2020

Learned Helplessness Among Acute Care Nurses and Its Influence on Inpatient Fall Incidence

Jennifer Glendening
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral dissertation by

Jennifer Glendening

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Leslie Hussey, Committee Chairperson, Nursing Faculty
Dr. Maria Ojeda, Committee Member, Nursing Faculty
Dr. Mary Martin, University Reviewer, Nursing Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2020

Abstract

Learned Helplessness Among Acute Care Nurses and Its Influence on Inpatient Fall

Incidence

by

Jennifer Glendening,

MSN, Western Governors University

BSN, Western Governors University

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing

Walden University

May 2020

Abstract

Over one million inpatient falls with injury are reported across the United States annually resulting in harm which are consistently linked to the quality of nursing care delivery in acute inpatient settings. Learned helplessness (LH) emerges as a behavioral concept to consider among acute care nurses, specifically medical-surgical nurses, because the effects of LH may include an overall decrease in efforts, persistence, and learning due to the repeated exposure to the challenges of balancing complex patients and working environments. The purpose of this study, guided by Donabedian's model, was to determine if there was a relationship between acute care nurses' self-reported LH, nursing staffing ratios, nursing tenure, and medical-surgical patient fall rates. The sample included 117 medical-surgical nurses who completed the Learned Helplessness Scale. Secondary data from 9 medical-surgical units on fall incidnce were collected for comparison from January 2018 through June 2019. Data were analyzed using the Pearson correlation coefficient and multiple linear regression. Results of the research study did not reveal significant relationships between fall incidence, LH, nurse staffing, or nurse experience. In the hospital setting, fall prevention initiatives are continuously evaluated for effectiveness. Future research to characterize the impact of fall incidence on bedside nurses remains important to gain more generalizable knowledge on the nurses' perceived behavioral response to fall incidence and promote positive social change through the consideration of the nurses' relationship to avoidable patient events.

Learned Helplessness Among Acute Care Nurses and Its Influence on Inpatient Fall

Incidence

by

Jennifer Glendening,

MSN, Western Governors University

BSN, Western Governors University

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing

Walden University

May 2020

Dedication

I would like to dedicate this thesis to my family. My beloved husband Bill for his endless support and continuous sense of stability and strength. You always keep my spirit up during difficult times and my heart full of love. To my cherished children, William and Karlie, your light shines bright and I am in awe of the strength, independence, and love you put into each day as you navigate life. I hope that my determination to achieve this academic milestone provides you the strength to realize all things are possible. My ultimate wish for you both is the continuous drive to fulfill your most precious goals throughout your lifetime. To my dogs, Duke and Zoey, you have brought me unsolicited love and support throughout this journey. I took great comfort in having the two of you faithfully by side and laying at my feet as I spent many late nights working on this thesis. This achievement would not have been possible without all of you by my side.

Acknowledgments

I would like to thank the faculty of Walden University School of Nursing, and specifically my dissertation committee for your mentorship and guidance along this journey to my Ph.D. in Nursing Leadership. I want to express my most sincere appreciation to my chairperson, Dr. Leslie Hussey. Thank you for your mentorship and guidance you provided throughout each stage of dissertation. Your unwavering patience, coaching, and scholarly wisdom are immeasurable, and this would not be possible without you. Thank you for sharing your expertise and passion for academic excellence. I would also like to thank Dr. Maria Ojeda for her collective wisdom and methodology support provided throughout this journey. Your statistical expertise was invaluable for data analysis and interpretation of this study.

Additionally, I would like to thank the Walden Writing Center for their mentorship and commitment to the development of scholarly writers. I know I am a better writer because of all of the amazing reviewers and their scholarly feedback. You have all made a positive impact in my scholarly writing and future research endeavors.

Finally, I would like to thank my Walden colleagues and fellow doctoral students. You are all amazing nurses, and I am most grateful to have met you through residency or in the classroom. Thank you for your encouragement, friendship, and support you have given me during my doctoral journey.

Table of Contents

iv

List of Tables

List of Figures

Part 1: Overview

Introduction

Hospitals have a responsibility to maintain appropriate safety measures that reduce the incidence of preventable events that could result in added medical care during hospital admission. Even though evidence-based protocols and fall risk assessment tools are implemented in acute care hospitals to prevent patient falls proactively, an alarming numbers of patients, up to 11.5 times per 1,000 inpatient days, nationally, continue to fall, resulting in serious injuries (Watson, Salmoni, & Zecevic, 2015). With over one million-reported inpatient falls each year in the United States, The Joint Commission classified falls as sentinel events (Gibson & Lloyd, 2018). According to Watson, Salmoni, and Zecevic (2015), research exists linking nursing demographics and the evidence-based fall prevention strategies to the incidence of inpatient. Zhao (2016) conducted a cross-sectional research study with findings suggesting multilevel factors, such as unit type, nurse staffing, and nursing tenure, had significant associations with the occurrence of falls with injury in acute care settings. Spicer, Delmo, and Agdipa (2017) described a fall reduction program called the *Got-A-Minute Campaign* that included the implementation of a fall reduction bundle in a medical-surgical inpatient unit. Even though a reduction in fall incidence was initially identified of the *Got-A-Minute Campaign*, Spicer et al. suggested the addition of a nursing-specific behavioral strategy, such as group reflection,

may be helpful to support the long-term sustainment of fall prevention initiatives to promote effective peer communication needed to apply changes to nursing practice.

   Rydon-Grange (2015) examined the problem from a different perspective by summarizing the findings of previous studies that investigated the impact of psychological factors among healthcare staff on the occurrence of errors in care. The researchers concluded that such factors as learned helplessness (LH), emotional distress, moral decision-making, and negativity in the workplace might influence the occurrence of sentinel events. More recently, Gibson and Lloyd (2018) suggested that the behavioral attributes of nurses, specifically LH, might also contribute to inpatient fall rates.

   LH is defined as an adaptive, helpless type behavior exhibited by individuals derived from repeated exposure to adverse stimuli with subsequent avoidance of unfavorable activities (Weeks & Arnocky, 2017). Understanding if a relationship exists between nurses' self-perceived LH and inpatient fall incidence may be helpful to decrease the overall incidence of adverse patient harm in healthcare settings. Chung, Choi, and Du (2017) stated that many hospitals introduced multiple new interventions for several different competing safety initiatives in uncertain and ever-changing patient environments that also positively contribute to LH in organizational settings. LH might manifest in bedside nurses and stimulate the perception of decreased autonomy over the ability to prevent falls. These perceptions may be due to circumstances such as multiple competing quality and safety initiatives, patient complexity, and dysfunctional unit workflows (Gibson & Lloyd, 2018). In this study, I will fill the gap in knowledge by

examining the association between nurses' self-perceived LH and inpatient medical-surgical fall incidence. The findings of the study may affect positive social change by assisting and guiding healthcare leaders and educators to recognize and support the psychological contributions and nursing implications to the implementation of evidence-based care. This information should also encourage hospitals to perform rapid, continuous performance analysis of system-wide resources necessary to improve the working environments of acute care nurses.

Background

Given the incidence and significant consequences of patient falls, fall prevention is a chronic issue among adult populations in the acute care setting. Identifying the underlying factors around sustainable efforts related to fall prevention continues to challenge inpatient settings in efforts to decrease patient falls. Identifying diverse characteristics associated with falls across hospital organizational factors, specifically unit-level, nursing-level, and behavioral-level characteristics, remain troublesome.

Organizational Risk Factors of Falls

Studies on patient falls and organizational risk factors highlight four key elements that influence fall incidence: (a) inpatient unit characteristics, (b) nurse staffing characteristics, (c) nurse experience characteristics, and (d) learned helplessness (LH). A summary of each element is below.

Inpatient Unit Characteristics. Overall, larger medical centers (>250 beds) have a higher incidence of falls than smaller medical centers (<250 licensed beds; Staggs,

Davidson, Dunton, & Crosser, 2015). In general, medical-surgical inpatient units have

higher overall fall rates and incidence of falls than any other unit type reported through

both event reporting systems and the National Database for Nursing Quality

Improvement (NDNQI; Watson, Salmoni, & Zecevic, 2015; Zhao, 2016). Additionally,

medical-surgical nursing units face challenges associated with a higher incidence of

injurious falls than other unit types across both small and large hospitals (Spicer, Delmo,

& Agdipa, 2017; Staggs et al., 2015; Watson et al., 2015;).

Research demonstrates that hospitals also faced unique challenges associated with

the sustainability of fall risk strategies implemented within larger health systems based on

the diversity of the medical-surgical workflows and nurse assignments combined with the

rising complexity of medical-surgical care needs (Copeland & Chambers, 2017; Gibson

& Lloyd, 2018; Watson et al., 2015). Despite the implementation of different evidence-

based fall risk identification and prevention strategies within many hospitals, patients

continue to fall, leaving nurses, particularly in the medical-surgical areas, feeling

defeated, conflicted, and confused due to the high incidence of falls despite their efforts

to assess and prevent patients from falling (Copeland & Chambers, 2017; Gibson &

Lloyd, 2018; Spicer et al., 2017; Watson et al., 2015).

Nurse Staffing Characteristics. The effectiveness of the methods used to

calculate for the appropriate nurse staffing for inpatient care has long been a popular

topic of nursing, and despite extensive research, findings to support an association

between nurse staffing and patient falls remain elusive (Choi & Miller, 2018; Copeland &

Chambers, 2017; Kullburg, Bergnmar, & Sharp, 2016). Overall, studies have reported

that lower inpatient falls rates are associated to higher registered nurse (RN) hours and

higher nurse to patient ratios (Driscoll et al., 2018; Recio-Saucedo et al., 2018). The

most common measure of nurse staffing utilized is total hours per patient day (THPPD)

which includes the total care hours provided by RN, licensed practical nurse (LPN), and

unlicensed assistive personnel (UAP) (Choi & Miller, 2018; Copeland & Chambers,

2017; Driscoll et al., 2018; Recio-Saucedo et al., 2018; Taylor & Hignett, 2016).

In a study using secondary data analysis from the NDNQI database, Driscoll and

colleagues (2018) found higher staffing ratios were positively associated with decreased

rates of mortality, and the nursing-sensitive indicators, pressure-injuries, and falls.

However, in general, the literature on nurse staffing and its association with patient falls

remains inconsistent and highlighted the limitations and weaknesses of results due to

heterogeneity in nurse-to-patient ratio calculations and its influence on fall rate variability

by unit-type, thus stressing the need for more specific research (Recio-Saucedo et al.,

2018; Staggs et al., 2015; Taylor & Hignett, 2016; Zhao, 2016. Copeland and Chambers

(2017) reported that due to the variability in the number of patients assigned to nurses by

unit-type, with little to no significant difference in the overall nursing hours worked

between units, thus making correlation in falls rates to nurse staffing inconclusive.

Nurses' perception of the appropriate or acceptable nurse-to-patient staffing ratios

brings forth an alternative relationship to patient outcomes. Evidence from a systematic

literature review using 14 studies reported a positive correlation with missed nursing care

resulting in at least one negative patient outcome (Recio-Saucedo et al., 2018).

According to the literature, missing patient care and leaving tasks undone by the bedside nurse are common among medical-surgical unit's competing priorities in care needs and competing priorities to meet expected organizational quality and safety goals (Recio-Saucedo et al., 2018; Spicer et al., 2017; Wang, Chou, & Lai, 2019; Wilson et al., 2016). Nurses' perceptions, attitudes, and behaviors related to staffing have been identified as a significant risk for missed patient care, reporting of adverse events, nurse turnover, and ineffective teamwork associated with poor patient outcomes and hospital-acquired harm (Copeland & Chambers, 2017; He, Staggs, Bergquist-Beringer, & Dunton, 2016; Watson et al., 2015). According to Recio-Saucedo et al. (2018), nurses self- reported the omission of up to thirteen nursing-related activities per shift due to less than desirable nurse-to-patient ratios to care for complex, medical-surgical patient populations. Copeland and Chambers (2017) added nurses' self- reported time constraints to perform necessary care, higher acuity of patients, not enough staffing, and decentralized workstations positively related to the incidence of falls. He et al. (2016) offered an alternative perspective and reported that although reductions in fall rates may show a positive correlation with increased nurse staffing levels, more research to include other contributing variables, such as nursing education, improved work stations, and stronger unit-level teamwork, may offer valuable new knowledge to combat variations in patient outcomes.

Nurses Experience Characteristics. A prominent topic of discussion in many areas of nursing practice related to patient outcomes, patient safety, nursing practice decision-making, education, and peer-to-peer mentorship includes the level experience or knowledge of nurses. In the literature, evidence-based fall prevention and risk assessment strategies have been associated with reductions in patient falls and show that the incidence of inpatient falls and falls with injury occurred more frequently when patient-specific risk factors were identified by unit nurses (Gibson & Lloyd, 2018; Spicer et al., 2017). Some researchers proclaim older, more experienced nurses demonstrated higher levels of knowledge and skill associated with better compliance and appropriate use of fall prevention and risk strategies that resulted in lower prevalence of falls and patient harm (Farokhzadian, Nayeri, & Borhani, 2018; Masters, 2016; Moreland, Ewoldsen, Albert, Kosicki, & Clayton, 2015).

