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Stress and Burnout in Nurse Leaders

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STRESS AND BURNOUT IN NURSE LEADERS

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FROM: Laura Johnson, Kiersten Jackson, Jayme Sakhitab

RE: FACULTY ENDORSEMENT and FINAL REVIEW COMMITTEE

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THESIS TITLE:
Drivers of Stress Leading to Burnout in Nurse Leaders: A Correlational Study

THESIS COMMITTEE:

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ABSTRACT

Problem: Nurse leaders commonly experience stress and self-reported burnout. The associated negative consequences are compelling, yet few studies to date consider the nurse leader population. Stress is "a multidimensional phenomenon determined by a person's perceptions and may be assessed as harm, loss, threat, or challenge" (Udod, Cummings, Care, & Jenkins, 2017a, p. 160). Burnout is a lack of professional fulfillment caused by emotional, physical, and psychological stress (Nurse Burnout, 2019). Drivers are associated and contributing factors which lead to stress and self-reported burnout.

Purpose: The purposes of this correlational study are to (a) identify drivers from the literature and adapt an existing model to nurse leader populations, (b) investigate associations between drivers of stress among two nurse leader groups: Nurse Mangers/Nurse Supervisors and Chief Nursing Officers/Nurse Directors, (c) investigate association between drivers and self-reported burnout among all nurse leaders, and (d) compare drivers identified in the literature to drivers from the Minnesota Organization of Leaders in Nursing (MOLN) study.

Conceptual Framework: The Job Demands-Resources (JD-R) Model of Burnout guided the literature review. We adapted our own model on stress leading to burnout in nurse leaders entitled Johnson, Nichols, and Sakhitab (JNS) Model of Stress Leading to Burnout in Nurse Leaders. The focus of the JNS model was to identify the drivers of stress leading to burnout in nurse leaders.

Literature Search: Eight drivers of stress leading to burnout from the literature were: administrative duties, organizational constraints, role overload, lack of control, preparation, personal characteristics, quality patient care, and social support.

Methods Data Analysis: The research method used for this thesis was a secondary analysis of the 2018 MOLN and the Minnesota Hospital Association Nurse Leader Burnout Survey. The

Pearson product-moment correlation was used to assess relationships between drivers, stress, and burnout. The total sample included 210 nurse leaders.

Results Data Analysis: Results from this secondary analysis found statistically significant drivers of stress in Nurse Managers and Nurse Supervisors ($n = 90$) were time ($r = -.500, p = .000$), control ($r = -.321, p = .002$), and resources ($r = -.254, p = .016$). The statistically significant drivers of stress in Chief Nursing Officers and Nurse Directors ($n = 74$) were time ($r = -.492, p < .000$), resources ($r = -.441, p = .000$) control ($r = -.387, p = .001$), team efficiency ($r = -.338, p = .003$), and autonomy ($r = -.250, p = .031$). Drivers of self-reported burnout in nurse leaders ($n = 210$) in order of correlational strength were control, time, autonomy, resources, appreciation, team efficiency, value and quality ($-.419 < r < -.181, p \leq .009$).

Implications for Practice: Nurse leaders carry a high degree of responsibility and are unable to achieve optimal work/life balance. One solution is to restructure leadership hierarchy to include a co-manager role. A second implication for practice relates to the lack of control driver of stress; nurse leaders desire the freedom, empowerment, and autonomy to make decisions without fear for retribution. Lastly, an implication for practice relates to the drivers of social support and appreciation. It will be prudent for health care administrators to re-focus energies on provision of appreciation and recognition to nurse leaders.

Implications for Research: The gap in longitudinal designed studies creates an opportunity for future research. We recommend replicating the MOLN study longitudinally and nationally to support findings from this secondary analysis. Future studies focusing on self-reported burnout need a standardized measurement tool. This will allow for direct comparison of data and stronger analysis of findings. Lastly, drivers of stress leading to burnout in nurse leaders must be universally defined.

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CHAPTER I

INTRODUCTION

Introduction

The nursing profession is highly demanding and stressful. Consequently, the phenomenon of stress and burnout in nursing has been studied at length. Nursing burnout is defined as a lack of professional fulfillment caused by emotional, physical, and psychological stress (Nurse Burnout, 2019); burnout in nursing may progress to nurses abandoning their current nursing position or profession. Burnout in nursing is estimated to occur in approximately 50 percent of nurses (Nurse Burnout, 2019). Burnout impacts more than the individual nurse: Burnout effects patients, fellow employees, and the overall organization (Ganz, Wagner, & Toren, 2015). Historically research on burnout in nurses focused primarily on Registered Nurses (RNs) practicing at the bedside. In contrast, few studies to date examined stress and burnout among nurse leaders.

Chapter one discusses the importance of nurse leader stress and burnout. Different types of nurse leaders are identified and categorized. The purposes of this research study are discussed, followed by the research objectives, and definition of terms.

Problem Statement

An estimated 78% of RNs and 56% of clinical leaders experience the common phenomenon of burnout (Heath, 2018). Although many studies focus on burnout in bedside nurses at the point of care, few studies examine the factors leading to stress and burnout in nurse leaders. Nurse leaders are instrumental in directing the flow of organizations, as their leadership

directly impacts subordinates and patients. Factors associated with burnout in this population must be identified.

The nurse leader role encompasses a wide variety of professional nursing positions. Nurse leaders may be Nurse Managers (NMs), Nurse Supervisors (NSs), Chief Nursing Officers (CNO)s, and Nurse Directors (NDs). NMs, NSs, CNOs, and NDs are essential in leading professional collaborative relationships, business management, coordination of the delivery of healthcare, and high-quality safe patient care in their spheres of responsibility and influence. (Nurse Administrator, 2019).

Stress and burnout in nursing influences patient care; stress and burnout may decrease patient satisfaction, change staff empathy, decrease patient safety, increase patient harm, and increase turnover of nurses at all levels (Heath, 2018). Turnover for nurse leaders is also alarmingly high. Approximately 72 percent of NMs (Loveridge, 2017) and 62 percent of CNOs (Batcheller, 2010) plan to leave their current position within five years. Turnover is directly impacted by stress and burnout (Batcheller, 2010). Decreasing stress and burnout in nurse leaders decreases turnover, increases work satisfaction, and results in optimal care delivery to patients (Mudallal, Othman, & Hassan, 2017). If the drivers of stress and burnout are identified, drivers can be minimized and in turn lead to less stress and burnout in nurse leaders.

We define drivers as associated and contributing factors which lead to the phenomenon of stress and self-reported burnout. The term driver was derived from the questions of the Mini-Z Burnout tool. The 2005 and 2015 studies of Linzer et al. and Williams et al. 2007 study (as cited in Britt, Koranne, and Rockwood, 2017) describe that "one of the advantages of the Mini Z is its capture of drivers producing burnout" (p. 34).

Research evidence describing the drivers correlated to stress and burnout are lacking, and more information is needed to learn about the drivers of stress and burnout in nurse leaders. What drivers lead to burnout in nurse leaders? What drivers are associated with stress in nurse leaders? Identifying the drivers of stress and burnout in nurse leaders will impact more than the individual nurse leaders.

Purposes of the Study

This secondary analysis stemmed from a primary research study carried out by the Minnesota Organization of Leaders in Nursing (MOLN). In November 2018, MOLN collaborated with the Minnesota Hospital Association (MHA) to investigate the prevalence of Minnesota nurse leader burnout, and its associated contributing factors. As a follow up to the primary study, which will be referred to as the MOLN study, the drivers of stress and burnout in nurse leaders were examined in this secondary analysis.

The population of interest in this study was nurse leaders. For the purpose of this secondary analysis, nurse leaders were defined as NMs, NSs, CNOs, and NDs. The nurse leaders were separated into two groups based on professional roles and responsibilities. The first cohort included NMs and NSs; the second cohort included CNOs and NDs.

The following study, a secondary analysis, was a correlational study in which drivers associated with stress and burnout were identified. The purposes of this study were to (a) identify drivers from the literature and adapt an existing model to nurse leader populations, (b) investigate associations between drivers of stress among two nurse leader groups: Nurse Mangers/Nurse Supervisors and Chief Nursing Officers/Nurse Directors, (c) investigate association between drivers and self-reported burnout among all nurse leaders, and (d) compare drivers identified in the literature to drivers from the MOLN study.

Research Questions

The aim of this study was to analyze drivers of stress leading to burnout. Seven research questions were examined and answered in this study.

According to the literature review, what are:

- Drivers of stress among NMs and NSs?

- Drivers of stress among CNOs and NDs?

- Drivers of self-reported burnout among all nurse leaders?

According to the MOLN study, what are:

- Drivers of stress among NMs and NSs?

- Drivers of stress among CNOs and NDs?

- Drivers of self-reported burnout among all nurse leaders?

Lastly, what are:

- Similarities and differences between the drivers identified in the literature and the drivers from the MOLN study?

The variables of stress and burnout were examined by identifying the variables, the drivers. The relationship between the stress, burnout, and the drivers answered the research question.

Definition of Terms

The secondary analysis study focused on stress and burnout as an overall concept perceived by nurse leaders. Conceptual and operational definitions of burnout, stress, and drivers were included from the MOLN study and this secondary study.

MOLN Study

Burnout in the MOLN study was conceptually defined as "the depletion of energy and enthusiasm that workers experience after being in their roles for a period of time" (Minnesota

Organization of Leaders in Nursing [MOLN] Research Committee, 2020, p. 2). Stress was not conceptually defined; however, stress was associated with burnout as a negative consequence of a high demand work environment. Burnout and stress levels were operationally defined utilizing the modified Mini-Z Burnout tool and the MOLN study investigators used an adapted version to collect data on participants (MOLN Research Committee, 2020).

The term drivers were derived from the modified Mini-Z Burnout survey and were associated and contributing factors which influenced and lead to stress and burnout. Drivers were operationally defined and measured by the questions derived from the modified Mini-Z Burnout survey and include values, appreciation, quality, autonomy, control, efficiency, time, and resources (MOLN Research Committee, 2020).

Secondary Study

Burnout is a lack of professional fulfillment caused by emotional, physical, and psychological stress (Nurse Burnout, 2019). Stress is "a multidimensional phenomenon determined by a person's perceptions and may be assessed as harm, loss, threat, or challenge" (Udod, Cummings, Care, & Jenkins, 2017a, p. 160). Stress can lead to fatigue, adverse health consequences, (Labrague, McEnroe-Petitte, Leocadio, Van Bogaert, & Cummings, 2017) emotional exhaustion, job turnover (Labrague et al., 2017; McVicar, 2016) and absenteeism (McVicar, 2016; Skagert, Dellve, & Ahlborg, 2011).

The operational definition of stress and burnout was measured quantitatively through self-report surveys, and qualitatively through personal interviews, discussions, and expert opinions. Drivers, a variable in the secondary study, were an associated and contributing factor which led to the phenomenon of stress and burnout.

Conceptual definition. Drivers were defined conceptually by eight themes, derived from the literature, which contributed to stress and self-reported burnout: administrative duties, role overload, quality of patient care, personal characteristics, organizational constraints, lack of control, preparation, and social support.

Originally, 23 drivers were identified as factors leading to stress and burnout. The 23 total drivers were: administrative duties, technology, budget, co-manager, organizational constraints, lack of resources, role overload, work-life (work/life) balance, twenty-four hours seven day a week (24/7) job demands, high pressure/high responsibilities, lack of control, autonomy, caught in the middle, preparation, orientation, education, lack of mentoring, role ambiguity, age, experience, personality traits, patient care quality, and appreciation through feeling valued/recognition. We narrowed the 23 drivers down to eight by categorizing them based upon theme and subject matter.

Technology, budget, and co-manager were grouped with the driver administrative duties. Lack of resources was added with the driver organizational constraints. Work/life balance, 24/7 work demands, and high pressure/high responsibilities were included in the role overload driver. Caught in the middle and autonomy were grouped into the lack of control driver. Orientation, education, lack of mentoring, and role ambiguity were included in preparation. Age, experience, and personality traits were grouped with the driver personal characteristics. No additional factors were added with the driver patient care quality. Finally, appreciation by feeling valued/recognition was grouped with our last driver, social support.

Operational definition. Drivers were operationally defined by the recurrence of each driver in the literature. We defined a number of articles which contained the drivers allowed for

a frequency. The number of articles was the frequency of the driver in the literature search. Frequency of articles in the literature review determined strength.

Summary

Little research focused on the impact of stress and burnout in nurse leaders. Therefore, the purposes of this study were to (a) identify drivers from the literature and adapt an existing model to nurse leader populations, (b) investigate associations between drivers of stress among two nurse leader groups: Nurse Mangers/Nurse Supervisors and Chief Nursing Officers/Nurse Directors, (c) investigate association between drivers and self-reported burnout among all nurse leaders, and (d) compare drivers identified in the literature to drivers from the Minnesota Organization of Leaders in Nursing (MOLN) study. Conceptual and operational definitions for the variables of stress and burnout experienced by nurse leaders were provided. The conceptual and operational definitions for drivers leading to stress or burnout were discussed. Once the drivers of stress and burnout are identified organizations can focus on decreasing the drivers associated with stress and burnout in nurse leaders.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Chapter two addresses the research questions relating to the author's literature review. The chapter contains database search strategies, a discussion of strengths and weaknesses in the literature, and a description of the Job Demands-Resources (JD-R) Model of Burnout. Themes noted in the literature are organized by (a) drivers of stress in NMs and NDs, (b) drivers of stress in CNOs and NDs, and (c) drivers of self-reported burnout among all nurse leaders. Literature findings are organized into concept maps utilizing the JD-R Model of Burnout as a guide. The chapter concludes with a new model to identify drivers of stress leading to burnout in nurse leaders.

Search Strategies

Multiple search strategies were configured to answer three literature-based research questions. A literature search was preformed from September of 2019 to December of 2019. A variety of databases were utilized: Cochrane Library, CINAHL Complete, OneSearch (Winona State University Library), ProQuest Nursing Collection, and PubMed. Both electronic documents and paper journals were utilized during the research search.

As shown in Appendix A, database literature searches contained limits; limits aided in yielding pertinent articles to the research topic. Limits included articles in the English language and full text availability. To provide the most current research, dates of publication were limited to years 2008 to 2019. A variety of terms were searched in the databases. The following terms

were queried, "nurse leader," "nurse supervisor," "nurse manager," "chief nursing officer,"
"nurse director," "burnout," "stress," "retention," and "resilience." As shown in Appendix A,
individual terms and a combination of the terms were searched in the databases. A total of 1,795
article hits occurred in all the database searches and included overlapping articles.

The abstracts and titles of the articles were reviewed. We narrowed the articles based on
topic, answer to the research questions, and relevance. A total of 14 articles were selected to
answer the research questions based on the database search. The reference lists of the 14 articles
were reviewed for relevant articles; 16 additional articles, found in the reference list of the 14
articles, were chosen based on the relevance. Data from the literature identified drivers of stress
and self-reported burnout in nurse leader groups. The data abstraction process is depicted in
Appendix A.

MOLN performed a literature search along with a research project in 2018. The literature
search conducted by MOLN was provided to us for this project. Five articles found in the
MOLN literature search were discovered by us on our personal database search. A total of three
out of 12 articles from the MOLN literature search were included in this study. We were not
provided the specific details of the MOLN literature search. A total of 33 articles, as shown in
Appendix B, were included in this research study to answer the research questions on drivers
associated with stress and burnout in different types of nurse leaders.

Level of Evidence

The literature was evaluated using the Ackley, Swan, Ladwig, and Tucker (2008) defined
levels of evidence (see Appendix C). Levels of evidence ranged from level IV to VII; in the
Ackley et al. (2008) level I was considered the strongest and level VII the weakest.

As shown in Appendix D, of the 33 articles reviewed the predominant level of evidence was level VI, followed by levels IV and V. We defined high-level evidence as level I to III, and low-level evidence was level IV to VII. Five articles were level IV, three articles were level V, 23 were classified level VI, and two articles were level VII.

Limitations in Research

Most articles from this literature review were low-level evidence. A noteworthy gap in evidence was the lack of randomized controlled trial (RCT) studies. Many research designs utilized convenience, purposive, or voluntary sampling: limiting the overall strength of the research design and generalizability of study findings. Three integrative reviews were included in this literature review (Batcheller, 2010; Brown, Fraser, Wong, Muise, & Cummings, 2013; Labrague et al., 2017). Brown et al. (2013) claimed the article was a systematic review, however, the critique included both qualitative and quantitative articles, making this an inaccurate assertion. Moreover, the shortfall of RCTs rules out the possibility of a systematic review. The decline in quality of evidence largely reflected the lack of RCTs and did not implicate the quality of the integrative reviews.

Qualitative research and descriptive study methods were predominant among this literature review. Of the descriptive designed studies, most were cross-sectional surveys. A gap universally recognized by article authors was the lack of longitudinal designed studies. When data are drawn from a single point in time and are descriptive in nature, the ability to draw associations among variables is not possible. Therefore, the significance of these results is low. Longitudinal correlational designed studies that focus on the relationships among variables would pose stronger evidence for strength of association between variables.

Another limitation in the descriptive survey studies was the low yield of response rates. Response rates were as low as 9.8% (Kath, Stichler, Ehrhart, & Schultze, 2012b). Multiple studies did not reach power analysis recommendations or report these metrics (Labrague et al., 2017).

Article researchers noted a limitation in generalizability of study findings due to subjects being from specific geographical areas or of homogenous backgrounds (Akkela & Leca, 2015; Skagert et al., 2011; Van Bogaert, Adriaenssens, Dilles, Martens, Van Rompaey, & Timmermans, 2014). A driver of self-reported burnout for nurse leaders in one geographical area may not be a driver for nurse leaders in another area. Moreover, nurse leader role definitions vary depending on the economic climate and location of cultural context. Uniformity of subjects extended to the reported sex of subjects. Several studies included only female or mostly female subjects (Akkela & Leca, 2015; Kelly, Lankshear, & Jones, 2016; Loveridge, 2017; Miyata, Arai, & Suga, 2015; Prestia, Sherman, & Demezier, 2017; Shirey, McDaniel, Ebright, Fisher, & Doebbeling 2010; Skagert et al., 2011; Udod, Cummings, Care, & Jenkins, 2017b; Warshawsky & Havens, 2014; Wong & Spence Laschinger, 2015). It is unknown if the limited number of male subjects was a data restriction or an accurate representation of nurse leaders' genders.

Another notable limitation was the lack of standardization process for measuring stress or burnout (Labrague et al., 2017). Comparison of results from multiple studies is difficult when the instruments for measurement are not the same. Overall, there were limitations to the 33 articles utilized to answer the research questions.

Conceptual Model

The conceptual model of the Job Demands-Resources (JD-R) Model of Burnout guided the research questions. Demerouti, Nachreiner, Bakker, and Schaufeli (2001) constructed the JD-R model in response to a lack of literature regarding burnout in non-human services occupations. Displayed in Figure 1, the JD-R model contains three sections; each section is divided into two tracks. The first track of the model contains the components of job demands: The components lead to exhaustion. The demands include physical workload, time pressure, recipient contact, physical environment, and shift work (Demerouti et al., 2001). The second track includes job resources, leading to disengagement. The components of the job resources are feedback, rewards, job control, participations, job security, and supervisor support (Demerouti et al., 2001). The sections and tracks of the model all impact burnout.

The JD-R model has multiple strengths. First, the model is applicable across multiple professions. Second, the JD-R model is derived from the Maslach Burnout Inventory, a universally used instrument (Demerouti et al., 2001). The JD-R model is well tested and applicable in reducing burnout. The final strength is the JD-R model contains a mixture of both positive and negative antecedents; what impacts burnout is both a lack of positive antecedents and too many negative antecedents. Limitations of the JD-R model include a lack of longitudinal and randomized studies examining the true effectiveness of the model in decreasing burnout. The authors identified a lack of internal consistencies as a weakness (Demerouti et al., 2001). Overall, the JD-R model has many strengths, applies to a variety of situations, and can be utilized to decrease burnout.

The JD-R model can be applied to a wide variety of professions; therefore, the JD-R model aligned with the multidimensional aspects of nurse leadership. Overall, the strength of the

JD-R model is high; however, there are a few weaknesses. The JD-R model guided the research to determine the drivers of stress leading to burnout in different nurse leader groups.

Drivers of Stress

This section will present drivers of stress among nurse leader groups from the literature review. First, drivers of stress in NMs and NSs will be discussed, followed by drivers of stress in CNOs and NDs.

Nurse Managers and Nurse Supervisors

Work related stress was common in NMs and NSs.   Drivers of stress included administrative duties, a sense of role overload, demand to keep up with quality patient care, personal characteristics, organizational constraints, lack of control, inadequate preparation, and lack of social support. A total of 25 articles related to the driver of stress and burnout in NMs and NSs (Akkela & Leca, 2015; Brown et al., 2013; Crawford & Daniels, 2014; Ganz et al., 2015; Gardner, Hailey, Nguyen, Prichard, & Newcomb, 2017; Hewko, Brown, Fraser, Wong, & Cummings, 2015; Jones, 2013; Kath, Stichler, & Ehrhart, 2012a; Kath et al., 2012b; Kath, Stichler, Ehrhart, & Sievers, 2013; Kelly, Lefton, & Fischer, 2019; Keys, 2014; Labrague et al., 2017; Loveridge, 2017; Miyata et al., 2015; Shirey et al., 2010; Skagert et al., 2011; Spence Laschinger & Finegan, 2008; Steege, Pinkenstein, Knudson, & Rainbow, 2017; Udod & Care, 2012; Udod et al., 2017a; Udod et al., 2017b; Van Bogaert et al., 2014; Warshawsky & Havens, 2014; Wong & Spence Laschinger, 2015). Overall, all eight drivers were seen frequently in the literature as drivers of stress in NMs and NSs, but quality of care, personal characteristics, organizational constraints, and preparation were less prevalent. Administrative duties, role overload, lack of control, and social support were commonly identified in the literature as a driver of stress.

Administrative duties. Administrative duties was an important source of stress for NMs; some of the administrative responsibilities include budgeting, staffing, scheduling, meetings, e-mails, phone calls, paperwork, and personnel issues. The main sources of administrative stress included technology, budget, and a lack of co-manager. Udod and Care (2012) found fiscal responsibilities were a key stressor amongst study participants; NMs had minimal training to handle financial responsibilities and had trouble understanding the budgeting process. Udod and Care (2012) described how "participants felt pressure to be accountable for the unit's expenditures, but their limited ability to navigate financial responsibilities on their own was related to a low level of financial competency" (p. 71). Along with fiscal competency, technology was an exacerbating problem and impacted stress and fatigue (Steege et al., 2017). Managers described constant accountability as an inhibitor to recharging or recovering when they were physically not at work. Loveridge (2017) adds that initiative fatigue coupled with working beyond office hours tied to technology were a source of stress in study participants.

The conflicting demands of administrative duties with patient safety and patient care were a source of stress. Ganz et al. (2015) demonstrated an imbalance between patient care and administrative duties; this was the highest scoring item in both frequency and intensity of moral distress amongst NMs. Administrative tasks limited ability to accomplish meaningful goals on the unit (Shirey et al., 2010). A co-manager ceased the stress of administrative duties in NMs and NSs (Keys, 2014; Shirey et al., 2010; Udod et al., 2017a; Warshawsky & Havens, 2014). A co-manager shared the overwhelming stress of administrative duties. These included meeting financial goals, addressing budget items, staffing, attending committee meetings, and dealing with multiple ongoing hospital initiatives.

Role overload. Role overload was the most common theme identified amongst NMs and NSs. A total of 21 articles identified role overload as a driver of stress in NMs and NSs (Akkela & Leca, 2015; Brown et al., 2013; Gardner et al., 2017; Hewko et al., 2015; Jones, 2013; Kath et al., 2012a; Kath et al., 2012b; Kath et al., 2013; Kelly et al., 2019; Keys, 2014; Labrague et al., 2017; Loveridge, 2017; Miyata et al., 2015; Spence Laschinger & Finegan, 2008; Steege et al., 2017; Udod & Care, 2012; Udod et al., 2017a; Udod et al., 2017b; Van Bogaert et al., 2014; Warshawsky & Havens, 2014; Wong & Spence Laschinger, 2015). Role overload involved the difficulty of maintaining a work/life balance, meeting 24/7 job demands and working in a high-pressure environment with many responsibilities. Role overload was a key contributor to NM fatigue in a study by Steege et al. (2017), "managers reported a variety of sources of fatigue, most prominently, the continuous 24 hours a day, 7 days a week accountability to their unit and staff...managers also describe constant accountability as inhibiting them from recharging or recovering when they are physically not at work" (p. 280). Udod and Care (2012) echoed concerns of role overload in NMs interviewed for their study. Findings implied the multiple demands of NMs generate considerable stress. Shortage of human resources, lack of time, and multiple work demands were significant stressors for nurse managers. Study participants "provided accounts of work-life imbalances, concerns and anxiety for the well-being of patients, staff and the unit" (Udod & Care, 2012, p.76). NMs and NSs struggled with imbalance, which led to the experience of stress.

In an integrative review by Brown et al. (2013), the theme of role overload was recognized as an important role factor influencing nurse manager intention to leave their current position. Themes of work-life imbalance in managerial roles related to lack of time to complete tasks and difficulty combining responsibilities emerged from the integrative review. Kelly et al.

(2019) found managers were emotionally drained due to the challenging tasks of managing difficult situations. The managerial role carried several layers of complexity adding to stress and burnout. Overall, role overload was a driver of stress in NMs and NSs.

Quality of patient care. The pressure to deliver quality patient care was a source of stress for NMs and NSs. In Shirey et al. (2010), 67% of nurse managers cited performance metrics—patient satisfaction scores and patient safety—as a source of stress. NMs must predict and prevent different elements of the manager role to deliver quality patient care. Several aspects of delivering patient care were a source of distress for NMs and NSs. Sources of distress included pressure to admit a greater number of patients; an inability to provide quality care due to a lack of staff, equipment, or resources; conflicts between the needs of the patient and the needs of family; and finally conflicts between the needs of individual nurse and the needs of the unit (Ganz et al., 2015). Brown et al. (2013), found the quality of care influenced the NMs intention to stay or leave. The ability to ensure quality of care was an important retention factor; in contrast poor quality of care was a driver to stress in NMs and NSs.

Personal characteristics. Several personal characteristics were drivers of stress for NMs and NSs, as evidenced in six studies from this literature review (Crawford & Daniels, 2014; Kath et al., 2012a; Kelly et al., 2019; Shirey et al., 2010; Spence Laschinger & Finegan, 2008; Steege et al., 2017). Personal characteristics included, age, experience in nurse leader role, and personality traits.

In one study, age proved to be a determinant of stress, wherein older NMs and NSs reported less stress than their younger counterparts (Kath et al., 2012a). A quantitative, cross-sectional designed study revealed a weak, yet statistically significant correlation between age and stress ($r = -.10$, $p < .05$; Kath et al., 2012a). Similarly, Crawford & Daniels (2014) noted a

statistically significant association between age and depersonalization. Concrete statistical data was not presented regarding this relationship.

Age was not universally recognized as a predictor of stress throughout this literature review. In fact, Kath et al. (2012b) noted, "none of the personal factors (age, education or tenure) predicted job stress" (p. E20). It is possible these data were affected by the demographics of the study sample, as the mean average age was 47.7 years and the mean average tenure was 23.9 years (Kath et al., 2012b). Skagert et al. (2011) had similar findings and found age, marital status, and having children at home did not influence or predict negative outcomes of job stress.

