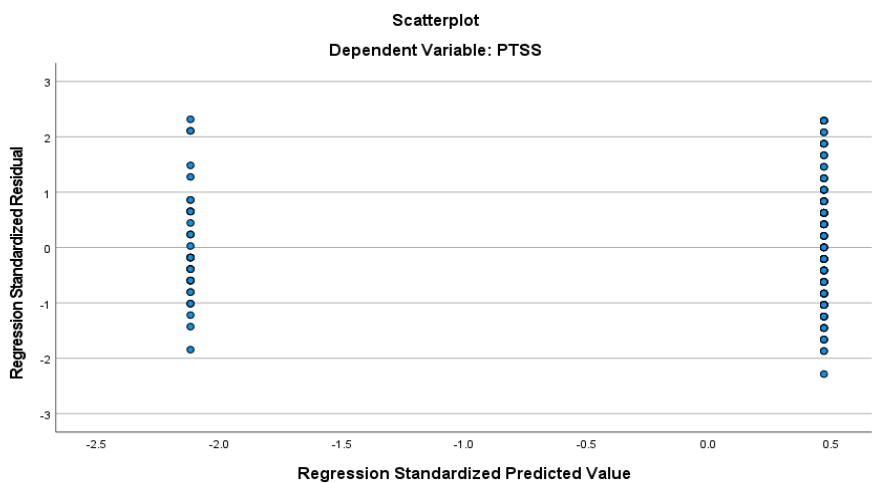
I conducted a Pearson correlation *r* to determine the relationship between the use of positive thinking skills and burnout level among critical care nurses and the results showed (a) a statistically significant negative moderate correlation between positive

thinking skills and emotional exhaustion among critical care nurses ($p <.001$), (b) a statistically significant negative moderate correlation between positive thinking skills and depersonalization among critical care nurses ($p <.001$) and (c) a statistically significant positive strong correlation between positive thinking skills and personal accomplishment among critical care nurses ($p<.001$). r=-.432, n=242, ($p <.001$). r =-.355, n=242, ($p <.001$), r=.529, n=242, ($p <.001$)

Pearson correlation r is also a measure of effect size, and it is one of the commonly used measures (Field, 2018). Gray et al. (2017) stated that Pearson correlation provides two key aspects (a) the direction (positive or negative) of the linear relationship and (b) the strength or magnitude of the relationship. According to Gray et al, the strength of correlation for Pearson r for a moderate negative correlation is -.0.49 to -.0.30 and for a strong positive correlation is 0.50 to 1.00. Therefore, EE (r=-.435) and DP (r=-.353) indicate moderate negative correlation and PA (r=.515) indicate a strong positive correlation. Therefore, the null hypothesis was rejected.

I performed a MANOVA statistical test to answer RQ2 to determine the difference between the use of positive thinking skills and burnout level among critical care nurses who have been working in the critical care units for one year or less compared with critical care nurses who have been working in critical care more than one year. Prior to performing the MANOVA statistical test, I tested for MANOVA assumptions to ensure it is the appropriate statistical test for the study. The first three assumptions relate to the study design:

The first assumption of MANOVA requires thar two or more dependent variables are measured at the interval or ratio levels. The assumption was met because the dependent variables EE, DP, PA and PTSS are all continuous variables. The scales for EE, DP and PA are 0 -6 and for PTSS, 0-3.

The second assumption OF MANOVA is that the independent variable consists of two or more categorical groups. The assumption was met since the independent variable consisted of two categorical groups, critical care nurses who have been working in critical care for one year or less and critical care nurses who have been working in critical care for more than one year.

The third assumption of MANOVA is that there is independence of observations, which means that no relationship exists between the observations in each group of the independent variable or between the groups. The assumption was met because the study groups have different participants.

The fourth assumption of MANOVA is equality of variance covariance matrices. This tests the null hypothesis that the variance/covariance matrices of the dependent variables are equal across each group. This assumption was tested with the Box M test. According to Field (2018), a statistically significant result ($p <.001$) is an indication of unequal variances. The Box M test showed a non-significant result of .615. Therefore, the assumption of homogeneity of variances covariance was met.

The fifth assumption of MANOVA is the requirement of adequate sample size. Fields (2018) stated that N=30 is a widely accepted value for a large sample size. The

sample size for each group was greater than 30 and total sample size was *N*=242.

Assumption was met.

The sixth assumption of MANOVA is homogeneity of variances. This assumption

tests that there are equal variances between the groups of independent variables. The

Levene's test of equality of error variances can be used to test whether equal varices exist

between group combination for the dependent variable (Field, 2018). A non-statistically

significant Levene's test (>.005) for dependent variables is an indication of equal

variances and a confirmation that the multivariate test statistics are robust (Field, 2018).

In Table 13, the Levene's test showed a statistically non-significant test for all listed

variables, indicating equal varices across the groups. Therefore, the assumption of

homogeneity of variances was met.

Table 13

Levene's Test of Equality of Error Variances

Dependent variables	Sig
EE	.090
DP	.046
PA	.739
PTSS	.240

The seventh assumption of MANOVA is that there are no univariate outliers -

Outliers are data points within a dataset that fall outside of the pattern of other data

points, they are either too low or too high (Field, 2018). Outliers can negatively influence

the outcome of the statistical test results (Field, 2018). I visually inspected boxplots

(Figures 14 -17) whiskers and no outlier was found. Therefore, the assumption was met.