In contrast, the relationship between nurse experience and patient quality outcomes remained inconclusive in the literature with additional factors and alternative viewpoints identified. Although researchers claimed new-to-practice nurses (nurses practicing less than 1 year) experience a different, more modernized approach to patient assessment and critical thinking versus their older, more experienced nursing peers, no new evidence showed that higher levels of nurse experience were associated with improved patient outcomes, including nursing-sensitive indicators, such as falls, pressure-related injuries, or restraint use (Kullburg et al., 2016; (Moreland et al., 2015; Wang et al., 2019). One main goal of research studies that included levels of nursing experience

as a considerable construct was to understand the relationship between levels of experience, conflict resolution, and effective communication (Choi & Miller, 2018; Copeland & Chambers, 2017). The literature suggests additional new knowledge might be beneficial for organizational development and quality outcome improvement tactics to identify relationships between nurse experience and behavioral responses to complex patient assignments and the influence on quality and safety outcomes (Driscoll et al., 2018; Gibson & Lloyd, 2018; Rydon-Grange, 2015). Behavioral attributes to care delivery, specifically LH, has been associated with a higher incidence of falls, particularly within medical-surgical nursing units (Gibson & Lloyd, 2018; Rydon-Grange, 2015).

Learned Helplessness. The current fast-paced, ever-changing health care delivery system has contributed to the mounting stressors placed on nurses to produce better, cost-effective, and safer patient outcomes than ever before (Chung, Choi, & Du, 2014; Fernandes, 2019; Rydon-Grange, 2015). Factors attributed to the influence and development of job stress among acute care nurses included patient assignments, time allocation, available resources, interprofessional relationships, leadership, and work environment (Choi & Miller, 2018; Driscoll et al., 2018; He et al., 2016; Landry, Gifford, Milfont, Weeks, & Arnocky, 2017; Moreland et al., 2015; Ren et al., 2018). Additional literature presented an alternative consideration, that is the relationship between behavioral attributes or attitudes of nurses and levels of job stress associated with violations to standard and acceptable nursing practices (Moreland et al., 2015; Wilson et

al., 2016). Findings from two studies suggested that the presence of LH among nurses was associated with higher inpatient fall rates (Gibson & Lloyd, 2018; Landry et al., 2017). Gibson and Lloyd suggested LH may be a noteworthy topic to consider for future research on fall prevention, as factors beyond the nurses' control were one of five themes that emerged from a qualitative study that explored nurse's perceptions on reasons why patients continued to fall despite the implementation of evidence-based fall strategies. Landry et al. demonstrated a relationship between LH and the preoccupation of environmental concerns and predicted behaviors with results that demonstrated higher levels of environmental concern predicted behavior ($B = 0.20$, $SE = 0.02$, $p < 0.001$) when moderated by LH ($p < 0.005$). Other researchers have suggested that although the presence of LH did not influence the nurse's willingness or attitudes related to the utilization of evidence-based strategies to mitigate risk and reduce harm, LH did serve as a significant barrier for proactive interest in the patient's environment and demonstrated apathy during post-harm event reviews (Landry et al., 2017; Rydon-Grange, 2015; Taylor & Hignett, 2016; Wilson et al., 2016).

Gaps in Literature

Inpatient falls and falls with injury continue to occur despite best efforts to implement evidence-based interventions. Over one million falls are reported across the United States annually, resulting in harm to patients and considerable cost to hospitals (Gibson & Lloyd, 2018; Staggs et al., 2015). Gaining insight on ways to continually improve nursing practice, several researchers have targeted and focused on the nursing

interventions surrounding fall risk assessments and prevention (Gibson & Lloyd, 2018; He et al., 2016; Spicer et al., 2017; Watson et al., 2015). First, unit-level characteristics, specifically medical-surgical type unit workflows and patient assignments, play a role in patient outcomes in investigating factors associated with inpatient falls for this study (Staggs et al., 2015; Taylor & Hignett, 2016). Second, since variations in a clinical setting by unit-type and nurse staffing patterns may influence patient outcomes (Choi & Miller, 2018; He et al., 2016), it is imperative to control differences in unit setting and staffing to secure a strong relationship between the outcome (inpatient falls) and organizational factors. Lastly, because varying levels of nursing experience that exist throughout clinical settings may influence patient outcomes (Masters, 2016; Wilson et al., 2016), it is vital to recognize the importance of establishing a strong relationship between nurse experience and patient falls.

Many research studies were conducted on inpatient falls at the organizational level which specifically focused on the relationship between inpatient unit characteristics, nurse staffing, nurse experience, and adverse patient outcomes (Choi & Miller, 2018; Driscoll et al., 2018; Kullburg et al., 2016; Spicer et al., 2017; Watson et al., 2015). Watson et al. (2015) reported that 39% of 6,217 recorded inpatient falls occurred over a 5-year timeframe in medical-surgical units reported through adverse event management systems, which were higher than surgical or other specialty type units were. Choi and Miller (2018) surveyed over 300,000 registered nurses across 927 hospitals and concluded the nurses' perceptions of patient assignment had significant associations to

patient outcomes during a hospital visit for characteristics including of poor quality of patient care delivery ($p < .001$) and unit tenure of less than 1 year ($p < .001$). Kullberg et al. (2016) added flexible scheduling and nurse-driven staffing policies demonstrated significant positive responses for increased work satisfaction ($p= 0.0001$) and decreased work satisfaction ($p= 0.002$) among nurses with fixed scheduling and shift-coverage. Kullberg et al. (2016) reported over 50% of nursing staff self-reported that adverse outcomes were directly due to working conditions and perceived unsafe staffing levels.

Although these studies offered valuable knowledge, no studies have been conducted to examine the relationship between these organizational factors and the concept of LH to evaluate the nursing behavioral influence on fall prevention strategies. It is essential to include the behavioral contributions of LH to the delivery of safe nursing care and prevention of harm in future consideration of evidence-based quality and safety strategies (Chung et al., 2014; Fernandes, 2019; Gibson & Lloyd, 2018; Rydon-Grange, 2015). In this study, I aimed to bridge the current gap in the literature through an examination of relationships between organizational factors and nurses' self-reported LH on inpatient fall incidence.

Framework

Donabedian (1966) described the quality of medical care as a complex and perhaps personalized concept developed by organizations to meet goals or objectives set to maximize favorable patient outcomes. The Donabedian model is a conceptual framework that supports the examination of health services and the evaluation of

healthcare quality where conclusions or outcomes decisions derive from three categories: *structure*, *process*, and *outcomes* (SPO; Donabedian, 1966). Donabedian (1966) suggested studies of patient outcomes, such as mortality rates or surgical complications, have been significant contributors to the concept known as benchmark indicators or outcomes to quality care. For this research study, I examined the structure (inpatient unit, staffing ratios, nurse experience, and self-reported levels of LH) and compared it to reported outcomes (fall incidence).

The purpose of this study's model was to investigate relationships between structure, or process variables that could contribute to inpatient falls recognized as a significant quality issue among acute care healthcare facilities. To date, this study was the first attempt to investigate the complicated circumstance of inpatient falls utilizing multiple structural characteristics, including nurses' self-reported levels of LH. The research aim was to examine organizational characteristics; unit type, staffing ratios, nurse experience, self-reported LH, and the nursing care process and patient factors that are associated with fall incidence in acute care hospitals

In the model, the *structure* was the characteristics of the medical-surgical care setting, nurse staffing, nurse experience, and nurses' self-reported LH. This scope of the model included factors such as unit-specific challenges, nursing practice (first year versus > 1 year in practice), and THPPD. The *process* included activities that reflect the delivery of care recommended to reduce the incidence of inpatient falls. Nurses are responsible for implementing fall prevention strategies, but interprofessional models of

care also contribute to the overall success of fall prevention care. *Outcomes* represented the changes that resulted from healthcare delivery and the fall reduction efforts delivered by medical-surgical inpatient nursing teams. The measurable impact of care for this study was the overall fall incidence of medical-surgical inpatient units within one academic medical center. (See Table 1).

Table 1

Conceptual framework of the adjusted Donabedian's Structure Process Outcome model to examine characteristics associated with medical-surgical inpatient settings

Structure	Process	Outcome
Patient	Patient Assessments	Medical-surgical unit fall
Unit	Fall Prevention	incidence
Nurse Experience	Nurse Implementation	
Staffing	Patient/Nurse Compliance	
Resources	Missed care	
Learned helplessness	Nurses' Decision-making	
	Nurses' response to falls	

Overview of the Manuscripts

Given the gaps in the literature, I conducted three studies to identify four key elements of inpatient fall incidence: (a) inpatient unit characteristics, (b) nurse staffing characteristics, (c) nurse experience characteristics and (d) LH that may contribute to

falls incidence across medical-surgical inpatient units within a large, academic medical center. The literature revealed that medical-surgical nurses faced unique challenges associated with patient assignments, staffing, and higher reported fall incidence (Staggs et al., 2015; Watson et al., 2015). Moreland et al. (2015) suggested LH evolves as an aftermath to poor patient outcomes and conflict management issues among medical-surgical nurses. The first manuscript included an examination of a relationship between medical-surgical staff nurses' self-reported LH and patient fall rates. Following evidence that suggested staffing ratios influence patient outcomes (Choi & Miller, 2018; Driscoll et al., 2018), in the second study, I investigated the relationship between nurses' self-reported LH, THPPD, and medical-surgical fall incidence. Following evidence to suggest nursing tenure or unit experience influenced the presence of LH among nurses (Moreland et al., 2015; Wilson et al., 2016), in the third study, I compared differences in medical-surgical staff nurses' self-reported LH and medical-surgical fall incidence in nurses with less than 1 year of working experience to nurses with more than 1 year of experience. The three manuscripts comprised a cohesive body of scholarly work to highlight the overall advancement of scientific evidence related to the concept of LH reported among acute care nurses and the relationship with inpatient medical-surgical falls. After a thorough examination of LH and fall incidence among medical-surgical nurses, three manuscripts provided a unique look into the various elements related to the complex issue of reducing the incidence of inpatient falls and falls with injuries.

The results of this study may provide current knowledge for enhanced insight into the processes by which the nurses' behavioral attitudes, specifically LH, may influence fall incidence in acute care settings. Insights from this study can guide healthcare organizations to consider and include psychological and behavioral components to nursing education related to inpatient fall risk assessments and fall prevention strategy implementation. Nursing education has long been a fundamental and process force for social change (Watson, Salmoni, & Zecevic, 2015). Because a broader range of patient-specific needs due to the growing complexity of care and nursing-specific needs due to unit-type workflows exist today, this study may bring forth social change related to a much-needed focus on mental power and synergy for nurses to promote inpatient quality and safety. Findings from this study may support positive social change through promoting a stronger culture of clinical excellence with the consideration of behavioral needs of nursing related to quality, safety, and service outcomes when developing and implementing fall risk prevention strategies. Understanding nurses' self-perceived presence of LH and influence on the incidence of patient falls could bring forth a higher perspective on the need for nursing autonomy and empowerment.

Manuscript 1

Problem

Currently, falls are considered a serious safety event which often causes harm, and even death for inpatients (Taylor & Hignett, 2016). As a significant number of patient falls continue to be a problem health systems nationwide, many evidence-based

falls prevention initiatives have been implemented in hospitals to reduce falls and falls

with injury (He et al., 2016; Spicer et al., 2017; Staggs et al., 2015). According to Spicer

et al. (2017), the Agency for Healthcare Research and Quality reported inpatient fall rates

as high as 8.9 falls per 1,000 patient days for patients in medical-surgical areas that admit

more patients with advanced age, neurological dysfunction, and complex comorbid

conditions. The *Got-A-Minute Campaign* created a fall reduction bundle strategy using

the collective inclusion of an interdisciplinary approach to implement practice changes

related to fall prevention (Spicer et al., 2017). However, the *Got-A-Minute Campaign*

project required various tactics and strategies before the nurses' engagement was fully

achieved to maintain the success of the bundle and sustain long-term reduction in patient

falls (Spicer et al., 2017). Staggs et al. (2015) offered insight into the specific challenges'

hospitals face to appropriately define falls for reporting purposes to the NDNQI data

registry for comparison to other like healthcare facilities and unit-types. The

identification of the fall problem through the differentiation of fall-type remained

important to tailor fall prevention initiatives to address gaps in nurse practice versus

unpreventable falls, either intentional or environmental (Staggs et al.; He et al.). Watson,

Salmoni, and Zecevic (2015) offered similar insight that falls are often not preventable

and reported falls occurred in medical-surgical inpatient units almost 65% more often

than other unit types. Zhao (2016) also reported that medical-surgical inpatient unit falls

occurred up to twice as many times as critical care or surgical specific units. With the

complexity of patients admitted to medical-surgical units, various competing quality and

safety initiatives, environmental or workflow issues, as well as, nurse's behavior or attitude related to fall prevention, the presence of LH among nurses may influence fall outcomes (Gibson & Lloyd, 2018). Due to the overwhelming number of inpatient falls occurring across medical-surgical units, the concept of LH were included in this study to identify the relationship between nurses' self-reported levels of LH and medical-surgical fall incidence.