Crawford and Daniels (2014) reported statistically significant association between nurse experience, depersonalization, and personal accomplishment, but did not support this conclusion with specific statistical data. Kelly et al. (2019) identified statistically significantly higher burnout rates in nurse leaders, including NMs, with less experience in leadership ($\beta = .35$, $p = .045$). Shirey et al. (2010) reports unfavorable psychological outcomes in less experienced nurse managers; "When examining the differences in coping strategies between the novice and experienced nurse managers, the novice nurse managers demonstrated a predominant use of emotion-focused coping strategies along with a narrow repertoire of self-care strategies" (p. 88).

Organizational constraints. Organizational constraints were a key contributor to NM and NS stress. This driver of stress referred to a lack of resources within the work setting. In an integrative review by Labrague et al. (2017), five studies reported inadequate resources as the main source of stress in NMs. In Kath et al. (2013), this was the second most important work environment predictor of NM stress. Authors highlighted the need for senior administrators to address and eliminate organizational constraints to improve upon managerial performance. In a

qualitative research study by Udod and Care (2012), NM participants voiced a lack of RNs to deliver safe, quality care and pressure from senior management to balance the budget as major stressors. Mentorship and support from colleagues were effective coping strategies for participants. Organizational constraints were a driver of stress in NMs and NSs according to the literature.

   Lack of control. A lack of control was a driver to stress in NMs and NSs. This was observed in NMs and NSs as they reported feeling little control over job duties, feeling caught in the middle between individuals and decisions, and little autonomy in making decisions. These feelings of turmoil led to moderate stress levels (Akkela & Leca, 2015; Brown et al., 2013; Miyata et al., 2014; Van Bogaert et al., 2014). It is the responsibility of the organization to support and create optimal conditions for NMs and NSs to gain control (Udod et al., 2017b; Wong & Spence Laschinger, 2015). Lack of control portrayed itself as role conflict, many times between supervisors and subordinates.

   Stress was triggered by the middle position NMs and NSs take in an organization. NMs and NSs are many times caught in the middle of subordinates and higher organizational leadership. Skagert et al. (2011) highlighted that "strengthening the conditions under which managers can exercise their leadership" (p. 897) would decrease stress and increase the probability of NM staying at their current positions. Competing priorities and being caught in the middle of managing others were drivers for stress and burnout (Spence Laschinger & Finegan, 2008; Udod, 2012).

   A lack of autonomy contributed to stress experienced by NMs and NSs. According to Hewko et al. (2015) and Kath et al. (2012b), one of the most important factors for NMs intending to stay in their current position was their feelings of empowerment and degree of autonomy. The

greatest buffer to stress was autonomy; NMs and NSs were less stressed if they were permitted to make their own decisions (Kath et al., 2012a; Kath et al., 2012b). Buffers were not deemed drivers of stress; however, these findings were relevant. Overall a lack of control was a driver to stress in NMs and NSs.

   Preparation. The amount of preparation NMs or NSs had for their current position impacted the amount of stress experienced. Preparation manifested in a lack of orientation, deficit of education, lack of mentoring or growth, and role ambiguity. NMs and NSs were ill equipped for their current position without adequate orientation and this contributed to increased stress levels (Hewko et al., 2015). According to the literature, many NMs were not satisfied ($p <$ .01) with their orientation and believed this contributed to their stress (Hewko et al., 2015; Loveridge, 2017). The literature suggested NMs did not appreciate, "the gravity and demands of the position prior to accepting the position" (Keys, 2014, p. 101). A formal education in leadership contributed to the ability to appreciate the gravity of the position and resulted in decreased stress outcomes.

   The theme of a deficit in education emerged from the literature. A Master of Science in Nursing (MSN) contributed to optimal preparation for a NM and NS position, as compared to a baccalaureate or associates degree. The MSN education should be completed prior to starting the position of a NM or NS to decrease stress levels and better prepare the nurse for the job (Udod & Care, 2012; Udod et al., 2017a); however, this was difficult as NMs are often recruited from staff RNs (Brown et al., 2013) who do not have a graduate education. A lack of mentoring contributed to stress in NM and NS positions. An increase in personal growth opportunities and mentoring would decrease the amount of stress experienced by NMs and NSs (Udod et al., 2017b).

Role ambiguity was a driver to stress experienced by NMs and NSs. Role ambiguity contributed to stress ($\beta = .17$; $p < .05$) according to the literature (Kath et al., 2012b). More realistic and clearer job expectations would decrease stress levels in NMs and NSs (Udod et al., 2017b). Overall, a lack of preparation increased stress in NMs and NS through a lack of orientation, deficit of education, lack of mentoring, and role ambiguity

Social support. A lack of social support was a driver to stress in NMs and NSs. Social support included appreciation, recognition, and the feeling of loneliness experienced by those in nurse leadership positions. Support from the direct supervisor correlated with the NM remaining in the current position ($p < .001$; Gardner et al., 2017; Hewko et al., 2015; Loveridge, 2017). A lack of support by the supervisor and other colleagues was identified as a contributor to stress (Udod et al., 2017a; Udod et al., 2017b; Van Bogaert et al., 2014). NMs and NSs experienced increased levels of stress with lack of appreciation from colleagues and direct supervisors.

Lack of recognition increased levels of stress experienced in NMs and NSs. Leadership behavior, collaboration, and positive feedback decreased stress in NMs and NSs (Brown et al., 2013; Crawford & Daniels, 2014). NMs had a lower incidence of stress and burnout when they received recognition for achieving organizational goals (Spence Laschinger & Finegan, 2008; Udod & Care, 2012; Udod et al., 2017b).

The theme of loneliness emerged from the literature as a driver of stress. NMs and NSs are middle level managers, being a middle level manager led to feelings of isolation (Miyata et al., 2015). The feelings of isolation contributed to interpersonal distress and contributed to an increase in stress levels (Udod & Care, 2012). According to the literature the amount of social support of NMs and NSs was correlated with the amount of stress experienced by these nurse leaders.

Chief Nursing Officers and Nurse Directors

Stress occurs frequently in CNOs and NDs and it is essential to identify drivers of stress to minimize the impact on these nurse leaders. A total of 13 articles (Akkela & Leca, 2015; Batcheller, 2010; Dyess, Prestia, Marquit, & Newman, 2018; Dyess, Prestia, & Smith, 2015; Frandsen, 2010; Gardner et al., 2017; Havens, Thompson, & Jones, 2008; Hewko et al., 2015; Jones, Havens, & Thompson, 2009; Kelly et al.,2016; Kelly et al., 2019; Prestia et al., 2017; Steege et al., 2017) pertained to stress experienced in CNOs and NDs. Drivers to stress in CNOs and NDs included: administrative duties, role overload, quality of patient care, personal characteristics organizational constraints, lack of control, preparation, and social support. The most common driver of stress outcomes in CNOs and NDs—according to the literature—were administrative duties and role overload. Less common noteworthy drivers included a lack of control and social support.

Administrative duties. Administrative duties was a driver of stress in CNOs and NDs; however, administrative duties was an essential component of the nurse leader profession. Administrative duties included time on technology, meetings, budget, paperwork, staffing, and many more responsibilities. CNOs and NDs felt overwhelmed by the volume of administrative duties and were unable to finish required duties (Frandsen, 2010). Administrative duties were overwhelming in the form of number of e-mails experienced by CNOs and NDs, "when I am off for a few days, there are hundreds of emails I have to deal with when I come back" (Kelly et al., 2019, p. 408). E-mails were a contributor to stress in a study by Steed et al. (2017). A lack of balance between administrative and staff duties created a non-harmonious relationship for the CNO and ND (Dyess et al., 2018). The theme of balancing administrative duties was identified

as a precipitator to stress (Dyess et al., 2018; Kelly et al., 2016); administrative duties was overwhelming and contributed to stress in CNOs and NDs.

CNOs and NDs impact the financial aspects of an institution; administrative duties included budgeting and allocating financial funds. Budget and finical management were identified as drivers to stress. According to Hewko et al. (2015) a lack of fiscal resources was one of the four most important factors leading to stress in nurse leaders. CNOs and NDs identified a need for skills in financial management and felt ill equipment for managing finances (Havens et al., 2008; Kelly et al., 2016). A shared coverage workload could decrease the stress outcomes related to administrative duties (Steege et al., 2017). In conclusion, administrative duties was a driver to stress in CNOs and ND; e-mails and budget impacted stress experienced by CNOs and NDs.

Role overload. Along with administrative duties, the theme of role overload was the most common theme in the literature. Role overload contributed to stress outcomes in CNOs and NDs. Role overload included difficulties between work/life balance, 24/7 responsibility, and having a high-pressure and high-responsibility career. The main reason for nurse leaders to leave their nursing position were work overload and difficulties with work/life balance (Batcheller, 2010; Hewko et al., 2015; Kelly et al., 2016). The lack of balance in personal life contributed to stress and led the nurse leaders to resign from their current position. The expectation to be responsible and available 24/7 created difficulties with work life balance in CNOs and NDs.

CNOs and NDs were expected to be available 24/7 to solve difficulties within an organization. Responsibility 24/7 contributed to fatigue and feeling overwhelmed (Steege et al., 2017; Dyess et al., 2018). However, the fatigue and stress from 24/7 responsibility was less impactful on CNOs and NDs compared to NMs (Steege et al., 2017). Responsibility 24/7 impacted individuals of all ages, according to Gardner et al. (2017), there was no significant

difference in the perception of responsibility based on the CNOs or NDs' ages. All age groups believed they had 24/7 responsibility, and this responsibility led to stress. The requirement for 24/7 responsibility was a primary contributor to stress leading to burnout in CNOs and NDs (Kelly et al., 2019). The responsibility expected of nurse leaders contributed to stress, feeling overwhelmed, and fatigue.

High-pressure and high responsibility were expected of CNOs and NDs. A high-pressure environment was a driver to stress and in turn contributed to burnout in CNOs and NDs (Frandsen, 2010). Role overload was a driver of stress in CNOs and NDs; role overload was impacted by a lack of work/life balance, the expectation of 24/7 responsibility, and the high-pressure and responsibility expected of these professionals.

Lack of control. A lack of control directly impacted the stress level of the CNO and ND. Lack of control was a noteworthy driver in three articles on stress in CNOs and NDs (Batcheller, 2010; Kath et al., 2012b; Prestia et al., 2017). Lack of control was both a lack of power in the organization and a lack of control over current position. If the CNO had the authority to create change in an organization there was less stress experienced and increased retention of the CNO (Batcheller, 2010). Stress, burnout, and moral distress were experienced in the nurse leader position due to the inability to control variables associated with leading other (Prestia et al., 2017). A perception of a lack of control in CNOs and NDs led to stress, burnout, and moral distress; lack of control contributed to a feeling of being caught in the middle.

The feelings of being caught in the middle was a driver of stress in CNOs and NDs. Balancing administration and the subordinate staff led to stress in the CNO and ND (Dyess et al., 2018). The feeling of being caught in the middle contributed to emotional drain, especially when

the CNO or ND did not agree with the decisions of the organization (Kelly et al., 2019). The

unique requirements drive stress, especially when there is a lack of control.

Social support. A lack of social support in professional relationships was a driver to

stress experienced by CNOs and NDs, as noted in six articles (Batcheller, 2010; Frandsen, 2010;

Gardner et al., 2017; Havens et al., 2008; Hewko et al., 2015; Jones et al., 2009). Negative

social interactions and a lack of recognition led increased in stress experienced by CNOs and

NDs. Professional social support occurred in relationships with Chief Executive Officers

(CEOs), the medical team, supervisors, and subordinate staff. Conflicts between the CEO and

CNO contributed to an increase in stress and turnover for CNOs. The difference in views and

conflicts between medical teams were an indicator for stress and turnover in CNOs (Batcheller,

2010). Positive relationships between administrators and the CNO was crucial for success,

decreased stress, and decreased retention (Havens et al., 2008). Perceived support was the

largest influencer for desire to leave employment ($p < .0001$) in NDs (Gardner et al., 2017).

The literature noted stress levels increased when CNOs or NDs began their first

professional position; these stress levels were directly impacted by the coaching and counseling

during the turnover experience (Havens et al., 2008). According to Jones, Havens, and

Thompson (2009), if relationships were positive there was minimal stress on the CNO; a lack of

recognition contributed to stress and led to burnout (Frandsen, 2010). Professional relationships

impacted the levels of stress experienced by CNOs and NDs.

Other drivers. Other drivers emerged from the literature as drivers of stress in CNOs

and NDs; these drivers were less frequently noted in the literature. The drivers included: quality

of patient care, personal characteristics, organizational constraints, and preparation.

The quality of patient care contributed to stress experienced by CNOs and NDs (Havens et al., 2008; Kelly et al., 2016). An important factor for CNOs and NDs intending to stay at their current position included ensuring quality of patient care (Havens et al., 2008). CNOs and NDs experienced acute stress related to ensuring quality of care to patients and solving complaints of patients (Kelly et al., 2016). Ensuring the receipt of quality care of patients was a driver to stress experienced by CNOs and NDs.

Personal characteristics of the CNO an ND impacted the stress experienced in their current professional position (Frandsen, 2010; Dyess et al., 2015; Kelly et al., 2019). Through the literature it was observed that experience and personality traits impacted stress and burnout. Resiliency in nurse leaders was seen in those who learned from the past. Resiliency was a personal characteristic which prevented stress in nurse leaders (Dyess et al., 2015). Personality characteristics leading to stress and burnout included perfectionism, pessimism, reluctance to delegate, high achievers, and type A personalities (Frandsen, 2010).

Organizational constraints contributed to stress outcomes in CNOs and NDs. Both a lack of power and a lack of resources impacted stress in this nurse leader population (Batcheller, 2019; Dyess et al., 2018). CNOs and NDs experienced stress related to a lack of power in their organization (Batcheller, 2010). Securing all aspects of resources for their employees and patients led to stress (Dyess et al., 2018). Organizational constraints were a driver to stress in CNOs and NDs.

CNOs and NDs believed a lack of preparation contributed to stress (Havens, et al., 2008; Hewko et al., 2015; Kelly et al., 2016). Preparation included orientation, education, and mentorship. Havens, Thompson, and Jones (2008) discussed the importance of mentorship to the CNO and ND during the turnover process. Recommendations for preparation included CNOs be

educated, prepared, and mentored to be successful at their new position. The majority of CNOs and NDs were not satisfied with their orientation ($p < .01$) (Hewko et al., 2015; Kelly et al., 2016). A lack of preparation in orientation, education, and mentorship were drivers to stress in CNOs and NDs.

Overall, the most common drivers of stress in CNOs and NDs included administrative duties and role overload. Less common but noteworthy drivers included a lack of control, and a lack of social support. The least common drivers from the literature included quality of patient care, personal characteristics, organizational constraints, and preparation for current professional position. One must first identify the drivers of stress to decrease the overall stress experienced by the CNO and ND.

Drivers of Burnout

This section presents drivers of self-reported burnout among all nurse leader groups (NMs/NSs and CNOs/NDs), as determined by the literature review. Drivers of role overload, lack of control, and social support were noted most frequently in the literature. All drivers were associated with self-reported burnout and are therefore discussed.

Nurse Leaders

Of the 33 articles reviewed, 12 articles had an outcome of self-reported burnout (Batcheller, 2010; Brown et al., 2013; Dyess et al., 2018; Frandsen, 2010; Hewko et al., 2015; Kelly et al., 2019; Prestia et al., 2017; Skagert et al., 2011; Spence Laschinger & Finegan, 2008; Van Bogaert et al., 2014; Warshawsky & Havens, 2014; Wong & Spence Laschinger, 2015). All eight drivers were associated with self-reported burnout, with role overload the most reoccurring driver.

Role overload. All 12 articles cited role overload as a driver of self-reported burnout in nurse leaders (Batcheller, 2010; Brown et al., 2013; Dyess et al., 2018; Frandsen, 2010; Hewko et al., 2015; Kelly et al., 2019; Prestia et al., 2017; Skagert et al., 2011; Spence Laschinger & Finegan, 2008; Van Bogaert et al., 2014; Warshawsky & Havens, 2015; Wong & Spence Laschinger, 2015). Role overload included themes of work-life balance, 24/7 responsibility, high pressure, and high responsibility.

Lack of control. Perceived lack of control was the second most common driver of self-reported burnout and was identified in nine out of 12 articles (Batcheller, 2010; Brown et al., 2013; Dyess et al., 2018; Frandsen, 2010; Prestia et al., 2017; Skagert et al., 2011; Spence Laschinger & Finegan, 2008; Van Bogaert et al., 2014; Wong & Spence Laschinger, 2015). Included within this driver were themes of lack of autonomy and being caught between pleasing employees and supervisors. The literature also referred to phenomenon as role conflict (Van Bogaert et al., 2014).

Social support. Lack of social support was the third most common driver and was a driver in seven articles (Brown et al., 2013; Frandsen, 2010; Hewko et al., 2015; Kelly et al., 2019; Prestia et al., 2017; Spence Laschinger & Finegan, 2008; Van Bogaert et al., 2014). Subthemes of this driver included lack of appreciation, and lack of recognition.

Other drivers. Other drivers of self-reported burnout in all nurse leader groups were administrative duties, quality of patient care, personal characteristics, organizational change, and preparation. Administrative duties was a driver of self-reported burnout in five articles (Batcheller, 2010; Dyess et al., 2018; Hewko et al., 2015; Kelly et al., 2019; Warshawsky & Havens, 2014), and included managing the budget, lack of co-manager and technology such as e-mail.

The perceived inability to deliver quality patient care was a driver of self-reported burnout in five articles (Brown et al., 2013; Hewko et al., 2015; Prestia et al., 2017; Skagert et al., 2011; Wong & Spence Laschinger, 2015). Organizational constraints were found to be a driver of self-reported burnout in five articles (Batcheller, 2010; Brown et al., 2013; Dyess et al., 2018; Hewko et al., 2015; Wong & Spence Laschinger, 2015). Organizational constraints were defined as having insufficient resources.

Personal characteristics were found to be a driver of self-reported burnout in four articles and included age, experience in the nurse leader role, and personality traits (Frandsen, 2010; Kelly et al., 2019; Skagert et al., 2011; Spence Laschinger & Finegan, 2008). Age was the only component of this driver not found to be associated with self-reported burnout in nurse leaders; a key finding, as all other identified subtypes of the eight drivers were associated with self-reported burnout in nurse leaders.

The least common driver of self-reported burnout from this literature review was preparation, prevalent in only two of the 12 articles (Brown et al., 2013; Dyess et al., 2018). Embedded within this driver were themes of role ambiguity, lack of orientation, mentoring, and education.

Conceptual Maps

Figures 2, 3, and 4 display the revised JD-R model in relation to the research question of drivers associated with stress and burnout in the literature. Figure 2 displays the relationship between drivers and stress in NMs and NSs according to the literature. The drivers leading to stress in CNOs and NDs are shown in Figure 3. The last figure, Figure 4, depicts the drivers associated with self-reported burnout in nurse leaders as seen in the literature. We categorized drivers from the literature into either job demands or job resources. Job demands included

administrative duties, role overload, and quality of patient care. Job resources included organization constraints, lack of control, preparation, and social support. Personal characteristics of the nurse leader was neither a demand nor a resource; therefore, personal characteristics was placed directly as a driver to either stress or burnout.

In the original JD-R model, disengagement and exhaustion were the end products leading to burnout. The demands of a job and the resources of a job impacted exhaustion and disengagement: Exhaustion and disengagement led to burnout. As stated by the authors Demerouti et al., "empirical evidence suggests that commonly found job stressors play a significant role in burnout and that commonly found stress reactions have similar antecedents as burnout" (2001, p. 499). Therefore, stress was used interchangeably with burnout as the product of the model.

The arrows in Figures 2, 3, and 4 displayed the directional relationship of the drivers. The drivers of stress and burnout were components of job resources or demands, except for personal characteristics. The numbers situated on each arrow represented the article number in the literature review (see Appendix C). We highlighted drivers most frequently identified in the literature. A thick line, on the conceptual maps, depicted more frequently associated evidence to support the driver of stress or burnout: we identified drivers that were present in $\geq$ 50% of articles. The drivers of stress in NMs and NSs were identified in 25 articles, frequently associated drivers were defined as $\geq$13 articles. A total of 13 articles pertained to drivers of stress in CNOs and NDs; therefore, frequently associated drivers $\geq$ 7 articles. Self-reported burnout was an outcome in 12 articles, we identified drivers present in $\geq$ 6 articles. We utilized a thin line to represent drivers seen in the literature but not deemed frequent.

JNS Model of Stress Leading to Burnout in Nurse Leaders

Based on the literature drivers and the JD-R model, we designed a model on stress leading to burnout in nurse leaders. The model formed was the Johnson, Nichols, and Sakhitab (JNS) Model of Stress Leading to Burnout in Nurse Leaders. The focus of the JNS model, as displayed in Figure 5, was to identify the drivers of stress leading to burnout in nurse leaders. We defined a driver as an associated and contributing factor which negatively or positively influenced and led to the phenomenon of stress and burnout. According to the model, there were eight drivers of stress: administrative duties, role workload, quality of patient care, personal characteristics, organizational constraints, degree of control, preparation, and social support.

Each of the eight drivers contained multiple subcategories; subcategories were components of the driver, as shown in Figure 5. The first driver, administrative duties, included the subcategories of technology, budget, and access to a co-manager. The second driver was role workload which included: work/life balance, responsibility 24 hours a day seven days a week, and high pressure/responsibility. The third driver, quality of patient care, was the pressure placed on the nurse leader to ensure the patients-under their subordinates-received the quality care. Personal characteristics was the next driver. Personal characteristics included, age, experience as a nurse leader, and personality traits. The fifth driver was organizational constraints, organizational constraints included limited or optimal resources available to the nurse leader. The driver, degree of control, included the subcategories of autonomy and the ability to be caught-in-the-middle of different management levels. The seventh driver was preparation. Preparation included orientation of the nurse leader, educational level, opportunity for mentoring and growth, and role ambiguity. The final driver was social support. Social

support contained the subcategories of appreciation, recognition, and the possibility of loneliness.

The eight drivers were divided into two categories. The categories of job demands and job resources were identified in the JD-R Model of Burnout (Demerouti et al., 2001). The first category of job demands, shown in Figure 5, included administrative duties, role workload, and quality of patient care. The previous drivers may impact the job demands either positively or negatively. The second category of drivers was job resources. Job resources were impacted by organizational constraints, degree of control, preparation, and social support. Similar to job demands, the drivers of job resources may have positive or negative impact. The driver of personal characteristics was not a component of job demands or job resources. Similar to job demands and job resources, personal characteristics may positively or negatively impact stress in the nurse leader. Job resources and job demands led to the outcomes of the JNS model.

As shown in Figure 5, the JNS model had two outcomes, stress and burnout. Stress and burnout had a positive correlation; the more stress a leader experienced the more likely a leader was to experience burnout. Stress was a component of burnout (Demerouti et al., 2001). The job demands and the job resources impacted stress. The more demands placed on a job the more stress experienced, therefore the relationship between job demands and stress were positive. Contrary, the more job resources available the less stress a nurse leader experienced; therefore, job resources and stress had a negative relationship.

The JNS Model of Stress Leading to Burnout in Nurse Leaders was formed by identifying drivers in the literature and utilizing the JD-R Model of Burnout as a guide. The JNS model contained eight drivers which impacted the amount of stress experienced by the nurse leader. These eight drivers include: administrative duties, role workload, quality of patient care,

personal characteristics, organizational constraints, degree of control, preparation, and social support. The drivers, except personal characteristics, were divided into themes of job resources and job demands. The job demands, job resources, and personal characteristics impacted the stress experienced by the nurse leader. According to the JNS model, the stress a nurse leader experienced had a positive relationship with burnout; the more stress experienced the more burnout experienced.

Summary

A variety of databases were utilized to find articles to answer the research question. A total of 33 articles were found to answer the three research questions. The overall level of evidence was low; all articles were level IV to level VII. Limitations to the research included many of the articles being descriptive or qualitative study designs, low response rates, lack of standardized data tools, and geographical considerations. The JD-R Model of Burnout guided the literature search to answer the research questions on stress and burnout in different types of nurse leaders.

Eight drivers emerged from the literature in relation to stress and burnout in nurse leaders, these drivers were: administrative duties, a sense of role overload, the demand to keep up with quality patient care, personal characteristics, organizational constraints, lack of control, inadequate preparation, and lack of social support. The drivers strongly associated with stress among NMs and NSs included administrative duties, role overload, lack of control, and social support. The other drivers of quality of patient care, personal characteristics, organizational constraints, and preparation were seen less commonly in the literature. The drivers strongly associated with stress among CNOs and NDs included administrative duties and role overload. A lack of control and a lack of social support were drivers of stress; however, these

were less common in the literature. The final research question of drivers strongly associated

with self-reported burnout among all nurse leaders included drivers of role overload, lack of

control, and lack of social support. Other drivers emerged yet were less common. Based on the

literature search and the JD-R model as a guide we constructed a new model of burnout, the JNS

Model of Stress Leading to Burnout in Nurse Leaders.

CHAPTER III

RESEARCH METHODOLOGY

Introduction

The purposes of this study were to (a) identify drivers from the literature and adapt an existing model to nurse leader populations, (b) investigate associations between drivers of stress among two nurse leader groups, (c) investigate association between drivers and self-reported burnout among all nurse leaders, and (d) compare drivers identified in the literature to drivers from the MOLN study. This study was a secondary analysis of the 2018 MOLN and MHA Nurse Leader Burnout Survey. This chapter describes the MOLN study including purpose, design, setting, instrumentation, data collection, and ethical considerations. Design information pertaining to the secondary analysis is discussed.

MOLN Study

Purpose

The MOLN study was conducted by a research committee of MOLN. The purpose was to identify the prevalence of Minnesota nurse leader burnout and describe associated and contributing factors of burnout. Additionally, the study aimed to develop responses to support nurse leaders experiencing burnout and promote strategies to prevent burnout.

Design

The study design was descriptive with a self-reported survey utilizing the modified Mini-Z burnout tool for quantitative data and included two open-ended questions for qualitative data.

Sample and Setting

In September of 2018, all 546 members of the MOLN organization were invited via e-mail to participate in the survey. A total of 212 participants completed the survey for a 39% return rate. The sample consisted of various nurse leaders with 35% nurse managers, 25% nurse directors, 11% chief nursing officers, 8% nursing supervisors, 8% charge/lead nurses, and 12% other nurse leaders. Much of the study's sample worked within a hospital setting (58% hospital > 25 beds, 16% critical access hospital < 25 beds). Other settings reported included ambulatory care (11%), psychiatric/mental health (4%), quality and safety (3%), higher education (2%), community health (2%), and miscellaneous settings (4%).

Instruments and Data Collection

Authors of the MOLN study used a 17-question survey adapted from the MHA's clinical provider burnout survey (see Appendix E). The survey included questions from the Mini Z burnout study instrument, the Areas of Worklife Survey, and Maslach's Burnout Inventory (MOLN Research Committee, 2020). Questions from the survey used ordinal Likert scales such as "strongly agree" to "strongly disagree" for drivers of burnout. The first four questions assessed outcomes of stress and burnout. Questions five and six assessed components of burnout. Questions seven through fourteen assessed drivers. The research committee added questions on mentoring and peer support. In addition, two open-ended questions were included for respondents to describe their experiences with burnout and suggestions for how MOLN can support nurse leaders experiencing burnout. Survey data was collected in a self-administered online electronic format. Questions were modified for the nurse leader population.

