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NICU Nurse Burnout: The Influence of Moral Distress, Compassion Fatigue, and Spirituality on Burnout in Neonatal Intensive Care Unit Nurses

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Abstract

Nurses face a multitude of interpersonal and individual expectations, challenges, and hardships every day of their profession. These experiences accumulate and can lead to burnout. This is especially true for nurses in Neonatal Intensive Care Units (NICUs) who care for infants struggling with prematurity, congenital diseases, withdrawal, and more, all while working closely with grieving parents. This thesis specifically focuses on research discussing moral distress, compassion fatigue, and spirituality as variables associated with the experience of burnout. A critical review of current literature revealed patterns and inconsistencies in the relationships between these factors. Workplace Stressors and moral distress were found to be predictors of burnout while compassion fatigue was suggested as a result of burnout and traumatic experiences with patients. Spirituality was understood as a moderator for burnout as well as moral distress, but there were inconclusive findings for its relationship with compassion fatigue. This information and more was used to create a theoretical model of interaction and to propose further research. More research into the prevention of and interventions for burnout must be done in order to better the lives of NICU nurses and their patients.

Background

Introduction

For children born too soon, or needing extra help, the Neonatal Intensive Care Unit (NICU) is their first home. In this unit, NICU nurses work day and night to keep these children alive and to help them thrive. While focusing on these tiny infants, the nurses must also communicate with the families of the children and work alongside other professionals to accomplish the goal of sending healthy babies home. With all the responsibility, pressure, conflict, and personal emotions these nurses face, it is not surprising that many experience burnout (Braithwaite, 2008). Burnout is a state of multidimensional exhaustion that can impede function and performance in personal and professional realms. With burnout being such a common occurrence in NICU nurses, much research has been done to examine possible contributors to the occurrence.

Nurses cannot give the best care possible without the energy and drive to help their patients. Understanding and lessening burnout is essential to better the quality of life of NICU nurses and their patients (Braithwaite, 2008). Ideas for doing so may be found through the research conducted in this thesis. This thesis focuses specifically on burnout's relationships with moral distress, compassion fatigue, and spirituality. Examining factors that strengthen or explain these relationships between variables in NICU nurses would provide insight on how to manage or lessen the occurrence of burnout overall, whether in terms of prevention or treatment.

The purpose of the current thesis is to examine factors that contribute to burnout, as well as to understand the relationships between burnout, moral distress, compassion fatigue, and

spirituality. These variables were chosen due to personal interest in NICU nursing, psychology, and spirituality, as well as the logical connections among the variables. Moral distress, or anxiety about performing actions in practice that violate personal moral beliefs/decisions, logically connects to burnout since built up anxiety can lead to exhaustion. Compassion fatigue, or a state of indifference toward others brought on by prolonged stress/trauma/self-sacrifice, logically connects to burnout as both may be influenced by stress and trauma. Spirituality would connect to burnout, moral distress, and compassion fatigue as it is a lens through which people often view their purpose, morals, and ability to give/feel compassion.

To fulfill this purpose of understanding the relationships among these variables, a theoretical model of the relationships among the variables in this thesis was created after a critical review and dissection of various studies on these concepts. The process of creating a model was included in this thesis because it is the most concise way to portray the abstract concepts and relationships being examined. It is important to note that in conducting the research for this purpose, it was found that while there were many NICU-specific studies on burnout and moral distress, there were few NICU-specific studies found for compassion fatigue and spirituality. Because of this, conclusions on relationships involving compassion fatigue and spirituality in NICU nurses include support based on research done on nursing in general or other ICU nursing.

Burnout in NICU Nurses

Burnout has been defined as “a syndrome of emotional exhaustion, depersonalization (a disconnection from coworkers), and a reduced sense of personal accomplishment that can occur among individuals who work with people on a daily basis” (Braithwaite, 2008, p. 343). It is

important to note that burnout is thought to specifically result from workplace factors (Sweigart, 2017). Among the literature examined, it is generally agreed upon is that the nursing profession experiences high levels of burnout, especially in NICUs. In fact, a study by Kim and Yeom (2018) found that the levels of burnout in NICU nurses were measured to be significantly higher compared to nurses in other units in a hospital. It has also been stated that 25% to 50% of NICU practitioners are affected by burnout (Tawfik et al., 2017). Burnout was chosen as a focus for this research as awareness of it skyrocketed during the height of the COVID-19 pandemic. Rather than look at NICU burnout specifically during this COVID era, this research examines possible contributors to burnout that have been important in the time before and during the COVID pandemic and will still be important in the future.

Much research was found discussing the causes, experience, effects, and prevention of burnout, including a literature review by Braithwaite (2008) that specifically focused on stress and burnout in NICU nurses. A point of discussion in this review was the Maslach Burnout Inventory, a common burnout measurement used in many of the other studies included in the present research. The Maslach Burnout Inventory was made by Maslach and Jackson in 1981 to measure three burnout dimensions: depersonalization, personal accomplishment, and emotional exhaustion (Poghosyan et al., 2009). This three-dimensional model has influenced the common definition of burnout to include these dimensions. In terms of factors related to the development of burnout, the author discusses job stressors and “individual susceptibility,” a term now used in the present research (p. 344). These factors included poor staffing, mandatory overtime, etc. and age, job status, and resiliency, respectively. Overall, this study was beneficial to understanding burnout itself and contextualizing it in the nursing environment.

Work-specific factors, whether built in to the nursing profession or created by interpersonal experiences, are strongly associated with burnout in the literature. A literature review by Kalia (2008) explained a multitude of these work-specific factors that are related to burnout in NICU nurses, such as “patient acuity, staff shortage, management factors, highly technical environment, death, and ongoing needs for crisis decision making, etc.” (pp. 118-119). Interpersonal factors were also included such as lack of appreciation, sexual harassment, and bullying. This author also provides insight into the need for specification of NICU factors compared to ICU factors. This point is stressed as NICU nurses not only care for the infant involved but work extremely closely with distressed parents for as long as the child needs care. This study strongly supports the relationship between work stressors and burnout.

Another study on workplace factors in the NICU that influence burnout is by Tawfik et al. (2017). This research gathered information on almost two thousand NICU care providers across 41 hospitals in California who answered a questionnaire based on the Maslach Burnout Inventory. The survey was focused on identifying different organizational factors that are associated with burnout. The main findings of this study were that the organizational factors that correlated most highly with burnout were high patient volume and electronic record keeping. This study also found that nurses reported higher levels of burnout than other care providers who completed the survey.

Barr (2021) also focused on burnout and its factors, specifically in terms of the relationship between burnout and shame- and guilt-proneness in NICU nurses. This was a cross-sectional study of 142 NICU nurses across six hospitals in Australia that used the Burnout Measure and the Personal Feelings Questionnaire 2 to measure these variables. Results showed

that guilt and shame combined accounted for "41%, 9%, and 15% of the variance in Demoralization, Exhaustion, and Loss of Motive, respectively," with these three measures being the dimensions of burnout examined in the study (p. 3). Barr conducted a similar study in 2020 that examined attachment styles as well as guilt and shame proneness. This study also supported guilt- and shame-proneness having a positive correlation with burnout, and additionally found that avoidant and anxious attachment styles in adulthood correlated positively with burnout as well (Barr, 2020). Personality factors and attachment styles, like the ones discussed here, fall under the category of "Individual Susceptibility" for the model in the present study.

As seen in the research noted above, burnout is an experience brought on by an excessive amount of workplace stress (staffing, patient volume, etc.) and individual susceptibility (resiliency, personality, attachment, etc.). With the already widespread understanding that stress leads to burnout, the current research seeks to explore other factors that may mediate, moderate, or add to this established relationship. The theory in this thesis is that the experience of burnout will be affected by moral distress, compassion fatigue, and spirituality, and will in turn affect each of these variables. It is hypothesized that moral distress and compassion fatigue may lead to burnout but may also be brought on by burnout. Spirituality may suffer because of burnout, and burnout may be moderated or prevented by strong spirituality. These are some of the hypotheses that will be expanded upon in the following discussions of the variables.

Moral Distress

One variable that may contribute to burnout in nurses is moral distress. Research suggests that nurses in general, compared to other medical personnel in hospitals, report higher moral distress (Larson et al., 2017). Moral distress occurs "when nurses are prevented from translating

moral choices into moral action," meaning when they have a morally informed decision that they cannot put into their nursing practice due to policy, family requests, doctors' orders, or other constraints (Kain, 2007, p. 243). In other words, moral distress is experienced when nurses cannot act on what they believe to be the right thing to do. A related yet distinctive term that is often seen in the moral distress literature is ethical dilemmas. Ethical dilemmas are defined as situations in which a person does not know the right course of action, which is different from knowing and not following the right course of action. Ethical dilemmas have been said to lead to moral distress. For this study, ethical dilemmas have been excluded from this research because they are a separate, causative occurrence in relation to moral distress. This means that they do not directly lead to burnout, at least according to the observed literature.

Moral distress was researched by Burston and Tuckett (2013) in their literature review on the experience of it in nursing. This review resulted in the formation of three categories of factors that contribute to moral distress. These three categories are individual (character traits, experience, world view, etc.), site specific (staffing, resourcing, etc.), and broader external influences (economics, policy, etc.). The authors also claim that professional relationship conflict is a leading contributor to moral distress, specifically in terms of the dynamics between doctors and nurses. Nurses are care-based and doctors are cure-based; nurses care for patients while doctors aim to fix patients. Additionally, doctors have more authority over care while nurses carry much of the responsibility of care. This relationship can result in a feeling of powerlessness on the part of nurses who may feel they cannot express their thoughts/opinions about patient care. This can be especially troubling when a nurse perceives the care to be futile aggressive care, which is a commonly discussed contributor to moral distress. This study also detailed that close relationships with patients and proximity to procedures can influence moral distress as

well. This seems to be a common factor shared by compassion fatigue, which will be discussed in a later section. Moral distress also appears to lead to many symptoms that are experienced in burnout, possibly suggesting a directional relationship from moral distress to burnout. Spirituality was also briefly mentioned in this study as morally sensitive support, such as through a chaplain or other spiritual leader, is often sought by nurses experiencing moral distress.

Elpern et al. (2005) also examined moral distress, though their focus was on medical ICU staff nurses. With only 28 nurses completing their questionnaire that included the Corley Moral Distress Scale, the findings may not be generalizable to larger populations. However, their findings are compatible with other research in that they state moral distress as highly influenced by futile aggressive care and strongly influencing retention of nurses, job satisfaction, and well-being. Less supported research findings included that moral distress is positively associated with years in nursing and that moral distress negatively affects spirituality. There is some contradiction in the literature about these two claims. It is difficult to say whether these claims can be accepted as strongly as claims from larger studies. However, most of the conclusions are comparable to those of stronger literature, so these contradicting results may be generalizable to larger populations.

Burnout and moral distress in ICU nurses were investigated by Shoorideh et al. (2015). This Iranian study set out to examine the relationship between these variables and their association with turnover rates. Turnover is a term applied to nurses leaving their place of work or the profession entirely. This research supports the ideas found in NICU literature that non-beneficial aggressive treatment, perceived poor performance by colleagues, and lack of support contribute to moral distress. In terms of the intervariable relationship, it was found that there are

shared factors that are associated with moral distress and burnout, specifically age, years of experience, and an overwhelming nurse-to-patient ratio. Nurse turnover was positively associated with both moral distress and burnout, but the association was stronger with moral distress. This suggests that moral distress may be more detrimental to a nurse's decision to leave his/her job than burnout alone.