Research Question

Research Question 1 (RQ1): What is the relationship between staff nurses' self-reported LH and patient fall incidence on medical-surgical units?

Null Hypothesis ($H_0$1): There will be no relationship between staff nurses' self-reported LH and patient fall incidence on medical-surgical units.

Alternative Hypothesis (H_a1): There will be a relationship between staff nurses' self-reported LH and patient fall incidence on medical-surgical units.

Nature of the Study

A quantitative, descriptive correlational approach was utilized to conduct a descriptive, correlational analysis and provided statistical output to identify if any significant relationship among nurses' reported LH and patient fall incidence on medical-surgical units exist to either accept or reject the hypothesis presented. Falls are widely known as an essential quality issue among inpatients and the examination of these data may produce new evidence to support the consideration of behavioral attributes of nursing care contributions to adverse patient outcomes.

Data Sources

I utilized the Learned Helplessness Scale (LHS), a validated and reliable survey tool as a primary data source. The LHS includes questions to elicit levels of LH through questions scored using a Likert scale rating system (Quinless & Nelson, 1988). Secondary data from the research facility's incident reporting management system was used to capture patient fall incidence on medical-surgical units for comparison using the NDNQI definition of fall incidence over an identified period in time. NDNQI defines fall incidence as the total number of falls that occur within an inpatient unit per 1000 hospital days (NDNQI, 2010b).

Manuscript 2

Problem

Appropriate levels of nurse staffing have been subject to much debate and public opinion of nursing groups for many years. According to the American Nurses Association, evidence-based research findings have linked better nurse staffing to better patient outcomes; however, more research is needed to understand precisely how total nursing care hours per patient day (THPPD) can influence improving desired quality and safety patient outcomes (Choi & Miller, 2018). According to Driscoll et al. (2018), inpatient death was 14% less likely to occur when increasing one nurse per shift. Although nursing-sensitive indicators, like falls, were more likely to improve with better THPPD, Driscoll's literature review found no significant relationship directly linked THPPD with fall rates. Work left undone by the nurse due to staffing challenges in

medical-surgical units is an alternative research concept to consider for the incidence of falls or increased fall rates. Recio-Saucedo et al. (2018) suggested that nursing staffing ratios and adverse patient events correlated with work left undone by nurses. Copeland and Chambers (2017) concluded that improved medical-surgical unit staffing, and workflow design had a significant relationship on increased feelings of support and job satisfaction among nurses ($p < .001$). Nurses who feel supported and in control of their working environment are more satisfied and content with nursing practice. Gibson and Lloyd (2018) suggested the concept of LH or feelings of helpless ability to control patients from falling contributed to a relationship between the nurse's implementation of fall reduction strategies recommended by their organization and the total number of falls in medical-surgical inpatient units. Recio-Saucedo et al. (2018) suggested that higher percentages of work left undone by nurses influenced adverse fall outcomes in medical-surgical patients, which stimulated the need for further research on nurse staffing's relationship to patient adverse events. Due to the alarming number of inpatient falls, repeated failed interventions to reduce fall rates, and multiple concerns raised for the medical-surgical nurse related to patient assignment and staffing needs, this study attempted to identify if there was a relationship between THPPD, self-reported LH, and the incidence of medical-surgical patient falls.

Research Question

Research Question 1 (RQ1): What is the relationship between THPPD, nurses' self-reported LH, and medical-surgical unit incidence of patient falls?

Null Hypothesis ($H_0$1): There will be no relationship between THPPD, nurses'

self-reported LH, and medical-surgical unit incidence of patient falls.

Alternative Hypothesis (H_a1): There will be a relationship between THPPD,

nurses' self-reported LH, and medical-surgical unit incidence of patient falls.

Nature of the study

This study utilized a quantitative, descriptive correlational approach to

investigate if there are relationships among nurses' reported LH, THPPD, and the

incidence of medical-surgical unit patient falls. Previous research had suggested that

staffing ratios or THPPD influence patient outcomes. Therefore, data may produce new

evidence about the alternative social attributes, such, as LH and THPPD, as core

contributors to undesirable or unexpected patient outcomes.

Data Sources

The primary data source included the Learned Helplessness Scale (LHS), which is

a valid and reliable survey tool (Quinless & Nelson, 1988). The LHS includes questions

to elicit levels of learned helplessness and then scored using the Likert scale rating

system. Secondary data from the research facility's incident reporting management

system captured the patient fall incidence on medical-surgical units for comparison.

NDNQI defines fall incidence as the total number of falls that occur within an inpatient

unit per 1000 hospital days (NDNQI, 2010b). THPPD is collected quarterly by the

research facility and submitted to the NDNQI to nationally benchmark nurse staffing

compared to like facilities. This research study used an identified period in time for the overall data collection and comparison.

Manuscript 3

Problem

The high incidence of falls is expensive to healthcare systems and more importantly, harmful to patients. According to Ploeg et al. (2018), as high as 84% of reported adverse patient outcomes are related to falls in acute care settings. Although the implementation of evidence-based practice guidelines related to fall risk assessment and prevention have resulted in improvements in fall incidence in acute care settings (Spicer et al., 2017); a failure rate of greater than 50% for sustainable outcomes was reported as an averaged at a two-year post-implementation timeframe of a fall reduction strategy (Ploeg et al., 2018). In a qualitative study of 34 medical-surgical staff nurses, a common theme identified was the limited availability of nurses with more experience on the medical-surgical units to champion, teach, and mentor newer nurses on the appropriate implementation fall risk and prevention strategies effectively (Wilson et al., 2016). According to Brown et al. (2017), 245 new-to-practice nurses with less than one-year experience admitted they could not problem-solve and communicate effectively among the team 31.4% of the time. Copeland and Chambers asserted that medical-surgical nurses only spend about 35% of the time on direct patient care with the remainder of the shift spent on non-added value time not related to direct patient care. Non-added value time included wasted time searching for equipment, delays in care due to broken

equipment, computer downtime or limited access to needed supplies for nurses to provide direct patient care (Copeland & Chambers, 2017). Doughty, Mc Killip, Dixon, and Sinnema (2018) expressed that extra stress of medical-surgical unit workflow and non-value-added time spent looking for resources by the nurse to complete patient care prove extraordinarily trickier for newer nurses compared to the more seasoned nursing staff for evidence-based decision-making and time management of complex patient care.

Studies suggested that newer nurses experienced higher levels of stress compared to older, more experienced peers in a study focused on peer-to-peer communication, nurse turnover, personal role identity, and job satisfaction. Since falls continue to be a high priority quality concern across healthcare settings and fall risk assessments require the clinical judgment of the nurse, newer, inexperienced nurses may experience difficulty managing complex assignments and apply evidence-based decision making related to fall prevention. Current research suggests nurses in their first year of practice have limited decision-making skills and lower confidence levels than more experienced peers (Bowden, Bradas, & McNett, 2019). Many new nurses are hired into medical-surgical units as their first professional, clinical experience, which offers additional threats to fall prevention strategies and higher fall rates among these specific units. Moreland et al. (2015) suggested LH evolves as an aftermath to poor patient outcomes and conflict management issues among medical-surgical nurses. New research may generate insight into behaviors, including LH, on a relationship between nurse experience when completing the necessary components of fall risk prevention strategies and medical-

surgical inpatient fall incidence. The purpose of this study was to determine if there were differences in nurses' reported LH and the incidence of medical-surgical patient falls in nurses with less than one-year experience compared to nurses with greater than one year of bedside experience.

Research Questions

Research Question 1 (RQ1): Does medical-surgical inpatient fall incidence differ from self-reported LH between three nurse experience level groups?

Null Hypothesis ($H_0$1):   Medical-surgical inpatient fall incidence does not differ in self-reported LH between three groups of nurse experience level.

Alternative Hypothesis (H_a1): Medical-surgical inpatient fall incidence does differ in self-reported LH between three groups of nurse experience level.

Research Question 2 (RQ2):   What are the differences in medical-surgical inpatient fall incidence and self-reported LH between nurse experience groups when controlling for nurse age?

Null Hypothesis ($H_0$1): Medical-surgical inpatient fall incidence and self-reported LH between three groups of nurse experience level does not differ when controlling for nurse age.

Alternative Hypothesis (H_a1):   Medical-surgical inpatient fall incidence and self-reported LH between three groups of nurse experience level does differ when controlling for nurse age.

Nature of the Study

This study included a comparative analysis to examine if there were differences in self-reported LH and medical-surgical patient fall incidence in nurses with less than one year of clinical experience compared to nurses with more than one year of clinical experience. Some literature suggests that nursing experience influenced the presence of LH among nurses. Therefore, this study examined data that may produce new evidence to support alternative social attributes, such, as LH and years of experience as core contributors to undesirable or unexpected patient outcomes.

Data Sources

The primary data source included the Learned Helplessness Scale, which is a valid and reliable survey tool. The survey includes twenty questions developed to elicit levels of learned helplessness and then scores responses using a Likert scale rating system (Quinless & Nelson, 1988). The experience level of the staff nurses or nurse tenure was collected through descriptive questions of each survey participant. Secondary data from the research facility's incident reporting management system captured the patient fall incidence on medical-surgical units for comparison. NDNQI defines fall incidence as the total number of falls that occur within an inpatient unit per 1000 hospital days (NDNQI, 2010b).

<div align="center">

Significance

</div>

Findings from this study provided important implications for clinical practice related to the prevention and reduction of inpatient falls. Healthcare organizations must acknowledge and consider the behavioral attributes of nurses when fall prevention

strategies are designed and initiated for effective planning of educational activities focused on improving patient outcomes. Previous evidence-based fall risk assessment and reduction strategies have focused on extrinsic (environmental) and intrinsic (underlying) risk factors of patients. To adequately assess the culture of safety among healthcare organizations, administrators should additionally consider the extrinsic and intrinsic risk factors of nurses. Assessments in nurses' self-reported presence of LH provided valuable new knowledge of unique intrinsic factor nurses may present with under extreme stressors to deliver best in class care in less than optimal circumstances. Understanding if the presence of LH among medical-surgical care nurses and a relationship to fall incidence exists could promote positive social change. Future improvements in fall reduction strategies, reducing patient harm and improving nurses' satisfaction in providing clinical excellence to their patients reflect positive change. New knowledge on a specific relationship between nurse staffing, fall incidence, and self-reported LH and differences in levels of nursing experience provided information that an intrinsic factor, LH, may affect nurses differently based on extrinsic (environmental) factors of the nurses' working environment. Findings from this study offered healthcare organizations knowledge and insight on supportive efforts designed to improve nurse engagement and job satisfaction.

Summary

Patient falls continue to occur despite multiple attempts to implement evidence-based strategies across healthcare settings. Serious harm resulting from inpatient falls

have been reported to have significant personal and financial ramifications for patients and hospitals. The nature of this study's inquiry generated new information about the possible psychosocial ramifications the frequent and repeated occurrence of falls impacts medical-surgical nurses and fall incidence across acute care hospitals. This study aimed to understand if the presence of LH among acute care nurses shared a relationship with unit staffing, levels of nurse experience, and overall fall incidence of medical-surgical inpatient units. Part 2 presents, in detail, each unique manuscripts' problem, evidence, and research methodology highlighting the significance and importance of each nursing-related topic.

Part 2: Manuscripts

Learned Helplessness Among Medical-Surgical Nurses and Its Influence on Inpatient Fall

Incidence

Jennifer Glendening, MSN

Walden University

Outlet for Manuscript

The target journal for this manuscript is the *American Journal of Nursing* (AJN). AJN is a peer-reviewed journal that encourages submissions of original research, including manuscripts related to the practice and professional development of nursing (AJN; http://www.lww.com). AJN's only acceptable formatting for journal submission is the American Psychological Association (APA; www.apastyle.org). The AJN contains published nursing journals on many different topics, including quality and patient safety. The recurrent safety issue related to patient falls, an emerging nursing behavior, learned helplessness, and the possible implications to nursing practice and patient outcomes are the focus of this manuscript. The content presented represents discussion relevant to the promotion of clinical effectiveness and aligns with the AJN's mission to support the promotion of new nursing knowledge.