Figure 14

Boxplot of Emotional Exhaustion (EE) by Time as Critical Care Nurse
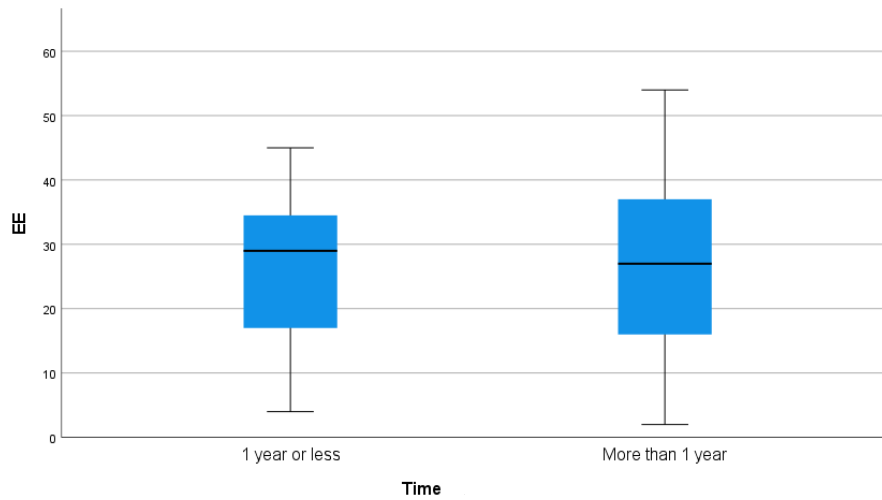
Figure 15

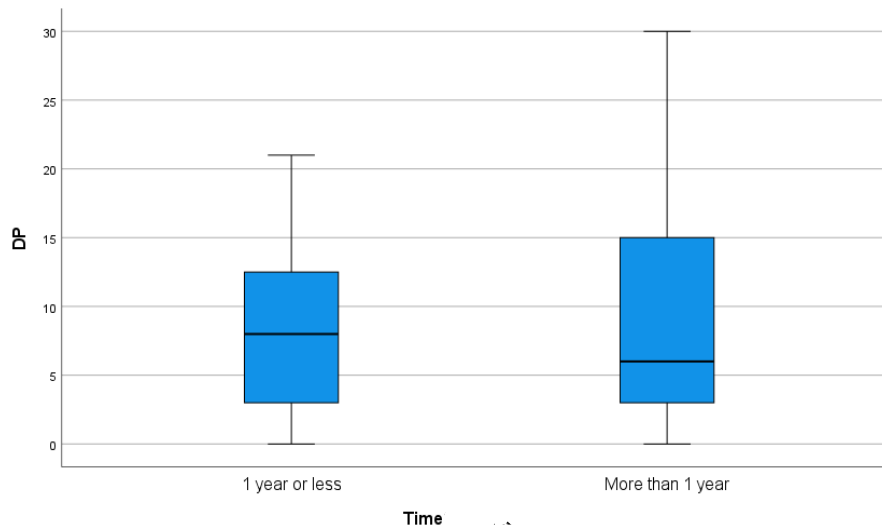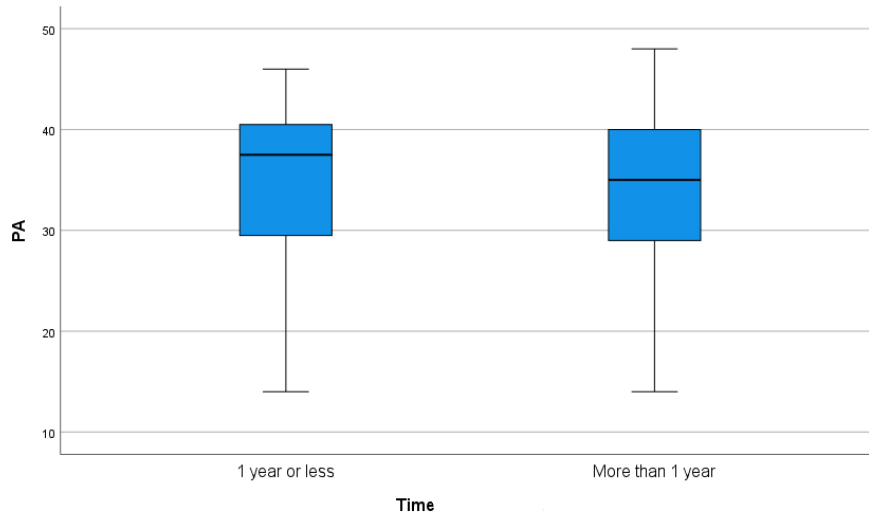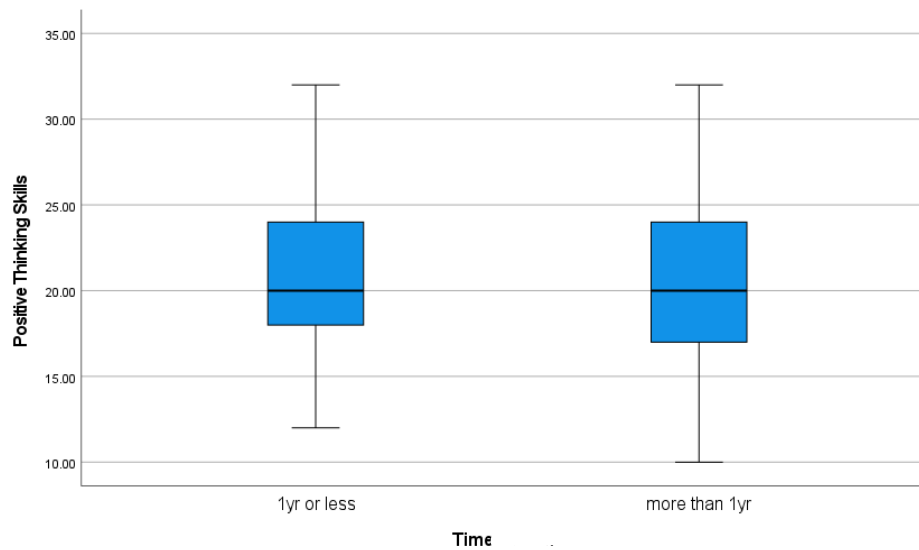*Boxplot of Depersonalization (DP) by Time as Critical Care Nurse*