Ethical considerations

Review and approval were obtained by the local university's Institutional Review

Board.

Secondary Analysis

Method for Data Analysis

The Pearson product-moment correlation coefficient to find associations or correlations

was applied. This test can be applied to data from Likert scales or ordinal level if results follow

a normal distribution and are evenly distributed in relation to the regression line (Cipher, 2017).

Statistical tests were performed by a statistician at MHA using the Statistical Package for Social

Sciences (SPSS) software.

Ethical Considerations

We did not have access to data from original study. In addition, we were not in contact

with human subjects for the purpose of research. WSU IRB approval for this secondary analysis

was not needed (Winona State University IRB Director B. Ayers).

Summary

A secondary analysis of research data on nurse leader burnout from MOLN and MHA

was conducted to assess relationships between drivers of burnout and stress. To safeguard

survey respondent information, we did not have access to MOLN study data, and statistical tests

were performed by statisticians from MHA. A correlational statistic, the Pearson product

moment correlation, was utilized to examine associations of relationships. Results from this

study will provide a deeper understanding of the problem of burnout in Minnesota nurse leaders

and will identify drivers having the greatest impact on stress and burnout.

CHAPTER IV

RESULTS OF ANALYSIS

Introduction

The following chapter contains the findings of this secondary analysis. The chapter

begins with a description of the secondary study followed by the results. The secondary study

identifies (a) drivers of stress among NMs and NSs, (b) drivers of stress among CNOs and NDs,

and (c) drivers of self-reported burnout among all nurse leaders. The chapter concludes with a

discussion of the similarities and differences between the drivers identified in the literature and

the drivers from the MOLN study.

Description of Sample

The total sample of the MOLN study was 212 nurse leaders. Two participants of the

sample had incomplete data for measuring correlations between drivers, so the final sample of all

nurse leaders was 210 participants. Groups were divided according to respective nurse leader

roles: NMs and NSs ($n = 90$), and CNOs and NDs ($n = 74$). The remaining 46 nurse leaders in

the sample included charge nurses, lead nurses, and those who categorize themselves as

"other." Demographic data revealed the sample was homogenous with 91.7% being female and

93.8% identifying as Caucasian. In addition, 82.7% were reported as married. Most of the

sample worked within a hospital setting with 58% working within a > 25 bed hospital system

and 16% a critical access hospital. Ambulatory care (11%), psychiatry/mental health (4%),

community heath (2%), and higher education (2%) were other work settings reported. The

average length of work experience was 12 years with greater than half of the sample (51%)

reporting work at one institution. Twenty-five percent of the sample reported a total of two places worked, 14% three places worked, and 10% four or more places worked.

Data Analysis

The secondary analysis was conducted by the MHA statistician using SPSS; we interpreted the results. The Pearson product-moment correlation test was utilized to answer the research questions of drivers associated with stress and burnout in different types of nurse leaders according to the MOLN study. The drivers identified in the MOLN study were: values, team efficiency, time, control, autonomy, appreciation, resources, and quality. Strength of association was ranked according to parameters set by Cohen (1988), Grove and Cipher (2017; as cited in Cipher, 2017). A weak negative association was $r = .00$ to $-.29$, moderate negative association was $r = -.3$ to $-.49$, and strong negative association was $r = -.50$ to -1. All associations were negative: fewer incidence of drivers correlated with higher values of stress and burnout. For the data analysis a p-value of $<.05$ was considered significant, and $<.01$ was considered very significant.

Results

This section contains the results of the secondary data analysis of the MOLN data. The research questions to be answered are: according to the MOLN study, what are (a) drivers of stress amount NMs and NSs, (b) drivers of stress among CNOs and NDs, and (c) drivers of self-reported burnout among all nurse leaders?

Drivers of Stress in Nurse Managers and Nurse Supervisors

As displayed in Table 1, the significant drivers of stress in NMs and NSs were time ($r = -.500$, $p = .000$), control ($r = -.321$, $p = .002$), and resources ($r = -.254$, $p = .016$). The values which were not significant drivers of stress in NMs and NS included values, team efficiency,

autonomy, appreciation, and quality. The drivers of values, team efficiency, autonomy, appreciation, and quality had weak negative associations with stress. Control had a moderate negative correlation with stress (r = -.321), indicating an environment with less control is associated with stress. The strongest negative association was between time and stress (r = -.500).

Table 1

Drivers of Stress in Nurse Managers and Nurse Supervisors

Driver	*r*	*p*-value
Values	-.125	.239
Team Efficiency	-.125	.242
Time	-.500	.000**
Control	-.321	.002**
Autonomy	-.179	.090
Appreciation	-.168	.113
Resources	-.254	**.**016*
Quality	-.005	**.**968
	p-value <.05 **p*-value <.01	

Note: The correlation of drivers and stress in NMs and NSs (n = 90). Mean stress score of NMs and NSs was 3.44 with a Standard Deviation of 1.08.

Drivers of Stress in Chief Nursing Officers and Nurse Directors

As displayed in Table 2, the statistically significant drivers of stress in CNOs and NDs were team efficiency (r = -.338, p = .003), time (r = -.492, p = .000), control (r = -.387, p = .001), autonomy (r = -.250, p = .031), and resources (r = -.441, p = .000). The values which were not significant drivers of stress in CNOs and NDs included values, appreciation, and quality. A weak negative correlation was seen in values, autonomy, appreciation, and quality. A

moderate negative correlation between the driver and stress was seen in team efficiency (r = - .338), time (r = -.492), control (r = -.387), and resources (r = -.441). There were no strong negative associations in the data. Autonomy was the only driver which was statistically significant but did not have a moderate negative correlation with stress.

Table 2

Drivers of Stress in Chief Nursing Officers and Nurse Directors

Driver	*r*	*p*-value
Values	-.176	.134
Team Efficiency	-.338	.003**
Time	-.492	.000**
Control	-.387	.001**
Autonomy	-.250	.031*
Appreciation	-.203	.082
Resources	-.441	.000**
Quality	-.066	.574
	p-value <.05 **p*-value <.01	

Note: The correlation of drivers and stress in CNOs and NDs (n = 74). Mean stress score of CNOs and NDs was 3.59 with a Standard Deviation of 1.34.

Drivers of Self-Reported Burnout in All Nurse Leaders

Results from drivers of self-reported burnout in all nurse leaders in this secondary analysis are displayed in Table 3. The statistically significant drivers of burnout in nurse leaders were control, time, autonomy, resources, appreciation, team efficiency, value, and quality. All were significant drivers of burnout in all types of nurse leaders. None of the drivers had a strong negative correlation with burnout. Time (r = -.408), control (r = -.419), autonomy (r = -.382), and resources (r = -.336) all had a moderate negative correlation with burnout. The drivers of

values, team efficiency, appreciation, and quality had a weak negative correlation with

burnout. In conclusion, all drivers had a statistically significant relationship with burnout in

nurse leaders; however, time, control, autonomy, and resources had the strongest negative

correlation with burnout.

Table 3

Drivers of Burnout in All Nurse Leaders

Driver	*r*	*p*-value
Values	-.250	.000**
Team Efficiency	-.295	.000**
Time	-.408	.000**
Control	-.419	.000**
Autonomy	-.382	.000**
Appreciation	-.298	.000**
Resources	-.336	.000**
Quality	-.181	.009**
p-value <.05 **p*-value <.01		

Note: The correlation of drivers and burnout in all nurse leaders ($N = 210$). Mean burnout score
was 2.78 with a Standard Deviation of 1.66.

Comparison of Literature Review and Secondary Data

A comparison of the similarities and differences of the literature review drivers and

secondary analysis answered the final research question. The drivers identified in the literature

review were administrative duties, a sense of role overload, the demand to keep up with quality

patient care, personal characteristics, organizational constraints, lack of control, inadequate

preparation, and lack of social support. The drivers identified in the MOLN study used for our

secondary analysis included values, team efficiency, time, control, autonomy, appreciation,

resources, and quality. We aligned the drivers based on characteristics to accurately answer the research question of similarities and differences in the drivers of the two studies.

Driver Alignment

For the purpose of this analysis, we aligned one MOLN driver with one literature driver. Two drivers from the MOLN study overlapped with multiple literature drivers. We chose one literature driver, which most closely resembled the definition of the MOLN driver, for this analysis. The alignment of the MOLN driver and the literature driver are shown in Table 4.

Table 4

Drivers of the MOLN Study and Drivers of the Literature Search

MOLN Driver	Literature Driver	Paired Driver
Values	Personal Characteristics	Personal Characteristics/Values
Team Efficiency	Preparation *Organizational Constraints *Social Support	Preparation/Team Efficiency
Time	Role Overload *Administrative Duties	Role Overload/Time
Control	Lack of Control	Lack of Control/Control
Autonomy	Lack of Control	Lack of Control/Autonomy
Appreciation	Social Support	Social Support/Appreciation
Resources	Organizational Constraints	Organizational Constraints/ Resources
Quality	Quality of Patient Care	Quality of Patient Care/Quality

*Possible Overlapping Drivers

Note: Comparison of MOLN drivers and literature review drivers. Each row is the driver alignment utilized to compare the studies drivers. Drivers marked with an asterisk (*) were possible overlapping drivers; we identified these overlapping drivers.

The MOLN driver of team values aligned with the literature driver of personal characteristics. The values of an organization may conflict with the personal characteristics of a nurse leader therefore this relationship was chosen. Team efficiency was a resource of a job, not a demand. Teams reach efficiency when they are prepared, and roles are defined. Organizational constraints and social support may be components of team efficiency; however, we chose preparation as the primary component of team efficiency. The amount of time, identified by MOLN, was a component of the literature driver role overload. Time may include administrative duties; however, it is unclear if time was spent on administrative duties. The driver of control aligned with lack of control. Autonomy was a component of lack of control in the literature drivers, these drivers were paired. Appreciation, the driver from the MOLN study aligned with social support identified in the JNS model literature review. Resources were a driver in the MOLN study; resources closely aligned with organizational constraints. The final driver of quality aligned well with the driver quality of patient care from the literature.

Similarities

The similarities between the MOLN drivers and the drivers in the literature were compared. The MOLN drivers were analyzed utilizing the Pearson product-moment correlation (r) and the drivers in literature search utilized frequency of articles. Figures 6, 7, and 8 display the relationship of the frequency of the drivers in the literature and the Pearson correlation values from the MOLN analysis.

Role overload/time was a frequent driver in NMs and NSs, CNOs and NDs, and all nurse leaders in the literature. In the MOLN study, role overload/time was the strongest negatively correlated driver in NMs and NSs ($r = -.500$), CNOs and NDs ($r = -.492$), and the second strongest negatively correlated driver in all nurse leaders ($r = -.408$). This was a significant

finding in both the literature search and the MOLN data analysis. Other similarities of frequently seen drivers and stronger correlated drivers of stress and burnout were seen.

In NMs and NSs a lack of control/control was the second most frequent driver in the literature and the second most negatively correlated driver ($r = -.321$). In all nurse leaders, a lack of control/control was seen frequently in the literature and had a moderately negative correlation with self-reported burnout ($r = -.419$) in the MOLN study. Another similarity in drivers of burnout in all nurse leaders was the lack of control/autonomy driver was observed frequently in the literature and had a moderately negative correlation ($r = -.382$) in the MOLN study. Finally, in all nurse leaders, social support/appreciation occurred in the literature and had a moderately negative correlation with self-reported burnout ($r = -.298$) in the MOLN study.

There were similarities among the drivers deemed weak in the MOLN study and infrequent in the literature. The drivers of personal characteristics/values ($r = -.125$), preparation/team efficiency ($r = -.125$), and quality of patient care/quality ($r = -.005$) had weak negative correlations and were seen least frequently in the literature for NMs and NSs. In CNOs and NDs quality of patient care/quality was both the lowest correlated driver ($r = -.066$) and least frequent driver in the literature.

Differences

The differences between the MOLN drivers and the literature drivers were compared. In the literature, administrative duties was a frequent driver in both NMs and NSs and CNOs and NDs (see Figures 6 and 7) . However, administrative duties was not identified as a driver in the MOLN study. The second difference was lack of control; this driver was divided into two in the MOLN study (autonomy and control) and was only identified as one driver in the literature search. We were blinded to the MOLN drivers when we completed our literature review.

Though we did not identify autonomy as a driver, we included it as a subcategory of the lack of control driver.

In the NM and NS population, a lack of control/autonomy had a difference in frequency and correlation. Lack of control was seen more frequently in the literature and autonomy had a weak negative correlation ($r = -.179$) in drivers of stress in NMs and NSs. In NMs and NSs social support/appreciation also had a weak negative correlation ($r = -.168$) in the MOLN study and was seen frequently in the literature. In CNOs and NDs, organizational constraints/resources had a strongly negative correlation ($r = -.441$) in the MOLN study and was less frequent in the literature.

The drivers of burnout in all nurse leaders had differences in the literature compared to the MOLN secondary study. The first difference was preparation/team efficiency was a weak/moderate negative correlation ($r = -.295$), but was an infrequent driver in the literature. Organizational constraints/resources had a moderate/strong negative correlation ($r = -.336$), but was less frequent in literature. Similarities and differences are shown in Figures 6, 7, and 8.
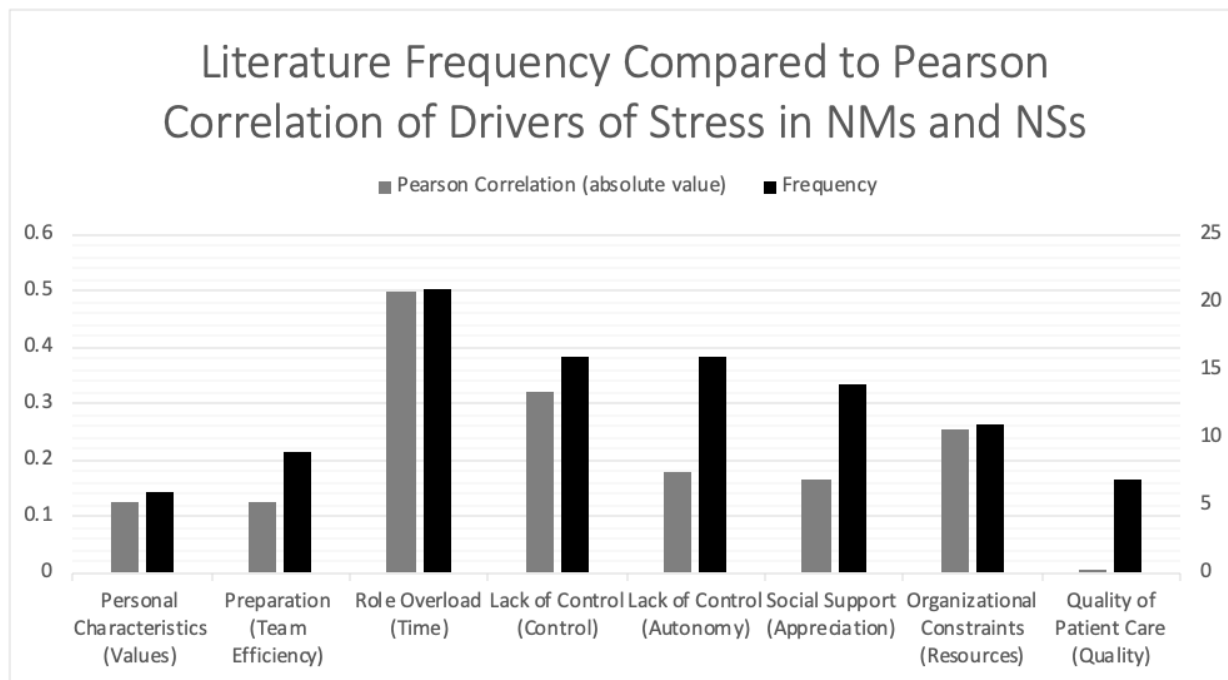
Figure 6. Comparison of the frequency and correlation of drivers in NMs and NSs. The comparison of drivers in the literature and the value of the correlation of drivers from the MOLN study in NMs and NSs. The x-axis contains the drivers of the literature search with the paired MOLN driver in parenthesis. The left y-axis is the absolute value of the Pearson product-moment correlation (*r),* this value pertains to the grey bars. The right y-axis is the frequency of the driver (number of articles, *N* = 25), black bars, pertaining to stress of NMs and NSs in the literature search.
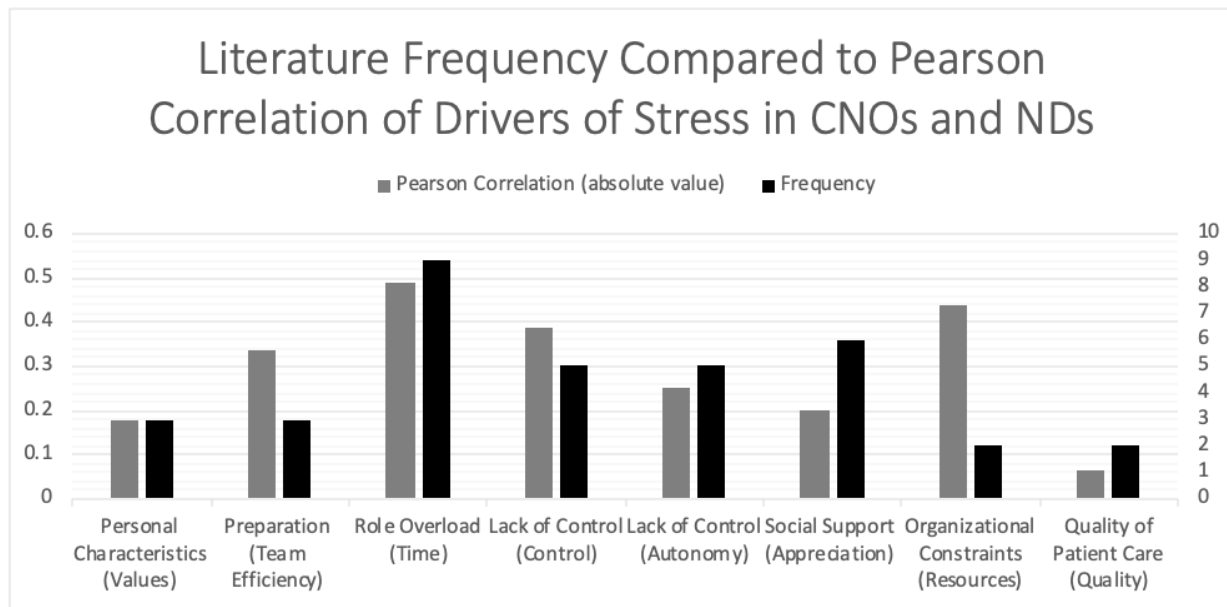
Figure 7. Comparison of the frequency and correlation of drivers in CNOs and NDs. The comparison of drivers in the literature and the value of the correlation of drivers from the MOLN study in CNOs and NDs. The x-axis contains the drivers of the literature search with the paired MOLN driver in parenthesis. The left y-axis is the absolute value of the Pearson product-moment correlation (*r*), this value pertains to the grey bars. The right y-axis is the frequency of the driver (number of articles, *N* = 13), black bars, pertaining to stress of CNOs and NDs in the literature search.
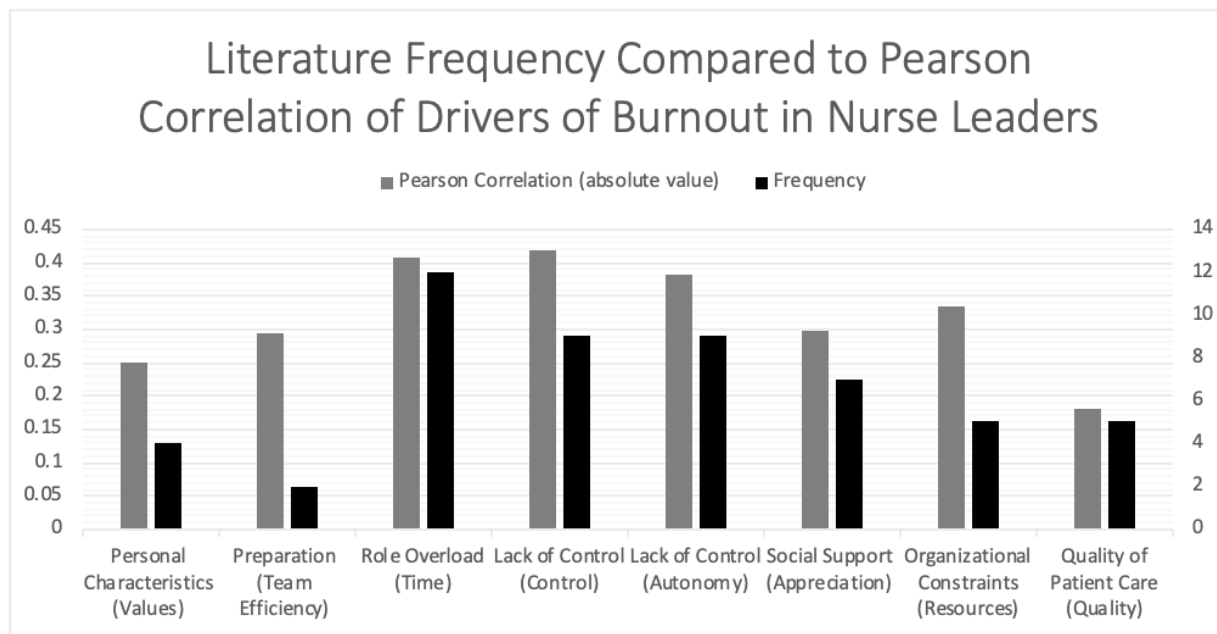
Figure 8. Comparison of the frequency and correlation of drivers in all nurse leaders. The comparison of drivers in the literature and the value of the correlation of drivers from the MOLN study of all nurse leaders. The x-axis contains the drivers of the literature search with the paired MOLN driver in parenthesis. The left y-axis is the absolute value of the Pearson product-moment correlation (*r*), this value pertains to the grey bars. The right y-axis is the frequency of the driver (number of articles, *N* = 12), black bars, pertaining to burnout of all types of nurse leaders.

Summary

The findings from the secondary analysis were discussed and the research questions were answered. The significant drivers of stress in NMs and NSs were time (*r* = -.500, *p* = .000), control (*r* = -.321, *p* = .002), and resources (*r* = -.254, *p* = .016). The significant drivers of stress in CNOs and NDs were team efficiency (*r* = -.338, *p* = .003), time (*r* = -.492, *p* = .000), control (*r* = -.387, *p* = .001), autonomy (*r* = -.250, *p* = .031), and resources (*r* = -.441, *p* = .000). Control (*p* = .000), time (*p* = .000), autonomy (*p* = .000), resources (*p* = .000), appreciation (*p* = .000), team efficiency (*p* = .000), value (*p* = .000), and quality (*p* = .009) were all significant drivers of burnout in nurse leaders; however, none of the drivers had a strong

correlation with burnout. Time ($r = -.408$), control ($r = -.419$), autonomy ($r = -.382$), and resources ($r = -.336$) all had a moderate correlation with burnout in nurse leaders.

There were many similarities and differences between the drivers in the literature and drivers from the MOLN study. The major difference was that administrative duties was a frequent driver in the literature for both NMs and NSs and CNOs and NDs, but administrative duties was not identified as a driver in the MOLN study. However, the drivers of time and resources were statistically significant in the MOLN study and these drivers are components of administrative duties. The major similarity in the drivers was role overload/time was a frequent driver in NMs and NSs, CNOs and NDs, and all nurse leaders in the literature. In the MOLN study, role overload/time was the strongest correlated driver in NMs and NSs ($r = -.500$), CNOs and NDs ($r = -.492$), and the second strongest driver in all nurse leaders ($r = -.408$). In the secondary analysis and the literature search, personal characteristics/values, preparation/team efficiency, and quality of patient care/quality were the least frequent and lowest correlated drivers of stress and burnout in all the groups of nurse leaders.

CHAPTER V

MANUSCRIPT

Introduction

Nurse leaders commonly experience burnout, but few studies have focused on the nurse leader population. Nursing burnout is defined as a lack of professional fulfillment caused by emotional, physical, and psychological stress (Nurse Burnout, 2019); burnout in nursing may progress to nurses abandoning their current nursing position or profession. This secondary analysis stemmed from a primary research study carried out in November of 2018 by the Minnesota Organization of Leaders in Nursing (MOLN) and the Minnesota Hospital Association (MHA). This article refers to the primary study as the MOLN study.

The purposes of this study were to (a) identify drivers from the literature and adapt an existing model to nurse leader populations, (b) investigate associations between drivers of stress among two nurse leader groups: Nurse Mangers/Nurse Supervisors and Chief Nursing Officers/Nurse Directors, (c) investigate association between drivers and self-reported burnout among all nurse leaders, and (d) compare drivers identified in the literature to drivers from the MOLN study.

For the purpose of this study, nurse leaders were defined as Nurse Managers (NMs), Nurse Supervisors, (NSs), Chief Nursing Officers (CNOs), and Nurse Directors (NDs). The nurse leaders were separated into two groups based on professional roles and responsibilities. The first group included NMs and NSs; the second group included CNOs and NDs.

Definition of Terms

Drivers were defined as associated and contributing factors which influence and lead to stress and burnout. The term driver was derived from the questions of the Mini-Z Burnout tool, the measurement tool used in the MOLN study (Minnesota Organization of Leaders in Nursing [MOLN] Research Committee, 2020). Stress is "a multidimensional phenomenon determined by a person's perceptions and may be assessed as harm, loss, threat, or challenge" (Udod, Cummings, Care, & Jenkins, 2017a, p. 160). Stress can lead to fatigue, adverse health consequences, (Labrague, McEnroe-Petitte, Leocadio, Van Bogaert, & Cummings, 2017) emotional exhaustion, job turnover (Labrague et al., 2017; McVicar, 2016) and absenteeism (McVicar, 2016; Skagert, Dellve, & Ahlborg, 2011).

Research Questions

The aim of this study was to analyze drivers of stress leading to burnout. Seven research questions were examined and answered in this study.

According to the literature review, what are:

- Drivers of stress among NMs and NSs?

- Drivers of stress among CNOs and NDs?

- Drivers of self-reported burnout among all nurse leaders?

According to the MOLN study, what are:

- Drivers of stress among NMs and NSs?

- Drivers of stress among CNOs and NDs?

- Drivers of self-reported burnout among all nurse leaders?

Lastly, what are:

- Similarities and differences between the drivers identified in the literature and the drivers from the MOLN study?

Background Literature

Search Strategies

We performed a literature search from September of 2019 to December of 2019. A variety of databases were utilized: Cochrane Library, CINAHL Complete, OneSearch (Winona State University Library), ProQuest Nursing Collection, and PubMed. Key search terms were: "nurse leader," "nurse supervisor," "nurse manager," "chief nursing officer," "nurse director," "burnout," "stress," "retention," and "resilience." Limits included articles in the English language, and full text availability; dates were limited to years 2008-2019.

A total of 14 articles from the database search were included in this literature review. Sixteen articles found in reference sections were also included. We were provided with a literature search performed by MOLN in conjunction with their research; three articles from the MOLN literature search were included in this literature review. Five articles found in the MOLN literature search were duplicate articles in our personal database search. A total of 33 articles were included in this literature review. Data from the literature identified drivers of stress and self-reported burnout in nurse leader groups.