Abstract

Purpose: This study identified the effects of nurses' self-reported learned helplessness (LH) and the relationship to fall incidence among medical-surgical inpatient units; it highlighted the importance of nursing implications to patient outcomes and provided the data needed to support and enhance future research efforts on the topic of LH and its impact on nursing practice and the quality and safety outcomes of patients.

Methods: The participants were 117 medical-surgical registered nurses working at an urban, academic medical center located in the northeastern part of the United States. This study was conducted using a validated survey-tool to measure self-reported levels of learned helplessness (LH) and secondary data collected from the facility's internal incident reporting system to capture fall incidence for correlation analysis. Data analysis was conducted with a Pearson's correlation coefficient using SPSS, version 25.0.

Results: The Pearson's correlation coefficient ($r = -.045$, $p = .628$) revealed no linear correlation existed between nurses' reported LH and medical-surgical fall incidence.

Conclusion: The results indicated that the levels of nurses' self-reported LH did not correlate to fall incidence across the nine medical-surgical units included in the analysis. The current study suggested the psychosocial and behavioral response to patient harm events, specifically when over exposure might contribute to higher levels of LH among nurses. Recommendations for future research should include LH when implementing new fall prevention guidelines or driving practice changes among medical-surgical environments of care.

Introduction

Falls are described as an individual's unintentional descent from a higher location to a lower surface or ground level (Gibson & Lloyd, 2018; Ploeg et al., 2018; Rowan & Veenema, 2017; Spicer, Delmo, & Agdipa, 2017). Falls are the second-highest avoidable harm event, affecting 30% of the inpatient population with an estimated increased cost of each admission by $13,806 and lengthening the patient's hospital stay by 6 days (Rowan & Veenema, 2017). More significant than the economic burden to healthcare facilities, patients can suffer physical and emotional pain, even death because of a fall. According to Gibson and Lloyd (2018), nurses also experienced emotional pain due to the chronic exposure to falls despite best efforts to mitigate harm to their patients. Gibson and Lloyd (2018) also suggested learned helplessness (LH) may manifest in nurses due to repeated exposure to falls despite exhaustive efforts to implement appropriate and recommended fall prevention within medical-surgical inpatient units. Landry, Gifford, Milfont, Weeks, and Arnocky (2017) described LH as an acquired apathy and passivity to something due to the repeated exposure of undesirable or painful circumstances that stimulates a behavioral disturbance to appropriate response or desired environmental concern. Yoder (2018) suggested that the fast-paced growth and development of technological and scientific advancements to patient care delivery along with the extensive knowledge needed of medical-surgical nurses to care for the diverse, complex adult patient

population poses unique challenges for nurses to maintain competency and limit burnout for the specialty.

More research with the consideration of extrinsic factors, particularly unit-type, may influence the incidence of falls among inpatient settings. The NDNQI confirmed that unit-type was associated with fall rates and stated medical-surgical units had higher fall incidence than other unit types (Zhao, 2016). Medical-surgical inpatient units predominantly admit patients over age 65, but many adult patients of all ages pose a risk of falling. In addition, over 40% of inpatient falls result in injury, suggesting the appropriate fall risk assessments and the implementation of evidence-based strategies to reduce harm are particularly significant to the medical-surgical units (Spicer, Delmo, & Agdipa, 2017). Barriers to the sustainability of new and validated measures implemented to avoid fall incidence have been studied (Ploeg et al., 2018; Porter, Cullen, Farrington, Matthews, & Tucker, 2018; Rowan & Veenema, 2017; Spicer et al., 2017). One compelling link to this type of research is between LH (i.e., decreased efforts and belief that outcomes are not dependent on behavior) and medical-surgical falls (i.e., higher fall incidence than other unit types; Gibson & Lloyd, 2018).

Significance

Evidence-based practices implemented to provide safer and higher quality care is required in acute care settings. However, well-planned and evidence-based fall prevention initiatives have reported sustainability issues with failure rates on average of about 55% two years post-implementation (Ploeg et al., 2018). According to the

literature, reasons for the incidence of patient falls and falls with harm comprised a complex set of intrinsic and extrinsic factors related to the patient and hospital environment (Gibson & Lloyd, 2018; Ploeg et al., 2018). However, some recent studies solely focused on intrinsic, patient-specific fall risk factors, such as age, diagnoses, medication and treatment regimen, mental capacity, and mobility status for the assessment, development, and implementation of fall risk interventions (Spicer, Delmo, & Agdipa, 2017; Zhao, 2016). It remains essential to consider additional research for extrinsic factors (unit environment and workflows) related to medical-surgical units and intrinsic factors unique to the medical-surgical nurse (self-reported LH) related to the incidence of inpatient falls.

This study included a conceptual framework based on Donabedian's model (structure-process-outcome) to evaluate the quality of care delivery, specifically related to inpatient falls. Donabedian believed his model to be adaptable to diverse patient settings and applicable to multiple scenarios related to healthcare quality (Donabedian, 1966). This study built on Donabedian's model and includes a structure (medical-surgical units, nurses' self-reported LH), a process (medical-surgical unit environment and workflow), and the outcome (medical-surgical fall incidence). Gaining new knowledge related to patient falls promoted a positive and refreshing perspective to current strategies utilized to improve quality outcomes, and encourage healthcare executives to consider the well-being, emotional needs unique to medical-surgical nurses caring for the most complex and diverse patient populations across acute care settings.

Relevant Scholarship

Accidental patient falls remain a serious safety concern and clinical problem despite previous research and significant attention of healthcare professionals in acute care hospital settings. Landry et al. (2017) stated that LH controlled the relationship between one's behavior to predict interest and participation in support groups aimed at improving the healthcare environment. Landry et al. (2017) research findings suggested individuals who reported lower levels of LH demonstrated a stronger desire to participate in environmental improvement behaviors ($B = 0.26$, $SE = 0.03$, $p < 0.001$). Bernstein (2016) stated that organizations are subjected to the effects of LH because hospitals are held accountable for quality outcomes of patients, such as falls, that are viewed out of their control and ruled by managed-care programs designed to monopolize hospital reimbursements. Moreland, Ewoldsen, Albert, Kosicki, and Clayton (2015) shared that a common belief exists that all nurses acquire a collective set of perceived, expected behaviors, or common nurse identity that influences actions when delivering patient care. Previous studies mainly focused on evidence-based fall reduction strategies established on the assumption that nurses will implement the recommended fall guideline through sufficient attention to nursing education and staff engagement activities centered on patient-specific risk assessments (Reich, Farrell, Maloney, Drayton, & Johnson, 2017; Rowan & Veenema, 2017; Spicer et al., 2017).

While many studies have focused on patient-specific risk factors, minimal research has focused on the nurses' personal beliefs of patient falls. Gibson and Lloyd (2018)

described results from a qualitative, descriptive study of nurses' perspectives of fall risk

and prevention strategies. Nurses (*n*=25) from two medical-surgical units in Texas focus

group interviews with the physical environment and uncontrollable factors of the nurse as

two of five core themes that emerged from the participants (Gibson & Lloyd, 2018).

Nurses described their experiences with patient falls as "helpless" and "we cannot

possibly be there for the patient 100% of the time" (Gibson & Lloyd, 2018). Nurses

expressed extreme levels of stress while caring for multiple patients within the medical-

surgical unit environment and disclosed "you do not feel great about it" when patients

continue to fall even when fall prevention initiatives followed according to policy

(Gibson & Lloyd, 2018).

Current research supports the expansive, extensive needs of the medical-surgical

patient population and highlights some unique challenges nurses face each shift related to

the incidence of falls across acute care inpatient settings (Ploeg et al., 2018; Porter et al.,

2018; Reich et al., 2017; Rowan & Veenema, 2017; Watson, Salmoni, & Zecevic, 2015;

Zhao, 2016). Ploeg et al. (2018) stated the presence of multiple chronic diseases,

cognitive and physical limitations, the need for assistive devices for mobility and

toileting, and polypharmacy adds complexity to the medical-surgical patients' plan of

care, which may influence nurses' decision-making when caring for multiple patients in

sophisticated surroundings. Rowan and Veenema (2017) agreed and stressed that the

significance of fall risk among the medical-surgical population may be underestimated,

with approximately 25% of falls occurring in patients scored as low risk based on

validated assessment tools. According to Rowan and Veenema (2017), validated

assessment tools often created a false sense of security based on age, with an assumption

that younger adults do not share equal fall risk as to the older adults over age 65. Porter

et al. (2018), Watson et al. (2015), and Zhao (2016) added that nursing-specific work

factors, such as the layout of the unit, proximity of patients to the workstation, and access

to patient care supplies might overshadow the importance of fall risk assessments of

medical-surgical nurses. Medical-surgical nurses have competing priorities across the

organization, and challenges faced between unit environment and patient needs and can

influence the sustainability of evidence-based fall reduction initiatives. Ploeg et al.

(2018) did not find a significant relationship ($p = 0.10$) in differences across three study

periods aimed to compare sustainability models for fall reduction strategies and medical-

surgical fall rates; fall rates remained constant during the three study phases despite the

implementation of evidence-based fall reduction initiatives.

Hospitals have implemented various fall risk and prevention strategies, many of

which have not sustained significant improvements to falls rates across the medical-

surgical patient population. Nurses have added pressures to complete and document all

patient care related activities, plus meet organizational goals related to quality and safety

metrics reported to the NDNQI. Despite some reported short-term successes and

decreased fall incidence, falls continue to be identified as one of the more rigorous

quality measures to maintain sustainability greater than two years of post-implementation

of evidence-based initiatives. There is a gap between implementation and maintenance

phases of currently utilized strategies to reduce fall rates as well as a gap in

understanding how nurse behaviors may influence medical-surgical fall outcomes.

Research Question

Research Question 1 (RQ1): What is the relationship between staff nurses' self-

reported LH and patient fall incidence on medical-surgical units?

Null Hypothesis ($H_0$1): There will be no relationship between staff nurses' self-

reported LH and patient fall incidence on medical-surgical units.

Alternative Hypothesis (H_a1): There will be a relationship between staff nurses'

self-reported LH and patient fall incidence on medical-surgical units.

I used a quantitative research approach with a descriptive, correlational analysis

to examine the relationship between nurses' self-reported LH and medical-surgical fall

incidence collected through the research facility's incident reporting management system.

Methods

Participants

With approval from the hospital's Institutional Review Board, registered nurses

working in medical-surgical units were emailed a letter with a link to an online survey

see Appendix A). Nurses employed at a larger, teaching hospital (400–499 beds) across

nine medical-surgical inpatient units were included in the analysis.

Sample and Power

For my study, medical-surgical inpatient nurses across nine units were surveyed from a large, academic, level-one trauma center located in the northeastern United States and examined for levels of self-reported LH. Using the G*Power 3.1.9.4 calculator (Faul, Erdfelder, Buchner, & Lang, 2009) to run a correlation point biserial model statistical test, input parameters were set at a medium effect size of 0.3, probability error of 0.05, and power of 0.80 which provided a total sample size of 82. There were nine units and roughly 1200 nurses who were employed among all the units. I used stratified random sampling to ensure all nine units were represented in the sample population of participants. The hospital's incident management system captured the medical-surgical patient fall incidence using 18 months of data from January 2018 through June 2019. For my study, the fall incidence data mirrored the facility's submitted data reported quarterly for NDNQI fall incidence. NDNQI defines fall incidence as the total number of falls that occur within an inpatient unit per 1000 hospital days (NDNQI, 2010b).

Variables/Data Sources

Independent variable. Nurses' self-reported levels of LH at the medical-surgical inpatient unit-level was the independent variable for my study.

Data for the independent variable (nurses' self-reported LH) along with other specific descriptive nurse characteristics were collected via a survey developed using a previously validated tool, the LHS (see Appendix B). With permission granted by Dr. Frances Ward (see Appendix C), the LHS is a questionnaire-type survey tool comprised of 20 items and graded using a 4-point Likert scale (1 = *Strongly disagree* and 4 =

Strongly agree) (Quinless & Nelson, 1988). To measure LH, the added total of all 20

item scores determine the final score. The possible range of scores on the LHS is 20 to

80 with higher scores indicating higher learned helplessness (see Appendix D). Two

examples of the 20 items included in the survey include, "*No matter how much energy I*

put into a new task, I feel I have no control over the outcome" and "*I do not try new tasks*

if I have failed similar tasks in the past" (Quinless & McDermott-Nelson, 1988).

Dependent variable. The dependent variable was the incidence of medical-

surgical falls of the academic, level one trauma center used for the research.