Figure 16

Boxplot of Personal Accomplishment (PA) by Time as Critical Care Nurse

Figure 17

Boxplot of Positive Thinking Skills by Time as Critical Care Nurse

Multivariate outliers refer to unusual combination of scores on the dependent variable. Mahalananobis distance is the preferred test to detect multivariate outlier since it is able to detect any unusual observations given that more observed data are multi-

dimensional that could be missed (Ghorbani, 2019). The Mahalanobis distance measures the distance of cases from the mean of the predictor variables (Field, 2018). A multiple regression analysis which includes the Mahalanobis distance is recommended to detect multivariate outliers and is based on residuals (Ghorbani, 2019). According to critical value reference, a distance greater than 11 with three predictors is concerning (Field, 2018). I performed a multiple regression and included Mahalanobis distance, the result 4.481. Therefore, meeting the assumption of no multivariate outlier.

The eighth assumption of MANOVA is multivariate of normality which tests for a normality of data. I visually inspected the normal Q-Q plot (Figures 18-25), and the data were found to have nearly normal distribution, therefore meeting assumption of normality.

Figure 18

Normal Q-Q Plot of Emotional Exhasution (EE) by Time as Critical Care Nurse 1 Year or Less
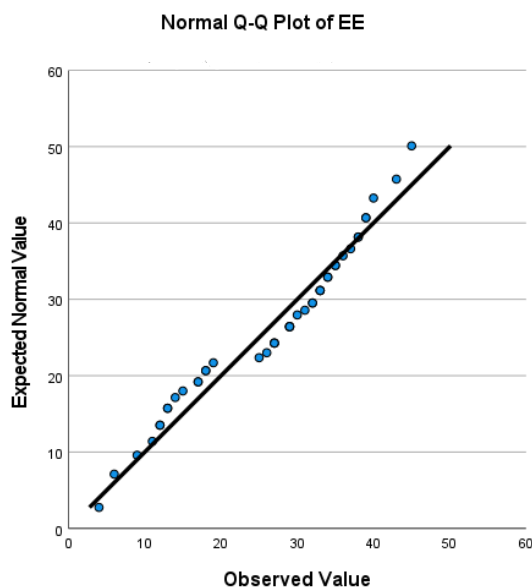
Figure 19

Normal Q-Q Plot of Emotional Exhaustion (EE) by Time as Critical Care Nurse More Than 1 Year
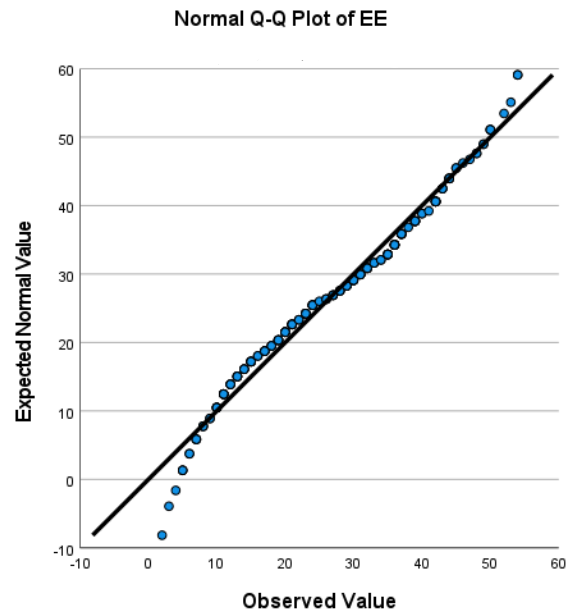
Normal Q-Q Plot of EE

Figure 20

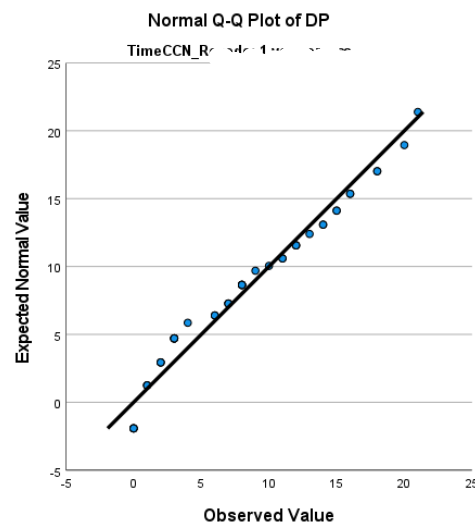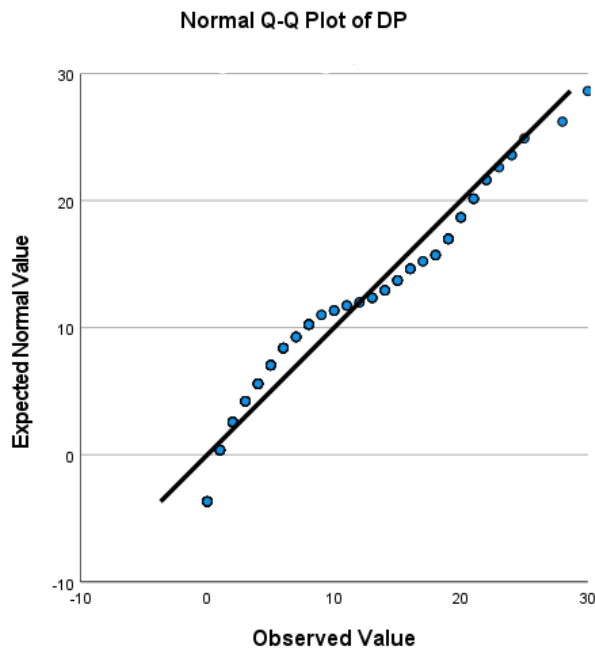*Normal Q-Q Plot of Depersonalization (DP) by Time as Critical Care Nurse 1 Year or Less*