Level of Evidence

The literature was evaluated using the Ackley, Swan, Ladwig, and Tucker (2008) defined levels of evidence (see Appendix C). Levels of evidence ranged from level IV to VII; in Ackley et al. (2008) level I was considered the strongest and level VII the weakest.

As shown in Appendix D, of the 33 articles reviewed the predominant level of evidence was level VI ($n = 23$), followed by levels IV ($n = 5$), V ($n = 3$), and level VII ($n = 2$). We defined high-level evidence as level I to III, and low-level evidence was level IV to VII.

Drivers of Stress

First, drivers of stress in NMs and NSs will be discussed, followed by drivers of stress in CNOs and NDs. Drivers were defined conceptually by eight themes, derived from the literature, which contributed to stress and self-reported burnout: administrative duties, role overload, quality of patient care, personal characteristics, organizational constraints, lack of control, preparation, and social support.

Nurse managers and nurse supervisors. The drivers of stress most frequently noted in the literature for NMs and NSs were administrative duties, role overload, lack of control, and social support. All eight drivers were present in the literature. A total of 25 articles related to the driver of stress and burnout in NMs and NSs (Akkela & Leca, 2015; Brown, Fraser, Wong, Muise, & Cummings, 2013; Crawford & Daniels, 2014; Ganz, Wagner, & Toren, 2015; Gardner, Hailey, Nguyen, Prichard, & Newcomb, 2017; Hewko, Brown, Fraser, Wong, & Cummings, 2015; Jones, 2013; Kath, Stichler, & Ehrhart, 2012a; Kath, Stichler, Ehrhart, & Schultze, 2012b; Kath, Stichler, Ehrhart, & Sievers, 2013; Kelly, Lefton, & Fischer, 2019; Keys, 2014; Labrague et al., 2017; Loveridge, 2017; Miyata, Arai, & Suga, 2015; Shirey, McDaniel, Ebright, Fisher, & Doebbeling, 2010; Skagert et al., 2011; Spence Laschinger & Finegan, 2008; Steege, Pinkenstein, Knudson, & Rainbow, 2017; Udod & Care, 2012; Udod et al., 2017a; Udod, Cummings, Care, & Jenkins, 2017b; Van Bogaert, Adriaenssens, Dilles, Martens, Van Rompaey, & Timmermans, 2014; Warshawsky & Havens, 2014; Wong & Spence Laschinger, 2015).

Chief nursing officers and nurse directors. The drivers of stress most frequently noted for CNOs and NDs in the literature were administrative duties, and role overload. All drivers were recognized as antecedents of stress. A total of 13 articles pertained to stress experienced in CNOs and NDs (Akkela & Leca, 2015; Batcheller, 2010; Dyess, Prestia, Marquit, & Newman, 2018; Dyess, Prestia, & Smith, 2015; Frandsen, 2010; Gardner et al., 2017; Havens, Thompson, & Jones, 2008; Hewko et al., 2015; Jones, Havens, & Thompson, 2009; Kelly, Lankshear, & Jones, 2016; Kelly et al., 2019; Prestia, Sherman, & Demezier, 2017; Steege et al., 2017).

Drivers of Self-Reported Burnout in Nurse Leaders

The drivers of self-reported burnout among all nurse leaders most frequently identified in the literature were role overload, lack of control, and social support. All eight drivers were contributing factors for self-reported burnout in nurse leaders. A total of 12 articles had an outcome of self-reported burnout (Batcheller, 2010; Brown et al., 2013; Dyess et al., 2018; Frandsen, 2010; Hewko et al., 2015; Kelly et al., 2019; Prestia et al., 2017; Skagert et al., 2011; Spence Laschinger & Finegan, 2008; Van Bogaert et al., 2014; Warshawsky & Havens, 2014; Wong & Spence Laschinger, 2015).

Methods

This study was a correlational secondary analysis data provided by the MOLN (MOLN Research Committee, 2020). The variables were drivers, stress, and burnout; the population of interest was nurse leaders. A modified survey tool was used in the MOLN study to capture survey data on perceived stress, burnout, and drivers (see survey instrument from the MOLN study in Appendix E). Survey questions came from reliable tools including the Mini-Z Burnout instrument ($\alpha = .8$), Areas of Worklife Survey, and Maslach's Burnout Inventory. We used the Pearson-product moment correlation statistical test to measure correlations between drivers and

stress in each nurse leader group and drivers and self-reported burnout in all nurse leaders.

Strength of association was ranked according to parameters set by Cohen (1988), Grove and

Cipher (2017; as cited in Cipher, 2017). A weak negative association was $r = .00$ to $-.29$,

moderate negative association was $r = -.3$ to $-.49$, and strong negative association was $r = -.50$

to -1. All associations were negative: fewer incidence of drivers correlated with higher values of

stress and burnout. Data analysis considered a p-value of $< .05$ as significant, and $< .01$ as very

significant.

Results

The research questions to be answered are: what are (a) drivers of stress amount NMs

and NSs, (b) drivers of stress among CNOs and NDs, and (c) drivers of self-reported burnout

among all nurse leaders?

Description of Sample

The total sample of this study was 212 nurse leaders. Two participants from the original

sample were unaccounted for due to incomplete data, so the final sample of all nurse leaders for

this secondary analysis were 210 participants. Groups were divided according to respective

nurse leader roles: NMs and NSs ($n = 90$), and CNOs and NDs ($n = 74$). The remaining 46 nurse

leaders in the sample included charge nurses, lead nurses, and those who categorize themselves

as "other." Demographic data revealed the sample was homogenous with 91.7% being female

and 93.8% identifying as Caucasian. Many survey participants worked within a hospital setting

with 58% working within a >25 bed hospital system and 16% a critical access hospital.

Ambulatory care (11%), psychiatry/mental health (4%), community health (2%), and higher

education (2%) were other work settings reported. The average length of work experience was

12 years with greater than half of the sample (51%) reporting work at one institution. Twenty-

five percent of the sample reported a total of two places worked, 14% three places worked, and 10% four or more places worked.

Data Analysis

The drivers analyzed in this study were: values, team efficiency, time, control, autonomy, appreciation, resources, and quality. The Pearson product-moment correlation test was utilized to answer the research questions of drivers associated with stress and burnout in different types of nurse leaders.

Stress in nurse managers and nurse supervisors. The first question focused on drivers of stress among NMs and NSs. As displayed in Table 1, the significant drivers of stress in NMs and NSs were time ($r = -.500$, $p = .000$), control ($r = -.321$, $p = .002$), and resources ($r = -.254$, $p = .016$). The values which were not significant drivers of stress in NMs and NS included values, team efficiency, autonomy, appreciation, and quality. The drivers of values, team efficiency, autonomy, appreciation, and quality were all weak negative associations. Control had a moderate negative correlation with stress ($r = -.321$), indicating an environment with less control is associated with stress. The strongest negative association was between time and stress ($r = -.500$).

Table 1

Drivers of Stress in Nurse Managers and Nurse Supervisors

Driver	r	p-value
Values	-.125	.239
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*p-value <.05   **p-value <.01

Note: The correlation of drivers and stress in NMs and NSs ($n = 90$). Mean stress score of NMs and NSs was 3.44 with a Standard Deviation of 1.08.

Stress in chief nursing officers and nurse directors. As displayed in Table 2, the statistically significant drivers of stress in CNOs and NDs were team efficiency ($r = -.338$, $p = .003$), time ($r = -.492$, $p = .000$), control ($r = -.387$, $p = .001$), autonomy ($r = -.250$, $p = .031$), and resources ($r = -.441$, $p = .000$). The values which were not significant drivers of stress in CNOs and NDs included values, appreciation, and quality. A weak negative correlation was seen in values, autonomy, appreciation, and quality. A moderate negative correlation between the driver and stress was seen in team efficiency ($r = -.338$), time ($r = -.492$), control ($r = -.387$), and resources ($r = -.441$). There were no strong negative associations in the data. Autonomy was the only driver which was statistically significant but did not have a moderate negative correlation with stress.

Table 2

Drivers of Stress in Chief Nursing Officers and Nurse Directors

Driver	r	p-value
Values	-.176	.134
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Quality	-.066	.574
p-value <.05	**p*-value <.01	

Note: The correlation of drivers and stress in CNOs and NDs ($n = 74$). Mean stress score of CNOs and NDs was 3.59 with a Standard Deviation of 1.34.

Drivers of self-reported burnout in all nurse leaders. The statistically significant drivers of burnout in nurse leaders were control, time, autonomy, resources, appreciation, team efficiency, value, and quality. All were significant drivers of burnout in all types of nurse leaders. None of the drivers had a strong negative correlation with burnout. Time ($r = -.408$), control ($r = -.419$), autonomy ($r = -.382$), and resources ($r = -.336$) all had a moderate negative correlation with burnout. The drivers of values, team efficiency, appreciation, and quality had a weak negative correlation with burnout. In conclusion, all drivers had a statistically significant relationship with burnout in nurse leaders; however, time, control, autonomy, and resources had the strongest negative correlation with burnout.

Table 3

Drivers of Burnout in All Nurse Leaders

Driver	r	p-value
Values	-.250	.000**
Team Efficiency	-.295	.000**
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Quality	-.181	.009**
*p-value <.05	**p-value <.01	

Note: The correlation of drivers and burnout in all nurse leaders ($N = 210$). Mean burnout score was 2.78 with a Standard Deviation of 1.66.

Literature Review and Secondary Data

A comparison of the similarities and differences of the literature review drivers and secondary analysis answered the final research question. The drivers identified in the literature review were administrative duties, a sense of role overload, the demand to keep up with quality patient care, personal characteristics, organizational constraints, lack of control, inadequate preparation, and lack of social support. The drivers identified in the MOLN study used for our secondary analysis included values, team efficiency, time, control, autonomy, appreciation, resources, and quality. We designated these drivers as MOLN drivers. We aligned the drivers based on characteristics to accurately answer the research question of similarities and differences in the drivers of the two studies.

Driver alignment. For the purpose of this analysis, we aligned a MOLN driver with one literature driver. Two drivers from the MOLN study overlapped with multiple literature drivers. One literature driver, which most closely resembled the definition of the MOLN driver, for this analysis was chosen. The alignment of the MOLN driver and the literature driver are shown in Table 4.

Table 4

Drivers of the MOLN Study and Drivers of the Literature Search

MOLN Driver	Literature Driver	Paired Driver
Values	Personal Characteristics	Personal Characteristics/Values
Team Efficiency	Preparation *Organizational Constraints *Social Support	Preparation/Team Efficiency
Time	Role Overload *Administrative Duties	Role Overload/Time
Control	Lack of Control	Lack of Control/Control
Autonomy	Lack of Control	Lack of Control/Autonomy
Appreciation	Social Support	Social Support/Appreciation
Resources	Organizational Constraints	Organizational Constraints/ Resources
Quality	Quality of Patient Care	Quality of Patient Care/Quality
	*Possible Overlapping Drivers	

Note: Comparison of MOLN drivers and literature review drivers. Each row is the driver alignment utilized to compare the studies drivers. Drivers marked with an asterisk (*) were possible overlapping drivers; these overlapping drivers were identified by us.

The MOLN driver of values aligned with the literature driver of personal characteristics. The values of an organization may conflict with the personal characteristics of a nurse leader therefore this relationship was chosen. Team efficiency was a resource of a job, not a demand. We believe teams reach efficiency when they are prepared, and roles are clearly defined.

Organizational constraints and social support may be components of team efficiency; however, we chose preparation as the primary component of team efficiency. The amount of time, identified by MOLN, was a component of the literature driver role overload. Time may include administrative duties; however, it is unclear if time was spent on administrative duties. The driver of control aligned with lack of control. Autonomy was a component of lack of control in the literature drivers, these drivers were paired. Appreciation, the driver from the MOLN study aligned with social support identified in the Johnson, Nichols, and Sakhitab (JNS) Model of Stress Leading to Burnout in Nurse Leaders. Resources were a driver in the MOLN study, resources closely align with organizational constraints. The final driver of quality aligned well with the driver quality of patient care from the literature.

Similarities. The similarities between the MOLN drivers and the drivers in the literature were compared. The MOLN drivers were analyzed utilizing the Pearson product-moment correlation (*r*) and the drivers in literature search utilized frequency of articles. Figures 1, 2 and 3 display the relationship of the frequency of the drivers in the literature and the Pearson correlation values from the MOLN analysis.

Role overload/time was a frequent driver in NMs and NSs, CNOs and NDs, and all nurse leaders in the literature (see Figures 1, 2, and 3). In the MOLN study, role overload/time was the strongest correlated driver in NMs and NSs ($r = -.500$), CNOs and NDs ($r = -.492$), and the second strongest driver in all nurse leaders ($r = -.408$). This was a significant finding in both the literature search and the MOLN data analysis. Other similarities of frequently seen drivers and stronger correlated drivers of stress and burnout were seen.

In NMs and NSs a lack of control/control was the second most frequent driver in the literature (see Figure 1) and the second most negatively correlated driver ($r = -.321$). In all nurse

leaders, a lack of control/control was seen frequently in the literature (see Figure 3) and had a moderately negative correlation (r = -.419) in the MOLN study. Another similarity in drivers of burnout in nurse leaders was a lack of control/autonomy observed frequently in the literature and had a moderately negative correlation (r = -.382) in the MOLN study. Finally, in nurse leaders, social support/appreciation occurred in the literature and had a moderate correlation (r = -.298) in the MOLN study for drivers of burnout in all nurse leaders.

There were similarities among the drivers deemed weak in the MOLN study and infrequent in the literature. The drivers of personal characteristics/values (r = -.125), preparation/team efficiency (r = -.125), and quality of patient care/quality (r = -.005) had weak negative correlations and were seen least frequently in the literature for NMs and NSs. In CNOs and NDs quality of patient care/quality was both the lowest correlated driver (r = -.066) and least frequent driver in the literature.

Differences. The differences between the MOLN drivers and the literature drivers were compared. In the literature, administrative duties was a frequent driver in both NMs and NSs and CNOs and NDs (see Figures 1 and 2). However, administrative duties was not identified as a driver in the MOLN study. The second difference was lack of control; this driver was divided into two in the MOLN study (autonomy and control) and was only identified as one driver in the literature search. We were blinded to the MOLN drivers when we completed our literature review. Though we did not identify autonomy as a driver, we included it as a subcategory of the lack of control driver.

In the NM and NS population, a lack of control/autonomy had a difference in frequency and correlation. Lack of control was seen more frequently in the literature and autonomy had a weak negative correlation (r = -.179) in drivers of stress in NMs and NSs (see Figure 1). In NMs

and NSs social support/appreciation also had a weak negative correlation ($r = -.168$) in the

MOLN study and was seen frequently in the literature. In CNOs and NDs, organizational

constraints/resources were more strongly negative correlated ($r = -.441$) in the MOLN study and

less frequently found in the literature (see Figure 2).

   The drivers of burnout in all nurse leaders had differences in the literature compared to

the MOLN secondary study. The first difference was preparation/team efficiency was a

weak/moderate negative correlation ($r = -.295$) but was an infrequent driver in the literature (see

Figure 3). Organizational constraints/resources were moderate/strong negative correlation ($r = -.336$) but less frequent in literature. Similarities and differences are shown in Figures 1, 2, and 3.
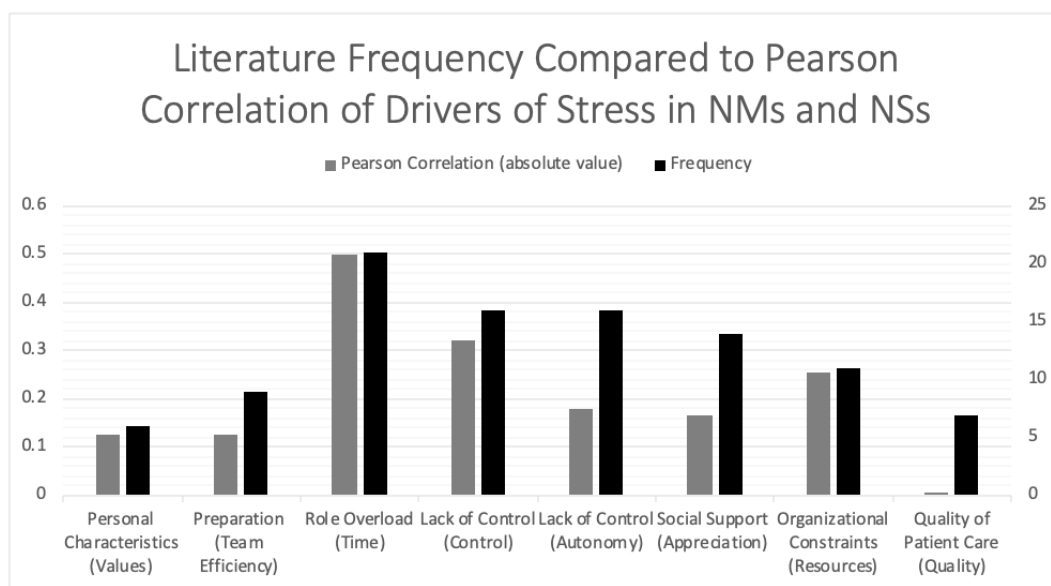
Figure 1. Comparison of the frequency and correlation of drivers in NMs and NSs. The comparison of drivers in the literature and the value of the correlation of drivers from the MOLN study in NMs and NSs. The x-axis contains the drivers of the literature search with the paired MOLN driver in parenthesis. The left y-axis is the absolute value of the Pearson product-moment correlation (*r),* this value pertains to the grey bars. The right y-axis is the frequency of the driver (number of articles, *N* = 25), black bars, pertaining to stress of NMs and NSs in the literature search.
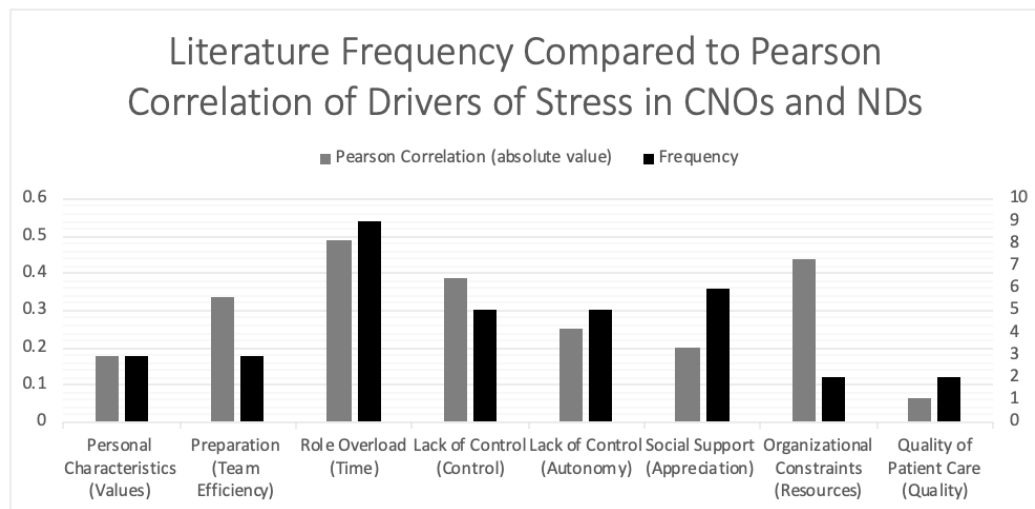
Figure 2. Comparison of the frequency and correlation of drivers in CNOs and NDs. The comparison of drivers in the literature and the value of the correlation of drivers from the MOLN study in CNOs and NDs. The x-axis contains the drivers of the literature search with the paired MOLN driver in parenthesis. The left y-axis is the absolute value of the Pearson product-moment correlation (*r*), this value pertains to the grey bars. The right y-axis is the frequency of the driver (number of articles, *N* = 13), black bars, pertaining to stress of CNOs and NDs in the literature search.
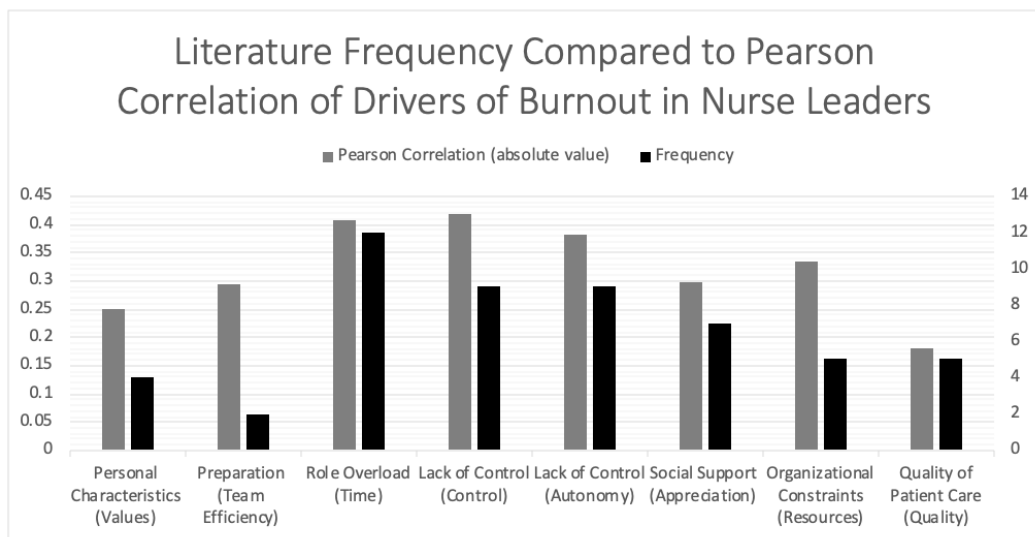
Figure 3. Comparison of the frequency and correlation of drivers in all nurse leaders. The comparison of drivers in the literature and the value of the correlation of drivers from the MOLN study of all nurse leaders. The x-axis contains the drivers of the literature search with the paired MOLN driver in parenthesis. The left y-axis is the absolute value of the Pearson product-moment correlation (*r*), this value pertains to the grey bars. The right y-axis is the frequency of the driver (number of articles, *N* = 12), black bars, pertaining to burnout of all types of nurse leaders.

Discussion

Role overload was found to be a key contributor to stress and burnout from the literature and results from the secondary analysis supported this finding. A lack of time had the strongest correlation with stress and burnout in all nurse leader groups. The perceived demands of a high pressure and high responsibility work environment were key concerns amongst nurse leaders (Batcheller, 2010, Brown et al., 2013; Dyess et al., 2018; Frandsen, 2010; Hewko et al., 2015; Kelly et al., 2019; Prestia et al., 2017; Skagert et al., 2011; Spence Laschinger & Finegan, 2008; Van Bogaert et al., 2014; Warshawsky & Havens, 2014; Wong & Spence Laschinger, 2015). Administrative duties was another important driver to stress found in the literature in NMs/ NSs and CNOs/NDs. Administrative duties is impacted by a lack of time. The demands placed on nurse leaders through technology, emails, meetings, budgeting, and keeping up with healthcare changes were evident from study findings. Advancements in technology and communication added stress to nurse leaders by increasing the difficulty of disconnection from work and responsibilities.

Control was a driver of stress and burnout in all nurse leader groups according to the secondary analysis. Lack of control was frequently seen contributing to stress in NMs and NSs and in self-reported burnout in all nurse leaders, according to the literature. Dyess et al. (2018) describes this well, "If an action plan for tackling an issue was established, outside variables, beyond the leaders' control, often wreaked havoc causing increased frustration" (p. 86). Another aspect of control is the authority to make decisions. Nurse leaders report insufficient decision latitude to meet their job demands (Wong & Spence Laschinger, 2015). Nurse leaders are often placed in difficult positions having to answer to several layers of organizational leadership from frontline staff to superior administrators, creating the sense of being caught in the middle. One

nurse leader used the term "sandwiched" to convey the feeling of being the intermediary between staff and organizational leaders (Udod & Care, 2012, p. 74). Interestingly, lack of autonomy was a driver that showed to be significantly correlated to burnout in this study and coincides with lack of control.

Organizational constraints were not frequently seen in the literature but were a driver of stress and burnout in this study. Lack of resources and unfair resource allocation had a moderately significant correlation to burnout and stress in all nurse leader groups in the MOLN study. This discrepancy may underscore the varying nature of stress and burnout drivers among different settings and needs further exploration. Resource allocation is an important aspect of a nurse leader's job and directly relates to the other important drivers of role overload and lack of control. An environment with lacking resources or unfair distribution of resources can contribute to increased work demands and decreased sense of control.

Social support and lack of recognition was a frequent driver contributing to stress in both nurse leader groups in the literature but was not a key driver of stress in our study. However, appreciation did show a weak negative correlation with burnout, highlighting the importance of an atmosphere which recognizes nurse leaders for their impact on health care systems.

Demographics of our study sample must be considered when interpreting findings. Like past research on nurse leader stress and burnout, the sample of our study was homogenous as primarily female, similar in age, and related geographical area.

Conceptual Model

The Job Demands-Resources (JD-R) Model of Burnout guided the literature review to determine the drivers of stress leading to burnout in different nurse leader groups. The JD-R model was not originally applied to the nursing profession, as displayed in Figure 4. Demerouti, Nachreiner, Bakker, and Schaufeli (2001) constructed the JD-R model in response to a lack of literature relating to burnout in non-human services occupations. The JD-R model can be applied to a wide variety of professions; therefore, it aligned with the multidimensional aspects of nurse leadership.
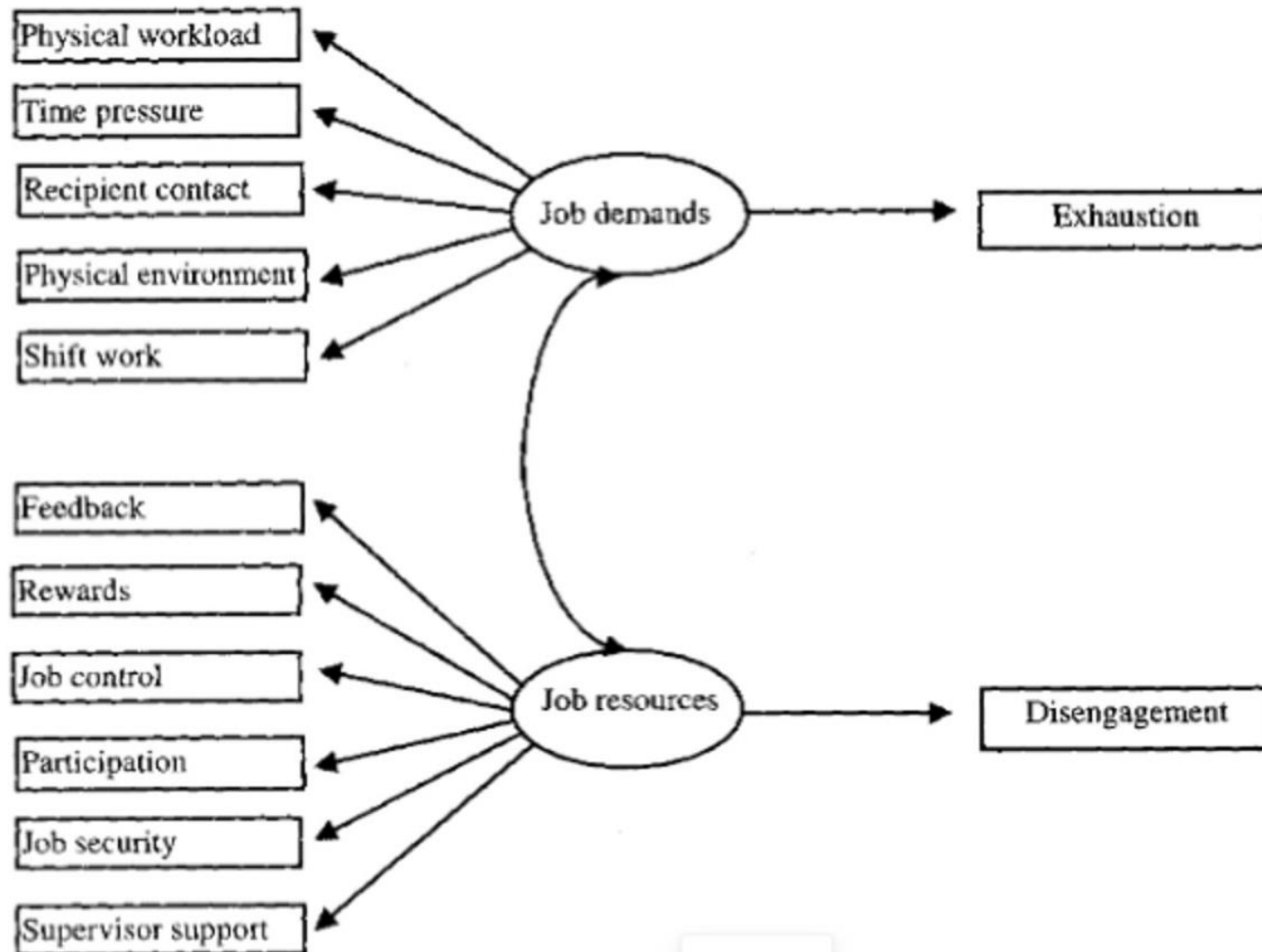
Figure 4. Job Demands-Resources Model of Burnout. From "The Job Demands-Resources Model of Burnout," by E. Demerouti, F. Nachreiner, A. B. Bakker, and W. B. Schaufeli, W, 2001, *Journal of Applied Psychology, 86*(3), p. 502. Copyright 2001 by the American Psychological Association, Inc.