After permission and user agreements were established and approved by the

appropriate stakeholders, the hospital's incident reporting management system captured

data for the dependent variable (fall incidence). Medical-surgical inpatient units at the

research facility were defined in congruence with the NDNQI unit definitions. The

NDNQI categorizes medical-surgical units by medical, surgical, or combined medical-

surgical (NDNQI, 2016b). NDNQI is the only available nursing database which supports

the overall measurement and comparison of a researched and validated group of nursing-

specific demographical and quality metrics, defined as, nursing-sensitive indicators (NSI)

(NDNQI, 2010b). NSI reflect Donabedian's structure, process, outcomes conceptual

framework to provide hospitals a meaningful platform to apply and evaluate

recommended practice to improve quality outcomes endorsed by the National Quality

Forum (ANA, 2019). Patient falls are one of the nineteen NSI included in the database

and allow hospitals to link direct nursing care related to falls through the measurement of

a total number of inpatient falls per 1000 inpatient days (fall rate), or patient outcomes

(NDNQI, 2010b).

Measurements

Data collected via the survey and the incident reporting management system were

de-identified to protect the privacy of nurse participants and the facility. Using SPSS

V25.0, the data were organized and analyzed statistically to examine if the staff nurses

reported that LH is associated with medical-surgical falls. Data collection consisted of a

specified timeframe and aligned with the distribution of the LH survey to the employed

nurses at a specified academic medical center. Timeframe for data collection included

eighteen months of fall incidence data from January 2018 through June 2019. I utilized

correlation and summative statistics to examine the strength or nature of a relationship

between nurses' reported LH and inpatient medical-surgical patient fall incidence.

Statistical findings were presented in tabled and graphed formats.

Design and Analysis

A descriptive, correlational design examined whether a relationship existed

between nurses' self-reported LH and medical-surgical fall incidence. I selected this

model because it allowed for the use of interval-ratio data while accounting for

correlation to medical-surgical fall incidence during a specified timeframe. First, a

collection of demographic information about the nurse occurred along with the LHS

survey. Second, the hospital's incident reporting management system captured the

medical-surgical fall incidence. Interval-ratio data collected for the independent variable

(LH) were compared to the dependent variable (fall incidence) using Pearson's *r* or

Pearson Correlation Coefficient (PCC). Cohen (1992) described the Pearson *r* as the

covariance or measure of joint validity between two random variables. Either a positive

linear correlation (1) or a negative linear correlation (0) determines the strength of the

correlational relationship between LH and the incidence of patient falls. An investigation

using inferential statistics tested the hypotheses to reveal any relationship between the

incidence of patient falls and the nurses' reported levels of LH across the medical-

surgical units.

Results

The nurse participants answered yes to working in one of the nine medical-

surgical inpatient units within the specified timeframe of the study comparison (n=117).

Of the 117 participants, 85.7% of the nurses identified as female and 14.3% of the nurses

identified as male. The highest percentage of the nurses' age grouping fell into the 20-30

year range (58%), followed by the 30-40 year range (24.4%). Nurse experience levels

revealed similar percentages among the three specified groups, (< 1 yr. experience =34%,

>1 yr. but > 5 years' experience = 37.8%, > 5 years' experience= 33.6%) (see Table 1).

Table 1.
Nurse Characteristics

	# of Nurses	%
Gender		
Female	100	85.7%

Male	17	14.3%
Age group		
20-30	67	58%
30-40	29	24.4%
40-50	11	9.2%
50-60	8	6.7%
> 60	2	1.7%
Experience level		
< 1 year	32	28.6%
> 1 year but < 5 years	45	37.8%
> 5 years	40	33.6%

I calculated statistical tests, which were computed using SPSS V.25.0 to determine if there was a relationship between acute care nurses' self-reported LH and medical-surgical fall incidence across nine inpatient units in an academic medical center. Descriptive testing revealed skewness of .034 and kurtosis of -.552 for fall incidence and skewness of -.265 and kurtosis of .269 for LH with all values meeting the assumption of normal distribution as data variables showed values at ±1. A Shapiro-Wilks test of normality resulted in a non- significant value (fall incidence, $p = .521$, LH, $p = .690$) which indicated the assumption of normality was met. There were no outliers or missing data noted during testing. Given the sample size met minimum requirements ($n=117$),

there were no assumptions to indicate nonnormality significantly affected the results.

According to Cohen (1992), the covariance of validity of a relationship between two

variables is dependent of the positive, negative, or no significance of a linear relationship.

Means and standard deviations for the independent (nurses' self-reported LH) and the

dependent (medical-surgical falls incidence) variables (see Table 2).   Pearson correlation

coefficient testing revealed no linear correlation existed ($r = -.045$, $n = 117$, $p = .628$)

between the self-reported LH scores of the nurses and the fall incidence across the nine

inpatient units.

Table 2.
Means and Standard Deviations of variables.

	M	*SD*
Variable		
LH Score	50.70	9.96
Fall Incidence	48.96	10.12

A scatter plot summarized the results (*Figure 1*). Overall, there was no linear

correlation between the independent (nurses' self-reported LH) and the dependent

(medical-surgical falls incidence) variables. In *Figure 1* below, there is marked random

distribution of data. Therefore, the correlation was not statistically significant, and no

linear relationship existed between LH and fall incidence. The null hypothesis was

retained.
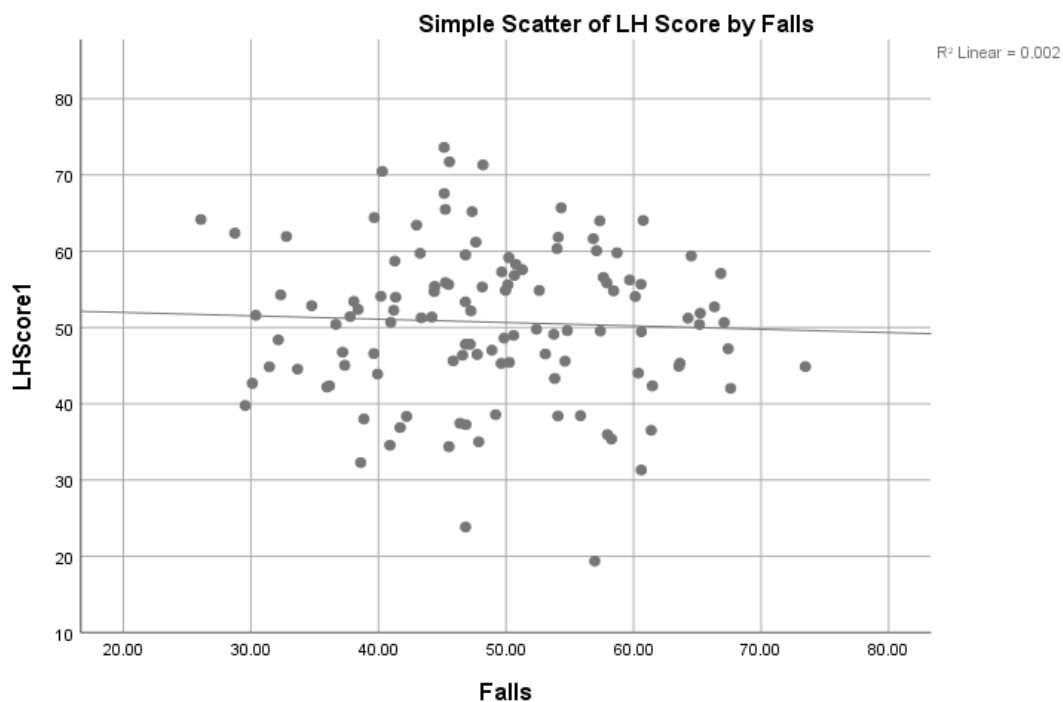
Figure 1. Scatterplot graph of the non-linear relationship between fall incidence and LH.

Discussion

Interpretation

Falls are considered a negative patient outcome and over time, many research studies have been focused on efforts to improve or modify quality improvement programs validated to decrease patient falls and falls with serious injury. LH is considered an acquired set of behaviors from over exposure to negative or harmful situations or scenarios (Gibson & Lloyd, 2017). My study aimed to compare the relationship between LH and fall incidence among medical-surgical inpatient units. Because higher frequency in fall events typically occur on medical-surgical units versus other areas of the health

system, nurses working in those areas were hypothesized to have higher levels of LH when higher incidence of falls occurred on their units.

My study revealed that the self-reported nursing perceptions of LH had no association with the incidence of inpatient fall incidence among the nine inpatient medical-surgical units. The findings did not support that the nurse's frequent exposure to patient falls contributed to increased levels of self-reported LH. My correlational study was the first scholarly query to quantitatively measure for relationships specific to nurses using the LHS scale. My study contributes to literature because it provided results using the unique variables of LH and fall incidence for the first time to nurses in the northeastern United Sates. Although the results did not suggest that the levels of LH among nurses contributed to fall incidence, the perceptions of nurses related to fall incidence and the potential effect on patient outcomes have implications to nursing practice.

Limitations

My study presented several limitations. First, the correlational design was not ideal for illustrating possible causal effects of LH on fall outcomes. According to Cohen (1992), calculating the strength of relationships among variables denotes a strength of correlational analysis, however, one should not assume cause and effect and even strong associations may be deceiving. My research only theorized a relationship rather than authenticated one.

Second, the data revealed broader gaps in variations among patient type across the nine medical-surgical units. Although, high-level and administrative definitions of the nine units included in this study met the NDNQI characteristics of a medical-surgical unit, patients admitted to one unit were not typical admissions and varied by unit-type. The specificity of medical-surgical inpatient type admitted to an academic medical center related to comorbidity and complexity of care needs should be considered a limitation.

Lastly, the possible exclusion of potentially significant variables presented another limitation. There was no way to control for many of the probable or contributory causes to increase nurses' levels of LH. The utilization of another unobserved variable may have presented different results. Future data analysis to include subgroups that can be controlled (i.e., gender, age group, nurse experience level) may provide more detailed and significant findings on the relationships and differences between LH and fall incidence. Qualitative and mixed-method studies may assist in identifying lived experiences of nurses with LH and when compared and validated with quantitative quality results may assist with the expansion of conceptual models for future research.

Implications

The findings of my study did not offer insight to associations between LH and fall incidence. However, the literature supported the importance of fall risk assessments and the role nurses play in fall prevention. Falls are a complex quality issue with many considerable variables of the patients and nurses to consider. Patient falls and falls with injury have been a long-term, well-known quality and safety concern among inpatient

and outpatient settings. Over 50 validated fall prevention and fall risk stratification tools are currently implemented across the US, yet patient falls continue to occur with many falls resulting in serious injury, even death (Landry et al., 2017). According to Ploeg et al. (2018), a quantitative study correlation finding revealed no significant relationship (*p*= .10) existed between the application of an evidence-based clinical practice guideline and favorable fall rates two years post-implementation. Researchers determined that significant gaps in knowledge exist between the failures of the evidence-based fall prevention guideline implementation and the negative outcomes associated with patient falls related to nurse behavior and response to patient harm and appropriate fall risk stratification of patients (Reich et al., 2017; Rowan & Veenema, 2017; Spicer et al., 2017; Staggs, Davidson, Dunton, & Crosser, 2015; Watson, Salmoni, & Zecevic, 2015; Zhao, 2016).

Nurses who experienced repeated exposure to patient falls over time have been presented with multiple options in evidence-base fall prevention and risk stratification tactics for nursing practice (Rowena & Veenema, 2017). The pressure of competing quality and safety initiatives coupled with staffing, unit resources, and complex patient care assignments provide an environment for acquired feelings of helplessness when repeated efforts to prevent patient falls continue to fail and patients are harmed. Nurses who remain task-oriented may overlook imperative clinical details of the patient presentation and the environment. My study did not link the nurses-self-reported LH to fall incidence. However, a gap in knowledge exists between why the reduction in fall

incidence remains difficult to maintain across health systems with so many validated evidence-based tools currently in existence and implemented nationwide.

Landry et al. (2017) found positive associations on the predictive ability of behaviors associated with the likeliness of participation and positive contribution to prevention of harm or proactive preoccupation with failure to minimize risk of injury ($B = 0.26$, $SE = 0.03$, $p < 0.001$). Gibson and Lloyd (2017) conducted focus groups in one medical-surgical unit ($n = 25$) which brought forth themes of "helplessness" and "feeling awful" when patients fall under their care. The literature suggests that fall incidence and perceptions of LH among nurses is a worthy topic of scientific exploration. Therefore, this study focused specifically on the self-perception of nurses acquired LH and any initial relationship to medical-surgical unit fall incidence.

Recommendations

More research studies are needed for future inquiry on the topics related to patient falls, nursing perceptions of safety interventions, and quality improvement programs. I recommend that future studies include the effects of LH among nurses and the implications to patient care delivery guidelines and nursing practice. Future quantitative studies may reveal relationships between fall incidence and LH in nurses when other variables, such as nurse experience level, age, and staffing are considered.

Conclusion

Nurses are driving forces of positive social change and make effective contributions to quality, safer care delivery. My study's inquiry brought forth much

needed and often overlooked attention to the psychosocial and behavioral needs of nurses who are subject to the negative consequences of patient falls. Further research assimilating other variables and using different research methodological designs is required to establish a better and complete picture of the nurses' perceived LH and its involvement with the relationship to patient fall incidence.