Lins Fumis et al. (2017) also specifically looked at the relationship between moral distress and burnout in critical care providers in Brazil. The questionnaire used included the Moral Distress Scale seen in many other studies examined as well as the Maslach Burnout Inventory, which is also frequently utilized. A strong, positive correlation was found between the two variables and a regression analysis indicated that moral distress may act as an independent predictor for the experience of burnout. The researchers explain this as possibly being caused by the effects of moral distress leading to a predisposition to burnout. These contributing effects may include "self-doubt, lack of self-assurance, fear, anxiety, and other situations" that can feed into the three components of burnout (emotional exhaustion, depersonalization, and reduced personal accomplishment) (p. 7). Since this study examined providers in general rather than only nurses, their results showed some differences between nurses and other providers. Nurses accounted for 63 of the 283 respondents for the survey and their results suggest that burnout dimensions differ for nurses compared to other critical care providers. Specifically, emotional exhaustion scores were higher in nurses and personal accomplishment scores were lower, meaning that nurses reported to be more emotionally exhausted and to perceive less personal accomplishment than their fellow providers. This study helps to understand the importance of examining burnout in nurses as it highlights the higher rates found in nurses than in greater populations of healthcare workers.

Another Brazilian study on moral distress and burnout was by Dalmolin et al., (2014). This research collected data on 375 nursing workers, which included 76 nurses, and also used the Moral Distress Scale and Maslach Burnout Inventory. This study explained many of the previously discussed routes to moral distress like futile aggressive care, closeness to patients, and feelings of powerlessness from not being able to act on beliefs. However, this study found only a weak correlation between moral distress and burnout. Furthermore, they found no directional association and instead claimed that neither can be explained by the other. Instead, it is suggested that there are many possible mediators/moderators that likely explain the correlational relationship between the two. This was the only study found that did not support a relationship between moral distress and burnout.

Given the correlational nature of the data in these prior studies, directionality of relationships is difficult to derive. However, based on this research, it seems likely that moral distress may lead to burnout and that burnout may lead to moral distress. It follows a logical thought sequence that frequent and/or intense instances of moral distress in a NICU nurse's work experience would cause mental and/or emotional exhaustion to the extent of burnout. It would also make sense that a nurse experiencing burnout from work factors and/or life experiences may not be able to provide the care they once could because of their physical/emotional/mental exhaustion. This nurse may then have moral distress about burnout causing altered care for patients as the nurse's actions would not match what is believed to be the "right" thing to do. Therefore, one hypothesis for this study is that the relationship between moral distress and burnout is bidirectional.

Compassion Fatigue

Another factor that could contribute to burnout in NICU nurses is compassion fatigue. The experience of compassion fatigue is characterized by negative psychological, physical, emotional, spiritual, and other effects brought on by excessive self-extension for and close relationships with persons experiencing trauma (Figley, 1995, 1998; Dikmen et al., 2016; Henson, 2017). Compassion fatigue has been described as many things, including a synonym for secondary traumatic stress, vicarious trauma, or post-traumatic stress syndrome; a consequence of moral distress; a result of secondary traumatic stress and burnout; a separate experience from secondary traumatic stress and burnout; as a form of burnout (Figley, 1995; Henson, 2017; Ledoux, 2015; Meadors & Lamson, 2008; Polat et al., 2020; Saleh et al., 2019; Sweigart, 2017). This variation in definition alone, as well as variation seen in research on its relationship with the other variables, will be discussed in a section dedicated to contradictions in the literature. Regardless of the true state of its relationship to burnout, which will be examined in this study, it seems to be that compassion fatigue is ultimately a state of indifference toward others brought on by prolonged stress/trauma/self-sacrifice (Zhang et al., 2018).

Ledoux (2015) conducted a literature review on compassion and compassion fatigue in nursing. This author included literature from several continents to examine the conversation on compassion fatigue in nurses of any practice from around the world. The discussion starts with pointing out that there are various definitions of compassion fatigue in literature, as well as no clear definition of compassion in nursing. The definitional contradictions across literature are examined in this study as the author explains how researchers have distinguished compassion fatigue from burnout and secondary traumatic stress, have used those terms interchangeably, and

have even suggested that compassion fatigue is moral distress. Despite all these contradictions, the research seems to agree that there is a serious condition brought on by this care-focused profession that compromises nurses' psychological/emotional well-being, their personal lives, and their quality of patient care. The study then continues to examine compassion itself in nursing literature. The review of compassion literature also proved inconclusive, but it is suggested that this may be due to a belief that compassion is intrinsic to the archetype of nursing as its goal is to lessen the suffering of patients. The author explains the implications of such diverse literature on nursing in terms of intervention. With such varying understandings, programs designed to mitigate the experience of compassion fatigue may be misguided or ineffective due to the confusion and misunderstanding caused by these contradictions. This study ends with a recommendation for understanding compassion more clearly before working toward an understanding of compassion fatigue and ways to prevent it.

Henson (2017) also constructed a literature review on compassion fatigue, though this study focuses on medical/surgical nursing. In terms of a definition for compassion fatigue, this author argues that compassion fatigue, secondary traumatic stress, and burnout should be considered distinct occurrences. However, the author does propose that compassion fatigue can be considered to be a result of the experiences of secondary traumatic stress and burnout. With this definition set, the author then moves through environmental and work setting factors that contribute to compassion fatigue. Many of the factors considered in this study align with those in other literature examined, but this author also adds a point that spiritual intervention plays a role in mediating the effects of compassion fatigue. A major note in this study is that there is a gap in the literature regarding prevention techniques for compassion fatigue, which seems to remain true according to the literature found for the present study. Preventing or treating compassion

fatigue is important to nurses as individuals as well as to the nursing practice. Nurses will benefit as their mental health is cared for and the nursing practice would benefit as nurses would be better equipped to care for patients and work effectively as a team.

Another literature review was by Dikmen et al. (2016). This review focused mainly on the experience, symptoms, effects, and preventions of compassion fatigue in the background for the study. The definition of compassion fatigue used in this research resembles that of other literature in this study, namely, that it is brought on by chronic exposure to the trauma of others and is experienced as the multidimensional exhaustion brought on by that. The authors also suggest that compassion fatigue is another term for secondary traumatic stress. They do not, however, develop this suggestion, so it is not clear whether or not the researchers agree with this definition. Through a review of 53 studies relating to compassion fatigue in nursing, the researchers were able to investigate varying levels of compassion fatigue across nursing fields. While there was no specified NICU data, data from the pediatric unit indicated a possibility of high and severe compassion fatigue. These levels seem to be affected by several personal and occupational factors according to their research. These personal factors include age, relationship status, previous experience of traumatic experiences, burnout, and more. The occupational factors include training, working hours, workload, level of institutional support, and other factors specific to nursing or the hospital environment.

Zhang et al. (2018) conducted a meta-analysis of literature on compassion fatigue, compassion satisfaction, and burnout in nurses. The definition of compassion fatigue in this study states that nurses can lose the ability to extend compassionate energy if they are in close contact with patients, work excessively, and have many levels and types of stress present. Based

on the 11 studies included in their research, there was a strong positive correlation between compassion fatigue and burnout. This meta-analysis also provided information on factors that may influence compassion fatigue, including work aspects like multitasking and numerous logistics or managerial tasks. Considering that these factors are not inherently traumatic, it suggests that work stress can exacerbate compassion fatigue or combine with traumatic experiences to promote it. Additionally, negative affect and stress were found to promote compassion fatigue as well as burnout. The authors also included an interesting note on Type D personality (excessive negative affect and social inhibition) being significantly tied to both compassion fatigue and burnout. These results suggest that personal factors, or individual susceptibility, can contribute to the experience of compassion fatigue in addition to workplace stress and trauma.

Meadors and Lamson (2008) conducted a correlational study concerning compassion fatigue, secondary traumatic stress, and self-care in providers working in ICUs with children (Neonatal and Pediatric ICUs). This study helped clarify primary and secondary traumatization as they occur in medical settings like the NICU. The authors explained that NICU providers may be affected by events in providing care to the point of primary traumatization, such as in an intense case like abuse. There were also interesting points on factors that can worsen primary traumatization or leave a provider vulnerable to experiencing it, including poor coping strategies, identification of patients with their own children, unexpected outcomes in cases, and more. Secondary traumatization is different than primary in the sense that it is not a personal trauma experienced, but rather an experience of being greatly affected by another person's trauma. In a NICU, this would look like being greatly troubled over the suffering of a patient and/or the family. This manifests as symptoms similar to primary traumatization like nightmares, anxiety,

and the like. Compassion fatigue in this research is considered a natural result of repeated traumatization. This suggests that primary and/or secondary traumatic stress can lead to compassion fatigue, which is described as a loss of ability to give compassion. With these variables established, the authors used a pretest/posttest method of surveying. The questionnaires were administered before and after an educational seminar on compassion fatigue. Their findings suggested that individuals reporting high life stress were more likely to report high clinical stress, more negative behaviors, less ability to separate work and home, fewer resources or support to manage stress, and less knowledge of compassion fatigue. Additionally, the posttest data revealed that the educational seminar helped reduce feelings of stress, raise awareness of resources for help, and increase a sense of calmness in the providers. These findings are considered relevant despite the inclusion of providers other than nurses because the authors explained that a majority of the participants were from the nursing profession as well as from a NICU environment.

Polat et al. (2020) also did a survey to examine compassion fatigue. This study specifically examined spiritual orientation and its relationship with compassion fatigue, burnout, and compassion satisfaction. The major results of this study were that the researchers did not find a significant correlation between spiritual orientation and compassion fatigue, compassion satisfaction, or burnout. Instead, there seemed to be an emphasis on self-care or coping strategies affecting the levels of these variables. The researchers argue that burnout and compassion fatigue are entirely separate, especially considering that burnout stems from work-situations and is often alleviated when a situation is changed while compassion fatigue is not as easily altered.

Compassion fatigue may also have a bidirectional relationship with burnout. NICU nursing can have prominent levels of trauma as patients are lost, families grieve difficulties or loss in front of nurses, unexpected outcomes occur, or other stressful and traumatic instances occur. As a nurse experiences these events that bring about prolonged stress and trauma that can lead to the inability to feel compassion for his/her patients (compassion fatigue), that nurse may feel as though he/she has lost that drive for care that motivates a nurse. This feeling may in turn lead to feeling burnt out toward his/her job in general. On the other hand, the stress of life and work experiences that lead to burnout may make it difficult for a nurse to cope with the stress and trauma of his/her work. This may in turn increase the likelihood of developing compassion fatigue. Additionally, it is thought that the relationship between compassion fatigue and moral distress may also be a bidirectional relationship. The mental/emotional exhaustion of moral distress may impede a nurse's ability to give compassion, and compassion fatigue may cause moral distress within a nurse who no longer feels compassion toward the patient that he/she feels is necessary or appropriate.