JNS Model of Stress Leading to Burnout in Nurse Leaders

We designed the Johnson, Nichols, and Sakhitab (JNS) Model of Stress Leading to Burnout in Nurse Leaders. Formulation of the JNS model was based on drivers from the literature review, and utilization of the JD-R Model of Burnout as a guide. The focus of the JNS model, as displayed in Figure 5, was to identify the drivers of stress leading to burnout in nurse leaders.

As shown in Figure 5, the JNS model had two outcomes, stress and burnout. Stress and burnout had a positive correlation; the more stress a leader experienced the more likely a nurse leader was to experience burnout. Stress was a component of burnout (Demerouti et al., 2001). The job demands and the job resources impacted stress. The more demands placed on a job the more stress was experienced, therefore the relationship between job demands and stress was positive. Contrary, the more job resources available the less stress a nurse leader experienced; therefore, job resources and stress had a negative relationship. According to the JNS model, the stress a nurse leader experienced had a positive relationship with burnout.

JNS Model of Stress Leading to Burnout in Nurse Leaders

Administrative Duties
-Technology
-Budget
-Co-manager

Role Workload
-Work/life balance
-24/7 responsibility
-High pressure/high
responsibilities

Quality of Patient Care

Personal Characteristics
-Age
-Experienced Nurse Leader
-Personality Traits

**Organizational
Constraints**
-Resources

Degree of Control
-Autonomy
-Caught in the middle

Preparation
-Orientation
-Education
-Mentoring/growth
-Role Ambiguity

Social Support
-Appreciation
-Recognition
-Loneliness

(+/-)

Job
Demands

(+)

Job
Resources

(-)

Stress

(+)

Burnout

Legend

Driver:

Outcome:

Driver Category:

Direction of Relationship:

Negative Relationship: (-)

Positive Relationship: (+)
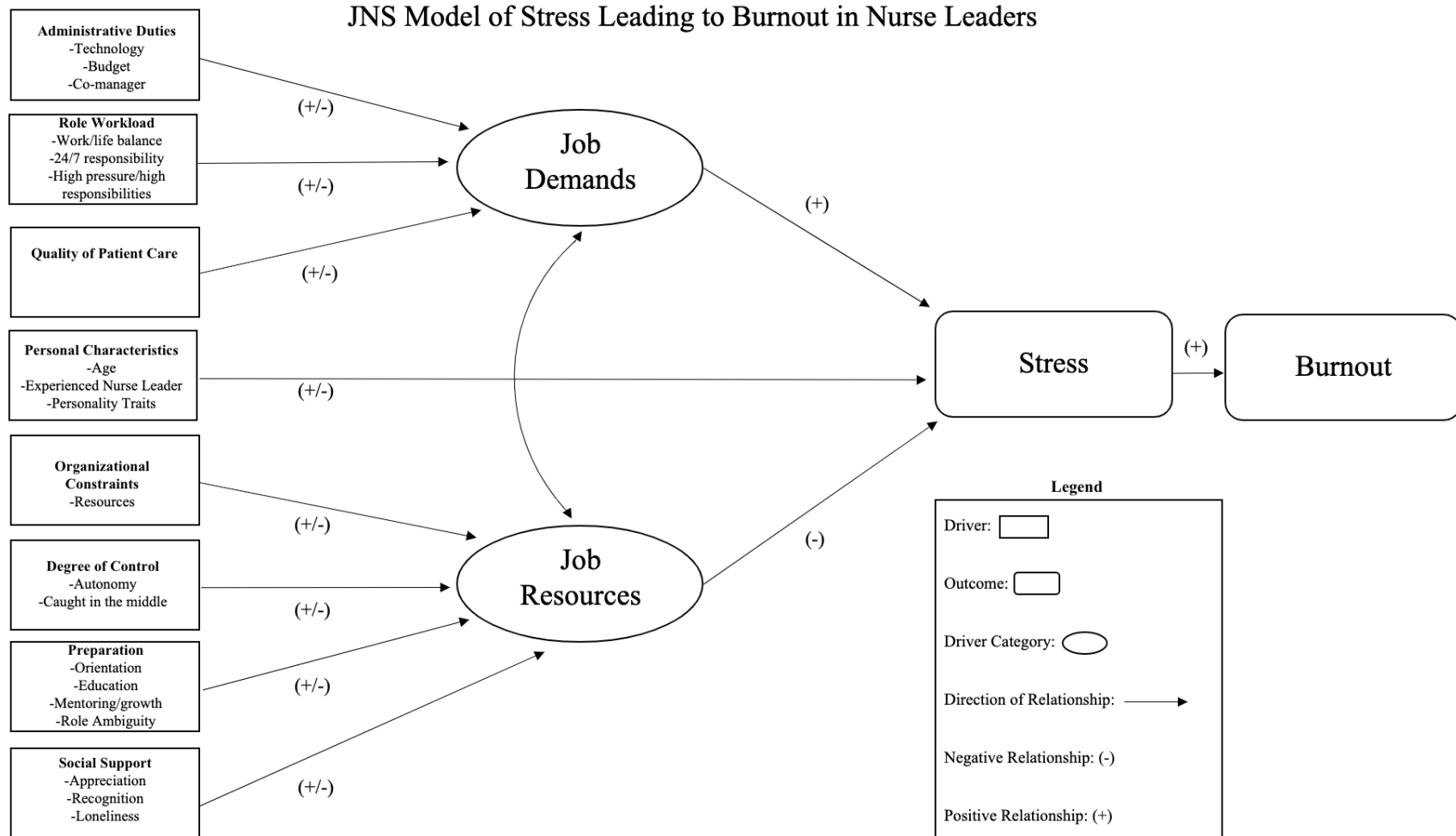
Figure 5. Johnson, Nichols, and Sakhitab (JNS) Model of Stress Leading to Burnout in Nurse Leaders. Copyright 2020. Adapted from "The Job Demands-Resources Model of Burnout," by E. Demerouti, F. Nachreiner, A. B. Bakker, and W. B. Schaufeli, W, 2001, *Journal of Applied Psychology, 86*(3), p. 502. Copyright 2001 by the American Psychological Association, Inc

Limitations

Literature Review

The articles used in this research study were low-level evidence. Many research designs utilized convenience, purposive, or voluntary sampling: limiting the overall strength of the research design and generalizability of study findings.

A gap universally recognized by many study authors was the lack of longitudinal designed studies. Of the descriptive designed studies, most were cross-sectional surveys. Longitudinal correlational designed studies that focus on the relationships among variables would pose stronger evidence for strength of association between variables.

Another limitation in the descriptive survey studies was the low yield of response rates. Response rates were as low as 9.8% (Kath et al., 2012b). Multiple studies did not reach power analysis recommendations or report these metrics (Labrague et al., 2017). Additionally, the lack of standardization process for measuring stress or burnout was problematic (Labrague et al., 2017).

Most study researchers recognized a limitation in generalizability of their study findings due to subjects being from specific geographical areas or of homogenous backgrounds. Moreover, nurse leader role definitions varied depending on the economic climate and location of cultural context. Uniformity of subjects extended to the reported sex of subjects. Several studies included only or mostly female subjects. It is unknown if the limited number of male subjects was a data restriction or an accurate representation of nurse leaders' genders. All these factors limit the scope of literature findings.

Study

A limitation of the study was a low response rate in the MOLN study (39%), although a large sample size ($N = 212$) improved statistical power. Voluntary sampling as opposed to randomized sampling introduced bias, decreased external validity, and generalizability to the nurse leader population. Another limitation pertaining to this study was the exclusion of qualitative findings, as this was a quantitative statistical analysis. Insight and themes from qualitative questions of the MOLN study may have affected findings of the secondary analysis. We noted discrepancies between drivers identified in the literature review and drivers used in the MOLN study. Drivers were aligned based on the information available. Lastly, data analysis should be viewed with caution given the ever-changing nature of the health care system and environment. Data from this study applies to perceptions of drivers, stress, and burnout amongst nurse leaders at the time of MOLN study completion. Stress and burnout in nurse leaders are multifaceted and other unforeseen factors, which are a product of trends and culture may have impacted our findings.

Implications for Practice

According to the literature review, role overload was a driver of stress in NMs/NSs, CNOs/NDs, and self-reported burnout in all nurse leaders. Therefore, nurse leaders carry too much responsibility and are unable to achieve optimal work/life balance. One possible solution is to restructure leadership hierarchy to include a co-manager role. Several authors highlighted co-managerial duties as a buffer for stress (Keys, 2014; Shirey et al., 2010; Udod et al., 2017a; Warshawsky & Havens, 2014). Along with impacting administrative duties, co-managerial duties would also buffer the negative effects of role overload. Though we identified co-manager as a subcategory of the administrative duties driver, it was concluded that it would also buffer the

negative effects of role overload. The co-manager role reduced turnover and allowed the NM "to divert more energy to coaching, mentoring, and strengthening relationships with staff" (Udod et al., 2017a, p. 163). Theoretically, a co-manager leadership model would improve work/life balance and result in the ability to share responsibilities including meeting financial goals, addressing budget items, staffing, attending committee meetings, and dealing with multiple ongoing hospital initiatives.

Lack of control was seen frequently in the literature among all nurse leaders, as well as moderately correlated ($r = -.419$) in our study. Nurse leaders found themselves caught between competing demands: pleasing their employees and meeting the demands outlined by higher organizational leadership. The phenomenon of role conflict (Van Bogaert et al., 2014) must be addressed. Nurse leaders desire the freedom to make decisions without fear of retribution. They are well positioned to assess and balance the needs of their employees with organizational needs. Nurse leader retention is in part dependent on perceived feelings of empowerment and degree of autonomy (Hewko et al., 2015; Kath et al., 2012b).

Drivers of social support and appreciation appeared frequently in the literature and had a moderate correlation ($r = -.298$), in our study, for drivers of burnout in all nurse leaders. Consequently, health care administrators must re-focus energies on provision of appreciation and recognition to nurse leaders for achievement of organizational goals. Modes of professional social support might include meaningful recognition, regular check-ins, coaching, and counseling. Ideally, this mentality would trickle down to all personnel, as receipt of recognition from colleagues and employees is meaningful. Additionally, to combat feelings of loneliness and isolation, identified as sources of stress for NMs and NSs in the literature, professional social support must be extended to nurse leaders.

Implications for Research

The gap in longitudinal designed studies creates an opportunity for future research. Replication of the MOLN study longitudinally and nationally is recommended to support findings from this secondary analysis. A larger scale study creates an optimal environment to generalize findings, as participants are non-homogenous. The extension of the study beyond MOLN should include randomized controlled participants. Sampling criteria must be specific, to outline both inclusion and exclusionary measures.

A standardized tool for measurement of self-reported burnout in nurse leaders is needed for expansion of this topic area. We found measurement tools of stress and self-reported burnout were not uniform between research studies, making it difficult to compare results. Use of a common measurement tool for nurse leader burnout, a tool which is reliable and valid, would allow for direct comparisons of data, and in effect, stronger analysis of findings.

Lastly, drivers of stress leading to burnout must be universally defined. Ideally, researchers should reference the same drivers of stress and self-reported burnout so variables are universal. Consistency of drivers allows for analysis on a larger scale and provides opportunity for quality systematic reviews.

Summary

In summary, stress and self-reported burnout are common among nurse leaders. The identification of drivers of stress leading to burnout is a critical first step in raising awareness of stress and burnout in nurse leaders. There are great opportunities to both improve practice and continue research in this topic area.

This article was composed with the intention for future submission to a nurse leader type journal. The intended audience for this article is all nurse leaders.

References for Manuscript

Ackley, B. J., Swan, B. A., Ladwig, G., & Tucker, S. (2008). *Evidence-based nursing care guidelines: Medical-surgical interventions*. (p. 7). St. Louis, MO: Mosby Elsevier

Akkela, C. & Leca, I. (2015). A Heideggerian Hermeneutic phenomenological research study into Romanian nurse managers' occupational stress in UAE. *International Business Management, 9*(5), 694-705. doi:10.3923/ibm.2015.694.705

Batcheller, J. (2010). Chief nursing officer turnover: An analysis of the literature. *Nursing Clinics of North America, 45*(1), 11-31. doi:10.1016/j.cnur.2009.10.004

Brown, P., Fraser, K., Wong, C. A., Muise, M., & Cummings, G. (2013). Factors influencing intentions to stay and retention of nurse managers: A systematic review. *Journal of Nursing Management, 21,* 459-472. doi:10.1111/j.1365-2834.2012.01352.x

Cipher, D. J. (2017). Using statistics to examine relationships. In J. R. Gray, S. K. Grove & S. Sutherland (Eds.), *Burns and Grove's the practice of nursing research: Appraisal, synthesis, and generation of evidence* (8th ed., pp. 545-555). St. Louis, MO: Elsevier, Inc.

Crawford, J. & Daniels, M. K. (2014). Follow the leader: How does "followership" influence nurse burnout?. *Nursing Management*, 45(8), 30-37. doi:10.1097/01.NUMA.00 00451999.41720.30

Demerouti, E., Nachreiner, F., Bakker, A. B., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499-512. doi:10.1037//0021-9010.86.3.499

Dyess, S. M. L., Prestia, A. S., Marquit D. E., & Newman, D. (2018). Self-care of nurse leaders in acute care environment reduces perceived stress: A mixed-methods pilot study merits further investigation. *Journal of Holistic Nursing, 36*(1), 79-90. doi:10.1177/08980101 16685655

Dyess, S. M. L., Prestia, A. S., & Smith, M. C. (2015). Support for caring and resiliency among successful nurse leaders. *Nurse Administration, 39*(2), 104-116. doi:10.1097/NAQ.0000000000000101

Frandsen, B. M. (2010). Burnout or compassion fatigue? *Long-term living,* 50-52. Retrieved from http://web.a.ebscohost.com.wsuproxy.mnpals .net/ehost/pdfviewer/pdfviewer?vid=2&sid=4630c983-bb1b-4f16-9e6c-1cd8c51ab2c5%40sdc-v-sessmgr03

Ganz, F. D., Wagner, N., & Toren, O. (2015). Nurse middle manager ethical dilemmas and moral distress. *Nursing Ethics, 22*(1), 43-51. doi:10.1177/09697330135abs15490

Gardner, C., Hailey, A., Nguyen, C., Prichard, C., & Newcomb, P. (2017). Wired to the workplace: The relationship between electronic connectedness to work and nurse manager satisfaction. *Journal of Nursing Administration, 47*(1), 16-23. doi:10.1097/NNA.0000000000000431

Havens, D. S., Thompson, P. A., & Jones, C. B. (2008). Chief nursing officer turnover: Chief nursing officers and healthcare recruiters tell their stories. *Journal of Nursing Administration, 38*(12), 516-525. doi:10.1097/NNA.0b013e31818ebf32

Hewko, S. J., Brown, P., Fraser, K. D., Wong, C. A., & Cummings, G. G. (2015). Factors influencing nurse managers' intent to stay or leave a quantitative analysis. *Journal of Nursing Management, 23,*1058-1066. doi:10.111/jonm.12252

Jones, B. (2013). When the pressure is piling up. *Nursing Standard, 28*(4). 64-65.

    doi:10.7748/ns2013.09.28.4.64.s49

Jones, C.B., Havens, D. S., & Thompson, P. A. (2009). Chief nursing officer turnover and the

    crisis brewing: Views from the front line. *Journal of Nursing Administration, 39*(6), 285-

    292. doi:10.1097/NNA/0b013e3181a72adf

Kath, L. M., Stichler, J. F., & Ehrhart, M. G. (2012a). Moderators of the negative outcomes of

    nurse manager stress. *The Journal of Nursing Administration, 42*(4), 215-221.

    doi:10.1097/NNA.0b013e31824ccd25

Kath, L. M., Stichler, J. F. Ehrhart, M. G., & Schultze, T. A. (2012b). Predictors and outcomes of

    nurse leader job stress experienced by AWHONN members. *Journal of Obstetric,*

    Gynecologic, and Neonatal Nursing JOGNN, 42(1), E12-E25. doi:10:1111/j.1552 -

    6909.2012.01430.x

Kath, L. M., Stichler, J. F., Ehrhart, M. G., & Sievers, A. (2013). Predictors of nurse manager

    stress: A dominance analysis or potential work environment stressors. *International*

    Journal of Nursing Studies, 50(11), 1474-1480. doi:10.1016/j.ijnurstu.2013.02.011

Kelly, D., Lankshear, A., & Jones, A. (2016). Stress and resilience in a post-Francis world – a

    qualitative study of executive nurse directors. *Journal of Advanced Nursing, 72*(12),

    3160-3168. doi:10.1111/jan.13086

Kelly, L. A., Lefton, C., & Fischer, S. A. (2019). Nurse leader burnout, satisfaction, and work-

    life balance. *The Journal of Nursing Administration,49*(9), 404-410. doi:10.1097/NNA

    .0000000000000784

Keys, Y. (2014). Looking ahead to our next generation of nurse leaders: Generation X nurse

    managers. *Journal of Nursing Management, 22*, 97-105. doi:10.111/jonm.12198

Labrague, L. J., McEnroe-Petitte, D. M., Leocadio, M. C., Van Bogaert, P., & Cummings, G. G.

(2017). Stress and ways of coping among nurse managers: An integrative review. *Journal*

of Clinical Nursing, 27(7-8), 1346-1359. doi:10.1111/jocn.14165

Loveridge, S. (2017). Straight talk: Nurse manager role stress. *Nursing Management, 48*(4), 20-

27. doi:10.1097/01.NUMA.0000514058.63745.ad

McVicar, A. (2016). Scoping the common antecedents of job stress and job satisfaction for

nurses (2000-2013) using the job demands-resources model of stress. *Journal of Nursing*

Management, 24, E112-E136. doi:10.1111/jonm.12326

Minnesota Organization of Leaders in Nursing [MOLN] Research Committee. (2020).

Challenges and choices: Insights derived from a survey of nurse leader burnout.

Unpublished manuscript.

Miyata, A., Arai, H., & Suga, S. (2015). Nurse managers stress and coping. *Open Journal of*

Nursing, 5, 957-964. doi:10.4236/ojn.2015.511101

Nurse Burnout (2019). Nurse.org. Retrieved from https://www.nursing.org/resources/ nurse-

burnout/

Prestia, A. S., Sherman, R. O., & Demezier, C. (2017). Chief nursing officers' experiences with

moral distress. *Journal of Nursing Administration, 47(*2), 101-107.

doi:10.1097/NNA.0000000000000447

Shirey, M. R., McDaniel, A. M., Ebright, P. R., Fisher, M. L., & Doebbeling, B. N. (2010).

Understanding nurse manager stress and work complexity: Factors that make a

difference. *Journal of Nursing Administration, 40*(2), 82-91.

doi:10.1097/NNA.0b013e3181cb9f88

Skagert, K., Dellve L., & Ahlborg Jr., G. (2011). A prospective study of managers' turnover and
    health in a healthcare organization. *Journal of Nursing Management, 20,* 889-899.
    doi:10.1111/j.1365-2834.2011.01347.x

Spence Laschinger, H. K., & Finegan, J. (2008). Situational and dispositional predictors of nurse
    manager burnout: A time-lagged analysis. *Journal of Nursing Management, 16,* 601-607.
    doi:10.1111/j.1365-2834.2008.00904.x

Steege, L. M., Pinkenstein, B. J., Knudsen, E. A., & Rainbow, J. G. (2017). Exploring nurse
    leader fatigue: A mixed methods study. *Journal of Nursing Management, 25,* 276-286.
    doi:10.1111/jonm.12464

Udod, S. A., & Care, W. D. (2012). 'Walking a tight rope': An investigation of nurse managers'
    work stressors and coping experiences. *Journal of Research in Nursing, 18*(1), 67-79.
    doi:10.1177/1744987111434189

Udod, S. A., Cummings, G. C., Care, D. W., & Jenkins, S. (2017a). Impact of role stressors on
    the health of nurse managers. *The Journal of Nursing Administration, 47*(3), 159-164.
    doi:10.1097/NNA.0000000000000459

Udod S., Cummings, G., Care, D., & Jenkins, M. (2017b). Role stressors and coping strategies
    among nurse managers. *Leadership in Health Services, 30*(1), 29-43. doi:10.1108/LHS-
    04-2016-0015

Van Bogaert, P., Adriaenssens, J., Dilles, T., Martens, D., Van Rompaey, B. V., & Timmermans,
    O. (2014). Impact of role-, job- and organizational characteristics on nursing unit
    managers' work related stress and well-being. *The Journal of Advanced Nursing, 70*(11),
    2622-2633. doi:10.1111/jan.12449

Warshawsky, N. E., & Havens, D. S. (2014). Nurse manager job satisfaction and intent to leave. *Nursing Economic$, 32*(1), 32-39. Retrieved from http://search.ebscohost.com. wsuproxy.mnpals.net/login.aspx?direct= true&db=ccm&AN=107890319&site=ehost-live

Wong, C. A., & Spence Laschinger, H. K. (2015). The influence of frontline manager job strain on burnout, commitment and turnover intention: A cross-sectional study. *International Journal of Nursing Studies, 52,* 1824-1833. doi:10.1016/j.ijnurstu.2015.09.006

REFERENCES FOR THESIS

Ackley, B. J., Swan, B. A., Ladwig, G., & Tucker, S. (2008). *Evidence-based nursing care guidelines: Medical-surgical interventions*. (p. 7). St. Louis, MO: Mosby Elsevier

Akkela, C. & Leca, I. (2015). A Heideggerian Hermeneutic phenomenological research study into Romanian nurse managers' occupational stress in UAE. *International Business Management, 9*(5), 694-705. doi:10.3923/ibm.2015.694.705

Batcheller, J. (2010). Chief nursing officer turnover: An analysis of the literature. *Nursing Clinics of North America, 45*(1), 11-31. doi:10.1016/j.cnur.2009.10.004

Britt, H. R., Koranne, R., & Rockwood, T. (2017). Statewide improvement approach to clinician burnout: Findings from the baseline year. *Burnout Research, 7*, 29-35. doi:10.1016/j.burn.2017.11.002

Brown, P., Fraser, K., Wong, C. A., Muise, M., & Cummings, G. (2013). Factors influencing intentions to stay and retention of nurse managers: A systematic review. *Journal of Nursing Management, 21,* 459-472. doi:10.1111/j.1365-2834.2012.01352.x

Cipher, D. J. (2017). Using statistics to examine relationships. In J. R. Gray, S. K. Grove & S. Sutherland (Eds.), *Burns and Grove's the practice of nursing research: Appraisal, synthesis, and generation of evidence* (8th ed., pp. 545-555). St. Louis, MO: Elsevier, Inc.

Crawford, J. & Daniels, M. K. (2014). Follow the leader: How does "followership" influence nurse burnout?. *Nursing Management, 45*(8), 30-37. doi:10.1097/01.NUMA.00 00451999.41720.30

Demerouti, E., Nachreiner, F., Bakker, A. B., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*(3), 499-512. doi:10.1037//0021-9010.86.3.499

Dyess, S. M. L., Prestia, A. S., Marquit D. E., & Newman, D. (2018). Self-care of nurse leaders in acute care environment reduces perceived stress: A mixed-methods pilot study merits further investigation. *Journal of Holistic Nursing, 36*(1), 79-90. doi:10.1177/08980101 16685655

Dyess, S. M. L., Prestia, A. S., & Smith, M. C. (2015). Support for caring and resiliency among successful nurse leaders. *Nurse Administration, 39*(2), 104-116. doi:10.1097/NAQ.0000000000000101

Frandsen, B. M. (2010). Burnout or compassion fatigue? *Long-term living,* 50-52. Retrieved from http://web.a.ebscohost.com.wsuproxy.mnpals .net/ehost/pdfviewer/pdfviewer?vid=2&sid=4630c983-bb1b-4f16-9e6c-1cd8c51ab2c5%40sdc-v-sessmgr03

Ganz, F. D., Wagner, N., & Toren, O. (2015). Nurse middle manager ethical dilemmas and moral distress. *Nursing Ethics, 22*(1), 43-51. doi:10.1177/0969733013515490

Gardner, C., Hailey, A., Nguyen, C., Prichard, C., & Newcomb, P. (2017). Wired to the workplace: The relationship between electronic connectedness to work and nurse manager satisfaction. *Journal of Nursing Administration, 47*(1), 16-23. doi:10.1097/NNA.0000000000000431

Havens, D. S., Thompson, P. A., & Jones, C. B. (2008). Chief nursing officer turnover: Chief nursing officers and healthcare recruiters tell their stories. *Journal of Nursing Administration, 38*(12), 516-525. doi:10.1097/NNA.0b013e31818ebf32

Hewko, S. J., Brown, P., Fraser, K. D., Wong, C. A., & Cummings, G. G. (2015). Factors
influencing nurse managers' intent to stay or leave a quantitative analysis. *Journal of
Nursing Management, 23,*1058-1066. doi:10.111/jonm.12252

Heath, S. (2018, September 6). How does provider burnout impact patient care quality, care
access?. *Xtelligent Healthcare Media: Patient Care Access News*. Retrieved from
https://patientengagementhit.com/news/how-does-provider-burnout-impact-patient-care-
quality-care-access

Jones, B. (2013). When the pressure is piling up. *Nursing Standard, 28*(4). 64-65.
doi:10.7748/ns2013.09.28.4.64.s49

Jones, C.B., Havens, D. S., & Thompson, P. A. (2009). Chief nursing officer turnover and the
crisis brewing: Views from the front line. *Journal of Nursing Administration, 39*(6), 285-
292. doi:10.1097/NNA/0b013e3181a72adf

Kath, L. M., Stichler, J. F., & Ehrhart, M. G. (2012a). Moderators of the negative outcomes of
nurse manager stress. *The Journal of Nursing Administration, 42*(4), 215-221.
doi:10.1097/NNA.0b013e31824ccd25

Kath, L. M., Stichler, J. F. Ehrhart, M. G., & Schultze, T. A. (2012b). Predictors and outcomes of
nurse leader job stress experienced by AWHONN members. *Journal of Obstetric,
Gynecologic, and Neonatal Nursing JOGNN, 42*(1), E12-E25. doi:10:1111/j.1552 -
6909.2012.01430.x

Kath, L. M., Stichler, J. F., Ehrhart, M. G., & Sievers, A. (2013). Predictors of nurse manager
stress: A dominance analysis or potential work environment stressors. *International
Journal of Nursing Studies, 50*(11), 1474-1480. doi:10.1016/j.ijnurstu.2013.02.011

Kelly, D., Lankshear, A., & Jones, A. (2016). Stress and resilience in a post-Francis world – a
    qualitative study of executive nurse directors. *Journal of Advanced Nursing, 72*(12),
    3160-3168. doi:10.1111/jan.13086

Kelly, L. A., Lefton, C., & Fischer, S. A. (2019). Nurse leader burnout, satisfaction, and work-
    life balance. *The Journal of Nursing Administration,49*(9), 404-410. doi:10.1097/NNA
    .0000000000000784

Keys, Y. (2014). Looking ahead to our next generation of nurse leaders: Generation X nurse
    managers. *Journal of Nursing Management, 22*, 97-105. doi:10.111/jonm.12198

Labrague, L. J., McEnroe-Petitte, D. M., Leocadio, M. C., Van Bogaert, P., & Cummings, G. G.
    (2017). Stress and ways of coping among nurse managers: An integrative review. *Journal
    of Clinical Nursing, 27*(7-8), 1346-1359. doi:10.1111/jocn.14165

Loveridge, S. (2017). Straight talk: Nurse manager role stress. *Nursing Management, 48*(4), 20-
    27. doi:10.1097/01.NUMA.0000514058.63745.ad

McVicar, A. (2016). Scoping the common antecedents of job stress and job satisfaction for
    nurses (2000-2013) using the job demands-resources model of stress. *Journal of Nursing
    Management, 24*, E112-E136. doi:10.1111/jonm.12326

Minnesota Organization of Leaders in Nursing [MOLN] Research Committee. (2020).
    Challenges and choices: Insights derived from a survey of nurse leader burnout.
    Unpublished manuscript.