References

American Nurses Association (ANA). (2019). *Nursing-sensitive indicators*. Retrieved from http://www.nursingworld.org

Bernstein, J. (2016). Not the last word: Learned helplessness and Medicare's bungled bundled payment program. *Clinical Orthopaedics and Related Research*, *474*(9), 1919-1923. https://doi.org/10.1007/s11999-016-4935-8

Cohen, J. (1992). Statistical Power Analysis. Current Directions in Psychological Science, 1(3), 98–101. https://doi.org/10.1111/1467-8721.ep10768783

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160.

Gibson, T., & Lloyd, S. (2018). Nursing staff perceptions of fall risk: The emergence of learned helplessness as a theme. *Journal of Nursing Administration*, *48*(1), 5-7. https://doi.org/10.1097/NNA.0000000000000562

Landry, N., Gifford, R., Milfont, T. L., Weeks, A., & Arnocky, S. (2017). Learned helplessness moderates the relationship between environmental concern and behavior. *Journal of Environmental Psychology*, *55*, 18-22. Retrieved from https://www.sciencedirect.com/science/article/pii/S0272494417301706

Moreland, J. J., Ewoldsen, D. R., Albert, N. M., Kosicki, G. M., & Clayton, M. F. (*20*15). Predicting nurses' turnover: The aversive effects of decreased identity, poorer

interpersonal communication, and learned helplessness. *Journal of Health Communications*, *20*(10), 1155-1165. doi.org/10.1080/10810730.2015.1018589

National Database for Nursing Quality Improvement (NDNQI) (2010b). *Guidelines for data collection on American Nurses Association's National Quality Forum endorsed measures: Nursing care hours per patient day, skill mix, falls, falls with injury*. Retrieved from https://www.nursingquality.org

Ploeg, J., Ireland, S., Cziraki, K., Northwood, M., Zecevic, A. A., Davies, B., ... Higuchi, K. (2018). A sustainability oriented and mentored approach to implementing a fall prevention guideline in acute care over 2 years. *SAGE Open Nursing*, *4*, 1-17. https://doi.org/10.1177/2377960818775433

Porter, R. B., Cullen, L., Farrington, M., Matthews, G., & Tucker, S. (2018). Exploring clinicians' perceptions about sustaining an evidence-based fall prevention program. *American Journal of Nursing*, *118* (5), 24-33. Retrieved from ajnonline.com

Quinless, F. W., & McDermott-Nelson, M. A. (1988). Development of a measure of learned helplessness. *Nursing Research, 37*(1), 11-15.

Recio-Saucedo, A., Dall'Ora, C., Maruotti, A., Ball, J., Briggs, J., Meredith, P., ... Griffiths, P. (2018). What impact does nursing care left undone have on patient outcomes? Review of the literature. *Journal of Clinical Nursing*, *27*, 2248-2259. https://doi.org/10.1111/jocn.14058

Reich, J., Farrell, K., Maloney, C., Drayton, D., & Johnson, T. (2017). Decreasing falls

    with injury rates: Development of a support staff falls advocate program. *Journal*

    of Nursing Care Quality, *32*(1), 40-46.

    https://doi.org/10.1097/NCQ.0000000000000206

Rowan, L., & Veenema, T. G. (2017). Decreasing falls in acute care medical patients: An

    integrative review. *Journal of Nursing Care Quality*, *32*(4), 340-347.

    https://doi.org/10.1097/NCQ.0000000000000244

Spicer, J. G., Delmo, C. J., & Agdipa, C. (2017). The got-a-minute campaign to reduce

    patient falls with injury in an acute care setting. *MedSurg Nursing*, *26*(5), 313-

    315.

Watson, B. J., Salmoni, A. W., & Zecevic, A. A. (2015). Falls in an acute care hospital as

    reported in the adverse event management system. *Journal of Hospital*

    Administration, *4*(4), 84-91. doi.org/10.5430/jha.v4n4p84

Zhao, Y. (2016). *Factors associated with inpatient falls and injurious falls in acute care*

    hospitals (Doctoral dissertation, University of Kansas). Retrieved from

    https://search-proquest-

Nurse Staffing and Learned Helplessness' Relationship with Acute Care Patient Fall

Incidence

Jennifer Glendening, MSN

Walden University

Outlet for Manuscript

The target journal for this manuscript is the *Journal of Nursing Care Quality* (JNCQ). JNCQ is a peer-reviewed journal that encourages submissions of original research, including manuscripts that offer applicable and resourceful knowledge related to patient safety and the application of quality improvement principles across various clinical settings (JNCQ; http://edmgr.ovid.com). JNCQ accepts manuscripts formatted to the America Medical Association (AMA) Manual (10th edition). The recurrent safety issue related to patient falls, an emerging nursing behavior, learned helplessness, and the possible implications to nursing practice and patient outcomes are the focus of this manuscript. The content presented represents discussion relevant to the promotion of clinical quality and safety outcomes and aligns with the JNCQ's mission to support the promotion of new nursing knowledge.

Abstract

Purpose: This study aimed to identify relationships between of nurses' self-reported learned helplessness (LH), total hours per patient day (THPPD) and fall incidence among medical-surgical inpatient units. It highlighted the importance of nursing implications to patient outcomes and provides pertinent information needed to support and enhance future research endeavors on the topic of LH and its impact on nursing practice and efforts to strive toward continuous improvements in the quality and safety outcomes of patients.

Methods: The participants were 117 medical-surgical registered nurses working at an urban, academic medical center located in the northeastern part of the United States. This study was conducted using a validated survey-tool to measure self-reported levels of learned helplessness (LH) and secondary data collected from the facility's internal incident reporting system to capture fall incidence and THPPD for regression analysis. Data were analyzed using multiple linear regression.

Results: The regression analysis did not reveal significant relationships between LH ($p =$ .690, THPPD [($p =$ .352, and fall incidence ($p =$ .521)].

Conclusion: There were no correlations between the independent variables, LH and THPPD and the dependent variable, fall incidence. Although the analyses did not result in significant findings, the presence of LH among the nurse participants warrants further review and inquiry on topics related to nursing perceived behaviors and quality outcomes.

Introduction

Patient falls remain a widely recognized significant clinical issue and safety concern in the healthcare community. The Institute of Medicine, the Joint Commission, Agency for Healthcare Research and Quality, and the National Quality Forum collectively deemed patient falls to be a significant quality, safety, and financial burden affecting patients and healthcare facilities nationwide (American Nurses Association, [ANA], 2019). About one in three older adults will fall at least one time each year, and the risk of falling again increases by three times after an inpatient admission (Rowan & Veenema, 2017). Thirty percent of inpatient falls result in injury, with about 5% causing serious or permanent harm (Reich, Farrell, Maloney, Drayton, & Johnson, 2017; Spicer, Delmo, & Agdipa, 2017).

Previous studies mainly focused on the relationships between patient outcomes and substandard implementation efforts, nurse knowledge of fall interventions or the ineffectiveness of fall reduction intervention tools (Reich et al., 2017; Rowan & Veenema, 2017; Spicer et al., 2017; Staggs, Davidson, Dunton, & Crosser, 2015; Watson, Salmoni, & Zecevic, 2015; Zhao, 2016). However, relationships between fall outcomes and the psychosocial behaviors or attitudes of nurses who are vital to implementing the recommended fall reduction interventions should be considered. Gibson and Lloyd (2017) focused on nurses' perceptions related to the reasons they believed recommended fall reduction strategies have failed in their hospitals and suggested "hopelessness" and "helplessness" to be a rising concern among medical-surgical nurses. Previous research

suggested that an alternative view to consider is the concept of learned helplessness (LH) and its relationship to the implementation and compliance of patient safety procedures and quality outcomes (Chung, Choi, & Du, 2014; Gibson & Lloyd, 2018; Landry, Gifford, Milfont, Weeks, & Arnocky, 2017).

Zhao (2016) stated medical-surgical nursing units reported higher fall rates than other inpatient units. Many researchers also stated that medical-surgical units had unique challenges to the appropriate implementation of safety practices related to the specialized patient characteristics and staffing patterns of the medical-surgical care environment (Copeland & Chambers, 2017; Driscoll et al., 2018; Min & Scott, 2016; Reich et al., 2017; Rowan & Veenema, 2017; Spicer et al., 2017; Staggs et al., 2015; Taylor & Hignett, 2016; Watson et al., 2015). The structure of medical-surgical inpatient units related to complex patients, work environment, staffing ratios, and psychosocial perceptions of the nursing interventions used for fall reduction are essential to improve patient safety and decrease the incidence of patient injury.

Significance

Falls are considered the most reported adverse event and remain one of the most frequent causes of inpatient harm across acute care hospitals worldwide. Despite extensive research and massive investments allotted for the development and deployment of best practice guidelines and the implementation of various evidence-based fall reduction strategies, hospitals continue to struggle with less than optimal fall rates and suffer significant financial loss due to hospital-acquired patient harm (Barker et al., 2015;

Reich et al., 2017; Rowan & Veenema, 2017; Spicer et al., 2017; Staggs et al., 2015).

While many studies focused on patient profiling related to the risk of predicting falls,

(Barker et al., 2015; McKechnie, Pryor, & Fisher, 2016; Reich et al., 2017), other

researchers focused on nursing and patient-specific education on fall awareness, types of

falls, and environmental safety (Boyle, Dunton, Gajewski, Garrard, & Simon, 2016;

(Crosser, Davidson, Dunton, & Staggs, 2015; Kim, Jeon, & Chon, 2015; Spicer et al.,

2017). The National Database of Nursing Quality Improvement (NDNQI) benchmarks

quality outcomes, like falls, based on nursing sensitive characteristics, such as total hours

per patient day (THPPD), and unit-type. Findings suggested that medical-surgical units

have a higher reported incidence of falls and unfavorable benchmarks compared to other

unit types (Crosser et al., 2015; (Reich et al., 2017; Rowan & Veenema, 2017; Zhao,

2016). Factors, such as, work left undone or missed care influenced adverse quality

outcomes and minimized safety concerns of bedside nurses due the demanding patient

care required of the medical-surgical population and inadequate staffing (Copeland &

Chambers, 2017; Driscoll et al., 2018; He, Staggs, Bergquist-Beringer, & Dunton, 2016;

Recio-Saucedo et al., 2018; Taylor & Hignett, 2016).

Due to the significant and unique characteristics of the medical-surgical

population, nurses are required to make complex clinical assessments and plan care

according to the needs of up to six patients each shift. The demands of patient care may

stimulate emotional exhaustion, challenge resilience, and damage teamwork in units with

less than optimal nurse staffing and overexposure to poor patient quality outcomes, such

as, falls, pressure ulcers, and restraint use (Driscoll et al., 2018; Spicer et al., 2017; Steege & Dykstra, 2016; Watson, Salmoni, & Zecevic, 2015). LH is defined as an acquired helpless or hopeless behavior as the result of repeated, exposure to unfavorable or unwelcomed situations among individuals (Chung et al., 2014). Given the significant demands noted of medical-surgical environments related to unit design, resource availability, staffing, and patient population, nurses working within these units' face challenges related to fall outcomes. Medical-surgical nurses are exposed to more falls than other units, which may stimulate an emotional response to the adverse outcomes associated with post-fall harm or fear of leadership retribution (Zhao, 2016). The purpose of this quantitative study was to examine for relationships among nurse staffing hours using the NDNQI defined THPPD, nurses' self-reported LH, and medical-surgical fall incidence. Understanding the relationship across these variables may generate evidence on psychosocial perceptions of medical-surgical nurses and a relationship to patient falls. The nurse's psychosocial response to poor patient outcomes remains essential to consider when developing quality improvement programs. More research is necessary to gain knowledge to better support evidence-based programs and decrease variations in the delivery of safe patient care to reduce the incidence of patient falls.

A conceptual framework was developed based on Donabedian's model (structure-process-outcome) to evaluate the quality of care delivery, specifically related to inpatient falls. Donabedian believed his model to be adaptable to various patient settings and applicable to varying synopses related to healthcare quality (Donabedian,

1968). I studied the relationships between the structure (medical-surgical units, nurses'

self-reported LH, medical-surgical unit environment and THPPD), and the outcome

(medical-surgical patient falls incidence). Understanding new knowledge about patient

falls can promote a positive and original perspective for future methods designed to

improve quality outcomes, and encourage healthcare executives to consider the well-

being, emotional needs of medical-surgical nurses caring for the most complex and

diverse patient populations across acute care health systems.