Spirituality

Another possible contributor to burnout is low spirituality. Spirituality is a sense of meaning, purpose, and interconnectedness with the self, nature, higher being(s), and/or others (Soleimani et al., 2019). Important to note is that there is a difference between religion and spirituality. To avoid focusing on only one religion or religion type, "spirituality" was entered in searches to ensure it was not only religion being measured in the studies. There are studies included in this discussion from multiple countries with various popular religions in hopes to avoid making conclusions on solely a western, monotheistic understanding of spirituality.

First, it is important to look at the reason spirituality is considered as a variable that could affect nursing at all. Shinbara & Olson (2010) examined spirituality as a coping mechanism for nurses in the context of patient loss. According to this study, 75% of the nurses surveyed (n=58) reported that spirituality is a key part of their everyday life, and 70% claimed that it helped them to cope with grief experienced in the workplace. The study also explained that unaddressed grief can lead to negative consequences such as burnout and other forms of maladaptive coping and its effects. A lack of resources and support were also reported as factors that can worsen unaddressed grief in nurses. In looking at NICU nurses specifically, the results of this study can be expected to apply, especially because NICU nurses experience patient loss and grief as they work with patients coming into this world already straddling the line between life and death.

When nurses' suffering is not addressed or negated, the retention of nurses can be negatively affected. Campbell (2013) investigated the issue of nurse retention as it related to spirituality and stress in critical care nurses. Using the Expanded Nursing Stress Scale and the JAREL Spiritual Well-Being Scale, data from 80 ICU nurses across 3 hospitals provided information on the effectiveness of various interventions both against stress and supporting spiritual well-being. Multiple interventions were used to mediate the effects of stress and address spiritual well-being. The results of this study were confounded by the interventions being conducted prior to surveying the nurses, which made this survey have solely a post-test design. There were also multiple interventions in place at one time, which meant that data could not clearly show the effects of just one. Possibly because of these limitations, the researcher found no significant relationship between stress, spirituality, and the decision to stay in one's profession, nor a significant value for stress. As discussed in the study, the findings between stress and spirituality contradict in the literature. This study was used mainly as a source to

understand other literature on spirituality in nursing as it included a thorough literature review. This review included studies that discuss spirituality lessening the perception of stress in the workplace, building feelings of wellness, and being a major part of a holistic view of the individual.

A study that examined the relationship between spirituality and burnout was by Kim and Yeom (2018). The researchers set out to investigate spiritual well-being and burnout in intensive care nurses through a cross sectional descriptive study conducted in South Korea. A translated spiritual well-being scale and a translated burnout scale were administered as a questionnaire to 318 ICU nurses across 3 hospitals. Spiritual well-being is defined in this study as a state involving a feeling of peace and having spiritual needs met. The results of this research showed that spiritual well-being was a significant predicting factor for burnout, as were younger age and previous experiences of grief. Higher burnout was also associated with lower education level, a lack of religion, fewer years of work experience, unmarried status, and more. The authors also found that NICU nurses reported levels of burnout that were significantly higher than nurses in other fields. Interesting to note is that, despite finding spiritual well-being as a predictor for the level of burnout, the researchers did not find that spirituality moderated the experience of burnout brought on by other work-related factors. This suggests that low spirituality may be a factor leading to burnout rather than a moderator that affects the relationship between work factors and burnout. Over half (60%) of the participants of this study reported being religious, so it is important to consider that these results may look different if there were a different proportion of religious to non-religious participants due to the emphasis on spirituality.

Another study that examined spirituality in combination with a variable in the present study was by Soleimani et al. (2019). This research focused on spiritual well-being and moral distress as they affect Iranian nurses. Through conducting their review of literature, the authors found that research suggests nurses' adaptability and multidimensional wellness (social, physical, mental) are positively affected by spiritual well-being. However, with data on 193 nurses across specialties, the researchers were unable to find a significant correlation between spiritual well-being and moral distress. It is important to note the societal context of the sample in this study when examining the results. There was little variation in the level of spiritual well-being reported by the nurses who participated, which may be explained by prevalence of Islam in Iran. The authors explain that the predominance of Islam affects the study as spirituality is built into Islam rather than separate from it. Therefore, the nurses' spiritual well-being would be closely related to their religion, leading to similar levels of spiritual well-being in nurses of similar devotion to Islam. This would provide different results than a study conducted in a more religiously/spiritually diverse country or in a country with a different dominant religion. Variability in a measure allows for differences in effects to be seen across those levels. If there is low spiritual variability in a sample, such as in this study, it is difficult to see the effects of having high, low, or mediocre spiritual well-being. Even though the authors did not find support for a relationship between spiritual well-being and moral distress, they did find that marriage status and job satisfaction predicted spiritual well-being while gender, age, education levels, and shift predicted moral distress. Overall, this study aided in understanding factors that contribute to moral distress as well as the effects of moral distress, in which burnout was included.

Methods

This project is a critical review of research on burnout in NICU nurses with special attention to the roles of moral distress, compassion fatigue, and spirituality as possible contributing factors as mediators or moderators. Research has been compiled from databases including Google Scholar, EBSCOHost, and PsychNet. This research was completed under searches with one variable at a time as well as with combinations of the variables. Examples of these searches are “burnout in NICU nurses”, “stress and burnout”, “moral distress and burnout”, “compassion fatigue and burnout”, “moral distress and compassion fatigue and burnout in NICU nurses”, and the like. Some literature was also found by reviewing the references of studies included. The specific relationships that will be investigated are between moral distress and burnout, compassion fatigue and burnout, spirituality and burnout, moral distress and compassion fatigue, moral distress and spirituality, compassion fatigue and spirituality, workplace stressors and each variable, and individual susceptibility and each variable.

To examine the relationships between factors, the collected literature was analyzed, dissected, and compared to find patterns and inconsistencies. The process of inclusion and exclusion of the articles found was simple. Studies were kept if the variables in the study matched the variables of this project, if the study was on NICU nurses or other nurses (other ICUs, general nurses, or if nurses were analyzed separately within the sample), and if the study was peer reviewed. Additionally, since the variable of compassion fatigue was not introduced in the nursing literature until 1992 (Joinson), studies published prior to 1992 were not included. Initially, the goal was to use only NICU-specific studies to support a NICU-focused theory, but there is limited literature focused on the NICU regarding the variables in this study. Because of

this, general and other ICU nursing literature has been included up to this point to develop a background understanding of the variables. NICU-specific articles were then used to develop an understanding of the variables in order to create the theoretical model of how they interact specifically in a NICU setting. A review of this literature is included in the results of this thesis.

For each study, NICU-specific and non-NICU-specific, information was organized into a table under the categories Reference, Purpose, Population, Method, Definitions of burnout/moral distress/compassion fatigue, Relationships between Variables, Results, and Limitations. The Population, Method, and Limitations were collected to conduct a more critical review of the validity of the results for each study. The Purpose and Results were included to discern whether the study was researching a topic relevant to this project. The Definitions and Relationships were important to the main goal of the study, but they also shed light on holes and contradictions in the literature found. These will be discussed later in this paper. A simplified version of this organization table including only NICU-specific literature on the three variables of focus is included as Appendix A at the end of this paper.

As patterns of variable interactions emerged, the next step was to identify the key factors that led to each of the main variables. These factors were used to create the first draft model that was presented in the proposal for this thesis. As seen in Figure 1, these factors, labeled collectively as Stressors, included Traumatic Patient Experiences for compassion fatigue, Personal Life for burnout, and Workplace Stressors, Patient-Specific Difficulties, and Education/Self-Efficacy for moral distress. There were also initial understandings of interactions included in this model. These relationships were visualized as arrows in this model and the ones that followed. One thing to note in the model is the lack of an entire variable, which occurred

because there was not enough research conducted on spirituality in the context of this project at that time.

With a desire to simplify the model, the factors were put into the categories of "Personal Characteristics and Stress", "Work Stress", and "Poor Coping Skills". These categories were formed as patterns appeared in the research. This model, included as Figure 2, did not clearly indicate how the variables interacted with each other, so yet another model was started. As more literature was collected and both new and existing works were further examined, the relationships and factors became clearer. These new factors were Work Experience, Younger Age, Lack of Support, High Personal Stress, and High Work Stress. Each of these seemed to be tied to moral distress, compassion fatigue, burnout and spirituality by literature collected, so these were included in this third model, seen as Figure 3. Plus signs were also added to the arrows representing relationships to indicate each one as positively correlating with whichever factor(s) it was connected to. Different from the first draft, a chart was made in project notes with these factors to organize supporting literature for each relationship. After being able to visualize how well (or poorly) the relationships were supported, further edits were made to the model until the final draft was created. Details on the final draft will be included in the results section of this paper.