Miyata, A., Arai, H., & Suga, S. (2015). Nurse managers stress and coping. *Open Journal of
    Nursing, 5*, 957-964. doi:10.4236/ojn.2015.511101

Mudallal, R. H., Othman, W. M., & Al Hassan, N. F. (2017). Nurses' burnout: The influence of
leader empowering behaviors, work conditions, and demographic traits. *Inquiry: A
Journal of Medical Care Organization, Provision and Financing*, *54*, 1-10. doi
10.1177/0046958017724944

Nurse Administrator (Leader). (2019). GraduateNursingEDU.org. Retrieved from
https://www.graduatenursingedu.org/nurse-administrator/

Nurse Burnout (2019). Nurse.org. Retrieved from https://www.nursing.org/resources/ nurse-
burnout/

Prestia, A. S., Sherman, R. O., & Demezier, C. (2017). Chief nursing officers' experiences with
moral distress. *Journal of Nursing Administration, 47(*2), 101-107.
doi:10.1097/NNA.0000000000000447

Shirey, M. R., McDaniel, A. M., Ebright, P. R., Fisher, M. L., & Doebbeling, B. N. (2010).
Understanding nurse manager stress and work complexity: Factors that make a
difference. *Journal of Nursing Administration, 40*(2), 82-91.
doi:10.1097/NNA.0b013e3181cb9f88

Skagert, K., Dellve L., & Ahlborg Jr., G. (2011). A prospective study of managers' turnover and
health in a healthcare organization. *Journal of Nursing Management, 20,* 889-899.
doi:10.1111/j.1365-2834.2011.01347.x

Spence Laschinger, H. K., & Finegan, J. (2008). Situational and dispositional predictors of nurse
manager burnout: A time-lagged analysis. *Journal of Nursing Management, 16,* 601-607.
doi:10.1111/j.1365-2834.2008.00904.x

Steege, L. M., Pinkenstein, B. J., Knudsen, E. A., & Rainbow, J. G. (2017). Exploring nurse leader fatigue: A mixed methods study. *Journal of Nursing Management, 25,* 276-286. doi:10.1111/jonm.12464

Udod, S. A., & Care, W. D. (2012). 'Walking a tight rope': An investigation of nurse managers' work stressors and coping experiences. *Journal of Research in Nursing, 18*(1), 67-79. doi:10.1177/1744987111434189

Udod, S. A., Cummings, G. C., Care, D. W., & Jenkins, S. (2017a). Impact of role stressors on the health of nurse managers. *The Journal of Nursing Administration, 47*(3), 159-164. doi:10.1097/NNA.0000000000000459

Udod S., Cummings, G., Care, D., & Jenkins, M. (2017b). Role stressors and coping strategies among nurse managers. *Leadership in Health Services, 30*(1), 29-43. doi:10.1108/LHS-04-2016-0015

Van Bogaert, P., Adriaenssens, J., Dilles, T., Martens, D., Van Rompaey, B. V., & Timmermans, O. (2014). Impact of role-, job- and organizational characteristics on nursing unit managers' work related stress and well-being. *The Journal of Advanced Nursing, 70*(11), 2622-2633. doi:10.1111/jan.12449

Warshawsky, N. E., & Havens, D. S. (2014). Nurse manager job satisfaction and intent to leave. *Nursing Economic$, 32*(1), 32-39. Retrieved from http://search.ebscohost.com. wsuproxy.mnpals.net/login.aspx?direct= true&db=ccm&AN=107890319&site=ehost-live

Wong, C. A., & Spence Laschinger, H. K. (2015). The influence of frontline manager job strain on burnout, commitment and turnover intention: A cross-sectional study. *International Journal of Nursing Studies, 52,* 1824-1833. doi:10.1016/j.ijnurstu.2015.09.006

Figure 1. Job Demands-Resources Model of Burnout. From "The Job Demands-Resources Model of Burnout," by E. Demerouti, F. Nachreiner, A. B. Bakker, and W. B. Schaufeli, W, 2001, *Journal of Applied Psychology, 86*(3), p. 502. Copyright 2001 by the American Psychological Association, Inc.
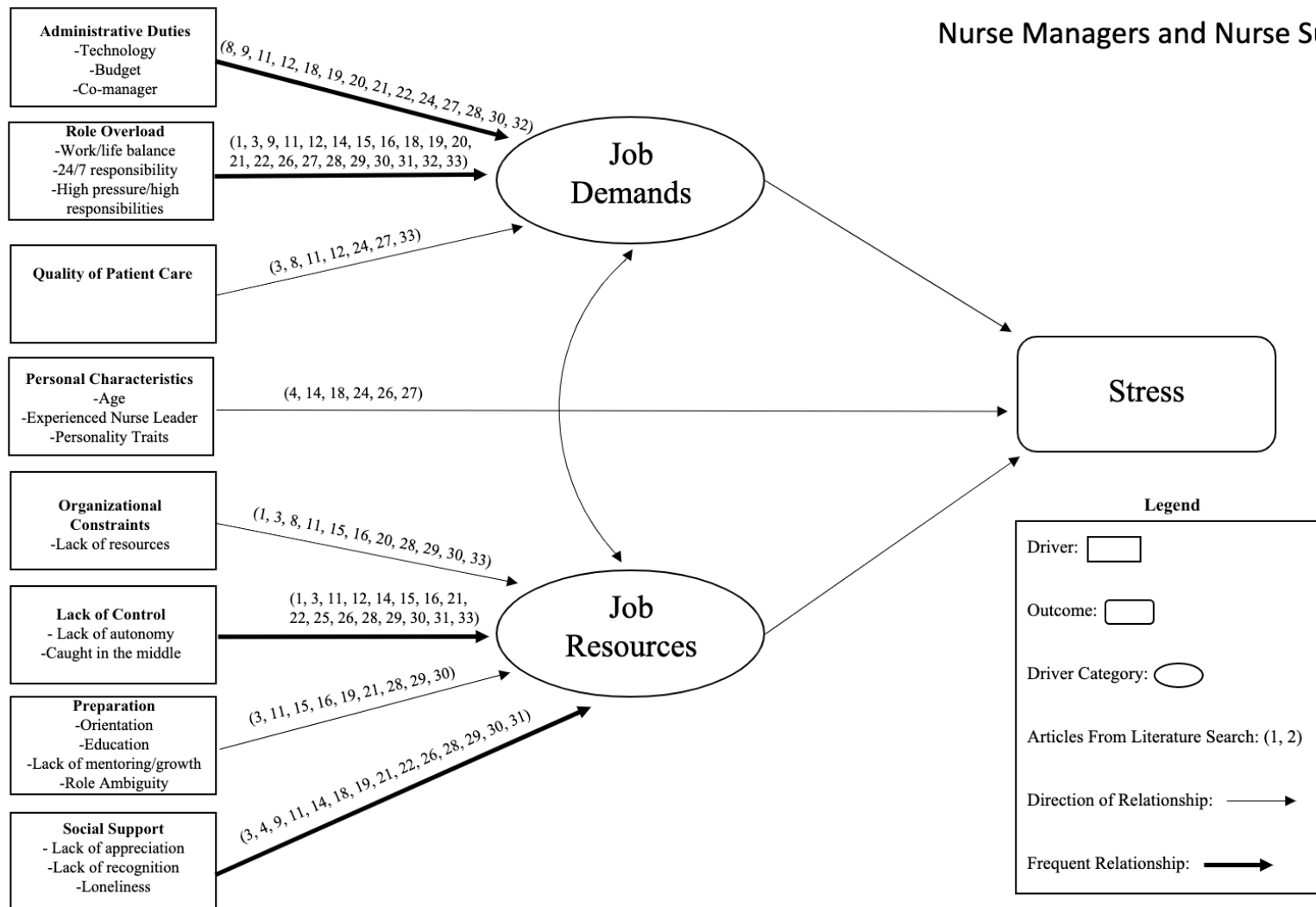
Figure 2. Drivers of stress in nurse managers and nurse supervisors. Adapted from "The Job Demands-Resources Model of Burnout," by E. Demerouti, F. Nachreiner, A. B. Bakker, and W. B. Schaufeli, W, 2001, *Journal of Applied Psychology, 86*(3), p. 502. Copyright 2001 by the American Psychological Association, Inc.

Key Figure 2

Number	Supportive Evidence
1	Akkela & Leca, 2015
2	Batcheller, 2010
3	Brown et al., 2013
4	Crawford & Daniels, 2014
5	Dyess et al., 2018
6	Dyess et al., 2015
7	Frandsen, 2010
8	Ganz et al., 2015
9	Gardner et al., 2017
10	Havens et al., 2008
11	Hewko et al., 2015
12	Jones, 2013
13	Jones et al., 2009
14	Kath et al., 2012a
15	Kath et al., 2012b
16	Kath et al., 2013
17	Kelly et al., 2016
18	Kelly et al., 2019
19	Keys, 2014
20	Labrague et al., 2017
21	Loveridge, 2017
22	Miyata et al., 2015
23	Prestia et al., 2017
24	Shirey et al., 2010
25	Skagert et al., 2011
26	Spence Laschinger & Finegan, 2008
27	Steege et al., 2017
28	Udod & Care, 2012
29	Udod et al., 2017a
30	Udod et al., 2017b
31	Van Bogaert et al., 2014
32	Warshawsky & Havens, 2014
33	Wong & Spence Laschinger, 2015

Administrative Duties
-Technology
-Budget
-Co-manager

(5, 7, 9, 10, 11, 17, 18, 23)

Chief Nursing Officers and Nurse Directors

Role Overload
-Work/life balance
-24/7 responsibility
-High pressure/high
responsibilities

(1, 2, 5, 7, 9, 11, 17, 18, 27)

Job
Demands

Quality of Patient Care

(10,17)

Personal Characteristics
-Experienced Nurse Leader
-Personality Traits

(6, 7, 18)

Stress

Organizational
Constraints
-Lack of resources

(2, 5)

Lack of Control
-Caught in the middle

(2, 5, 7, 18, 23)

Job
Resources

Preparation
-Orientation
-Education
-Lack of mentoring

(10, 11, 17)

Social Support
-Lack of recognition

(2, 7, 9, 10, 11, 13)

Legend

Driver:

Outcome:

Driver Category:

Articles From Literature Search: (1, 2)

Direction of Relationship:

Frequent Relationship:

Figure 3. Drivers of stress in chief nursing officers and nurse directors. Adapted from "The Job Demands-Resources Model of Burnout," by E. Demerouti, F. Nachreiner, A. B. Bakker, and W. B. Schaufeli, W, 2001, *Journal of Applied Psychology, 86*(3), p. 502. Copyright 2001 by the American Psychological Association, Inc.

Key Figure 3

Number	Supportive Evidence
1	Akkela & Leca, 2015
2	Batcheller, 2010
3	Brown et al., 2013
4	Crawford & Daniels, 2014
5	Dyess et al., 2018
6	Dyess et al., 2015
7	Frandsen, 2010
8	Ganz et al., 2015
9	Gardner et al., 2017
10	Havens et al., 2008
11	Hewko et al., 2015
12	Jones, 2013
13	Jones et al., 2009
14	Kath et al., 2012a
15	Kath et al., 2012b
16	Kath et al., 2013
17	Kelly et al., 2016
18	Kelly et al., 2019
19	Keys, 2014
20	Labrague et al., 2017
21	Loveridge, 2017
22	Miyata et al., 2015
23	Prestia et al., 2017
24	Shirey et al., 2010
25	Skagert et al., 2011
26	Spence Laschinger & Finegan, 2008
27	Steege et al., 2017
28	Udod & Care, 2012
29	Udod et al., 2017a
30	Udod et al., 2017b
31	Van Bogaert et al., 2014
32	Warshawsky & Havens, 2014
33	Wong & Spence Laschinger, 2015

Figure 4. Drivers of self-reported burnout in nurse leaders. Adapted from "The Job Demands-Resources Model of Burnout," by E. Demerouti, F. Nachreiner, A. B. Bakker, and W. B. Schaufeli, W, 2001, *Journal of Applied Psychology, 86*(3), p. 502. Copyright 2001 by the American Psychological Association, Inc.

Key Figure 4

Number	Supportive Evidence
1	Akkela & Leca, 2015
2	Batcheller, 2010
3	Brown et al., 2013
4	Crawford & Daniels, 2014
5	Dyess et al., 2018
6	Dyess et al., 2015
7	Frandsen, 2010
8	Ganz et al., 2015
9	Gardner et al., 2017
10	Havens et al., 2008
11	Hewko et al., 2015
12	Jones, 2013
13	Jones et al., 2009
14	Kath et al., 2012a
15	Kath et al., 2012b
16	Kath et al., 2013
17	Kelly et al., 2016
18	Kelly et al., 2019
19	Keys, 2014
20	Labrague et al., 2017
21	Loveridge, 2017
22	Miyata et al., 2015
23	Prestia et al., 2017
24	Shirey et al., 2010
25	Skagert et al., 2011
26	Spence Laschinger & Finegan, 2008
27	Steege et al., 2017
28	Udod & Care, 2012
29	Udod et al., 2017a
30	Udod et al., 2017b
31	Van Bogaert et al., 2014
32	Warshawsky & Havens, 2014
33	Wong & Spence Laschinger, 2015

JNS Model of Stress Leading to Burnout in Nurse Leaders

Administrative Duties
-Technology
-Budget
-Co-manager

(+/-)

Role Workload
-Work/life balance
-24/7 responsibility
-High pressure/high
responsibilities

(+/-)

Quality of Patient Care

(+/-)

Personal Characteristics
-Age
-Experienced Nurse Leader
-Personality Traits

(+/-)

**Organizational
Constraints**
-Resources

(+/-)

Degree of Control
-Autonomy
-Caught in the middle

(+/-)

Preparation
-Orientation
-Education
-Mentoring/growth
-Role Ambiguity

(+/-)

Social Support
-Appreciation
-Recognition
-Loneliness

(+/-)

Job
Demands

(+)

Job
Resources

(-)

Stress

(+)

Burnout

Legend

Driver:

Outcome:

Driver Category:

Direction of Relationship:

Negative Relationship: (-)

Positive Relationship: (+)

Figure 5. Johnson, Nichols, and Sakhitab (JNS) Model of Stress Leading to Burnout in Nurse Leaders. Copyright 2020. Adapted from "The Job Demands-Resources Model of Burnout," by E. Demerouti, F. Nachreiner, A. B. Bakker, and W. B. Schaufeli, W, 2001, *Journal of Applied Psychology, 86*(3), p. 502. Copyright 2001 by the American Psychological Association, Inc

Appendix A

Data Abstraction Process Table

Search Date	Row ID	Key Words	Restrictions (e.g. Peer reviewed journals	Dates Included in Search	Number of Hits CINAHL	Number of Hits Cochrane Library	Number of Hits OneSearch	Number of Hits ProQuest	Number of hits Pub Med	Other
9/28/19	1.	Nurse leader burnout	None	All					27 Hits 2 Used	
9/28/19	2.	Nurse Manager burnout	None	2008-2019					89 Hits 3 Used	
9/28/19	3.	Nurse manager, nurse leader, chief nurse, burnout, retention, resilience, stress	Provided by MOLN	Unknown						13 articles provided 3 articles used 5 repeat articles
9/29/19	4.	Nurse leader OR nurse manager OR nurse supervisor OR Chief nursing officer OR nurse director AND Stress or burnout		9/2009-9/2019		15 Hits 1 Reviewed 0 Used				
9/29/19	5.	Nurse leader OR nurse manager OR nurse supervisor OR Chief nursing officer OR nurse director AND stress OR burnout	Language: English	9/2010-9/2019			1 Hit 1 Reviewed 0 Used			
9/29/19	6.	Nurse Leader AND stress OR burnout	Language: English	Date: 9/2010-9/2019			784 Hits 0 Used			

Search Date	Row ID	Key Words	Restrictions (e.g. Peer reviewed journals	Dates Included in Search	Number of Hits CINAHL	Number of Hits Cochrane Library	Number of Hits OneSearch	Number of Hits ProQuest	Number of hits Pub Med	Other
			Peer Reviewed Journals							
9/29/19	7.	Nurse leader OR nurse manager OR nurse supervisor AND Stress OR burnout	Language: English Peer Reviewed Journals	9/2010-9/2019			121 Hits 1 Used in another search			
9/29/19	8.	"Nurse leaders" AND stress OR burnout	Language: English Peer Reviewed Journals	9/2010-9/2019			9 Hits 2 Reviewed 1 Used			
9/29/19	9.	Nurse leader OR nurse leadership o OR nurse manager AND Stress OR burnout	Language: English Peer Reviewed Academic Journals	2010-2019	105 hits 14 Reviewed 2 Used					
9/29/19	10.	Nurse leader OR nurse manager OR nurse supervisor OR Chief nursing officer OR nurse director AND Stress OR burnout	Language: English Peer Reviewed Journals Academic Journals	2010-2019	272 Hits 22 Reviewed 2 Used					
9/29/19	11.	"nurse leader" OR "nurse manager" OR	Date: 2012-2019 Language: English					114 Hits 4 Reviewed 2 Used		

Search Date	Row ID	Key Words	Restrictions (e.g. Peer reviewed journals	Dates Included in Search	Number of Hits CINAHL	Number of Hits Cochrane Library	Number of Hits OneSearch	Number of Hits ProQuest	Number of hits Pub Med	Other
		"nurse supervisor" OR "chief nursing officer" OR "nurse director" AND stress or burnout	Full Text Peer Reviewed Document Type: Article, Case Study, Evidence Based Health Care, Literature Review Publication Title: Nursing Management, Workplace Health and Safety, Leadership in Health Services, Systematic Reviews							
9/30/19	12.	Reviewed references of other articles	Reviewed articles for relevance							2 Used
10/2/19	13.	Nurse leader, burnout OR stress	English, Full Article	2005-2019	243 Hits 1 used					
10/2/19	14.	Nurse Manager burnout	None	None	0 used					
10/8/19	15.	Reviewed references of other articles	Reviewed articles for relevance	None						5 Used

Search Date	Row ID	Key Words	Restrictions (e.g. Peer reviewed journals	Dates Included in Search	Number of Hits CINAHL	Number of Hits Cochrane Library	Number of Hits OneSearch	Number of Hits ProQuest	Number of hits Pub Med	Other
10/12/19	16.	Reviewed references of other articles	Reviewed articles for relevance							4 Used
12/28/19	17.	Reviewed references of other articles	Reviewed articles for relevance							5 Used

Appendix B

Literature Table

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
1.	Akkela, C. & Leca, I. (2015). Reference list.	Purpose: "to explore occupational stress as perceived by Romanian Nurse Managers, working for at least 1 year and a half in private hospitals in Abu Dhabi, UAE" (p. 694).	-*N* = "10 Romanian nurse managers employed in private hospitals in Abu Dhabi, United Arab Emirates" (p. 696). Inclusion Criteria: minimum of -"1 ½ years continuous experience in the current position" (p. 696). -Exclusion Criteria: extended leave within past 1 year -All participants female. Age 30-50.	Hermeneutic Phenomenological Qualitative Study No Framework stated.	Face to face interviews (30-45 min). 16 prospective questions	Themes: -Organizational Factors - Lack of guidelines/policies -Different communication of policies from HR vs DON (i.e. vacation and payroll) - Security's inability to keep control of visitors Workload -"Do more with fewer resources" (p. 699). -Work/Life Balance -Complex Job Role -Operational failures (i.e. Shortage of supplies and poor response from materials department and biomedical engineering Department). Interpersonal Relationships -"Managing multicultural teams" (p. 700). -"Physician-nurse conflict of values" (p. 700).	Small sample size Specific context with limited generalizability Private Health Care Organization All female nurses Study design creates less ability to generalize (hermeneutic phenomenological) Recommendations: Quantitative Study with larger sample size Study focusing on communication as a significant stress factor in multicultural workplace Relationships between NMs and nurses and perceptions of each other as creator of stress Repeat study on work stress in same environment	Background *Themes: -Organizational Constraints -Role Overload -Lack of Control Outcome Themes: -Moderate Levels of Stress -Adverse Health Consequences -Burnout *Cultural component to acceptance of change (p. 700) vs. overworked employees vs. older staff?	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
2.	Batcheller, J. (2010) CINAHL	To identify factors which lead to Chief Nursing Officer (CNO) turnover.	25 different articles were included in this study. Date of articles were from 1987 to 2010. CNOs over the 25 different studies. Not all studies had a sample size $N = 2306$	Integrative Review of relevant literature. No RCT trials included in the articles. Descriptive and qualitative designs. No framework noted.	Integrative Review: Unknown how review was conducted. No instruments or variables noted	Reasons for leaving CNO position: -Taking another job -pursuing advancement or career development opportunities -Conflict with CEO -Job dissatisfaction -Family/personal reasons -Lack of power to make needed change -Financial instability of the organization -Ethical conflicts/differences -Differences and conflicts with the medical team (p. 11) -Conflict between CEO and CNO -Appointment of a new CEO -Blindsided (p. 22)	Factors lead to CNO retention: -Relationships with the senior leadership team -Authority to do the CNO job -Work-life balance -Location of the institution -Compensation package "The CNO is in a unique role to affect positively the health status and outcomes for patients. Decreasing CNO turnover through more focused CNO development and succession planning are critical areas that an organization needs to focus on" (p. 13).	This integrative review seems poorly completed with lots of missing information Burnout leads to turnover of CNOs "40% of CNOs have left their CNO position at least 1 time in their career" (p. 11). 62% of CNO anticipate making a job change in less than 5 years (p. 11). CNOs who were asked to leave involuntary from position wished that would have had counseling and coaching supports. *Themes: -Role overload -Organizational constraints -Lack of control -Social support	V

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
3.	Brown, P., Fraser, K., Wong, C. A., Muise, M., & Cummings, G. (2013). Reference list	"The purpose of this paper is to describe the findings of a systematic review of studies that examined factors related to the intentions to stay or retention of nurse managers in health-care organizations and to make recommendations for further study" (p. 460).	11 databases were searched between 1985-2009. 18 articles were selected for full review, 13 articles were retained. 8 studies quantitative correlational -5 were qualitative using interviews *N* = 3,462 nurse leaders over 13 articles	Integrative review of relevant literature. No RCT No framework noted.	Variables: organizational factors, role, and position factors. The adapted assessment tool was used to measure overall quality Critical Appraisal skills Programme (CASP) screening tool for qualitative studies. Reliability and Validity were discussed in some of the articles; however, not in all the articles.	Organizational (institutional) -"Most common organizational factor influencing retention was organizational culture and values." (p. 465) -Resources -Administration systems -Leadership behavior -Vertical/horizontal violence -Succession planning -Feedback/ support/feeling valued -Organizational commitment -Empowerment Role (position) -Role expectations -Support -Ability of a manager to listen and provide guidance -Empowerment -Work/life balance -Span of control -Leadership behavior -Feedback -Communication -Quality of patient care -Succession planning	"Satisfaction with the manager role leading to intention to stay or leave may also be related to individual factors such as suitability of the individual's qualifications and skills, the individual's personal values and their congruence with the role" (p. 469). Factors that influence retention have not been studied across a variety of settings. "Nurse managers' intentions to leave or stay are formed through a complex interaction of several factors at organizational, managerial role, and personal levels… there is no clear evidence of factors that influence managers' retention" (p. 469).	Burnout leads to turnover This article is a high quality integrative review of the literature regarding nurse leaders and retention The article states that many times nurse managers are recruited from staff nurses; however, they are unequipped for the job and unprepared which may decrease retention. "leadership qualities can be developed through specific and dedicated educational activities" (p. 470). *Themes: -Role overload -Quality of patient care -Org. constraints -Lack of control -Preparation -Social support	V