Normal Q-Q Plot of DP

Figure 21

Normal Q-Q Plot of Depersonalization (DP) by Time as Critical Care Nurse More Than 1 Year

Normal Q-Q Plot of DP

Figure 22

Normal Q-Q Plot of Personal Accomplishment (PA) by Time as Criticial Care Nurse 1 Year or Less
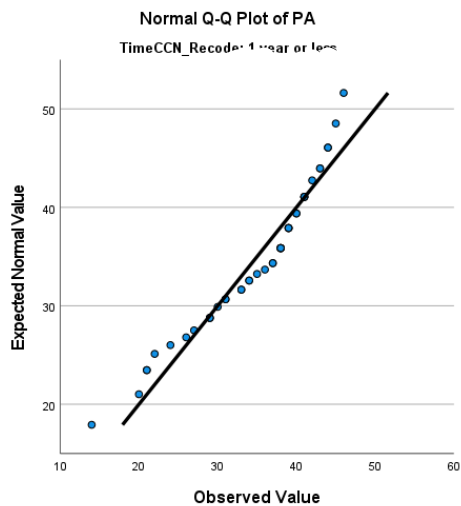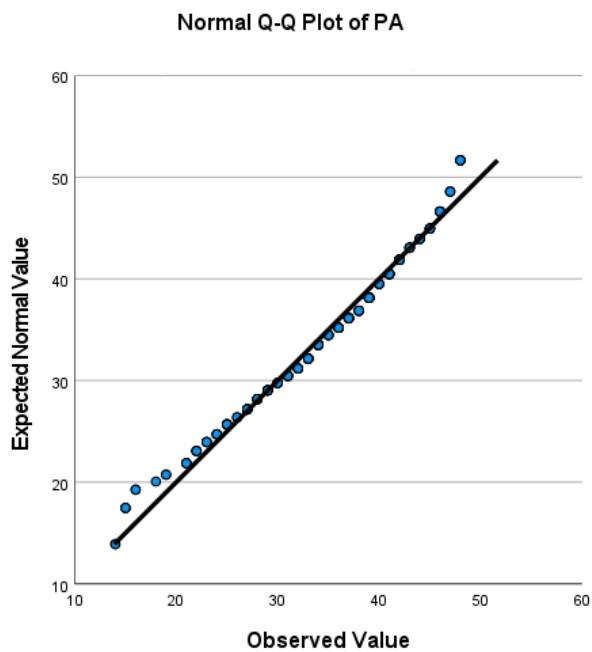

Normal Q-Q Plot of PA

Figure 23

Normal Q-Q Plot of Personal Accomplishment (PA) by Time as Critical Care Nurse More Than 1 Year

Normal Q-Q Plot of PA

Figure 24

Normal Q-Q Plot of Positive Thinking Skills Scale (PTSS) by Time as Critical Care Nurse 1 Year or Less
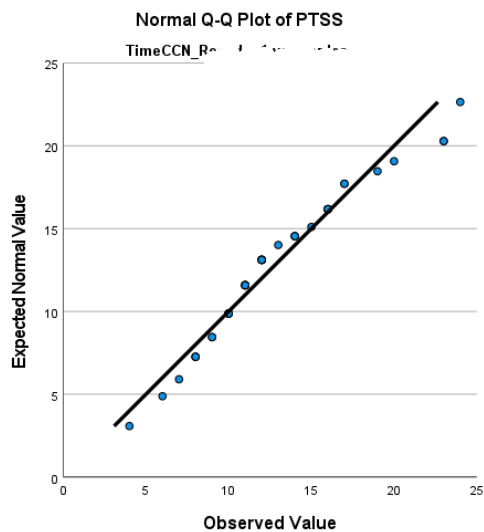

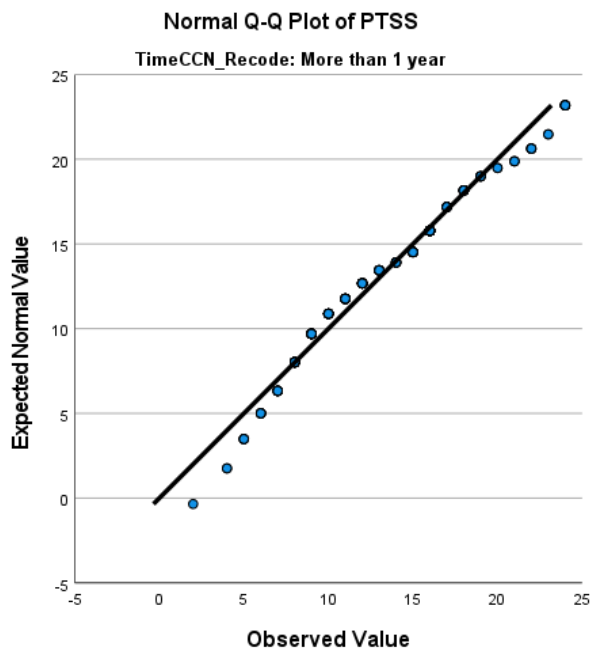
Normal Q-Q Plot of PTSS

Figure 25

Normal Q-Q Plot of Positive Thinking Skills Scale (PTSS) by Time as Critical Care Nurse More Than 1 Year

The ninth assumption of MANOVA requires that there is no multicollinearity. This assumption tests for the level of correlation between variables. Ideally, a moderate correlation between variables is acceptable. Pearson correlation results for EE, DP PA with PTSS: (r=-.432, p =.001, r =-.355, p=001, r=.529, (p <.001). Tolerance and variance inflation factor (VIF) are specific tests for multicollinearity (Gray et al., 2017). If VIF <10 and tolerance <0.20., then there is no multicollinearity (Gray et al., 2017). I did a regression test in SPSS and the results showed that VIF <10 and tolerance <0.20) for EE, DP, PA and PTSS for the two independent groups were within the acceptable limits. Therefore, the assumption of multicollinearity was met.