Figure 1. First Draft Model

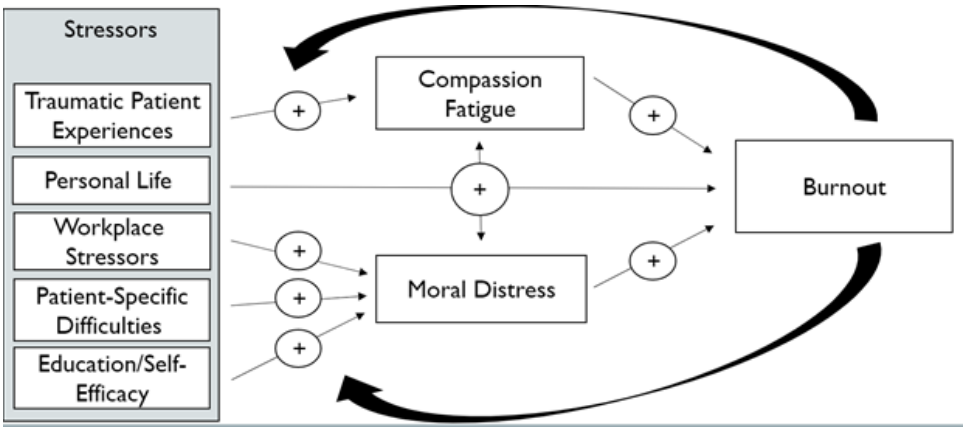


Figure 2. Model Revision 1

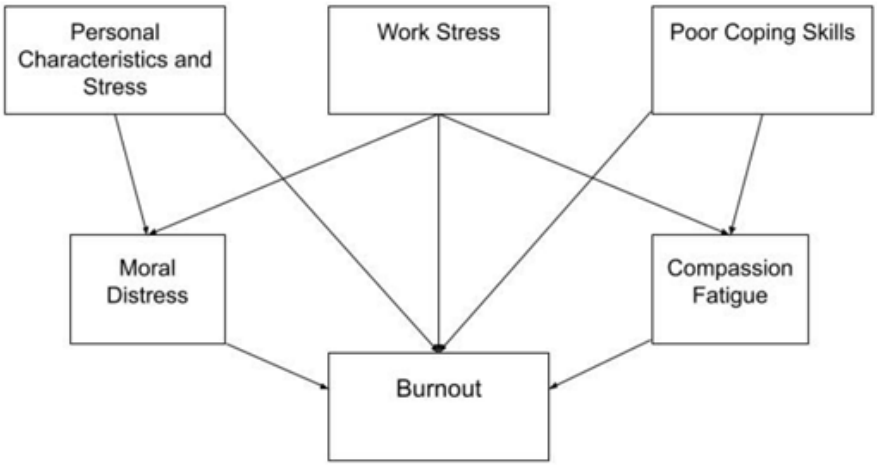
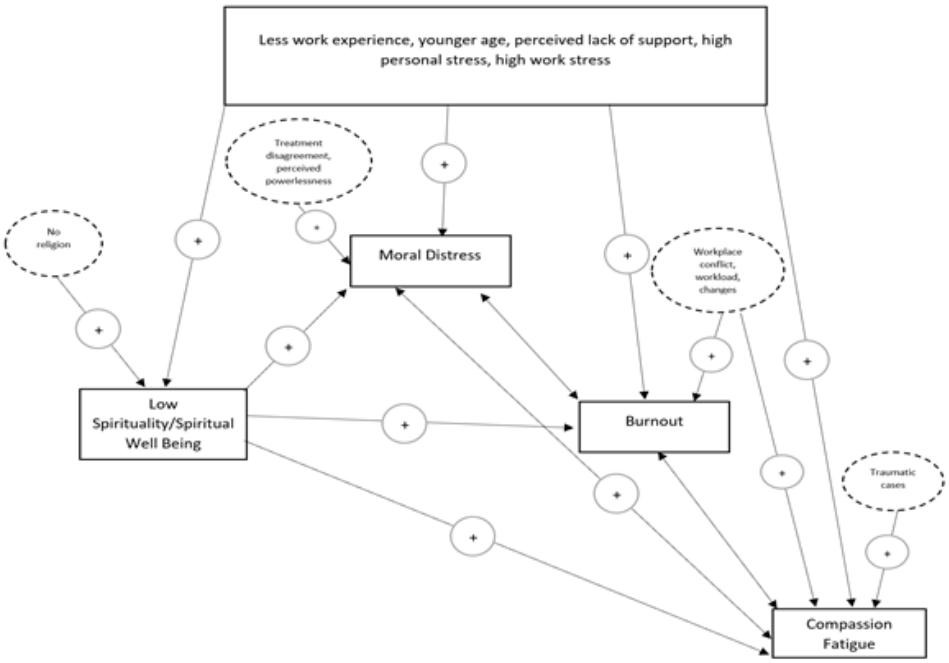


Figure 3. Model Revision 2



Results

Moral Distress in the NICU

Specifically in the NICU, moral distress is often associated with care plans that nurses deem inappropriate for patients and instances in which nurses feel ineffective in their ability to help patients (Cavaliere et al., 2010). For instance, a common contributor to moral distress in the NICU is “futile aggressive care,” or providing aggressive care for a patient that may not benefit from it (Barr, 2021; Cavaliere et al., 2010, p. 146; Cavinder, 2014; Kain, 2007, p. 246). This occurs when another professional makes the decision to use a high level of intensive curative care that nurses must carry out for a patient who, as mentioned, will likely not benefit from the treatment, but may possibly suffer more from that treatment. Another commonly discussed source of moral distress in NICU nurses is end-of-life care, both when it is not practiced and

when it is practiced (Cavinder, 2014; Kain, 2007; Larson, 2017). Further research on these factors and others that contribute to moral distress in the NICU are discussed below.

Kain (2007), Molloy et al. (2014), Cavinder (2014), and Cavaliere et al. (2010) focused on very specific NICU circumstances that can lead to moral distress. Kain (2007) studied existing literature to find patterns in the factors of caring for terminal infants that contribute to moral distress, the effects of moral distress, and implications for further research into the topic. While this research had to expand beyond the NICU to nurses who provide care for dying patients, it tied the findings specifically to NICU settings. This research identified providing palliative care in a curative setting, "futile aggressive care", interpersonal relationships with other nurses, having more responsibility than authority, feelings of powerlessness, workplace distress from poor management, and unclear understanding of how/when to act on a patient's behalf as the major sources of moral distress in a NICU nurse's life.

Similar factors were found to be linked to moral distress in a study by Molloy et al. (2014). Molloy et al. (2014) looked at fifteen interview transcripts from NICU Registered Nurses (RNs) that were collected in a previous study. These transcripts were examined for specific situations in neonatal resuscitation– stabilizing an infant who is dying or in distress– that cause feelings of moral distress. This study concluded that a main proponent of moral distress in NICU nurses is perceived lack of power and influence, which supports Kain's claim that feelings of powerlessness lead to moral distress. Specific to neonatal resuscitation, the researchers identified five themes related to moral distress: "uncertainty, questioning of informed consent, differing perspectives, perceptions of harm and suffering, and being with the family" (p. 52). The first two themes above are often specific to or more emphasized in NICU nursing because these nurses do

not have patients who can give consent to treatment, and they are dealing closely with distraught parents who may not understand the treatment they are consenting to for their child. These create ethical dilemmas as well as moral distress. The next two themes also cause moral distress as nurses may clearly disagree with a treatment they must carry out under orders from another medical professional. Lastly, working closely with families of newborns in distress can foster moral distress as a nurse may be influenced by the family's wishes in terms of what the "right" action should be, or may disagree with what the family believes the "right" action to be. Either of these can contradict the actual actions being taken and would thus become a situation of moral distress.

Cavaliere et al. (2010) sought to further understand moral distress itself in terms of NICU situations and personal characteristics that affect the frequency and intensity of the experience of moral distress. This study used the Moral Distress Scale Neonatal-Pediatric Version, created by Corley (2002), as well as a demographic sheet. With a total of 94 NICU Registered Nurses (RNs) across 2 hospitals responding, Cavaliere et al. (2010) discovered high reports of moral distress in nurses who altered their care in response to moral distress, considered leaving their current profession or previous one but have/did not, and who reported a lack of spirituality. Furthermore, the authors noted that, for both frequency and intensity, the situations leading to the highest reported level of moral distress were maintaining life support for an infant who would not live due to the family's wishes and perceiving a level of incompetence within the self or in other care providers. While these findings were significant, the Moral Distress Scale Neonatal-Pediatric Version had not been tested for reliability at the time this study took place, meaning it was not tested for its ability to get similar results each time it is administered. The uncertainty of the potential consistency of the results creates a level of hesitance in trusting the findings. However,

the results of this research seem to align with the results of other studies that were tested for reliability, such as in Molloy et al. (2015) and Elpern et al. (2005).

Cavinder (2014) dove further into the idea of palliative care in a curative setting being a factor contributing to NICU nurses' moral distress, also mentioned by Kain (2007). This literature review detailed the difference between an ethical dilemma and moral distress (not knowing the right action and knowing but not doing the right action, respectively) and identified some personal characteristics and work situations that correlate with moral distress according to the literature examined. These characteristics included having a lack of spirituality and altering patient care based on moral distress, among others. The work situations that are associated with moral distress included conflict between providers toward the care plan for an infant, the family's sense of understanding of the infant's status, and obstacles to managing an infant's symptoms (or a lack of palliative care). On one hand, nurses experience moral distress from having to provide "futile aggressive care" for an infant unlikely to survive, but they are also not trained in providing/communicating end-of-life care, so they experience moral distress from having to carry it out as well (Cavinder, 2014, p. 325).

Larson et al. (2017) also touched on this idea of palliative care being a source of moral distress as their research indicated that situations pertaining to end-of-life care and communication were rated as most distressing by the respondents. Of the 206 NICU and PICU practitioners included in this study, nurses stood out as having a higher intensity of moral distress than physicians in the study as measured by the Revised Moral Distress Scale. Moral distress was positively correlated with uncertainty and inversely correlated with perceived support from the hospital, but additionally found that moral distress is positively associated with burnout

(measured by the Maslach Burnout Inventory). Because of this finding, this research not only informed the present study's understanding of factors relating to moral distress but it also addressed the existence of a relationship between moral distress and burnout in NICU care providers.

Compassion Fatigue in the NICU

There is not an abundance of research on compassion fatigue in nursing in general, and there is only a small fraction of that research that is specifically focused on NICU nurses. One of the few studies found on compassion fatigue specifically in the NICU is by Barr (2017). In this study, the author focused on compassion fatigue and compassion satisfaction in NICU nurses as these variables relate to work stress and perceptions of social support. Results showed that work stress, role conflict, and role overload each act as predictors of compassion fatigue and burnout in NICU nurses. The author also found that there were direct and indirect effects on compassion fatigue and compassion satisfaction by work stress and perception of social support. These included high social support correlating with a weaker relationship between work stress and secondary traumatic stress. With this, it can be understood that perceived social support plays a role in nurses' perception or experience of work stress, which ultimately has the power to determine their experience of secondary traumatic stress. However, social support alone only had a significant relationship with burnout, not secondary traumatic stress. This means that social support could moderate the experience of burnout but could not moderate the experience of secondary traumatic stress. This relationship between social support and burnout was specifically in terms of intimacy-based social support, which usually refers to relationships. This then supports the argument that attachment styles affect one's experience of burnout, as noted in other

studies cited in the study. Important to note is that the author defines compassion fatigue as an encompassing term for burnout and secondary traumatic stress rather than as a word assigned to a specific experience. Because of this understanding, the results focused on burnout and secondary traumatic stress rather than compassion fatigue as a whole when evaluating the effects of work stress and social support.

Another NICU-specific study was Sweigart's (2017) review of literature on compassion fatigue and burnout with Neonatal Abstinence Syndrome (NAS). NAS is caused by the withdrawal that infants go through when they are born dependent on drugs. With the increase in cases of NAS in recent years, this study focuses on how the care for these infants can foster compassion fatigue and burnout in NICU nurses. Sweigart discusses compassion fatigue as a form of burnout, stating that it is burnout caused by interpersonal relationships and situations rather than by difficulties in the work environment (Sweigart, 2017). Burnout remains defined by the three dimensions of exhaustion, cynicism and detachment, and feelings of ineffectiveness/ lack of accomplishment (Sweigart, 2017). The author then discusses three specific risk factors that serve as major determinants for compassion fatigue. These factors include contact with patients, overextension of the self, and exhaustive exposure to stress. These burnout and compassion fatigue factors can be applied to the experience of treating NAS. As nurses are unable to console an agitated infant, they may feel ineffective. If a nurse perceives the infant's parents or caretakers to be incompetent or unsafe, they may feel cynicism. Both of these are dimensions of burnout. As they provide continuous care, acting on a child's every need, and doing so in an intensive care setting with other patients, they experience the three risk factors of compassion fatigue. After providing this explanation, the author goes on to discuss recognition, prevention, and challenges of compassion fatigue and burnout in NICU nurses.

Saleh et al. (2019) also examined compassion fatigue in NICU nurses, but in combination with moral distress. This study used Corley's Moral Distress Scale and Figley's compassion fatigue scale to examine the relationship between moral distress and compassion fatigue in 172 NICU nurses in educational hospitals in Tehran, Iran. Findings showed no correlation between compassion fatigue and the frequency of moral distress but did show a strong positive relationship between the intensity of moral distress and compassion fatigue. This means that compassion fatigue was not associated with how often moral distress was experienced, but rather with how strongly moral distress was felt. Saleh et al. (2019) also identified specific factors that may contribute to compassion fatigue in NICU nurses, including age, nursing experience, and NICU experience, each of which had a significant positive correlation to compassion fatigue. These authors did not examine how moral distress and compassion fatigue related to burnout.