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
4.	Crawford, J. & Daniels, M. K. (2014). PubMed	The purpose of this study is to examine how followership styles influence burnout. This study focuses on nurses not in management positions.	Actively practicing RNs in the state of Michigan (p. 30). *N* = 114	Quantitative, cross-sectional observation study (p. 30). No framework stated.	Followership style (exemplary, alienated, conformist, pragmatic, and passive (independent) Nurse burnout (dependent). The study utilized Kelly Followership Questionnaire and the Maslach Burnout Inventory (p. 31).	-Statistically significant relationship between followership styles and burnout. Gender, age, and years experiences were related to burnout. (p. 35). -Transformational leadership is needed for nurse leaders to make change. There needs to be an effective leader-followership relationship to preform changes. This relationship may be harmed by followership burnout. (p. 30).	"the findings of this study may inspire healthcare leaders and staff members to collaborate in seeking positive changes in healthcare environments" (p. 36). "The results of this study may assist healthcare leaders to develop awareness and understanding concerning the importance of professional followership; influence educational practices that motivate support, and strengthen followers; and enhance nurses' perceptions of their followership styles in relation to burnout" (p. 36)	This study is not about burnout in leadership. This study brings to light that burnout in staff nurses may impact healthcare leaders. "The findings of this study may inspire healthcare leaders and staff members to collaborate in seeking positive changes in healthcare environments" (p. 36). *Themes: -Personal characteristics -Social support	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
5.	Dyess, S. M. L., Prestia, A. S., Marquit D. E., & Newman, D. (2018). Reference list	To determine how meditation impacts stress level of nurse leaders.	Two community-based hospitals *N* = 22	Pilot study: used mixed methods repeated measures interventional design Only the qualitative aspect was pertinent to our research question. Bureaucratic Caring framework	Variables: Stress, locus of control, mindfulness, and self-esteem Perceived Stress Scale, the Locus of Control Scale, Rosenberg Self Esteem Scale, and the Mindful Attention and Awareness Scale Cronbach's alpha .72-.91	Pretest *M*(*SD*): -Perceived stress 16.86(1.33) -Locus of control 8.21(3.5) -Self-esteem 14.86(4.09) Subthemes from baseline: -inability to control variables associated with leading -feeling overwhelmed by the 24/7 accountability associated with leading -Securing all aspects of resources for their unit -"Staffing" and productivity difficulties -financial resources -difficult physicians -communication challenges -"balancing act" between the unit and the administration. -Outside variables such as Medicare and Medicate requirements	Stress from leadership issues are explained in the results column. These were stress issues that were perceived by nurse director nurse leaders.	Only included findings from the qualitative study due to the longitudinal study did not answer our research question. Introduction of this paper has a good introduction on burnout. "for many nurse leaders, these seemingly never-ending duties can lead to unmanageable stress, fatigue, and possible burnout (Leiter & Maslach, 2009)" (p.79). *Themes: -Administrative duties -Role overload -Organizational constraints -Lack of control	VI (only used descriptive study)

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
6.	Dyess, S. M. L., Prestia, A. S., & Smith, M. C. (2015). Reference list	To examine the practices of nurse leaders that have success in patient-centered solutions by examining support caring, resiliency, and success.	Chief nursing officers who were employed in acute health care organizations $N = 20$	Secondary analysis of a quantitative interview. Theory of bureaucratic caring of Ray.	Variables: Caring and Resiliency "Transcripts were read separately by 2 experienced qualitative researchers looking for categories of caring and resiliency as concepts" (p. 107).	Practices of Caring and Resiliency in nursing leadership: -Self-care/connecting, attending to self-cues, fostering relationships, establishing boundaries -Accountability/ Preserving- advocating nursing, setting decision priorities, focusing on making a difference -Reflection/ Reconciling-Accepting past/anticipating future, appreciate humanity, finding meaning	Resiliency in nurse leaders: -Learn from the past -Keep me going (making a difference in lives, realizing personal value) -Coping (realizing some people can't be satisfied) -Positive attitude (p.108) "Integrating self-care was recognized as an important practice for nurse leaders and was evident within the data" (p. 108).	This study focuses on what is successful in nurse leadership. This does not focus on burnout; however, it could bring to light qualities in successful leadership. *Themes: -Personal characteristics	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
7.	Frandsen, B. M. (2010). EBSCOhost	The purpose of this article was to describe what may lead to burnout in nurse leaders in nursing homes and how a nurse can manage the burnout they are experiencing.	Interviews from two different leaders who work as nurse leaders in nursing homes. *N* = 2	Expert Opinion No framework noted	Not Applicable	What led nurse leaders to burnout: -Stressing about situations that are beyond their control -Picking up tasks not done by others -Little control over workload -Lack of recognition -High pressure environment May lead to burnout: -lack of sleep -not enough supportive relationships -personality traits (perfectionist traits, pessimistic view, reluctant to delegate, high achiever, and type A personalities) (P. 51)	See results column "The circumstances facing each of us in our jobs may be different, but we are all susceptible to that one additional event that brings us to the point of burnout" (p. 50). "The answer then to the question of how to avoid burnout and compassion fatigue is to watch for warning signs and practice self-care" (p.51). Practice boundaries	10 Phases of burnout: -compulsion to prove oneself -working hard -neglecting one's own needed -displacing conflicts -ignoring the root cause of the distress -revision of values in which friends or hobbies are ignored -denial with emergence of cynicism and aggression -withdrawing from social contact and/or using alcohol or substances to cope -inner emptiness -depression -actual burnout syndrome *Themes: -Administrative duties -Role overload -Personal characteristics -Lack of control -Social support	VII

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
8.	Ganz, F. D., Wagner, N., & Toren, O. (2015). CINAHL	"To describe ethical dilemmas and moral distress among nurse middle managers arising from situations of ethical conflict" (p. 43).	Survey questionnaire administered to middle managers across four hospitals in Israel. Data collection took place in 2011-2012 $N = 133$	Descriptive Cross-sectional survey No framework noted	Variables: middle manager and staff nurse Personal characteristic questionnaire Ethical Dilemmas in Nursing-Middle Manager Questionnaire (revised version) Cronbach's alpha: .72 for frequency and .79	Highest scoring for frequency and intensity $M(SD)$: -Lack of balance between patient care and administrative duties 2.86(0.95) -Need to take care of an insulting and hurtful patient 2.73(0.79) -Inability to provide good care due to lack of staff 2.73(0.95) -Administrative directives that are not appropriate for the clinical area 2.68(0.86) -Conflicts between the needs of an individual nurse and the unit 2.55(0.86) -Patient/family violence against a nurse 2.52(0.76) -Lack of equipment 2.35(0.92) -Conflicts between the needs of the patient and the family 2.13(0.82)	Nurse managers had lower levels of ethical dilemma/moral distress in both frequency compared to other studies. Administrative dilemmas were the most distressing dilemmas (p.46). $M(SD)$ 2.86 (0.95) "Personal and professional characteristics were not associated with levels of ethical dilemmas/more distress" (p. 50). -"Nurse managers in this study rarely encountered ethical dilemmas or moral distress; however, when confronted with such situations, they felt a low to moderate level of intense feelings" (p. 46).	"Failure to provide quality patient care due to conflicts between individual and organizational values was the largest source of ethical conflict in their role as administrators" (p. 48) "Nurse managers tended to place a lower level of importance on organizational values as opposed to personal values, thereby leading to conflicts between the needs of the institution and the individual" (p.48). Secondary analysis using Bonferroni test revealed no significant differences between frequency and intensity of ethical dilemmas in different unit types. *Themes: -Admin duties -Org constraints -Quality of pt care	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
9.	Gardner, C., Hailey, A., Nguyen, C., Prichard, C., & Newcomb, P. (2017). PubMed	"The purpose of this study was to describe the beliefs of nurse middle managers regarding work-related electronic connectedness and workplace support... measure the strength of the association between intention to change employment and beliefs regarding workplace connectedness and support" (p. 17)	Survey of nurse leaders and directors across 6 hospitals in North Texas 160 individuals sent surveys, $N = 109$ Two focus groups in two separate hospitals in North Texas. $N = 51$ nurses	Mixed-methods Qualitative interview and Quantitative quasi-experimental survey No framework noted	Variables: Thinking about leaving position, and not thinking about leaving position. Birth before 1960 and Birth post 1960 Survey tool administered by SurveyMonkey Cronbach's alpha = .88 Supervisor support subscale = .84 Home subscale = .92	-Perceived support of the supervisor was the largest predictor for thinking of leaving employment ($r = -.560$) $p < .0001$ $\beta= -.397, .361$ Significant differences between those born before 1960 and after 1960 related to: -checks e-mails when on vacation ($p = .008$) -Checks e-mail when away from work due to illness ($p = .04$) -Checks e-mail after leaving work ($p = .008$) -Checks e-mail at home ($p = .02$) No significant difference in individuals born before 1960 and after 1960 related to: -Quality time at home -Work schedule interferes with home life -24/7 responsibility -Supervisors responding to concerns about stress	Superordinate activities NM and directors perceive as supportive: Setting limits: -Clarifying expectations -Given permission to set limits -Role modeling setting limits on electronic communication Constructing empathic relationships: -Setting aside time for regular face-to-face meetings between middle managers and their supervisors constructed empathetic relationships (p. 19). Establishing effective communication: -Avoid devaluing language -Positive reinforcement: avoid punishment -Respect communication hierarchy structure (p. 21)	-Younger employees tend to complain more that electronic communication negatively impacts relationships outside of work (p. 17). -Younger manager more likely to check e-mails. Used checking emails to cope with anxieties for overwhelming workloads, reprimands from supervisors, and concerns for subordinates (p. 21) -Supervisor behavior found supportive: "cultivating trust, constructing empathetic relationships, establishing effective communication, and setting limits" (p. 19). *Themes: -Admin duties -Role overload -Social support	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
10.	Havens, D. S., Thompson, P. A., & Jones, C. B. (2008). Reference list	"To generate information to inform development strategies to improve CNO recruitment and retention" (p. 516). This is the second part of a three-phase study. This study examined CNO turnover as described in interviews with CNOs and health care executive recruiters.	All participants participated in phase one of study. 21 were current or former CNOs and five were healthcare executive recruiters. Of the CNOs sampled, ten had been terminated or asked to resign, four had voluntarily left a CNO position one time in their career, and seven had never left a CNO role. *N* = 26	Qualitative descriptive design. Data outlined by four groups who participated: -CNOs who involuntarily departed. -CNOs who left voluntarily. -CNOs who never left their jobs -Health care recruiters No framework noted	35 to 40 minute interviews were conducted by telephone. Interview transcripts were typed then themes and associations were identified.	"We found that involuntary CNO turnover is accompanied by powerful and often painful emotions, and the transition period can be difficult" (p. 523). Importance of coaching and counseling during turnover experience. All groups identified need to build on CNO skills including financial management.	Recommendations from study results include educating, preparing, and mentoring new CNOs to be well equipped to navigate financial aspects of position so on same level with other senior hospital leaders. Others' concerns with financial management skills was one theme of CNOs that were let go. Coaching resources including access to networks/peer support during turnover. Succession planning for future generation of CNOs identified as a needed imperative.	Key limitation was small sample sizes. However, given the sensitive nature of involuntary CNO turnover, recruiting participants was challenging for investigators. This study adds to growing body of nurse leadership research highlighting the need for more robust education and development in CNO role including financial management skills. -Relationship building with other senior administrators was also identified as crucial for retention and success in CNO role. *Themes: -Admin duties -Quality of pt care -Preparation -Social support	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
11.	Hewko, S. J., Brown, P., Fraser, K. D., Wong, C. A., Cummings, G. G. (2015). PubMed	"To identify and report on the relative importance of factors influencing nurse managers' intentions to stay in or leave their current position" (p. 1058).	290 front-line managers in a western Canadian City, 36 acute care hospitals, 33 general hospitals, and 26 long-term care facilities $N = 95$ ($N = 28$ intending to leave; $N = 67$ intending to stay) The response rate of the study was 33%	Non-experimental cross-sectional three phase study. Phase 1= individual interviews Phase 2= web-based survey Phase 3= paper-based survey Conceptual Model of Intent to Stay	Variables: -Intent to stay and intent to leave organization -role factors -individual factors -Portion of the Modified Stanford Instrument Patient Safety Questionnaire $\alpha = .66$ -Resonant Leadership Scale. $\alpha = .93$ -Global Empowerment Scale-II reliability .95 -Global Job Satisfaction Scale reliability .69 -Maslach Burnout Inventory alpha .65	Managers intending to stay vs. managers intending to leave: -empowerment ($p < .001$) -resonant leadership practices ($p < .001$) -satisfied with adequacy of their orientation ($p < .01$) -satisfied with overall job ($p < .001$) Managers intending to leave vs. managers intending to stay: -great cynicism ($p = .001$) -Emotional exhaustion ($p = .006$) -Professional efficacy ($p = .025$) *Burnout categories ($p = .003$) t-test was used to compare relationships	Managers intending to have a more significant value in the burnout categories including: cynicism, emotional exhaustion, and professional efficacy. "The four most important factors for managers intending to leave were work overload/work-life balance, insufficient ability to ensure the quality of patient care, insufficient human/fiscal resources and insufficient empowerment to do the job" (p. 1062) The most important factors for manager staying was work-life balance, then support by immediate supervisor, and the ability to assure quality care	Managers intending to leave had significant amounts of burnout. Only used the results of survey 2 to publish the final result. Analysis report only includes the data collected in phase 2 "Managers intending to stay expressed stronger opinions about what was important to them than did managers intending to leave. This indicates that managers intending to leave do not loathe their jobs; their feelings about their jobs are simply more neutral than those of managers intending to stay" (p. 1065) *Themes: -Admin duties -Role overload -Preparation -Social support	IV

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
12.	Jones, B. (2013). CINAHL	The purpose of this article is to identify common stressors nurse managers may experience in the work environment.	Interview of 3 different nurse managers in England NHS trust $N = 3$	Opinion of Authorities No framework noted	Not applicable	Common managerial stressors: -balancing competing responsibilities -managing budgets -devising ways to care for an ageing population -dealing with constant pressure on staff numbers -working with perpetual NHS restricting (p. 64) -Stress is related to "ensuring that the highest possible standard of care happens" (p. 64). -large number of tasks to compete at the same time -responding to emails takes time. Can get 150-200 e-mails a day -work life balance and not having time for family	See results tab -"Those who are under pressure should talk about how they are feeling and delegate work if possible" (p. 65).	"In the 2012 NHS staff survey, more than a third of general managers (37 per cent), including nurse managers, said they had felt unwell over the previous 12 months as a result of work-related stress" (p. 64). -RCN offers resources for stress for managers. Managers should use counseling services if able to. *Themes: -Administrative duties -Role overload -Quality of patient care -Lack of control	VII

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
13.	Jones, C.B., Havens, D. S., & Thompson, P. A. (2009). Reference list	"This article reports the third and final phase of the study, conducted using an online, anonymous survey of staff nurses, nurse managers, directors, and nurses in other organizational roles to gain a better understanding of their views of CNO turnover and, specifically, how CNO turnover affects their work and patient care" (p. 286).	Hospitals across the United States responded to online survey -30% staff nurses -34% nurse managers or assistant nurse managers -17% clinical directors -6% nurse educators, case managers, or quality analysts -10% held other nursing positions within their HCO. *N* = 1,277	Survey study "Participants were asked to respond to a series of items about their tenure and employment, CNO turnover, and demographic information" (p. 286). No framework noted	Online survey provided by Zoomerang. Took approximately 15 minutes to complete. "The Zoomerang software database feature collected responses, and raw data were tallied and formatted in a text file" (p. 286).	Top reason for CNO departure included, "CNO asked to resign" (20%) -Perceptions of CNO presence -CNO always listened to nursing concerns (33%) -CNO always backed up nursing (29%) -CNO was not equal in power and authority to other top-level executives (51%) -CNO was not accessible to staff (53%) Impact of CNO turnover -No impact (53%) -Noticeable loss of nurse/pt advocate (24%) Nursing relationships with CNO and hospital administration was mostly good to fair.	"It is imperative that the CNO conveys his/her role in organizational decision-making to staff and staff nurses' roles in decision making relevant to their practice within the organization, while at the same time creating a connectedness at all levels in the structure, from staff nurse to CNO and beyond" (p. 290).	Rare article that offers insight about CNOs from the perspectives of staff nurses and managers. *Themes -Social support	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
14.	Kath, L. M., Stichler, J. F., & Ehrhart, M. G. (2012a). CINAHL Complete	"To examine nurse managers' job stress, outcomes of stress, and moderators" (p. 216).	36 hospitals in Southwestern United States 198 or 31% Magnet status hospital, Manage unionized nurses, Inclusion Criteria: supervisors of acute-care critical care nurses and must have 24 hour or 12 hour responsibilities 7 days per week. *N* = 480	Quantitative cross-sectional survey study Convenience sampling self-report Conceptual framework: Demands-Control-Support Model	Variables: Job stress and age Paper/pencil surveys, returned in person or sent in mail 12 scales: all with Cronbach alpha scores of .68-.93.	Age positive correlation with autonomy ($r = .17$, $p < .001$). Older NM report less job stress Greatest buffers to stress: 1) Autonomy, 2) Social support, and 3) Predictability Job Stress related to all outcomes Mental Health Symptoms ($r = .47$, $p < .01$), Physical Health Symptoms ($r = .45$, $p < 01$), and Inversely Job Satisfaction ($r = -.42$, $p < .01$) Intentions to quit were low among NMs: $M(SD)$ 2.57(1.12)	See results column Only subjects from SW United States Survey was voluntary Self-assessment may be biased Cross-sectional design only takes a snapshot in time. Unclear if stress levels would be reported consistent over time and/or if relationship between the variables would stay the same. -Lack of control was a buffer to reduce intent to leave current position	Age NM desire autonomy Young NM should pair with older NM for mentorship Older NM report less job stress *Themes: -Role overload -Personal characteristics -Lack of control -Social support	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
15.	Kath, L. M., Stichler, J. F. Ehrhart, M. G., & Schultze, T. A. (2012b). CINAHL Complete	"To describe job stress experienced by nurse leaders who are members of the Association of Women's Health, Obstetrics and Neonatal Nursing (AWHONN)" (p. E14).	"All AWHONN members who listed their position in the membership roster as shift supervisor, nurse manager, director, or chief nursing officer (CNO)" (p. E15). Response rate 9.8% (456 participants started survey, but 392 completed survey. 4,053 postcards sent, but 3,986 were sent back as undeliverable $N = 392$	Non-experimental, cross-sectional, quantitative Conceptual Framework: Job Demands-Resources Model and Role Stress Theory	Variables: Stress levels, Nurse managers, location, autonomy, intent to quit 16 instruments with Cronbach α ranging from .70-.96 5-point Likert type scale Option to complete pencil/paper or online	Higher autonomy associated with lower intent to quit Mean score 3.66 ($SD = 0.85$), scale 1-5. "AWHONN nurse leaders experience moderate levels of subjective stress" (p. E18). Nurse leaders working in acute care hospitals and in urban areas had most stress Role overload ($\beta = .34$; $p < .01$), organizational constraints ($\beta = .20$; $p < .01$), role ambiguity ($\beta = .17$; $p < .05$). Biggest predictors of stress.	See results column Unable to formulate causal relationships Recommendations: Mentoring programs for new NMs Limitations: Low response rate (9.8%) AWHONN should look to do more work in this area (i.e. Conferences, create online modules) -Lack of control was a buffer to reduce intent to quit. -Outcome of job change and adverse health outcomes	Comprehensive look at stress Need for evidence-based interventions to support nurse leaders *Themes: -Role overload -Organizational constraints -Lack of control -Preparation	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
16.	Kath, L. M., Stichler, J. F., Ehrhart, M. G., & Sievers, A. (2013). CINAHL Complete	"To examine the following question: When considering role ambiguity, role overload, role conflict, organizational constraints, and interpersonal conflict, which are the most important predictors of nurse manager stress?" (p. 1476).	36 hospitals in Southwestern United States Response Rate 75.5% (480/636) Inclusion Criteria: supervisors of acute-care critical care nurses and must have 24 hour or 12-hour responsibilities 7 days per week. Principle investigators: attended NM meetings for 9 months $N = 480$ (sample size for analysis: 470-483)	Quantitative cross-sectional online survey study Convenience sampling Conceptual Framework: Role Stress Theory and Job Demands-Resources Theory	Variables: job stress, role overload, organizational constraints, conflict Testing Instrument developed by researchers: 5- point Likert scale ->90% female -Average age: 48.2 -Ethnicity: 82.7% white -Education Level: 82.8% at minimum a bachelor's degree -30.7% Master's Degree -0.6% Doctoral Degree -Average years in NM role: 4.3 years	Job stress mean 3.66 (moderate stress levels) Role overload is the most important predictor of NM stress ($M = 3.48, p = .01$) Organizational Constraints is second most important predictor of NM stress ($M = 2.10, p = .01$) Role Conflict is third greatest predictor of stress ($M = 2.91, p = .01$)	1.Role Ambiguity 2. *Role Overload*= biggest predictor of stress 3. Role Conflict=third greatest predictor of stress 4. Org. Constraints=second largest predictor of stress 5. Interpersonal Conflict Personal variables did not predict stress Lack of control was a theme	Not experimental, therefore cannot denote causal relationships Only subjects from SW United States Survey was voluntary Survey addressed work environment stressors, but did not address NM disposition which can also affect stress and burnout There is a need to address job stress with NM role *Themes: -Role overload -Organizational constraints -Lack of control -Preparation	IV

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
17.	Kelly, D., Lankshear, A., & Jones, A. (2016). Reference list.	"To explore the role stressors experienced by executive nurse directors and" (p. 3160) the means by which they sustain their resilience.	*N* = 40 37 were female Mixture of variety of organizations, mean. Mean experience of 5.35 years.	Qualitative Grounded Constructivist Study Semi-structured telephone interviews (February 2014-July 2014) No framework noted.	Thematically analyzed using spreadsheets. Two members of the team reviewed data and themes for rigor. Full professional transcription, anonymized by the interviewer	Chronic Stressors -Workload (not having enough time to finish all of work) -Lack of corporate responsibility for quality -reductions in quality team staffing -Finances -Quality of Care -Personal Vulnerability Acute Stressors -Dealing with patient complaints Major incidents (i.e. violence)	Increased pressure in a result of increasing organizational sizes, finical constraints, decreasing resources, and poor limits of responsibility. "There is an obvious link between levels of stress and the degree of resilience required" (p. 3165). Need for clearer job role responsibilities.	-Call for a need for clear strategies and the ability to maintain resilience in NDs. Resilience strategies include "love of the profession, impact awareness, reflection, successful conflict management, managing work life balance… fostering relationships, setting boundaries, and self care (Havens *et al.* 2008, Prestia 2014, Dyess *et al.* 2015" (as cited in Kelly, Lankshear, & Jones, 2016, p. 3161). As well as intra-organization support systems. *Themes: -Administrative duties -Role overload -Quality of pt care -Preparation	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
18.	Kelly, L. A., Lefton, C., & Fischer, S. A. (2019). MOLN literature search	"There is a need to better understand compassion fatigue and compassion satisfaction, including the sources and symptoms of nurse leaders..." (p. 405).	29 hospitals within single nonprofit health system. 10 hospitals rural, 19 hospitals urban Experimental: 60% overall response rate. $N = 672$ CMs ($n = 430$), SCMs ($n = 142$), Directors ($n = 100$). Qualitative: $N = 16$ CMs ($n = 6$) SCMs ($n = 6$) Directors ($n = 4$) $N = 672$ $N = 16$	Mixed Methods Age and education level inadvertently omitted from questionnaire No framework noted	Interview: 8 Questions -Electronic transcription of responses -Approximately 30 min in length -Participants receive $20 gift card 3-part electronic survey -Demographic -Burnout, Secondary Traumatic Stress, Compassion Satisfaction -Work Satisfaction	Qualitative Themes: 1) Emotional Drain 2) Every Interaction Tells a Story 3) Managing One's Psychological Capital 4) Work Life Balance Juggle (WLBJ) Example of emotional drain, "supporting the hospital even when I don't agree with the process/practice" (p. 407). Example of WLBJ, "There are always emails and that's stressful. When I am off for a few days, there are hundreds of emails I have to deal with when I come back" (p. 408). "Regression modeling demonstrated higher burnout in nurse leaders was predicted by less experience in leadership" ($\beta = 3.15$, $p = .022$; p. 407). Lack of recognition ($F_{2,667} = 3.15$, $p = .045$)	Organizations should try to foster joy in work environment Nurse leader most at risk for burnout: large spans of control, committee overload, unreasonable expectations and accessibility 24/7. Limitations: Results reveal more about compassion satisfaction, but do not assist with understanding of burnout and secondary traumatic stress -Outcome of personal characteristics and social support	Common thread: -Emotional drain -E-mails -Personal resilience and well-being Large spans of control, committee overload, unreasonable expectations and accessibility 24/7 Clinical Managers (CMs)-similar to charge nurse Senior CMs (SCMs)-Similar to NM Directors: Provide strategic leadership and administrative support *Themes: -Administrative duties -Role overload -Personal characteristics -Lack of control	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
19.	Keys, Y. (2014). Reference list	"The purpose of this inquiry was to identify elements of professional success, and personal and professional fulfilment as defined by Generation X Nurse Managers in order to provide stakeholders with information to promote professional success, personal fulfilment and retention within the Generation X Nurse Manager population" (p. 98)	CNOs from researcher's network and randomly selected hospitals were invited attend if criteria was met, 2 were chosen from each hospital, 8 states were included

Telephone interviewing of the subjects.

N = 16 | Qualitative Interview

"Categories using findings from the original Generation X study were established as an organising framework for data analysis" (pp. 99-100). | Variables: Generation X, stress, and satisfaction

NVivo qualitive software

Resultant coding reviewed through peer debriefing.

Credibility-member checking Transferability-participants provided with questions prior to interview Dependability and confirmability-audit trail | "Most frequently mentioned barrier was not appreciating the gravity and demands of the position prior to accepting the position. Another barrier was not having the skills needed to be successful… having 24-hour responsibility for the unit and the fact that the work is never 'finished' was a shock" (p. 101).

Multiple participants wished they had their MSN prior to starting the position.

Barrier was the lack of opportunity for upward mobility. | "All participants indicated they wanted to experience success in their Nurse Manager role, but many felt ill equipped" (p. 103).

"Nurse Managers in this study described feeling torn between wanting to be successful in their professional role and wanting to be present in their roles as parents or grandparents" (p. 103).

Stressors NM
-Lack upward mobility
-24-hour responsibility
-Not understanding position
-Not being fully prepared | Generation X is individuals born between 1965 and 1980

Co-managers described high job satisfaction, stressed the importance of good consistent communication.

"Participants perceived professional success when they felt they were able to positively impact their staff" (p. 100).