The tenth assumption of MANOVA requires linearity among the variables. A linear relation needs to exist between the dependent variables with each group of the independent variables. A lack of linearity among the variables results in reduced test power (Field, 2018). This assumption was tested with scatter plots (Figure 18-20) and visually inspected, which showed a linear relationship between the dependent variables EE, DP, PA and PTSS. Therefore, the assumption of linearity was met.

Figure 26

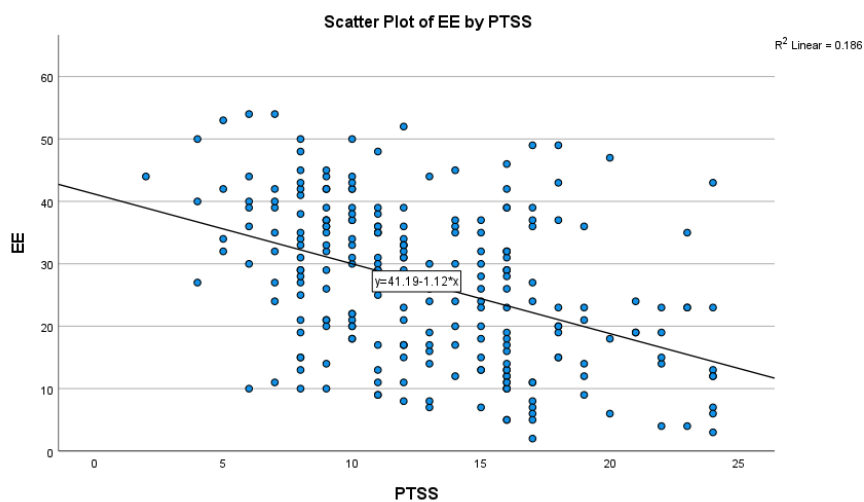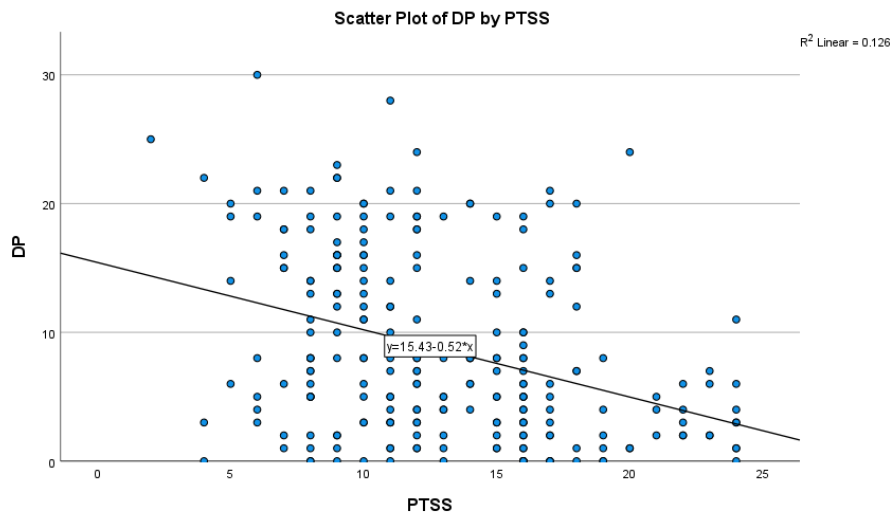*Scatter Plot of Emotional Exhaustion (EE) by Positive Thinking Skills Scale (PTSS)*

Figure 27

Scatter Plot of Depersonalization (DP) by Positive Thinking Skills Scale (PTSS)

Scatter Plot of DP by PTSS

Figure 28

Scatter Plot of Personal Accomplishment (PA) by Positive Thinking Skills Scale (PTSS)
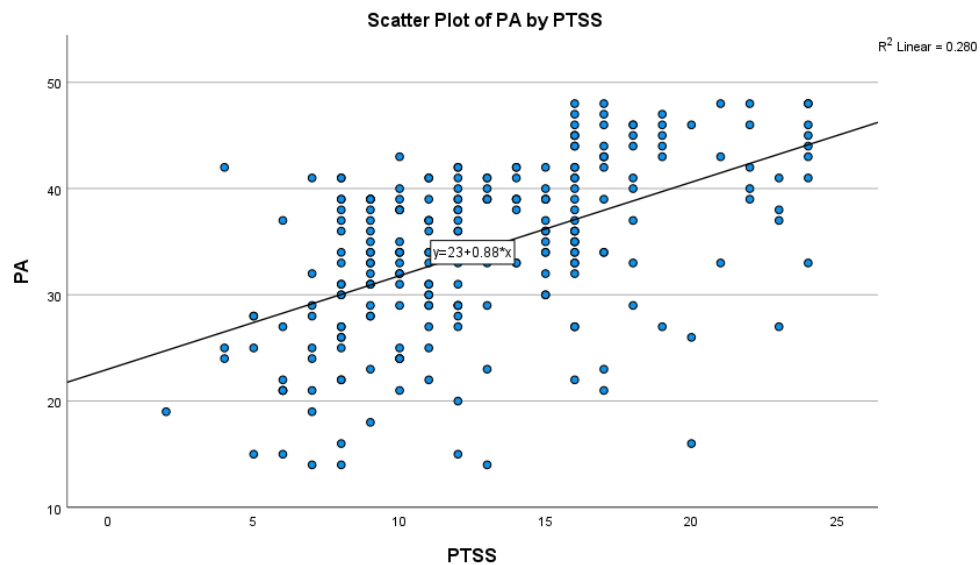

Scatter Plot of PA by PTSS

Table 14 displays data on the two groups for RQ2, critical care nurses with one year or less compared to critical are nurses with more than one year. Table 14 includes EE, DP, PA and PTSS means and standard deviations for both groups. The data showed that the mean values and standard deviations for EE, DP, PA and PTSS are very closely related (no significant differences) for critical care nurses with one year or less compared with critical care nurses with more than one year.