Spirituality in the NICU

Spirituality can play a role in the lives of nurses as a source of motivation, comfort, and guidance. In NICUs, nurses face the ending of a life that just began. This can be a difficult situation to make sense of with or without spirituality. Spirituality in NICU nurses is not as commonly researched as burnout, moral distress, or compassion fatigue. Only two studies were found specifically focusing on spirituality's role in the NICU alone, and they share a lead author. The first of the NICU-specific spirituality studies focused on the perceptions of spirituality and religion in the NICU in NICU care providers. The researchers provided a questionnaire for nurses and other care staff (therapists, social workers, residents, surgeons, etc.) within one hospital's NICU concerning their ideas about the role and importance of spirituality and religion in the care of the infant and family (Catlin et al., 2001). The questionnaire also collected

information on demographics, methods of reducing work stress, and perceptions of infants' suffering, theological or other. There was a statistically significant difference between NICU nurses responses and physicians responses about how important a family's spiritual and religious concerns are to patient care. Nurses were more likely to say these concerns are "always" important to patient care while physicians were more likely to say they are only "sometimes" important (Catlin et al., 2001, p. 427). This may be because nurses work more closely with families and would be more able to perceive the importance of spiritual and religious care because of this. The sample in this study was mostly Christian, so specific questions about how spirituality and religion played a role in the care given by these providers and their own uses of spirituality in coping with the NICU environment are not generalizable to an overall population of all NICU nurses of varying spiritual/religious backgrounds. Because of this, they will not be examined here.

This study not only included closed-ended questions, but also included open-ended questions. These open-ended questions were analyzed in a separate study by Cadge and Catlin in 2006. The questions themselves were geared more toward the ways in which the NICU providers make sense of the intricacies of their job, specifically in terms of how they make sense of infants and families suffering. An interesting idea discussed by the authors that gives reason for investigating this in the first place is that NICU providers witness the theological "problem of evil" in their everyday work. This theological idea is the question of why bad things happen. In the NICU, providers are witnessing the suffering and death of infants, which is easily considered an applicable situation for wondering why bad things happen, especially to undeserving parties. The results of this qualitative analysis of participant responses revealed that most of the providers cited patient suffering and death as some of the most difficult parts of their profession.

Within the specific responses of providers, there are experiences and feelings shared that resemble causes or symptoms of moral distress and compassion fatigue, though the authors do not mention these explicitly. An example of these experiences mentioned in the survey responses is being unable to help infants and being close to a family as they suffer. Feeling helpless has been tied to moral distress in other literature, as is the case with proximity to a person(s) experiencing trauma being established as a contributing to compassion fatigue.

In asking providers to explain their method of making sense of the suffering they witness, three major patterns in responses emerged: those who could not make any sense of it, those who believe in a larger plan that it is part of, and those whose belief in a higher power made sense of it before they had to do so. Faith in a higher power also showed to be extremely important to most providers in terms of their motivation for continuing in the profession. Some even explained that caring for these infants feels like their "calling" from God (Cadge & Catlin, 2006, p. 258). From the results of the open-ended questions, it is clear that spirituality and/or religion play a large personal role for NICU providers, though much more research is needed to fully understand how. The same limitations of the previous study apply for this one as the same data was used from the same sample. However, there is an added limitation due to researchers examining open-ended responses, which is difficult to free from biases.

Model

Figure 4. Final Model

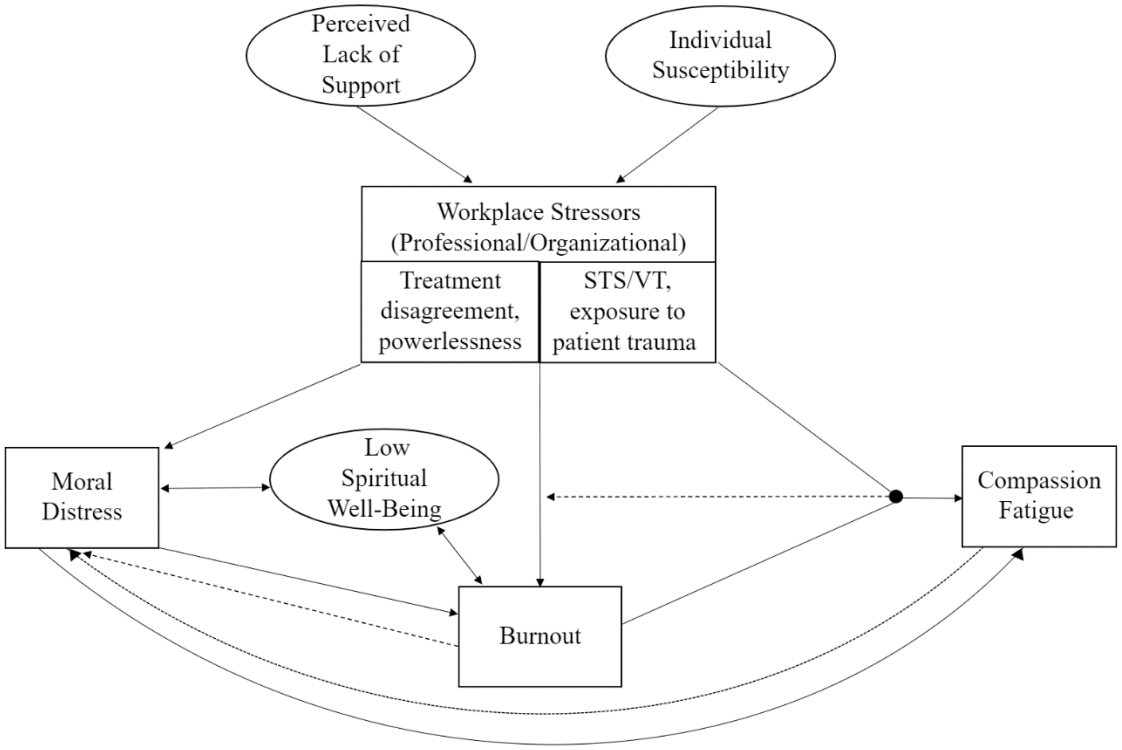


Figure 4 is the theoretical model created based on the research detailed in the present study. With the established knowledge that burnout, moral distress, and compassion fatigue exist in NICU settings, the literature used to support the interactions of these variables extended to nursing populations outside of the NICU in order to have sufficient understanding and support. These additional studies were conducted on nurses from other levels of Intensive Care Units (ICUs) or from multiple nursing units/specialties so that the results could remain comparable to what would be expected in NICU nurses. This comparison is possible because other ICUs also work closely with dying patients, and the nursing profession carries many of the same themes across specialties as the licensure starts the same (Registered Nurses). The NICU differs in the sense that the patients on the unit are unable to communicate with the care providers and the family of patients works closely with the care team to work toward what is best for the infant (Molloy et al., 2015).

Workplace Stressors

The main relationship of this model is between Workplace Stressors and burnout. The term Workplace Stressors refers to all of the work-specific factors that were supported in the research conducted, especially in terms of professional and organizational factors. This relationship was briefly noted in the background of this project but it is helpful to understand the specific factors involved. Professional factors include patient acuity, death of patients, "crisis decision making", perceived powerlessness in the outcome of a patient's treatment, and more (Barr, 2021; Kalia, 2008, p. 119). Organizational factors leading to burnout included patient volume, electronic record keeping, interpersonal relationships with colleagues (bullying, sexual harassment, conflict), staff shortages, mandatory overtime, forced time off, lack of resources, poor communication, etc. (Barr, 2021; Braithwaite, 2008; Kalia, 2008; Tawfik et al., 2017). These professional and organizational factors work together to create a stressful work environment for NICU nurses.

Professional and organizational factors also contribute to a correlation between workplace stressors and moral distress. Professional factors include role confusion/conflict/ overload/ambiguity, responsibility without authority, palliative care in a curative setting, "futile aggressive care", and questioning of informed consent (Barr, 2017; Cavaliere et al., 2010; Dalmolin, 2014; Elpern et al., 2005; Kain, 2007; Molloy et al. 2015, p. 59). Organizational factors included inadequate staffing, conflict among the care team, perception of coworker incompetence, and distribution of power (Burston & Tuckett, 2013; Cavaliere et al., 2010; Cavinder, 2014; Shoorideh et al, 2015). Each of the factors above creates either confusion in nurses' perception of what they can/should do or prevents them from doing what they believe to

be right. More clearly, the professional factors included above create situations for moral distress to develop as they lead to the questions of “What should I do?”(ethical dilemma), “Is this the right thing to do?”, or “Can I do this?”, just to name a few. For example, a nurse may be faced with palliative care in the NICU, which may create questions about the actions that could still be taken to save the child rather than lessen his/her suffering. Another example is that a nurse confused about his/her role in terms of being a patient advocate may wonder whether or not it is within their power to speak up against or change the care being provided. These situations work to create the ethical dilemmas (not knowing what to do) that can lead to moral distress (knowing what to do but not being able to do it). The inability to follow through with believed “right” actions is often caused by the organizational factors mentioned above. Not having enough people to provide adequate care, conflict among the care team, uncertainty about the capabilities of coworkers, and uneven power or responsibilities can all get in the way of a nurse providing the treatment he/she believes is right.

Overall work stress has also been tied to increased compassion fatigue (Barr, 2017; Dikmen et al., 2016; Henson, 2017.) In terms of specific Workplace Stressors, professional factors include extensive exposure to patient trauma, whereas organizational factors include excessive workload, “frequent managerial/logistics tasks and multi-tasking" (Dikmen et al., 2016; Henson, 2017; Zhang et al., 2018, p.5). Looking at compassion fatigue as a combination of burnout and secondary traumatization, as suggested by Henson (2017), Sweigart (2017), Barr (2017), and Stamm (2010), these factors seem to work together toward the ultimate experience of compassion fatigue. The professional factors have to do with experiencing the trauma of patients, or at least being close to patients and supporting them through trauma. Secondary traumatization, vicarious trauma, and other terms are used to understand the effects of working closely with

patients with trauma. The organizational factors have more to do with having an excess number of tasks to handle at work, which is also a contributor that leads to burnout. This analysis not only shows that work stress contributes to the development of compassion fatigue, it also points to a connection between compassion fatigue and burnout, which will be further discussed later in this section.

Within the Workplace Stressors box in the model, there are two boxes with specific stressors. These are the specific factors that lead to the development of moral distress and compassion fatigue. These are mainly included for clarification of the events necessary for each of these variables to occur from within the overall experience of Workplace Stressors. Moral distress cannot occur out of general work stress alone like burnout can; it requires a situation in which a nurse must act against his/her personal beliefs, which often occurs within treatment disagreements and results in feelings of powerlessness (Kain, 2007). Therefore, the "Treatment disagreement, powerlessness" box is included to highlight this specific Workplace Stressor that leads to moral distress. Compassion fatigue also cannot occur out of general stress alone. It requires close contact with patients with trauma and an overextension of personal energy (Zhang et al., 2018). This is why "STS (Secondary Traumatic Stress)/VT (Vicarious Trauma), exposure to patient trauma" is included as a compassion-fatigue-specific Workplace Stressor.