Relevant Scholarship

Despite the comprehensive efforts of research, education, and evidence-based

strategies to mitigate patient risk and predict the probability of falls, nurses are still

challenged with fall prevention. Barker et al. (2015) conducted a cluster, randomized

controlled study to measure fall rates per 1000 inpatient days after the implementation of

the 6-PACK program, a risk assessment tool that consisted of up to six fall prevention

tactics used in acute care medical units across six Australian hospitals. Barker et al.

stated the intervention group who used the 6-PACK program resulted in the lower overall

incidence of patient falls (incidence ratio, 3.05, $p = 0.001$). However, fall incidence with

injury remained the same across the control group and intervention group (incidence

ratio, 1.04, $p = 0.766$). In the United States, Spicer, Delmo, and Agdipa (2017) discussed

the development and deployment of a similar evidence-based fall prevention bundle, the

Got-A-Minute Campaign, which provided a fall prevention toolkit to a 35-bed medical-

surgical inpatient unit. Spicer et al. (2017) stated that although the *Got-A-Minute*

Campaign supported positive nursing practice changes related to fall assessments and bundle compliance through education and awareness, the desired reduction in fall rates by 40% had not been achieved.

Overall, studies on evidence-based initiatives designed to guide hospitals toward favorable patient outcomes relevant to falls failed to solidify practice changes leading to successful NDNQI benchmarking or less incidence of patient harm post-fall (Boyle et al., 2016; Kim et al., 2015; Watson et al., 2015; Zhao, 2016). Current research suggested the lack of adoption of recommended fall guidelines and the continuous failures to reduce patient falls within medical-surgical inpatient units resulted from ineffective nurse staffing support, the complexity and morbidity of the patient population, and poor unit design that limited access to resources needed to care for patients and keep them free from harm (Copeland & Chambers, 2017; Crosser et al., 2015; McKechnie et al., 2016; Reich et al., 2017; Staggs et al., 2015). Copeland and Chambers' retrospective secondary data analysis of patient fall-related incident reports revealed minimal changes in fall incidence over a 5-year timeframe with rates ranging from 4.40 through 4.90 across medical programs in a large, urban academic medical center and suggested more studies are essential to understand the complexity of fall incidence in acute care populations.

Nurses are the patients' primary bedside caregivers and altered clinical decision-making while faced with pressure can result in adverse harm to patients. According to Recio-Saucedo et al. (2018), a systematic review of 14 studies revealed the pressures nurses regularly face frequently resulted in missed care or work left undone and were

associated with quality outcomes in seven of the reviews. *Missed care* refers to any care (clinical, psychosocial, or administrative) left totally or partially unfinished by nurses and characterized as *unmet patient needs* or *care rationing* (Recio-Saucedo et al., 2018). Additional researchers supported Recio-Saucedo et al. (2018) and stated that medical-surgical nurses faced diversity in care delivery based on multiple factors, including inadequate staffing ratios, and suggested missed tasks, medications, or treatments ordered for patients during a shift occurred on average more than twice per shift per nurse (Copeland & Chambers, 2017; He et al., 2016; Driscoll et al., 2018). Therefore, the concept of missed care due to these factors remained essential to consider related to medical-surgical fall outcomes and staffing patterns of the units. Broad public statements have labeled safe staffing as the single determinate impacting quality of care for inpatients. Overtime, numerous researchers dedicated studies related to the identification and definition for what suitable nurse to patient ratios look like for medical-surgical inpatient units (Driscoll et al., 2018; He et al., 2016; Min & Scott, 2016; Zhao, 2016).

According to the ANA, understaffing of nurses was rated as one of the biggest dangers to patient safety, and laws to mandate nurse to patient ratios resulted from failures by healthcare employers to recognize the correlation between RN staffing and patient outcomes (He et al., 2016). According to Driscoll et al. (2018), if the nurse to patient ratio increased by one patient per nurse, patients were 22% less inclined to receive a good quality of care. He et al. (2016) stated the 2008 mandate from the Centers for Medicare & Medicaid Services (CMS), which stopped reimbursements for specified

hospital-acquired conditions, like falls with injury, in addition to the decline in patient outcomes brought forth substantiated increased nurse staffing by almost 12% from 2004 through 2008. He et al. demonstrated that using the NDNQI nurse staffing measurement, THPPD, higher numbers of total nursing hours had a direct connection to lower fall rates ($p < 0.001$). Min and Scott (2016) conducted a systematic literature review, which also revealed significant reliability between higher staffing levels (THPPD) and predictability levels of patient falls (ICC = 0.643-0.996). Choi and Miller (2018) offered an alternative perspective related to the nurse's perception of RN-to-patient assignments. Choi and Miller (2018) conducted a study that used survey data collected from nurses who rated shift assignments as acceptable or unacceptable. Results from the study significantly linked several RN characteristics to (gender, $p = <0.001$, education level, $p = <0.001$, unit tenure, $p = <0.001$, and hospital size, $p = <0.001$) to RN perception of unacceptable patient assignment and RN-rated quality of care ($p = <0.001$). Relationships existed between an individual's perception of barriers or unacceptable work environments and undesirable or unfavorable quality outcomes (Choi & Miller, 2018; Chung et al., 2014; Gibson & Lloyd, 2018; Landry et al., 2017; Rydon-Grange, 2015).

Rydon-Grange (2015) suggested the inquiry into the role of human behavior and its relationship to adverse patient events offers valuable insight into understanding how and why failures occurred. Landry et al. (2017) described LH as a barrier to an individual's concern or preoccupation with failure and stated the presence of LH decreased the likelihood an individual would join activities related to the safety of others (B= -0.22 SE = 0.08, $p < 0.005$). Gibson and Lloyd (2018) conducted interviews (n=25) of medical-surgical nursing staff, which uncovered symptoms of helplessness when asked to describe to experiences with fall prevention strategies recommended by their organization. Nurses stated, "rounding hourly….one tech for 20 patients….it's not possible" and "caring for confused patients, up to six at a time makes avoiding falls impossible" and noted the majority of patient falls occur in their unit despite best efforts to follow hospital policy (Gibson & Lloyd, 2018). New knowledge about the relationship between nurses' self-reported LH and THPPD and the incidence medical-surgical patient falls provided evidence to encourage organizations to consider the psychosocial influence of the nurse on safety-related patient outcomes as an opportunity to improve patient outcomes.

Research Question

Research Question 1 (RQ1): What is the relationship between THPPD, nurses' self-reported LH, and medical-surgical unit incidence of patient falls?

Null Hypothesis ($H_0$1): There will be no relationship between THPPD, nurses' self-reported LH, and medical-surgical unit incidence of patient falls.

Alternative Hypothesis (H_a1): There will be a relationship between THPPD, nurses' self-reported LH, and medical-surgical unit incidence of patient falls.

Methods

Participants

After approval from the hospital's Institutional Review Board, a flyer emailed to medical-surgical registered nurses across nine inpatient units employed at a larger, teaching hospital included a link to an online survey (see Appendix A).   Additional descriptive characteristics of the nurse participants were captured via survey link (see Appendix B). .

Setting. Nine acute care, medical-surgical, and medical-surgical combined units as defined by the NDNQI. These nine units' staffed two, 12-hour shifts per day with nurse-to-patient ratios ranging from 1:5 or 1:6, depending on unit census and staffing availability throughout the health system.

Sample and Power

The sample size for the study comprised of medical-surgical inpatient nurses from a large, academic, level-one trauma center located in the northeastern United States. Using the G*Power 3.1.9.4 calculator and the point biserial model statistical test, (Faul, Erdfelder, Buchner, & Lang, 2009) , I set input parameters at a medium effect size of 0.3, probability error of 0.05, and power of 0.80 which returned a total sample size of 82 needed for the analysis. There were nine units and roughly 1200 nurses who were

employed among all the units. I used stratified random sampling to ensure the

representation of all nine medical-surgical units in the sample used for the analysis.

Proportions of the overall population of medical-surgical nurses were grouped to create

independent samples. Fall incidence data retrieved from the hospital's incident reporting

management system mirrored the facility's quarterly data submitted to NDNQI for

comparative benchmarking to other like hospitals. NDNQI defines fall incidence as the

total number of falls that occurred within an inpatient unit per 1000 hospital days and

THPPD as the total number of nursing personnel hours caring for patients in a 24-hour

period (NDNQI, 2010b). THPPD data provided through the research facility's finance

department inlcuded 18 months of data from January 2018 through June 2019.

Variables/Data Sources

      Independent variables. The nurses' self-reported levels of LH and THPPD at

the medical-surgical inpatient unit-level represented the independent variables.

      A survey using a reliable validated tool, the Learned Helplessness Scale (LHS)

captured the nurses' self-reported LH. Permission granted by Dr. Frances Ward to use

the scale for the data collection (see Appendix C). The LHS is a questionnaire-type

survey tool comprised of 20 items and graded using a 4-point Likert scale (1 = *Strongly*

disagree and 4 = *Strongly agree*) (see Appendix D) (Quinless & McDermott-Nelson,

1988). To measure LH, the added total of all twenty item scores determined the final

score. The possible range of scores on the LHS is 20 to 80 with higher scores indicating

higher learned helplessness (Quinless & McDermott-Nelson, 1988). Two examples of

the 20 items included in the survey include, "*No matter how much energy I put into a new task, I feel I have no control over the outcome*" and "*I do not try new tasks if I have failed similar tasks in the past*" (Quinless & McDermott-Nelson, 1988). The hospital's finance department provided the medical-surgical unit THPPD data collected over an eighteen month time period from January 2018 through June 2019.

Dependent variable. The dependent variable was the incidence of medical-surgical patient falls of the academic, level one trauma center used for the research. Data collection for the medical-surgical fall incidence conducted after permission established and approved by the appropriate stakeholders using 18 months' time period from January 2018 through June 2019. The hospital used the NDNQI medical-surgical unit-type definition standards. The NDNQI categorizes medical-surgical units by medical, surgical, or combined medical-surgical (NDNQI, 2016b). NDNQI is the only available nursing database which supports the overall measurement and comparison of a researched and validated group of nursing-specific demographical and quality metrics, defined as, nursing-sensitive indicators (NSI) (NDNQI, 2010b). NSI reflect Donabedian's SPO conceptual framework and provide hospitals a meaningful platform to apply and evaluate recommended practice to improve quality outcomes endorsed by the National Quality Forum (ANA, 2019). Patient falls are one of the nineteen NSI included in the database and allow hospitals to link direct nursing care related to falls through the measurement of a total number of inpatient falls per 1000 inpatient days (fall incidence),

or patient outcomes (NDNQI, 2010b). The hospital's incident reporting management system provided interval-ratio level data for the medical-surgical fall incidence.

Measurements

The privacy and protection of the participants and the facility maintained through a thorough de-identification of all participants. The data were organized and analyzed statistically using SPSS® V25.0 and examined to identify if the staff nurses self-reported LH and THPPD directly associated with medical-surgical fall incidence. Data collection consisted of a specified timeframe and aligned with the distribution of the LH survey to the employed nurses at a specified academic medical center. THPPD included all registered nursing and unlicensed nursing support staff in the unit of measure for total nursing care hours reported to the NDNQI. Higher numbers of THPPD indicate lower nurse-to patient-ratios and more optimal staffing by unit acuity with lower than average THPPD indicates higher staffing ratios compared to similar hospitals (NDNQI, 2010b). Multiple regression and summative statistics used to examine the strength or nature of a relationship between nurses' reported LH, THPPD, and inpatient medical-surgical fall incidence.

Design and Analysis

An analysis investigated whether nurses' self-reported LH and THPPD were linked to medical-surgical fall incidence conducted using multiple regression. Multiple regression equations allow for linking of criteria or predictor to another set of variables (Warner, 2013). For the independent variables (LH and THPPD), descriptive information

about the nurse and unit captured in addition to the 20 questions included with the LHS

survey. The hospital's finance department provided the THPPD data. Categorical data

represented both independent variables (nurses' self-reported LH and THPPD). The

hospital's incident reporting management system provided the dependent variable

(overall fall incidence) data. The incidence of falls and total nursing hours were interval-

ratio level data and allowed for parametric statistical analysis. LH and THPPD may be

related to levels of self-reported LH, so both variables were included in my study model

and investigated for their effects on medical-surgical fall incidence.

I used multiple regression and investigated the predictive ability of the two

explanatory, independent variables (LH and THPPD) on the outcome, dependent variable

(fall incidence). A multiple regression model provided testing to identify if LH and

THPPD predict the incidence of falls in medical-surgical care units. Investigation using

inferential statistics tested the hypotheses to reveal relationships among nurses' reported

levels of LH, THPPD, and the medical-surgical fall incidence.

Results

Sample Characteristics

The sample (n=117) comprised of nurses who answered yes in the survey tool to

working in one of the nine medical-surgical inpatient units. Most of the sample (85.7%)

identified as female and 14.3% of the nurses identified as male. Most of the participants

were 20-30 years old (58%), followed by the 30-40 year range (24.4%). Nurse

experience levels revealed similar percentages among the three specified groups, (< 1 yr.

experience =34%, >1 yr. but > 5 years' experience = 37.8%, > 5 years' experience=

33.6%) (see Table 1). Unit characteristics were collected to display the number of nurse

participants in each of the nine medical-surgical units included in the study. The sample

size distribution varied considerably among the nurse participation between the nine units

used for the analysis (see Table 2).