Table 14

Time as Critical Care Nurse

Time	N	Mean	SD
EE 1 yr or less	44	26.43	10.791
EE more than 1 yr	198	26.75	12.777
DP 1yr or less	44	8.14	6.041
DP more than 1yr	198	8.77	7.270
PA 1yr or less	44	34.77	7.682
PA more than 1yr	198	34.33	8.062
PTSS 1yr or less	44	12.86	4.460
PTSS more than 1yr	198	12.98	4.880

Note. EE = emotional exhaustion; DP = depersonalization; PA = personal accomplishment; PTSS = Positive Thinking Skills Scale.

The MANOVA results showed: F (4, 237) =.146, *p*= .965; Wilks'Λ =.998; partial n² =.002. Therefore, the results showed that there was no statistically significant difference between critical care nurses who have been working in critical care for one year or less compared with critical care nurses who have been working in critical care more than one year. Therefore, the null hypothesis was retained.

Summary

I conducted a quantitative, correlational study and performed Pearson correlation and MANOVA statistical tests to answer RQ1 and RQ2 respectively. I tested the assumptions for both statistical tests and they were met indicating that the tests were the appropriate tests for RQ1 and RQ2. I used two instruments for my studies: MBI to measure burnout dimensions (EE, DP & PA) and PTSS to measure the use of positive thinking skills. I performed Cronbach's Alpha to determine the reliability of the MBI and PTSS and both were found reliable with scores above .70, which is a widely accepted value in social sciences. Data analysis was performed using SPSS version 28. I reported descriptive demographic data, which showed that the ages of most of the respondents (44.2%) were between 26-35 years and they were mostly females (74.8%). Most of the respondents were single (52.1%), of Asian/Pacific race (50.4%) and had bachelor's degree (71.1%). Most of the respondents worked as critical care nurses for 2-7 years (43.4%).

Descriptive statistics data on the variables showed that EE had the highest mean score of the three burnout dimensions, 26.69 out of 54 (49.42%). Higher scores indicate higher degrees of burnout for EE and DP, while lower scores indicate higher degrees of burnout for PA. Higher PTSS scores indicate more positive thinking. Data showed that 22.7% of respondents had the highest EE scores of 36-54, which denotes higher degrees of burnout, 27.7% of respondents had the lowest EE scores of 0-17 and 44.2% of respondents had mid-range scores of 18-35. Data also showed that 9.1% of respondents reported the highest DP scores of 20-30, which denotes higher degrees of burnout, 62.4%

of respondents reported the lowest scores of 0-9, which denotes lower degrees of burnout and 28.5% of respondents had mid-range scores of 10-19. The data for PA showed that 2.5% of respondents reported the lowest scores of 0-15, which denotes higher degrees of burnout, 66.9% of respondents had the burnout scores of 32-48, which denotes lower degrees of burnout and 30.6% of respondents had mid-range scores of 16-31. The data for PTSS showed that 33.5% of respondents reported higher PTSS scores of 16-24. 9.9% of respondents reported the lowest PTSS scores of 0-7 and 56.6% of respondents reported mid-range PTSS scores of 8-15.

I performed Pearson correlation for RQ1 to determine the relationship between the use of positive thinking skills and burnout level among critical care nurses. The results showed a statistically significant negative moderate correlation between positive thinking skills and emotional exhaustion among critical care nurses ($p <0.001$), a statistically significant negative moderate correlation between positive thinking skills and depersonalization among critical care nurses ($p <0.001$) and a statistically significant positive strong correlation between positive thinking skills and personal accomplishment among critical care nurses. The null hypothesis was rejected.

I performed a MANOVA statistical test for RQ2 to determine the difference between the use of positive thinking skills and burnout level among critical care nurses who have been working in the critical care units for one year or less compared with critical care nurses who have been working in critical care more than one year. The results showed that there was no statistically significant difference between the use of positive thinking and burnout level among critical care nurses who have been working in

the critical care units for one year or less compared with critical care nurses who have

been working in critical care more than one year. Therefore, the null hypothesis was

retained. In Chapter 5, I will discuss the interpretation of findings, limitations,

recommendations, and implications

Chapter 5: Discussion, Conclusion, and Recommendations

Introduction

The purpose of my study was to determine (a) if there was a relationship between the use of positive thinking skills and burnout among critical care nurses, and (b) if there was a difference between the use of positive thinking skills and burnout among critical care nurses who had been working in the critical care units for 1 year or less compared with critical care nurses who had been working in critical care more than 1 year.

Burnout is a global health problem with a significant negative impact on the health (physical, mental, emotional) and wellbeing of critical care nurses (Perlo et al., 2017; Vahedian-Azimi et al., 2019, Wei et al., 2020, Zhang et al., 2020), which in turn has negative impact on patient safety, quality of care, and patient and organizational outcomes. The solution has remained elusive despite extensive research done on burnout (Bakhamis et al., 2019; Moss et al., 2016). The emergence of the COVID-19 pandemic has compounded the problem of burnout, placing additional burden on the health and well-being of critical care nurses (Fernandez et al., 2020; Howell, 2021; Shreffler, 2020), thus creating an urgency to address the problem of burnout (Fernandez et al., 2020). Consequently, burnout has been identified as a high priority problem by regulatory (i.e., Joint Commission) and legislative (i.e., Congress) bodies.

I conducted a quantitative, correlational study to answer my RQ1 and a comparative analysis study for my RQ2. The statistical tests included Pearson correlation to answer RQ1 and MANOVA test to answer RQ2. I used two valid and reliable instruments, the MBI and PTSS. I used the MBI to measure burnout dimensions EE, DP,

and PA and PTSS to measure positive thinking skills. I conducted data analysis with SPSS version 28.