Moderators

Workplace Stressors and their relationship to burnout and the other variables are commonly moderated by Individual Susceptibility and Perceived Lack of Support. These are represented in the model as ovals to separate them from mediating variables. Moderation is the occurrence of a factor affecting a relationship between other variables, whether for better or

worse. The two factors mentioned above are considered as moderators in this model because research suggests that they occur with causative factors rather than arguing that they are causative factors themselves. Individual Susceptibility includes personal factors like life stressors and personal characteristics or traits. Increased life stress has been linked to increased burnout and compassion fatigue in terms of home life and other personal circumstances that may be stressful or unsatisfactory (Braithwaite, 2008; Dikmen et al., 2016; Meadors & Lamson, 2008). Personal characteristics and traits have been linked to increased burnout through low resiliency, anxious attachment style, and shame-proneness (Braithwaite, 2008; Barr, 2020; Barr 2021). Moral distress is associated with a desire to leave the current job/profession, world view, years of experience, age, and perceived incompetence (Cavinder, 2014; Burston & Tuckett, 2013; Elpern et al., 2005; Shoorideh et al., 2015; Cavaliere et al., 2010). Compassion fatigue is also influenced by personal characteristics and traits such as negative affect, social inhibition, age, and experience, (Saleh et al., 2019; Zhang et al., 2018). These personal factors are considered factors of susceptibility because research suggests they leave people vulnerable to the effects of the Workplace Stressors that were discussed.

Perceived lack of support encompasses feeling unsupported by administration and colleagues as well as lacking of social support. This factor is separated from Workplace Stressors and Individual Susceptibility because it includes factors from both. Support is a factor that ties into coping mechanisms, and research suggests that nurses are unable to cope well with the demands and stress of their work without negative experiences if they do not have the support of their superiors, other nurses, and people outside of work. This group of factors has been supported by data as connecting to each of the variables. Research supports that lack of organizational and/or social support can worsen the trend of Workplace Stressors toward

burnout, moral distress, and compassion fatigue (Barr, 2017; Cavinder, 2014; Dikmen et al., 2016; Henson, 2017; Kim & Yeom, 2018; Larson et al., 2017; Shoorideh et al., 2015). Considering that a lack of support has been linked to higher reports of these variables, but has not been suggested as an immediate cause, it is included as an overall moderator.

Spirituality as a Moderator

Spirituality began as a main variable hypothesized to be a mediator rather than a moderator, but the research did not support this. Spirituality is more supported as having the ability to affect relationships between other variables more than it is supported to be a separate variable. Low spiritual well-being or a lack of spirituality have been tied to increased burnout and moral distress (Cavaliere et al., 2010; Cavinder, 2014; Kim & Yeom, 2018). In this sense, spirituality likely acts as a coping mechanism that prevents some levels of burnout and moral distress. This theory is supported by a study on stress and spirituality in people working in helping professions. This study that found people with greater reported levels of spirituality also reported lower perceived work stress levels (Csiernik & Adams, 2002).

Spirituality acting as a moderator is also supported by a study on moral distress and spirituality that explained spiritual well-being as having a positive effect on the adaptation abilities of nurses as well as other facets of mental health (Soleimani et al., 2019). It is important to note that both work stress (likely to the level of burnout) and moral distress have been reported to negatively affect spiritual well-being and level of spirituality (Csiernik & Adams, 2002; Elpern et al., 2005). This would be explained by life experiences leading to questions or doubts toward one’s spiritual beliefs. The inclusion of this idea makes the relationships between spirituality and moral distress and burnout bidirectional. This is depicted in the model with low

spiritual well-being being in an oval, due to its moderator status, and having bidirectional arrows leading to burnout and moral distress.

In terms of compassion fatigue and spirituality, there is not much literature. The only peer-reviewed literature found that researched spirituality and compassion fatigue specifically looked at spiritual orientation and compassion fatigue and found no significant relationship (Polat et al., 2020). Other peer-reviewed studies merely suggested spiritual interventions to combat compassion fatigue or stated that "feeling spiritually good" was linked to less compassion fatigue (Dikmen et al., 2016, p.127; Henson, 2017). Research that discussed a relationship between spiritual well-being and compassion fatigue suggested an inverse relationship, but the studies were not peer reviewed and thus do not carry the same weight as the rest of the studies included in this thesis (Mondt, 2018; Simpson, 2005). With insufficient conclusions for a relationship between compassion fatigue and spirituality, there was not enough support to include a relationship between the two on the model.

Moral Distress and Burnout

From here, the relationships between the variables can be further discussed. First, burnout can stem from Workplace Stressors and moderators alone, and it can also occur as a result of moral distress. Moral distress may lead to burnout over time if not mediated. This relationship has been both theorized and tested with significant results. Lins Fumis et al. (2017) found a significant positive correlation between moral distress and burnout in critical care providers based on the Maslach Burnout Inventory and Revised Moral Distress Scale. Moral distress was then identified as an "independent predictor of severe burnout" through regression analysis of the data (Lins Fumis et al., 2017). This relationship is theorized as possibly resulting from the

workplace conflicts associated with moral distress and burnout. In other words, the coworker conflict that arises from situation of moral distress could create a stressful work environment, which has already established as predictive of burnout.

Another theory on this relationship is in Corley's 2002 theoretical construct of moral distress and its effects. The model suggests a progression from moral concepts in nursing, to moral distress, to the effects of moral distress on a nurse, to suffering from those effects, and ultimately to burnout (Corley, 2002). This supports the idea that the experience of moral distress itself can lead to burnout. Moral distress has been described as "the psychological disequilibrium and negative feeling state" caused by acting against one's beliefs, and burnout has been associated in nurses with negative affect (Shoorideh et al., 2015, p. 66; Zhang et al., 2018). From this, it can be suggested that the negativity felt from experiencing moral distress could promote burnout.

While these studies are not specific to NICU nurses, the findings are supported by NICU-specific literature. A previously described study by Larson et al. (2017) specifically examined moral distress in NICU and Pediatric ICU nurses and also found a significant correlation between moral distress and burnout. Saleh et al. (2019) also examined NICU nurses in researching moral distress and came to this same conclusion. Braithwaite's (2008) examination of burnout in NICU nurses also supports this relationship as it mentions a relationship between ethical dilemmas and burnout. As Kain (2008) outlined, ethical dilemmas often lead to moral distress. Thus, it can be further theorized that there is a pathway from ethical dilemmas to moral distress to burnout. With theories and data that support moral distress as a causative factor for

burnout, there is a clear directional relationship present. This relationship was included in the model as a solid unidirectional arrow.

A bidirectional relationship between these variables was considered, but was not fully supported by the available research. The idea of burnout affecting moral distress seems logical considering that the excessive, multidimensional exhaustion of burnout affects nursing care (Braithwaite, 2008). Braithwaite (2008) also discusses how research shows that nurses who are burned out "were more likely to take shortcuts or 'work-arounds' as solutions to problems" (p. 344). This means that nurses who are experiencing the exhaustion of burnout are more likely to alter their procedures or practice. In Cavaliere et al.'s (2010) study on specific situations that lead to moral distress, it is stated that "RNs who reported that they had changed their approach to patient care had significantly higher levels of moral distress" (p. 153). Given the context of this statement, Cavaliere et al. (2010) is likely discussing situations in which nurses altered their care in response to moral distress, such as through avoiding patients. However, there is nothing to suggest that altered care due to burnout could not create the same effect in NICU nurses. At the same time, none of the examined research supports that conclusion either. Since this relationship is purely theoretical with a lack of support, it was included in the model as a dashed unidirectional arrow from burnout to moral distress.

Compassion Fatigue and Burnout

The relationships concerning compassion fatigue in this model require further discussion before explaining the purpose of the layout. The relationship between compassion fatigue and burnout painted by the literature is foggy to say the least. In a discussion paper on compassion in nursing, Ledoux (2015) mentions studies that place compassion fatigue on a continuum with

burnout, coming either before or after. The author also suggested that burnout can create and continue to prolong the experience of compassion fatigue. Other authors state that compassion fatigue is a synonym for secondary traumatic stress or vicarious trauma, a result of secondary traumatic stress and burnout, a separate experience from secondary traumatic stress and burnout, and as a form of burnout (Figley, 1995; Zhang et al., 2018; Henson, 2017; Meadors & Lamson, 2008; Polat et al., 2020; Sweigart, 2017). Because of these variances in the literature on the relationship between burnout and compassion fatigue (and secondary traumatic stress), it is difficult to conclude that there is any directionality in it at all. Logically speaking, it would make sense that compassion fatigue and burnout can develop independently of each other. Not everyone experiencing burnout may be facing the trauma experiences that bring on compassion fatigue, and not everyone facing trauma experiences may be experiencing extreme work and personal stressors causing burnout beforehand.

Another logical thought process would be that the emotional exhaustion of work-induced burnout can likely leave individuals vulnerable to traumatic stress-type symptoms following interactions with patient trauma. Additionally, it is stated that compassion fatigue requires a level of overextension of energy in addition to the experience with trauma to occur (Zhang et al., 2018). Burnout is also a result of overextension as it occurs in response to levels of being overworked (Braithwaite, 2008). In this way, it seems like a level of burnout (exhaustion by overextension) in combination with experiences with patient trauma (secondary traumatic stress and the like) is what brings on compassion fatigue. With this line of thought, the causative factors of compassion fatigue seem to be a combination of some level of burnout caused by Workplace Stressors with interactions specifically with patients experiencing trauma.

Considering that burnout seems to be needed for compassion fatigue, it no longer makes sense that compassion fatigue can then in turn also lead to burnout as it is already occurring if compassion fatigue is present. To refresh, burnout is often described as multidimensional syndrome consisting of "emotional exhaustion, depersonalization...and a reduced sense of personal accomplishment" (Braithwaite, 2008, p. 343). If directionally related at all, compassion fatigue may exacerbate work-related burnout by feeding the dimension of emotional exhaustion. A combination of these ideas formed the theory that informed the model. This theory is represented as a joined unidirectional, solid arrow leading from Workplace Stressors, specific compassion fatigue factors, and burnout that connects before leading to compassion fatigue. A dashed arrow is included from compassion fatigue to burnout along the Workplace Stressors relationship arrow as there is a possibility of it exacerbating the experience rather than leading to the experience directly.

Moral Distress and Compassion Fatigue

Lastly, there is support for a relationship between moral distress and compassion fatigue. A significant positive correlation was found between moral distress and compassion fatigue by Saleh et al. (2019) who specifically examined the two variables in NICU nurses. This study found that the intensity of moral distress was a predictor of compassion fatigue, but the frequency was not. With this finding, they described compassion fatigue as a consequence of moral distress. Additionally, Molloy et al. (2015) includes closeness to the family as a major theme leading to moral distress in NICU nurses. Working closely with traumatized families can not only increase moral distress, but it is tied to feelings of compassion fatigue by other studies that claim helping people in states of trauma and distress can create compassion fatigue within

care providers (Figley, 1995). These studies suggest that moral distress can lead to compassion fatigue. A solid arrow from moral distress to compassion fatigue was included in the model to show this relationship.

None of the examined literature directly suggested a relationship from compassion fatigue to moral distress. However, a similar theorized relationship could exist in this direction like the relationship from burnout to moral distress. Compassion fatigue results in "decreased motivation, skills and energy for empathy and caregiving for others," which affects the care nurses provide (Dikmen et al., 2016; p. 119). It has already been established in previous paragraphs that altered care leads to moral distress (Cavaliere et al., 2010). Therefore, it is possible that compassion fatigue could lead to a situation in which moral distress could develop. Because this relationship is theorized and not explicitly stated in the research, it is included in the model as a dashed arrow from compassion fatigue to moral distress.