If participants had good metrics for patient satisfaction they felt fulfilled

*Themes:
-Administrative duties
-Role overload
-Preparation
-Social support | VI |

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
20.	Labrague, L. J., McEnroe-Petitte, D. M., Leocadio, M. C., Van Bogaert, P., & Cummings, G. G. (2017). Reference list	"To appraise and synthesise [*sic*] empirical studies examining sources of occupational stress and ways of coping utilised [*sic*] by nurse managers when dealing with stress" (p. 1346).	22 Studies included from year 2000 and beyond 12 Quantitative and 10 Qualitative Average age (31-62 years) Average work experience as NM (1-11.8 years)	Integrative Review No framework noted	Variables: Multiple QualSysts to assist with determining quality of research articles. Quality score of Quantitative articles:85%-100%. Quality score of Qualitative score: 85%-95%.	4 Themes: 1) Moderate Stress Levels 2) Common Sources of Stress 3) Ways of Coping 4) The Impact of Nurses' Characteristics on Stress Sources of Stress: -Job Demand (59% of studies) -Heavy Workloads (3 Qualitative studies) -Inadequate Resources (5 studies) -Budget/Financial Management Outcome of stress is specific to NMs	See results column Limitations: -Luan et al., is the only study to conduct Power Analysis -50% studies were cross-sectional, therefore recommendation for longitudinal design studies -Variance in scales used for assessment of stress and coping in NMs. Recommend standardized tool. -Solutions: Enhance social support, promote job control -Future Research: Multicultural settings, higher rigor research methods, larger sample size	Heavy Workloads leading cause of stress Coping Strategies: Job control/Authority to make decisions and social support *Themes: -Administrative duties -Role overload -Organizational constraints	V

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
21.	Loveridge, S. (2017). Pub Med	"To examine nurse manager role stress in the current healthcare environment" (p. 23).	All female, median age 51 From 3 hospital systems in Virginia All hospitals not-for-profit & Magnet® Inclusion Criteria: 2 or more years' experience in the NM role $N = 12$	Descriptive Qualitative Purposive Sampling Informed consent obtained No framework noted	Telephone interviews Duration: 1 Hour Confirmation of study results by doctorally prepared qualitative expert Themes derived from analyst-constructed typologies	4 Essential Themes: 1) Sink or Swim (orientation lacking) 2) There's no end (more being added...nothing taken away) 3) Support me (micromanagement from their superiors) 4) Finding Balance (personal relationships, little sleep) Median 50 hours per week physically at work, and another 5 hours weekly working at home	See results column NM feel lack of support from their leadership Role stressor=E-mails/phone "Most participants didn't feel that they had an orientation to the role" (p. 22). NM feel lack of support from their leadership Being on call 24/7 -Comanager model increases job satisfaction -Outcome of turnover and adverse health effects	*Excellent data* Limitations: all female subjects Homogenous NM sample: All but 2 over the age of 40 Purposeful sampling prevents generalizability Recommend future research in orientation, comanager models, and leadership triad of unit-based educators and assistant managers 83% Master's Degree or higher *Themes: -Administrative duties -Role overload -Lack of control -Preparation -Social support	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
22.	Miyata, A., Arai, H. & Suga, S. (2015). Reference list.	Aim: "to gain insight into nurse managers' stress experiences and coping strategies in order to better support them" (p. 957).	*N* = 15 Intentional Sampling Nurse Managers from 5 hospitals Kanto, Kansai & Kyushu Japan Inclusion Criteria: A minimum of 1 year experience as a nurse All NMs were women Age range 42-50 years (Mean 46.8 years) Work experience (1-9 years (Mean 5.1 years)	Qualitative Exploratory Descriptive No Framework stated.	Face to Face interviews (July 2012-August 2012) 6 questions Authors independently reviewed transcripts and created categories based on words/phrases. Authors independently formed themes.	3 Sources of Stress 1. Role Overload 2. Loneliness 3. Role Conflict	-All were women -Recommendations: NMs have safe place to discuss concerns Hospitals should support NMs "in learning how to work efficiently and how to manage their responses to their job demands" (p. 962).	Background *Themes: -Role Overload -Administrative Duties -Lack of Control (Role conflict between staff above and subordinates). Outcome Themes: -Stress -Adverse Health Consequences (Loneliness) -Burnout	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
23.	Prestia, A. S., Sherman, R. O., & Demezier, C. (2017). MOLN literature search	"To present findings from a qualitative study that included interviews with 20 CNOs, to discuss their experiences with moral distress" (p. 101).	20 CNO participants from different states across the U.S. 17 women, 3 men Mean number of years with CNO experience was 10.21 years. *N* = 20	Qualitative exploratory study Oral interview process guided by 5 questions Questions reviewed by subject-matter experts for content validity Content analysis used to identify themes No framework noted	NoNotes, a telephonic recording and transcription platform, was used to capture the interviews.	Six themes emerged: -lacking psychological safety -feeling a sense of powerlessness -seeking to maintain a moral compass -drawing strength from networking -moral residue -living with the consequences	Empathy and importance of discussion around the topic of moral distress amongst nurse leaders. Moral distress is a repetitive experience for CNOs Results inquire additional research regarding prevalence of this distress	Great study explaining the phenomena of moral distress in executive nurse leaders. Leads into future research studying causes and prevalence of moral distress in executive nurse leaders. *Themes: -Lack of control	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
24.	Shirey, M. R., McDaniel, A. M., Ebright, P. R., Fisher, M. L., & Doebbeling, B. N. (2010). MOLN literature search	"To provide a qualitative description of stress and coping as perceived by today's nurse manager incumbents" (pp. 82-83).	Purposive sample of 21 nurse managers employed at 3 U.S. acute-care hospitals Participants all women, mostly white (95%) age range 37-62 years and experience in nurse management ranged from 1.5 – 18 years. $N = 21$	Qualitative descriptive design 1-time questionnaire and 14-question face-to-face interview incorporated components of the Critical Decision Method. Synthesis of data across cases was completed and coded No framework noted	Demographic questionnaire and interview Key outcomes were identifying themes of stress and coping amongst nurse managers utilizing qualitative methods.	3 major themes emerged with 10 subthemes: Major themes were: -source of stress -coping strategies -health-related outcomes Comanager participants were not as overwhelmed as traditional nurse managers with work- load.	This study documents and previous research supports the effectiveness of innovative comanager models over traditional nurse manager models. Comanagers in study had better coping and personal health-related outcomes that enhanced performance. Main limitation was use of purposive sampling which limited generalizability. Homogenous sampling.	Comanager model is an interesting, but effective approach at addressing the stress and demands of nurse management. This study was able to capture great qualitative data highlighting benefits comanagers experience over managers in dealing with work demands and stress. Cross-sectional design only provides snapshot. Themes: -Administrative duties -Quality of pt care -Personal characteristics	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
25.	Skagert, K., Dellve L., & Ahlborg Jr., G. (2011).	Over a period of 4 years, to (1) assess managerial turnover rate and health outcomes, "(2) identify important supporting factors relating to work and individual resources, and (3) explore differences between female and male managers in these respects" (p. 891).	Study participants were those with a managerial position in a large Swedish health organization. Areas included primary care, hospitals, and dental care. Random sample received baseline questionnaire. Total number of participants in study inclusion at 2 and 4 year follow up totaled 216. 166 were women and 50 were men. *N* = 216	"Prospective study of managers as part of a longitudinal cohort study of employees working in a large health-care organization (Glise *et al.* 2009)" (as cited in Skagert et al., 2011, p. 891). Study took place in Sweden. No framework provided	Outcome variable of internal turnover Self-reported sickness absence/presenteeism measured as health indicators SMBQ to assess burnout. α = .97 Job Content Questionnaire to assess individual resources and work factors. α = .66 for job demand index and α = .55 for the job control index	60% of managers remained in same position four years after baseline Remaining as a manager was predicted by work factors (moderate to high job control RR 1.79, CI 1.14-2.80 and support in difficult situations RR1.27, CI 0.76-2.13), while health outcome in terms of work attendance and no burnout were predicted by individual resources. Moderate to high control was a predictor of remaining as a manager.	This study highlights the importance of conditional factors for managerial success and willingness to stay. Rate of turnover was "linked to work-related factors and predictors for sustained good health were associated with individual resources" (p. 897). "Healthcare organizations should not only focus on developing individuals in their managerial role but also on strengthening the conditions under which managers can exercise their leadership" (p. 897).	Key limitations include: Homogenous sample from Sweden, questionnaire used not specifically for managers. *Themes: -Lack of control	IV

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
26.	Spence Laschinger, H. K., & Finegan, J. (2008).	"Examined the influence of effort-reward imbalance, a situational variable, and core self-evaluation, a dispositional variable, on nurse managers' burnout levels over a 1-year period" (p. 601).	300 nurse managers in Ontario, Canada hospitals randomly selected, but only 134 completed study. $N = 134$	Predictive longitudinal survey No framework noted	Measured correlations between situational (ERI) and dispositional (CSE) variables on emotional exhaustion (MBI). 3 scales completed: Maslach Burnout Inventory α = .93, Effort-Reward Imbalance survey α = .89 to .93, and Core Self-Evaluation α = .75 All three administered at time, one year later at follow up	Time 1 emotional exhaustion (MBI scores) and effort-reward imbalance were strongest predictors of emotional exhaustion ($p < .0001$) at time 2. Core self-evaluation had a weaker, but significant ($p < .03$) impact on time 2 emotional exhaustion.	This analysis supported a model that predicted burnout based on personal and situational factors. ERI linked with negative health consequences hence the need for conditional improvements for nurse managers to limit risk. Nurse managers need to receive "recognition and rewards for their efforts towards achieving organizational goals" (p 606).	Main limitation was low response rate. This limits generalizability. One of the few longitudinal studies in the literature. It highlights key predictors of emotional exhaustion in nurse leaders, with high ERI and low CSE contributing to increases in burnout. This study supports work environments aimed at improving recognition and rewards for managerial efforts to achieve organizational goals. Managers more likely to be engaged, empower staff and promote teamwork. *Themes: -Role overload -Personal characteristics -Lack of control -Social support	IV

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
27.	Steege, L. M., Pinkenstein, B. J., Knudsen, E. A., & Rainbow, J. G. (2017).	"To describe hospital nurse leaders' experiences of fatigue" (p. 276).	21 nurse administrators (10 nurse managers and 11 nurse executives). Nurse managers selected from two midwestern hospitals using convenience sampling. Nurse executives recruited from different hospitals located in a midwestern state. *N* = 21	Mixed method approach Semi-structured interviews and Occupational Fatigue Exhaustion Recovery (OFER) scale. Guided by conceptual model of Occupational Fatigue in Nursing.	OFER scale was used in this study to assess acute and chronic states of fatigue and inter-shift recovery. Transcripts of interviews analyzed for themes using content analysis. Descriptive statistics calculated for OFER scores. "The OFER has demonstrated reliability and validity in the nurse population" (p. 278).	OFER scores demonstrated similar levels of acute fatigue in nurse managers and nurse executives. Chronic fatigue was higher in nurse managers than in nurse executives. Also, nurse managers had a lower level of inter-shift recovery than nurse executives. Constant accountability to unit/staff was described as primary source of fatigue for nurse managers.	Relatively high levels of chronic fatigue and low inter-shift recovery in nurse managers indicates need for "redesign leadership structures and workload" (p. 284). Consider shared coverage models. Important to promote practices that improve upon self-care. "Nurse leader fatigue may negatively alter perceptions about leadership positions and must be addressed to safeguard future of nursing workforce" (p. 284).	-Future studies using the Occupational Fatigue in Nursing framework on larger sample of nurse leaders needed to better quantify and compare levels of fatigue. -This study adds description of the problem of fatigue in nurse leaders. Supports other studies describing sources of fatigue such as long hours, competing work goals, responsibility to staff, meetings and e-mail. -Key limitations were small sample size and single state location, limiting generalizability of results. *Themes: -Administrative duties -Role overload -Quality of pt care -Personal characteristics	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
28.	Udod, S. A., & Care, W. D. (2012). CINAHL Complete	"To explore the stress experiences and coping strategies of nurse managers in an acute care setting in Canada…(Udod and Care, 2011" (as cited in Udod & Care, 2012, p. 69).	Purposive sample of five nurse managers from a large tertiary hospital in Western Canada. $N = 5$	Qualitative descriptive design "Semi-structured open-ended interviews were used as the primary method of data collection" (p. 69). No framework noted	"Interviews were audiotaped and planned as uninterrupted 45- to 60-minute sessions…" (p. 70). Thematic analysis of interview transcripts.	Six themes from identified stressors: -Fiscal responsibilities -Inadequate human resources -Managing others -Intrapersonal distress -Middle management role -Competing priorities Three themes emerged from coping strategies. These were peer support, cognitive coping strategies, and social and personal strategies.	Findings revealed "nurse manager role has multiple demands and the role generates considerable stress…" (p.75). Also had less ability to cope effectively. Organizational support is vital for decreasing managerial stress. Managers that are more positive about role, convey this to staff. Positive implications for manager recruitment and retention.	This study supports previous research highlighting the high stress levels associated with nursing management. Competing demands and lack of effective coping are themes found in this and other studies. "Equipping managers with appropriate preparation and support may make the role of nurse manager more attractive and facilitate succession planning" (p. 77). Key limitations were sampling method and small sample size. *Themes: -Admin duties -Role overload -Org constraints -Lack of control -Preparation -Social support	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
29.	Udod, S., Cummings, G. C., Care, D. W., & Jenkins, S. (2017a)

Reference list. | "To understand nurse managers' (NMs') perceptions of their role stressors, coping strategies, and self-health related outcomes as a result of frequent exposure to stressful situations in their role" (p. 159). | Purposeful sample of nurse managers from 8 care facilities within 2 regions representing rural and urban sites. 23 participants completed individual interviews and demographic questionnaires.

5 of these participants completed a focus group interview. | -Qualitative exploratory research design

- Data collected through individual interviews and a focus group interview.

-Lazarus and Folkman's (1984) stress and coping theory was the conceptual framework used for this study | -"Transcripts were stored and managed using NVivo 10 qualitative software… to code data segments relevant to emerging phenomena. Transcripts were coded using the procedures of thematic analysis…" (p. 160). | Two themes role stressors and coping strategies identified with sub themes:

*Role stressors
 -limited resources
 -responding to organization change
 -senior management disconnection | -Findings "support the need for leadership development to decrease NM stress and improve their sense of self-efficacy" (p. 163).

-Learning on the job vs formal education and performance feedback causes stress and dissatisfaction.

-"Creating a social support system and work climate that improves role expectations and promotes feeling of belonging… provides managers with time and opportunity to build their social support networks" (p. 163).

-Redesign role that could include a co-manager model to decrease turnover and make role more appealing to potential recruits. | Different sample from other Udod articles.

*Themes:
-Role overload
-Org constraints
-Preparation
-Lack of control
-Social support | VI |

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence

30.	Udod, S. A., Cummings, G., Care, D. W., & Jenkins, M. (2017b)
	
	Reference list.
		"To share preliminary evidence about NMs' role stressors and coping strategies in acute health-care facilities in western Canada" (p. 30).	-Managers recruited from one health region of Canada, work in urban or rural health facility, and minimum of one year's experience as NM
			-Purposeful sampling, individual interviews (*N* = 17) and one focus group interview (*N* = 5)
			-Mostly women (88%).
				-Qualitative exploratory research design.
				
				-Data collected through individual interviews and a focus group interview.
				
				-Lazarus and Folkman's (1984) stress and coping theory was the conceptual framework used for this study. It focuses on the dynamic relationship between a person and the environment
					- Interviews were digitally recorded and transcribed verbatim. Transcripts were stored and managed using NVivo10 qualitative software. Transcripts analyzed using thematic analysis	*Role stressors
						  -limited resources
						  -responding to organization change
						   -Putting out fires
						   -senior management disconnection
						  -adhering to regulations and standards
						  -pulled in different directions
						
						*Coping strategies
						  -planful problem-solving
						  -reframing situations
						  -social support
							"Increased level of organizational support is needed to reduce high strain working conditions and maintain greater control of work for managers (Hewko et al., 2014; Johansson et al., 2013; Laschinger et al., 2008)" (as cited in Udod et al., 2017b, p. 39).
							
							-Decreasing nurse manager administrative duties is one strategy and this "could result in more effective clinical supervision practices, provide greater support for nurses on the unit, and increase their sense of empowerment" (p. 39).
							
							-"Findings support the need for leadership development evidence-based stress management interventions and preventive measures to decrease NM stress…" (p. 39).
								Different sample size from different Udod articles
								
								-Revamping manager role to reflect more realistic job expectations.
								
								-Reducing role expectations for the manager could divert their energy to coaching, mentoring, and strengthening relationships with staff that could lead to healthier workplaces.
								
								-All participants in focus group interview participated in the individual interviews
								
								*Themes:
								-Admin duties
								-Role overload
								-Org constraints
								-Lack of control
								-Preparation
								-Social support
									VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
31.	Van Bogaert, P., Adriaenssens, J., Dilles, T., Martens, D., Van Rompaey, B. V., & Timmermans, O. (2014). Reference list	"To study the impact of role-, job-, and organizational characteristics on nurse managers' work related stress and well-being such as feelings of emotional exhaustion, work engagement, job satisfaction and turnover intention" (p. 2624-2625).	17 Belgian Acute Care Hospitals (15 general hospitals and 2 university hospitals) *N* = 365 (NMs) 68% response rate	Cross-sectional design with survey Data collected between Dec 2011-March 2012 Job Demand Control Support (JDCS) model Competing Values Framework of Quinn and Rohrbaugh (1983)	Leiden Quality of Work Questionnaire for Nurses (LQWQ-N) α = .65-.92 4-point Likert scale Questionnaire on the Experience and Assessment of Work (QEAW). α = .65-.92 4-point Likert scale MBI-HSS α = .65-.92 7-point Likert scale -Short version UWES. α = .65-.92	1/6 NMs "have high to very high feelings of emotional exhaustion and two out of three respondents have high to very high work engagement" (p. 2622). Role conflict and Role meaningfulness=strong predictors of NMs work related stress and well-being Caught in the middle=Role Conflict p < .01 Decision authority=Lack of Control P < .05 Work/Home Interference =Role Overload p < .001 Support P < .001	Recommend future longitudinal designed studies -Emotional exhaustion -Role Conflict -Role Meaningfulness -Country-Belgium Outcome for NM: burnout, stress, turnover, and adverse health consequences.	Limitation: data reflective of "specific cultural, organizational and political context" (p. 2631). *Themes: -Role overload -Lack of control -Social support	VI

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
32.	Warshawsky, N. E., & Havens, D. S. (2014).

MOLN literature search | "To examine nurse managers' job satisfaction and intent to leave their positions" (p. 32). | Acute Care NM only

All research subjects members of North Carolina Organization of Nurse Leaders (NCONL) and/or the American Organization of Nurse Executives (AONE).

291/1212 (24% response rate)

87.07% at minimum bachelor's degree Averaged 9 years' experience in NM role

$N = 291$ | Secondary analysis of self-administered electronic survey data

Cross sectional design, convenience sampling

Biweekly surveys for 3 weeks

No framework noted | 5-point Likert scale

Measured job satisfaction and anticipated turnover

Electronic survey administered by Qualtrics®

Data analyzed by SAS version 9.2 software to run descriptive stats (one-way ANOVA, t-tests, and chi square tests) | 62% NM planning to leave current position within 5 years

Burnout most sited reason for leaving ($n = 63$, 30%), followed by retirement ($n = 47$, 22%) and promotion ($n = 32$, 15%). | Highly educated

Burnout= Reasons for intent to leave in next 5 years $n = 63$ or 30%

Time available to work with staff (negative driver)

Age was not significant for intent to leave within 5 years

Future research: "More theory-guided research is needed to understand the antecedents and consequences of nurse manager job satisfaction, intent to leave, and turnover in acute care hospitals and other clinical settings" (p. 38).

More future research: "to understand the impact of nurse manager turnover on staff, patient, organizational, and financial outcomes" (p. 38). | -Limitations: cross sectional and convenience sampling

Limited to only Acute Care NM; cannot generalize findings across all NM

Burnout Drivers:
-Administrative Duties (Lack of Co-Manager)
-Role Overload

90.3% female demographic, which aligns with national average of 92.7% in the year 2008

*Themes:
-Administrative duties
-Role overload | VI |

Number	Citation	Purpose	Sample/ Setting	Design/ Framework	Variables/ Instruments	Results	Implications	Comments	**Level of Evidence
33.	Wong, C. A., & Spence Laschinger, H. K. (2015). MOLN literature search	"To test Karasek's (1979) JDC model by examining the influence of FLM job strain on their burnout, organizational commitment, and turnover intention" (p. 1825). Job Demands-Control (JDC) Frontline manager (FLM)	159 frontline managers at 14 Ontario teaching hospitals volunteered to participate in study. 500 frontline managers were initially invited, so response rate was 32%. $N = 159$ $N = 143$ (92.3%) female	"Secondary analysis of data collected in an online cross-sectional survey of frontline managers…" (p. 1824). Study guided by Karasek's Job Demands-Control model.	Variables: Job strain, job demands and decision latitude Scale (α = .91 items measuring Job Demands, α = .71 items measuring Decision Latitude) -Burnout- Maslach Burnout Inventory (α = .84) Organizational commitment-Organizational Commitment Scale (α = .87) -Turnover intention- 3-item scale developed by Camman et al. (1979) α = .80	Major study variables: Managers reported moderately low levels of job strain ($M = 25.8$ on scale of 0 to 50), Moderate levels of emotional exhaustion ($M = 2.91$), lower levels for cynicism ($M = 1.58$), moderately high levels for organization commitment ($M = 5.2$) and low turnover intention ($M = 2.71$) Test of model: "All path estimates were significant ($p < .05$) and in the hypothesized direction" (p. 1830). "Emotional exhaustion mediated the relationship between job strain and cynicism and cynicism mediated the relationships between emotional exhaustion and organizational commitment and turnover intention" (p. 1830).	This study suggests roles need to be manageable and include enough job control to ensure prolonged job strain does not occur. Managerial health in preventing burnout may be key to overall organizational well-being. Demographic results: -Avg age 48.1 (±7) -Avg managerial experience 8.4 yrs (±6.9) -43.4% baccalaureate prepared, and 39% masters prepared Model application could be used for development of interventions to reduce the risk of nurse managers leaving their positions.	One of the few studies in nurse manager burnout research that tested a model to help understand how manager "turnover intention is related to job strain through burnout and organizational commitment" (p. 1830). Key limitations: Use of cross-sectional design as opposed to longitudinal study which would support stronger evidence for causality. Low response rate with convenience sampling limits generalizability. *Themes: -Role overload -Quality of pt care -Organization constraints -Lack of control	IV

**Type/Levels of Evidence:

Level I: Evidence from a systematic review or meta- analysis of all relevant RCTs (randomized controlled trial) or evidence-based clinical practice guidelines based on systematic reviews of RCTs or three or more RCTs of good quality that have similar results.

Level II: Evidence obtained from at least one well-designed RCT (e.g. large multi-site RCT).

Level III: Evidence obtained from well-designed controlled trials without randomization (i.e. quasi-experimental).

Level IV: Evidence from well-designed case-control or cohort studies.

Level V: Evidence from systematic reviews of descriptive and qualitative studies (meta-synthesis).

Level VI: Evidence from a single descriptive or qualitative study.

Level VII: Evidence from the opinion of authorities and/or reports of expert committees.

This level of effectiveness rating scheme is based on: Ackley, B. J., Swan, B. A., Ladwig, G., & Tucker, S. (2008). *Evidence-based nursing care guidelines: Medical-surgical interventions*. (p. 7). St. Louis, MO: Mosby Elsevier

Appendix C

Ackley's Level of Evidence

Level I	Evidence from a systematic review or meta-analysis of all relevant RCTs or evidence-based clinical practice guidelines based on systematic reviews of RCTs or three or more RCTs of good quality that have similar results.
Level II	Evidence obtained from at least one large (multi-site) well designed RCT (randomized control trial).
Level III	Evidence obtained from well-designed control trials without randomization (i.e. quasi-experimental).
Level IV	Evidence from well-designed case-control or cohort studies.
Level V	Evidence from systematic reviews of descriptive and qualitative studies.
Level VI	Evidence from a single descriptive or qualitative study.
Level VII	Evidence from the opinion of authorities and/or reports of expert committees.

Ackley, B. J., Swan, B. A., Ladwig, G., & Tucker, S. (2008). *Evidence-based nursing care guidelines: Medical-surgical interventions* (p. 7). St. Louis, MO: Mosby Elsevier.

Appendix D

Levels of Evidence

Concept		Number	Supportive Evidence	Level of Evidence
Stress	Burnout			
X		1	Akkela & Leca, 2015	VI
X	X	2	Batcheller, 2010	V
X	X	3	Brown et al., 2013	V
X		4	Crawford & Daniels, 2014	VI
X	X	5	Dyess et al., 2018	VI
X		6	Dyess et al., 2015	VI
X	X	7	Frandsen, 2010	VII
X		8	Ganz et al., 2015	VI
X		9	Gardner et al., 2017	VI
X		10	Havens et al., 2008	VI
X	X	11	Hewko et al., 2015	IV
X		12	Jones, 2013	VII
X		13	Jones et al., 2009	VI
X		14	Kath et al., 2012a	VI
X		15	Kath et al., 2012b	VI
X		16	Kath et al., 2013	IV
X		17	Kelly et al., 2016	VI
X	X	18	Kelly et al., 2019	VI
X		19	Keys, 2014	VI
X		20	Labrague et al., 2017	V
X		21	Loveridge, 2017	VI
X		22	Miyata et al., 2015	VI
X	X	23	Prestia et al., 2017	VI
X		24	Shirey et al., 2010	VI
X	X	25	Skagert et al., 2011	IV
X	X	26	Spence Laschinger & Finegan, 2008	IV
X		27	Steege et al., 2017	VI
X		28	Udod & Care, 2012	VI
X		29	Udod et al., 2017a	VI
X		30	Udod et al., 2017b	VI
X	X	31	Van Bogaert et al., 2014	VI
X	X	32	Warshawsky & Havens, 2014	VI
X	X	33	Wong & Spence Laschinger, 2015	IV

Appendix E

The Survey Tool Used by MOLN

Questions (*and related theme*)	Response Option
Q1. Overall, I am satisfied with my current job (*outcome*).	1-Stronly agree
Q2. I feel a great deal of stress because of my job (*outcome*).	2-Agree
	3-Neither agree nor disagree
	4-Disagree
	5-Stronly disagree
Q3. Which of the following statements best reflects how you feel about your work (*outcome*).	1- I enjoy my work. I have no symptoms of burnout.
	2-I am under stress, and don't always have as much energy as I did, but I don't feel stressed out.
	3-I am definitely burning out and have one or more symptoms of burnout, e.g. emotional exhaustion.
	4-The symptoms of burnout that I am experiencing won't go away. I think about work frustrations a lot.
	5-I am completely burned out. I am at the point where I may need to seek help.
	6-I am completely burned out and I am getting help.
Q4. Right now, which of the following describes you? (*outcome*)	1-Very engaged with my work.
	2-Engaged with my work.
	3-Somewhat engaged with my work.
	4-Somewhat disengaged from my work.
	5-Disengaged from my work.
Q5: I feel burned out from my work. (*burnout component*)	1-Never
Q6. I have become more callous toward people since I took this job. (*burnout component*)	2-A few times a year or less
	3-Once a month or less
	4-A few times a month
	5-Once a week
	6-A few times a week
	7-Every day
Q7. My professional values are well aligned with those of my senior leaders. (*driver*)	1-Strongly agree
	2-Agree
	3-Neither agree nor disagree
	4-Disagree
	5-Strongly disagree
Q8. The degree to which my leadership team works efficiently together is: (*driver*)	1-Poor
	2-Marginal
	3-Satisfactory
	4-Good
	5-Optimal
Q9. I have enough time to do what's important in my job. (*driver*)	1-Strongly disagree
Q10. I have control over how I do my work. (*driver*)	2-Disagree
Q11. I have professional autonomy/independence in my work. (*driver*)	3-Hard to decide
Q12. My work is appreciated. (*driver*)	4-Agree
Q13 Resources are allocated fairly here. (*driver*)	5-Strongly agree
Q14. My organization is committed to quality. (*driver*)	
Q15. The most important thriving factors for you against burnout. Select three of the following.	Control over work
	Fairness
	Financial rewards
	Organizational support of high quality care
	Meaningful quality metrics
	Meaningful work
	Recognition
	Social Connections
	Values alignment between self and organization
	Work-life balance
Q16. Do you currently have, or have you ever had, a mentor or trusted advisor while in your leadership role? Please select all that apply. By mentor or trusted advisor, we mean either someone who has been a one-on-one coach or someone who has offered ongoing problem-solving support. (*MOLN-specific question*)	1-Yes, I currently have a mentor or trusted advisor.
	2-I have had a mentor or trusted advisor in the past.
	3-No, I have not had a mentor or trusted advisor.
Q17. In what ways do you get peer support – meeting with other who are doing the same thing and can provide emotional or professional support? (*MOLN-specific question*)	1-I participate in "nursing salons" within my organization.
	2-I have informal social networks that I tap.
	3-My professional association offers me this opportunity.
	4-I engage in peer support in other ways.
	5-I do not have an opportunity for peer support.