RQ1 was answered with (a) statistically significant negative moderate correlation between positive thinking and EE, (b) statistically significant negative moderate correlation between positive thinking and DP, and (c) statistically significant positive strong correlation between positive thinking and personal accomplishment. The result means that (a) when positive thinking increases, EE decreases; when positive thinking decreases, EE increases; (b) when positive thinking increases, DP decreases; when positive thinking decreases, DP increases; and (c) when positive thinking increases, personal accomplishment increases; when positive thinking decreases, personal accomplishment decreases. The results showed that of the three burnout scores, EE had the highest burnout mean score, 26.69 out of 54 (49.42%) because higher scores indicate higher degrees of burnout. PA had the lowest burnout mean score, 34.41 out of 48 (71.68) because higher scores indicate lower degrees of burnout. The results also showed a high prevalence of burnout among critical care nurses.

The results for RQ2 showed a statistically nonsignificant difference between the use of positive thinking skills and burnout level (EE, DP, and PA) among critical care nurses who had been working in the critical care units for 1 year or less compared with critical care nurses who had been working in critical care more than 1 year.

Interpretation of the Findings

The findings of my studies are consistent with findings from prior similar studies. Manzano-Garcia and Ayala (2017) reported that positive perception of work has been

associated with decreased burnout rate, and negative perception of work has been associated with increased burnout rate. In another similar study on work related stress and positive thinking skills among acute care nurses, Tully and Tao (2019) found a small but significant association between work-related stress and positive thinking skills among acute care nurses. Similarly, Kooshalshah et al. (2015) found that positive thinking reduced stress among the nurses. Furthermore, some similarities exist between my study and prior studies on burnout. Emotional exhaustion was the most negatively affected burnout dimension in my study. This is consistent with prior studies on burnout, for example, Alharbi et al. (2016) reported that up to 82% of critical care nurses were emotionally exhausted. Also, Bruyneel et al. (2021) reported a high prevalence of burnout among critical care nurses during the COVID-19 pandemic, with EE being the most negatively affected dimension of burnout. Also, consistent with my study, Bruyneel and Smith (2021) found that ICU nurses were significantly at less risk for lower personal accomplishment. The lower risk for reduced PA was attributed to the significant autonomy and the feeling of competence of critical care nurses, especially during the COVID-19 pandemic, where the critical care nurses effectively and independently managed complex issues, such as mechanical ventilation, sedation and vasoactive drugs.

Other studies with similar findings include Alotni and Elgazzar (2020) study, which showed a high prevalence of burnout among critical care nurses. Mudallal et al. (2017) also reported high levels of burnout among critical care nurses. Also, Swamy et al. (2020) found that one third of the critical care nurses in the Veteran Administration experienced burnout symptoms.

In relation to my RQ2, the results of my study showed that there was no statistically significant difference between the use of positive thinking skills and burnout levels for critical care nurses with 1 year or less of experience compared to critical care nurses with more than 1 year of experience. However, prior studies found that nurses with more years of experience have higher stress levels than those with less years of experience (Abumayyaleh et al., 2016; Baltran, 2019). Given the results of my RQ, it is important to consider the effect the COVID-19 pandemic may have had on critical care nurses and if it could have influenced the outcome because experienced and new critical care nurses were all exposed to the same amount of stress during COVID-19. Shen et al. (2020) studied the psychological stress of ICU nurses during the COVID-19 pandemic and found that ICU nurses faced tremendous challenges due to huge workload, many dying patients, and anxiety from misunderstandings with patients and family members. New ICU nurses were also highly affected by the stress level due to their lack of experience of caring for critically ill patients.

Limitations of the Study

Given that the recruitment of participants was based on the critical care nurses available at that time of the study, the results may not be representative of a broader population, thus limiting generalizability. Also, the target population was critical care nurses and did not include other nursing specialties, thus limiting generalizability to broader nursing specialties. The correlational analysis I performed in this study to answer RQ1 provides information on the direction and strength of association between variables but does not indicate causality.

Recommendations

Burnout has significant negative impact on the health and well-being of critical care nurses, which in turn negatively impacts patient safety, quality of care, and patient and organizational outcomes. Therefore, it is imperative to identify and implement effective interventions to address the chronic problem of burnout. Gray et al. (2017) stated that the first clue to the possibility of a causal relationship is the existence of a relationship between variables. Therefore, given the evidence of a statistically significant association between positive thinking and burnout, I recommend that future studies be directed towards interventional studies with pretest posttest control groups to establish a causal link between on positive thinking and burnout and to test teaching interventions to determine if training nurses on positive thinking is effective.

Implications

Burnout is a global health problem that has challenged the healthcare industry for decades, particularly critical care nurses. There is still no identifiable solution for burnout despite extensive studies and existing interventions on burnout (Bakhamis et al., 2019; Moss et al., 2016). Burnout is associated with cynicism, hopelessness, and ineffective coping (Hopewell, 2021), which creates a negative and unhealthy work environment that impacts critical care nurses, patient safety, quality care, and patient and organizational outcomes. Positive thinking has the potential of transforming the work environment and bringing about positive social change because it focuses on the favorable, rather than the negative aspects of a situation, thereby helping a person to deal with problems more effectively (Matel-Anderson & Bekhet, 2019). A positive work environment has been

linked to positive patient outcomes (Ulrich et al., 2019). Copanitsanou et al. (2017) found

that patients who were hospitalized in a positive nursing work environment were more

satisfied with the care they received from the nurses than patients who were not. Also,

frequent experiences of positive emotions and positive attitudes towards life have been

linked to quality of life across one's lifespan (Park et al., 2016). Thus, the impact of

positive thinking extends beyond the work environment to individuals and the

community. Positive thinking is new in nursing (Tully & Tao, 2019), but it offers a

promising positive outcome in addressing the problem of burnout. Hence, the results of

my study can be used to increase awareness and promote positive thinking among critical

care nurses. The results of my study contribute to the body of knowledge on burnout and

positive thinking and can inform nursing policy, administration, and education. The

COVID-19 pandemic exposed the gaps in addressing the mental health needs and well-

being of critical care nurses. Hence, Sovold et al. (2021) called for an urgent global

public health priority on the mental and well-being of the healthcare workers, not only

during a public health crisis but on an ongoing and regular basis. My study results may be

beneficial in providing information for developing training and wellness programs to

combat burnout among critical care nurses.