Discussion

This thesis has been a process toward understanding burnout in NICU nurses, specifically as it is affected by moral distress, compassion fatigue, and spirituality. The conclusions of this have been formed into a theoretical model to best portray these relationships studied. In conducting this research, many findings beyond the ones included in the results section emerged. Some of these additional findings were contradictions, which will be discussed in this section. First, it is important to discuss the implications and limitations of this research.

Implications

Investigating burnout, its causes, and its preventions is an extremely important endeavor due to its effects on nurses' personal lives, the lives of patients, and the nursing climate in general. Burnout worsens quality of life in many ways. Braithwaite (2008) discusses personal health issues that are often reported by individuals experiencing burnout. These include sleep problems, physical tension in the body, difficulties with immune and gastrointestinal function, high blood pressure, and more. Psychological effects are also outlined as increased anxiety, depression, withdrawal, and other stress-induced phenomenon. The fact that intense work stress from nursing can seep into an individual's personal life so deeply so as to promote physical and mental illness means that there is a urgent need for change. Not only do these personal quality of life problems arise, but they in turn affect the care given to patients, and ultimately patient quality of life. Higher numbers of mistakes and purposeful work-arounds have been reported by nurses who experience burnout (Braithwaite, 2008; Tawfik et al., 2017). This has obvious effects on patient quality of life as their care is affected by the burnout the nurses are experiencing.

Additionally, burnout has been tied to turnover rates (Shoorideh et al., 2015). The current turnover rate for staff Registered Nurses (RNs) is 18.7%, which has increased by 2.8% from 2020 (NSI Nursing Solutions Inc., 2021). This rise in turnover can likely be attributed in large part to the COVID pandemic, which has produced an astounding rise in the experience of burnout (Galanis et al., 2021). Turnover results in nurse shortages across specialties, as well as hospitals in general. It is essential that turnover be addressed if nurse shortages are to be lessened. Staff shortages are a widespread problem across nursing in general, as seen by how often they are mentioned as a contributing factor in research discussed in this thesis (Braithwaite, 2008; Burston & Tuckett, 2013; Kalia, 2008). Not having enough staff creates excess stress as nurses must take on more patients and duties, which has already been established to increase

burnout through high patient volume, an unbalanced nurse to patient ratio, and overall high workload (Dikmen et al., 2016; Kim & Yeom, 2018; Shoorideh et al., 2015; Tawfik et al., 2017). Understanding and combatting the causes of turnover, especially burnout, could greatly decrease turnover rates and prevent or mend nurse shortages, prevent compromised care of patients, and help nurses maintain a better quality of life for themselves. The results of the current review suggest that moral distress, compassion fatigue, and low spiritual well-being lessen quality of life and play a role in the development of burnout. These variables in nurses' everyday environment should be addressed in the conversation of how to lessen burnout in nurses.

Limitations

The limitations of this study existed in the method of the review itself as well as in the studies themselves. Because of the nature of a literature review, the conclusions made were based on the discussion of others' research rather than on original data. A literature review can show patterns and inconsistencies in research and point toward areas that need improvement. A review, however, cannot make quantitative claims and conclusions. The alternative to this would be a meta-analysis that combines and runs tests on data sets from a multitude of studies. This can show broader statistical patterns, support the significance of results, or suggest that some results are not as significant when tested in a larger population. In other words, individual study data may conclude something to be significant or not with a sample of 100 respondents, and this may stay the same or change when that sample is increased to a few hundred or more from compiled data sets. An example of a meta-analysis was Zhang et al.'s (2018) study on burnout, compassion fatigue, and compassion satisfaction that derived data from 11 studies. Significant results were found in this study that supported those of the individual studies examined. A literature review

does not have the same ability to support the conclusions of individual studies as strongly as a meta-analysis. Instead, a review can only point out that multiple sources have come to the same understanding of the variables involved.

In terms of the actual studies used, limitations were mainly due to the issues with correlational studies and self-report. Since these studies are on emotional and mental responses and feelings to everyday factors in work and life, all the studies are either literature reviews or correlational studies. Correlational studies are beneficial for examining relationships between variables, but they cannot show causation. This means that it is possible to see that variables move together, such as burnout and moral distress increasing simultaneously, but it is not possible to demonstrate that one leads to the other in correlational research. While the results are technically fallible, they should not be discounted. If data and conceptual theory support a conclusion, there is a high likelihood that the conclusion is meaningful and should influence the research discussion the study is entering. For instance, the correlation between burnout and moral distress is a pattern in data that shows a mutual increase in the factors. The data are then supported by the theoretical ideas behind why and how these variables would influence each other (moral distress logically leads to exhaustion that could result in burnout). While this relationship is not proven, there is sufficient support to claim that a relationship exists and should be further investigated. However, it is also important to keep in mind that correlational studies often do not account for confounding variables that could explain the relationship better than the existence of a direct relationship. This means that another factor could exist that causes an increase in moral distress and burnout simultaneously, and that these two variables have no actual influence on each other.

Another limitation of the literature reviewed is that the results are based on self-reported data. Because of this, there is no conclusion free from the limitations of response biases, non-response bias, and misunderstanding of concepts by respondents. Self-report surveys are subject to many biases like response bias, recall bias, and non-response bias. Response bias occurs when participants provide the same or similar answers to all survey questions, or when respondents generally do not respond accurately (Jackson, 2016). For example, this could look like a nurse reporting less burnout than experienced for reasons like denial or maintaining a professional, collected image. Recall bias occurs when participants cannot accurately remember feelings or answers a survey is asking them to report on (Spencer et al., 2017). These biases can cause data to be misleading and result in research conclusions that are not accurate. Non-response bias also affects data (Turk et al., 2019). This occurs in convenience sampling as there are often many possible respondents who choose not to fill out questionnaires, or ones who do not complete the questionnaire. These sets of valuable data are left out and cannot inform the study. The data that could have been provided by those who do not respond could discount or further support patterns and conclusions in research.

Further Research

Further research should be conducted to fill in the holes in NICU-specific literature, further investigate the relationships between variables, and examine contradictions in the literature. There were few studies found that examined combinations of variables in NICU nurses. Many of them briefly noted a connection that had incidentally been examined due to another variable's inclusion on a questionnaire, such as in studies that addressed moral distress and made a small note about burnout or spirituality. The clearest combination studies in the

NICU were on burnout and moral distress, and one explicitly between moral distress and compassion fatigue (Saleh, et al., 2019). Because of this hole in variable combination research, the conclusions drawn on the relationships between variables in this project are theoretical and a synthesis of various studies was required to support these theories. The lack of NICU-specific studies on the experiences of compassion fatigue or spirituality also presented some difficulties. Enough literature was found to support that these variables matter to NICU nurses, but there was not enough to truly make concrete conclusions about these variables that were specific to the experience in such a specialized field. Compassion and spirituality can be involved in all nursing, but there may be uninvestigated differences in the NICU due to the delicate environment of trying to save lives that just started. An understanding of the causes and effects of NICU nurses losing their ability for compassionate care is essential to bettering the lives of nurses as well as to maintaining quality care for one of the most vulnerable populations of human beings. It is impossible to prevent the degradation of a nurse's compassion without an understanding of how that happens in the first place. Investigating the importance of spirituality in NICU nurses, as well as nurses in general, may open the possibilities of more extensive spiritual support in hospitals. Nurses need more resources if they are to be expected to remain functional, compassionate, and dedicated to their profession as they need to continue saving lives.

Beyond filling in gaps, further research should build on these concepts by investigating the relationships between the variables at hand. The research conducted yielded some interesting patterns. One of these patterns was the in the effects of work experience and age on each variable. Work experience, measured by years of nursing experience, and age are often found to be significant indicators for these variables as they usually occur together. In that sense, it is not clear whether it is age, experience, or the combination that is actually a predictor for these

variables. This would require research into the effects of adult maturation on each of these variables to truly understand whether age is a significant factor itself or an incidental one that coincides with increased work experience. Though age and work experience are mentioned in the literature for each of the variables, the direction of these factors in relation to each variable is not the same. It seems to be that work experience and age affect compassion fatigue and burnout as a pair in one direction, and moral distress and spirituality in the other. Younger age has been found to be associated with more burnout and compassion fatigue, while older age has been associated with more moral distress and higher spiritual well-being (Braithwaite, 2008; Cavaliere et al., 2010; Corley, 2002; Dikmen et al., 2016; Kim & Yeom, 2018; Shoorideh et al., 2015). Similar to the relationships with age, less work experience has been associated with compassion fatigue and burnout, while more experience has been associated with more moral distress as well as higher spiritual well-being (Dikmen et al., 2016; Kim & Yeom, 2018; Shoorideh et al., 2015).

In theorizing about these relationships, compassion fatigue and burnout being associated with younger age and less work experience is possibly due to new nurses having yet to learn proper coping skills in and out of the workplace. This may also be a reflection of the pressures and anxieties experienced by newer nurses, as well as the dynamics that may occur between older nurses and younger nurses. Additionally, moral distress and spiritual well-being increasing as work experience increases makes sense as well. At first glance, it seems illogical for spiritual well-being to grow at the same time as moral distress. Moral distress likely affects an individual's spirituality and vice versa, so it should follow that one will oppositely affect the other, i.e.. moral distress negatively affecting spirituality or spirituality lessening moral distress. Considering that these concepts logically have an opposing relationship, it is confusing that they are affected in the same way by factors like age and work experience. However, the effects of

moral distress are felt as experiences of moral distress add up, which takes place over time. As nurses gain more and more experience in the workplace, there are more chances for moral distress to occur. At the same time, spiritual well-being may increase over years of experience as spirituality is often practiced or developed as a form of coping or individual growth. Interesting to note is the possible connection between these two variables as they play out in work experience. As spiritual well-being increases, individuals likely become more sure of their moral convictions. With these strong moral convictions, these individuals are probably exposed to more situations in the workplace in which their moral desires do not match their required actions due to some constraint, leading to moral distress. In this sense, it is clear that spirituality and moral distress can both grow at the same time with the same factors, even though they negatively affect each other.

The literature review also revealed some contradictions in the research that deserve further research. Chief among these were the contradictions in the literature surrounding the definition of compassion fatigue in relation to burnout and secondary traumatic stress. In some literature, compassion fatigue, secondary traumatic stress (STS), and vicarious trauma are used interchangeably as synonyms. These include a study by Dikmen et al. (2016) that stated compassion fatigue as a term recently developed as an alternate name for the experience of STS. Figley's 1995 study also explained compassion fatigue as a preferred term for STS by nurses. Meadors and Lamson (2008) discuss compassion fatigue as a phenomenon experienced by individuals who suffer from primary or secondary traumatic stress, which indicates it being a symptom of experiencing trauma. Henson (2017) further defined compassion fatigue as being the result of experiencing both burnout and STS. Yet another study identified compassion fatigue as a type of burnout that occurs from interpersonal interactions with patients and families instead of

interactions with solely the work environment (Sweigart, 2017). This conclusion is based on the fact that the experience of each phenomenon is relatively similar while the causes are different. In other words, different occurrences cause a similar experience. While the two are brought on by distinct events, both compassion and burnout cause symptoms of exhaustion and apathy. If burnout is definitively known as this exhausted state, then compassion fatigue can be considered a form of this exhausted state, though traumatic experiences are needed in addition to the causes of burnout alone. In this case, it would remain true that each one could occur independently, though still influence each other. This would fall more in line with the idea of burnout and compassion fatigue occurring on a spectrum of negative effects of stress, an idea mentioned in Ledoux's (2015) discussion paper involving these contradictions. On the other hand, there are studies that separate the terms entirely. For instance, Thomas and Wilson (2004) state that STS, vicarious trauma, and compassion fatigue are separate occurrences that can result from trauma.

These theories are not as mutually exclusive as they seem. Secondary traumatic stress, burnout, and compassion fatigue, by definition and symptomology, seem to exist as closely related yet distinct experiences. In this sense, Henson's theory that compassion fatigue is the cumulative effect of experiencing burnout and secondary traumatic stress seems to address most of the arguments at hand. If compassion fatigue stems from a combination of the two, it makes sense that it can be described as a variation of burnout or secondary traumatic stress. It also makes sense that it is described as a distinct experience because it has additional causal factors than burnout or secondary traumatic stress alone. Because this theory includes elements of other various theories, this is the theory that was adopted for this thesis and used in the model.

While there is a great need for further investigation, it is difficult to research these variables because they are not controllable in a lab setting. It is not ethical to simulate a situation that exposes an individual to trauma, stress, or moral discomfort for long periods of time to measure the effects. However, it would be possible, albeit time consuming, to conduct longitudinal studies that follow nurses from the beginning of their nursing career through the first 5-10 years. Over this time period, it may be possible to measure the increase/decrease in any combination of burnout, moral distress, compassion fatigue, and spirituality. Not only could this more clearly show correlations between variables, but it would also show the explicit effects of age/ experience on the variables. It may also show the effects of personal life stress on patterns of feeling burnout or other variables. Additionally, it would have the potential to point out causes of turnover and what role these variables play in it. Longitudinal studies can be expensive and tedious, but the applicable possibilities in bettering the nursing experience that would come from this research far outweigh the material costs.

Reflection

Conducting this thesis has been a journey. A literature review is dependent on the existence of sufficient relevant literature to form any solid conclusions. At a midpoint in the research process, it felt as if there was not enough literature for a specific focus on NICU nurses, and a general nursing focus was almost adopted. However, a few more searches with more keywords yielded just enough to support that general nursing or other ICU nursing literature could also support NICU conclusions. A deeper understanding of the research process was gained through difficulties such as this one, which will be beneficial moving forward in academia.

Another factor relevant to the research process that was learned through developing this thesis was the self-awareness of confirmation bias. It was crucial to examine whether decisions to exclude studies were made because of their irrelevance to the main goal of this project or because they were against stated hypotheses. One of the studies included in this thesis was almost not included, but it was determined that the decision not to use the study would have been made from the confirmation bias. This study was Polat et al.'s (2020) research that resulted in strong statistics stating no correlation between spirituality and burnout and compassion fatigue. This contradicted the hypothesis from the beginning of the thesis that spirituality would be strongly associated with these factors. The results of the study were found through substantial data gathered on nurses, meaning that they were relevant and would have only been discarded for the purpose of avoiding opposition to the hypothesis.

Confidence in original conclusions was also practiced and gained throughout the research process. This was a difficult skill to master as an inexperienced researcher because of a lack of trust in stating original ideas. Creating the theoretical model for this thesis required a substantial amount of trust in the ability to synthesize information from a multitude of sources and construct a visual depiction of it. This process required many drafts of models, even more than were included in this paper. With these models came many charts for the purpose of organizing information that supported or contradicted relationships that were drawn into the model. The visual aid of these charts felt like proof that the ideas generated were not merely fabrications based on expectations. This increased the confidence necessary to move forward in solidifying and explaining the theoretical model and its conclusions. With this process, this research project became a journey that involved academic and personal growth all while offering further discussion on important concepts that have the potential to better lives around the world.

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Appendix A

Research Chart

REFERENCE	**POPULATION**	**METHOD**	**BN/MD/CF DEFINITIONS**	**RESULTS**
Moral Distress Studies				
Kain (2007).	11 articles on caring for dying patients, not just NICU nurses	There was a systematic search of databases (CINAHL, Medline, PsycInfo, and PsycArticles) with no time limit.	Moral distress= intense emotions caused by a restraint on carrying out the perceived moral action Types of moral distress= -initial vs reactive Moral distress based on= -internal vs external context Nursing= nurses have more responsibility than authority	Moral distress can impact a nurse's self-worth. This could be a possible connection to the "demoralization" factor in the 3 dimensional definition of burnout. Caring for dying infants can lead to moral distress in NICU nurses through unresolved ethical dilemmas and moral debate MD in neonatal nursing specifically comes from situations like providing palliative care in a curative setting, "futile aggressive care", interpersonal relationships with other nurses, caring for a patient that cannot communicate needs or feelings, etc.
Cavaliere et al. (2010)	94 NICU nurses across 2 hospitals with level 3 NICUs	This was a correlational self-report study with a questionnaire based on the MDSNPV (Moral Distress Scale Neonatal-Pediatric Version) (Corley, 2007) with a demographic Data Sheet, including intentions on staying or leaving job	Moral distress= subjective in experience, it is not the same for each person	The highest mean of moral distress was seen in individuals who reported not being spiritual at all. Moral distress was reported as an important causative factor for burnout and nurses wanting to leave their jobs as well as the nursing profession Level of Moral Distress in Frequency and Intensity: Highest when continuing life support against child's well-being and perceiving colleagues as incompetent Moral Distress and Characteristics: Highest in nurses who alter care in response to feeling moral distress, considered leaving their job, and are not spiritual. Moral Distress in Specific Situations: Highest when providing aggressive care that will not benefit the patient or will harm the patient more, when there is insufficient staffing, and when colleagues are considered incompetent.

Larson et al. (2017)	206 NICU and PICU health practitioners	This was a cross sectional survey with a 41-item questionnaire that included questions from the Revised Moral Distress Scale, Maslach Burnout Inventory, and Mishel's Parent Perception of Uncertainty Scale	Not accessible.	Moral distress had a positive correlation with burnout. Moral distress was positively correlated with burnout, perceived lack of support, and feelings of uncertainty (toward benefit of care and prognosis). Nurses reported higher intensity of moral distress than physicians. In nurses only, more years meant more moral distress.
Molloy et al. (2015).	15 RNs involved in neonatal resuscitation in one hospital in Ontario, Canada	Qualitative analysis of interview answers from a previous study	Moral distress= happens when a person cannot act on ethical choices because of constraints NICU nurses more susceptible because: -more situations that are ethically and morally challenging -the increased ability to save patients comes with keeping patients alive to experience the difficulties and effects of their prematurity or ailments -the question of quality of life when resuscitating an infant -no universal standard approach to resuscitation decisions	Theme 5: Being with the family Closeness to patients or patient family has been linked to compassion fatigue in other studies. This study explains that moral distress could lead to compassion fatigue over time. Compassion fatigue includes an element of spiritual exhaustion Five themes contribute to moral distress: "uncertainty, questioning of informed consent, differing perspectives, perceptions of harm and suffering, and being with the family" There is a perceived lack of power and influence in resuscitation decision-making Intervention education should focus on individual and ethical skills
Cavinder (2014)	Literature published in the last 10 years in English that are found in scholarly journals 6 articles total	Database searches on CINAHL, MEDLINE, PsychINFO, ProQuest Nursing and Allied Health Source, and PubMed A citation search was done on the articles viewed and only NICU-specific literature was included.	Ethical dilemma= having to choose between multiple ethical options that can have negative consequences Moral distress= an experience from acting contrary to one's beliefs because of constraints like lack of time, poor support, patient families, and legal boundaries	A lack of spirituality is highly associated with moral distress. Personal characteristics and moral distress: -lack of spirituality -contemplation of leaving current job or previous job, and -alteration in patient care to avoid moral distress Identified causes of moral distress: -providing perceived futile care and conflict over care -family's false hope or denial -lack of continuity of care -infant's clinical status fluctuation and poor symptom control

Compassion Fatigue Studies	Population	Method	Definitions	Results
Meadors & Lamson (2008)	185 care providers in a children's hospital, mostly nurses, mostly NICU setting	Surveys were conducted before and after an educational seminar- pre and post test Created compassion fatigue measure and two other scales were included (The Social Readjustment Rating Scale (SRRS) (Holmes & Rahe, 1967) and the Index of Clinical Stress (ICS))	Secondary traumatization= an overidentification with the patient, their experience, or their coping response, which causes the caregiver to start experiencing comparable levels of traumatization to the child Compassion fatigue= caused by repeated experiences to trauma in a care setting that lessens one's ability to give compassion and care	Personal and professional stress levels associated with levels of compassion fatigue. Burnout is also associated with these stress levels. -Data showed that the seminar raised awareness of compassion fatigue and reduced clinical stress -providers with higher personal stressors had higher compassion fatigue -perceived level of support was associated with reported level of compassion fatigue
Barr (2017)	140 NICU nurses across 4 hospitals in New South Wales, Australia	Cross-sectional correlational cohort study using a self-report questionnaire measuring Professional Quality of Life (ProQoL), perceived social support, and work stress	Compassion fatigue is considered as a combination of burnout and secondary traumatic stress in this study.	Compassion fatigue was measured as a combination of burnout measures and secondary traumatic stress measures. Individual predictors: -intimacy-based social support for burnout and compassion satisfaction -reassurance of worth for burnout -role conflict and overload for compassion fatigue -role ambiguity for compassion satisfaction. -social support for burnout and compassion satisfaction -work stress for compassion fatigue and compassion satisfaction
Saleh et al. (2019)	172 nurses in NICUs hospitals in Tehran	This was a descriptive correlational study that collected demographic information, Corley's MD questionnaire (Persian version), and Figley's compassion fatigue scale	Moral distress= knowing the right action but not following through because of organizational constraints	Compassion fatigue is mentioned as a possible consequence of moral distress Burnout is mentioned as a possible result of moral distress The intensity of moral distress is correlated with compassion fatigue, but the frequency is not. Significant positive correlations were found between compassion fatigue and age, nursing experience, and NICU experience

Spirituality Studies	Population	Method	Definitions	Results
Catlin et al. (2001)	47 NICU care providers in a hospital, mostly female, white, and Christian	45-item questionnaire focused on spirituality, experiences, preferences, etc. Some questions were open-ended	None specified.	No relationships discussed. All respondents claimed that religious and spiritual concerns are important in NICU work NICU nurses were less likely to believe that babies suffer because God chooses not to prevent that suffering.
Cadge and Catlin (2006)	Written responses to Catlin et al.'s 2001 study included above	Analysis of qualitative data in survey written responses Coding themes in responses	NICU= location of care for fragile/premature newborn babies	Burnout was mentioned as a n experience common to NICU nurses. Short answer responses seem to refer to experiences of burnout, moral distress, and compassion fatigue, but none of these are directly stated in the study. Major concerns of NICU providers: -watching but not being able to stop/heal suffering -death of an infant or time leading to the death -inability to separate personal feelings -lack of staff support/follow up after loss Making sense of suffering themes: -inability to make sense of it -otherworldly reason or plan -God's reason/plan, "testing"