Conclusion

The results of my study showed a statistically significant association between

positive thinking and burnout: (a) As positive thinking increases, EE decreases, and as

positive thinking decreases, EE increases; (b) as positive thinking increases, DP

decreases, and as positive thinking decreases, DP increases; and (c) as positive thinking

increases, PA increases, and as positive thinking decreases, PA decreases. My study

offers new information on promoting a positive work environment, which may reduce or

prevent burnout among critical care nurses and transform their work environment leading

to positive social change. Lazarus and Folkman (1984) posited that a stress response is

highly influenced by the person's appraisal process, thus highlighting the relationship

between stress, perception and interpretation and making the argument for positive

thinking. Manzano-Garcia and Ayala (2017) pointed out that the way the nurse perceives

or interprets work stressors will determine whether the work stressor will be viewed in a

positive or negative way. Thus, Manzano-Garcia and Ayala recommended the need for

nurses to be empowered to know their personal strength in influencing their work

environment positively.

Despite decades of extensive research on burnout, there is still no identifiable

solution (Bakhamis et al., 2019). Burnout remains a long-standing problem with

significant negative impact on the health and well-being of critical care nurses and

consequently on patient safety, quality care, and patient and organizational outcomes

(Moss et al., 2016). Burnout is highly prevalent among critical care nurses, and the

emergence of COVID-19 pandemic has compounded the problem of burnout, placing

additional burden on the health and well-being of critical care nurses. EE was the most

negatively affected burnout dimension in my study. Barto and Burk (2017) pointed out

that the stressful work environment of critical care nurses is unlikely to change; therefore,

there is a need to train critical care nurses on the skills that will enable them to think

differently about their work, as an effective way of coping with stress. The results of my

study can be used to increase awareness, education, and develop formal training and wellness programs for critical care nurses, which may help to reduce and prevent burnout. This may in turn improve the health and well-being of critical care nurses, promote positive patient and organizational outcomes and a better community. My study contributes to the body of knowledge on burnout and positive thinking and can inform nursing policy, administration, and education. Gray et al. (2017) stated that. the existence of a relationship between variables is the first clue to the possibility of a causal relationship. Therefore, given the evidence in this study of an association between burnout and positive thinking, future research should be directed towards interventional studies with pretest-posttest control groups to establish a causal link between burnout and positive thinking.

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Appendix A: Recruitment Flyer

Appendix A: A Recruitment Flyer

Volunteers are needed to participate in Research

You are eligible to participate if you work in a <u>hospital setting</u> as a <u>critical care nurse</u> in the <u>ICU</u> and provide <u>bedside care</u>

There is a new study called "*Burnout and Positive Thinking Among Critical Care Nurses*"
The results of the study will be used to better understand the benefits of positive thinking skills in preventing burnout among critical care nurses

Click the link below to complete a confidential survey for the study

- To protect your privacy, no names will be collected

Appendix B: Screening Questions

Appendix B: Screening Questions

1. **Are you currently a registered nurse working in a hospital setting?**
   Yes ☐
   No ☐
2. **Are you currently a registered nurse providing bedside patient care in a critical care unit?**
   Yes ☐
   No ☐

Appendix C: Demographic Data Sheet

Appendix C: Demographic Data Sheet

1. What is your Age?
25 years or less □
26-35 □
36-45 □
46-55 □
56-65 □
Over 66 □

2. What is your gender?
Male □
Female □

3. Marital status
Married □
Single □

Which ethnicity do you most identify?
White □
Black/African American □
Hispanic/Latino □
Asian/Pacific Islander □
Native American □
Other not mentioned □

4. What is your highest education level completed?
Associate degree □
Bachelor degree □
Masters degree □
Doctorate degree □

5. How long have you worked as a critical care unit?
1 year or less □
2 – 7 years □
8 – 13years □
14 – 19 years □
20 – 25years □
more than 25 years □

Appendix D: MBI Permission Letter

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Maslach Burnout Inventory™

Instruments and Scoring Keys

Includes MBI Forms:
**Human Services - MBI-HSS
Medical Personnel - MBI-HSS (MP)
Educators - MBI-ES
General - MBI-GS
Students - MBI-GS (S)**

Christina Maslach
Susan E. Jackson
Michael P. Leiter
Wilmar B. Schaufeli
Richard L. Schwab

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Appendix E: MBI Permission Letter

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Appendix F: MBI Permission Letter

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Appendix G: MBI Permission Letter

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Appendix H: PTSS Permission Letter

October 12, 2021

Dear Evangeline,

Thank you for your interest in using the Positive Thinking Skills Scale (PTSS) for your research entitled "Burnout and Positive Thinking Among Critical Care Nurses." As the developer and owner of this scale, I give you my permission to use the PTSS scale.

I have provided you with a copy of the instrument, scoring guide, and reference for publications describing its reliability and validity. I ask that you not alter the items, scaling, or scoring of the PTSS without notification and request for further permission. Finally, I ask that you report to me at the end of your study the findings that pertain to the measurement of positive thinking.

I will be available as a consultant in the interpretation, presentation, and publication of findings in relation to the Positive Thinking Skills Scale.

I wish you success on this important study.

Best regards,

Abir Bekhet