Table 1.
Nurse Characteristics

	# of Nurses	%
Gender		
Female	100	85.7%
Male	17	14.3%
Age group		
20-30	67	58%
30-40	29	24.4%
40-50	11	9.2%
50-60	8	6.7%
> 60	2	1.7%
Experience level		
< 1 year	32	28.6%
> 1 year but < 5 years	45	37.8%
> 5 years	40	33.6%

Table 2.
Distribution of the Sample across Units

	# of Nurses	%
Medical-Surgical Unit		
Unit 1	28	24%
Unit 2	25	21.4%
Unit 3	17	14.5%
Unit 4	10	8.5%
Unit 5	9	7.7%
Unit 6	9	7.7%
Unit 7	8	6.8%
Unit 8	6	5.1%
Unit 9	5	4.3%

I analyzed the data using SPSS V.25.0 to determine if there were relationships between acute care nurses' self-reported LH, total HPPD, and medical-surgical fall incidence across nine inpatient units in an academic medical center. Descriptive testing revealed skewness of .034 and kurtosis of -.552 for both fall incidence and THPPD, a skewness of -.265 and kurtosis of .269 for LH with all values meeting the assumption of normal distribution as data variables showed values at ±1. A Shapiro-Wilks test of normality resulted in non- significant values (fall incidence, $p = .521$, LH, $p = .690$, THPPD, $p=.352$) which indicated the assumption of normality was met. There were no outliers or missing data noted during testing. Given the sample size met minimum

requirements of the power analysis (*n*=117), there were no assumptions to indicate

nonnormality significantly affected the results. The variance of validity of a relationship

between two variables is contingent of the positive, negative, or no significance of a

linear relationship (Cohen, 1992).

Means and standard deviations for the three variables (LH, fall incidence, and

THPPD) are presented (see Table 2). Pearson correlation coefficient testing revealed no

linear correlations existed between the self-reported LH scores of the nurses (*r* = -.045, *n*

= 117, *p* = .314), THPPD staffing (*r* = .11, *n* = 117, *p* = .454) and the fall incidence

across the nine inpatient units (see Table 3.) The multiple regression model summary

revealed the adjusted R square (-.015) and significance value (*p* = .878) which suggested

only a minute percentage of LH and THPPD explained the occurrence or incidence of

falls across the nine medical-surgical units and no significant relationships identified

using an ANOVA test. Therefore, the null hypothesis was retained. A scatterplot

diagram of the regression analysis demonstrated the non-linear relationships among LH,

THPPD, and fall incidence (see *Figure 1* below).

Table 3.
Means and standard deviations of variables.

	M	*SD*
Variable		
LH Score	50.70	9.96

Fall Incidence	48.96	10.12
THPPD	45.17	1.95

Table 4.

Pearson's Coefficient Correlation between Nurses' Reported LH and Fall Incidence

		Fall Incidence	THPPD	LH
Pearson Correlation	Fall Incidence	1.00	.11	.045
	THPPD	.11	1.00	.105
	LH Score	-.045	.105	1.00
Sig. (1-tailed)	Fall Incidence		.454	.314
	THPPD	.454		.128
	LH Score	.314	.128	

Scatterplot
Dependent Variable: Medical-Surgical Fall Incidence
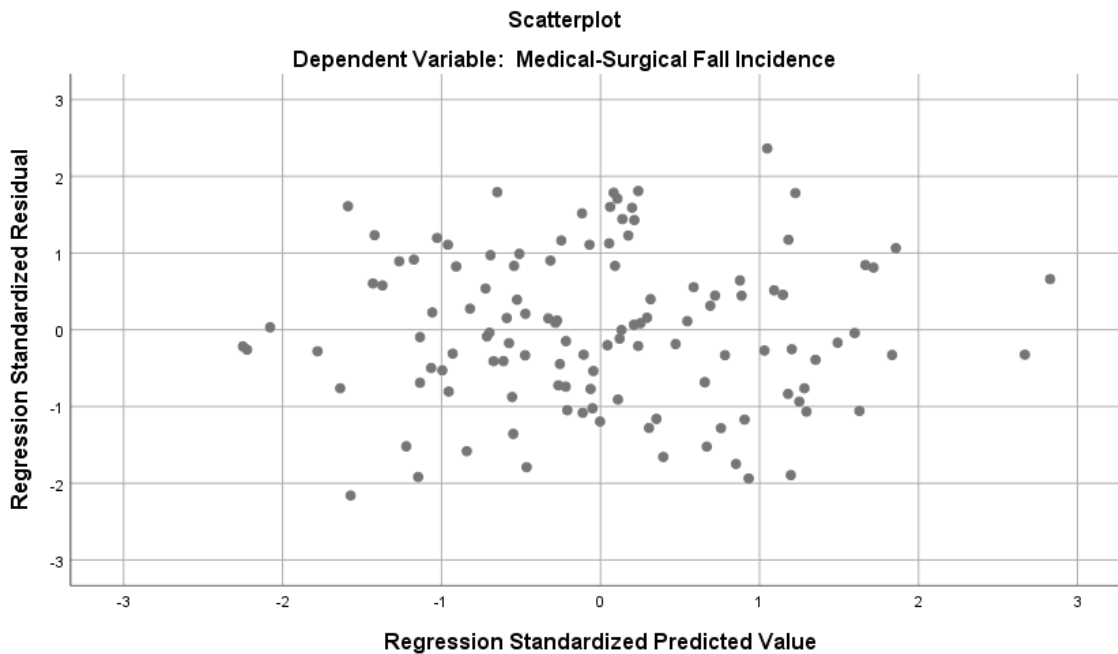
Figure 2. Scatterplot graph of the non-linear relationships between fall incidence, THPPD, and LH.

Discussion

Interpretation

Increased fall rates are well known to be reported from medical-surgical units in comparison to other unit types of most health systems. Broadly, studied staffing models concluded THPPD influenced fall outcomes in the inpatient settings. My study aimed to investigate the relationship between LH, THPPD, and fall incidence among medical-surgical inpatient units.

The results of my study showed that self-reported nursing perceptions of LH and THPPD staffing measurements had no association with the incidence of inpatient fall

incidence among the nine inpatient medical-surgical units used for the analysis nor was there a relationship between the THPPD measurement and the incidence of medical-surgical patient falls. My correlational study was one the first scholarly inquiries to explore for relationships specific to nurses using the LHS scale and THPPD on fall incidence among acute care settings. My findings contributed to literature because it brought forth new insight to the concept of LH among acute care nurses and the potential need for future research to include nurses' behaviors linked to quality outcomes. Although the results did not suggest that the levels of LH among nurses or THPPD contributed to fall incidence, the perceptions of nurses related to fall incidence and the potential effect on patient outcomes may have implications to nursing practice.

Falls remain a serious safety concern among acute care inpatient populations and prior research has provided some significant findings. Implementation of various fall prevention initiatives occurred across acute care settings. However, many of the fall reduction strategies produced sustainable reductions in fall incidence. Although over 50 current evidence based fall reduction and risk assessments currently exist, patients continue to fall at rates of up to one in three older adults (over aged 65) per medical-surgical inpatient admission. (Spicer, Delmo, & Agdipa, 2017; Zhao, 2016). According to Rowan and Veemena (2017), validated fall risk assessment tools can often lead nurses to false sense of security with up to 25% of falls occurred in patients scored as low risk by nurses who utilized a validated risk assessment tool. Results from a three phased study over three different time periods which used a validated fall reduction tool showed

that falls rates remained constant during all three phases (p =.10) (Rowan & Veemena, 2017).

Falls and falls with injury are not intended outcomes when delivering patient care. Despite efforts to decrease the incidence of patient falls, nurses face challenges related to meeting the organization goals and national benchmarks related to fall outcomes. A gap remains between implementation and sustainability phases of current fall prevention initiatives and strategies to reduce patient falls.

Limitations

A few limitations presented during the analysis of the research. First, the sample likely underrepresented the medical-surgical nursing population based on the variation in participants across the nine units included in the study. The nurse participants working in one unit may experience more optimal staffing than one another as well as the frequency in exposure to falls. Second, the medical-surgical units, although all meet the same defined criteria for NDNQI reporting, the patient populations may vary from one unit to the other in acuity, unit size, and resource allocation of non-licensed assistive nursing staff. Lastly, another limitation is the exclusion of non-licensed assistive nursing support, such as Nursing Assistants or Patient Care Technicians as participants in the LHS survey. NDNQI includes non-licensed nursing staff in the THPPD definition of measurement. Therefore, including the non-licensed personnel might have brought forth different levels of LH using the survey, as they are a key component to the efforts of fall risk assessments and strategies implemented to reduce the incidence of falls. Qualitative and mixed-

methods studies may assist in interpretation of lived experiences of nurses with LH.

Qualitative and mixed methods research designs may also assist with the expansion of

conceptual models for future research on the topic of nursing behavioral responses to

repeated exposures to negative or poor patient outcomes.

Implications

Quality deficits present important implications for health outcomes and well-

being of patients. Although my study did not reveal relationships between THPPD,

nurses' self-reported LH, and fall incidence, the literature supports staffing influenced the

nurses' workflow and the ability to focus on care that may influence patients' outcomes

positively or negatively. According to Choi and Boyle (2017) hospitals that supported

lower nurse-to-patient ratios provide nurses more time to comprehensive care including

patient teaching and discharge planning with reductions to readmission rates by 7% for

heart failure, 6% for acute myocardial infarctions, and 10% for pneumonia. Driscoll et

al., (2018) found adding one additional full time nursing position per patient day

decreased mortality in intensive care units (OR 0.91, 95% CI, 0.86-0.96), surgical units

(OR 0.84, 95% CI, 0.8-0.89), and medical-surgical units (OR 0.94, 95% CI, 0.94-0.95).

Findings from my study have applicable implications to clinical practice related to

the psychosocial needs of frontline nurses. Across many healthcare settings, learned

nursing behaviors are trending as a common theme among unit specialties. According to

Gibson and Lloyd (2018), nurses experienced emotional distress secondary to repeated

exposure to patient falls. Gibson and Lloyd (2018), gained perspective through focus

group interviews of medical-surgical nurses aimed to understand the perceptions of why

the implementation of evidence-based fall reduction strategies failed on their units.

According to the nurses and non-licensed assistive staff, many factors beyond their

control contributed to patients falling, and that they feel "helpless" every time another

patient falls on the unit. Although my study did not find significant relationships

between LH and fall incidence, the literature supports LH as a learned behavior to

consider for future nursing research. The presence of LH can influence an individual's

behavior to perform specific safety practices and maintain protocol to remain

preoccupied with failure (Landy et al., 2018). The implications of LH among nurses

remains a key element to explore and understand through future research studies.

Although my study's findings did not reveal a significant relationship between

LH and fall incidence, previous evidence suggested the most common emotional nursing

response to patient error or harm was helplessness. Despite the findings, falls with and

without injury continue to be a key safety concern for inpatient hospital settings. Over 50

current evidence-based fall risk assessment and reduction, tools exist, yet patients

continue to fall at alarming rates (Copeland & Chambers, 2017). Although some

interventions brought forth positive effects or decreased fall incidence, little have

sustained long-term success.

Recommendations

Current evidence suggests that inpatient falls and falls with injury are complicated

(Ploeg et al., 2018; Porter, Cullen, Farrington, Matthews, & Tucker, 2018; Rowan &

Veenema, 2017; Spicer et al., 2017). Thus, the prevention of falls remains troublesome

and challenging for nurses. Nursing administrators and unit managers need to consider

multiple levels of factors connected to fall incidence. Based on the evidence on the

effects of and barriers in existing fall prevention strategies, building a culture of safety

should be implemented to improve fall incidence on medical-surgical inpatient units

(Delmo, & Agdipa, 2017; Ploeg et al., 2018). Nurse leaders may consider the who, what,

where, why, and how LH among nurses might contribute or influence patient falls.

Future research is highly encouraged to explore the presence of LH among nurses and

identify relationships to nursing practice using a qualitative or mixed methods approach.

Conclusion

Little remains known about the impact of levels of LH on nurses, patients and the

organization. Findings from my correlational study did not reveal a relationship among

LH, THPPD, or fall incidence. However, this study did bring attention to another

perspective to the potential perceived behavior of the nursing staff when frequently

exposed to poor patient outcomes. Current studies focused on the characteristics of the

patient, the unit, or the tool used for fall risk assessments. Nursing educators and

administrators should include nurses in decision-making during the development or

implementation of new strategies to reduce fall incidence and address behaviors that may

arise due to the exposure to less than desirable patient outcomes.

References

American Nurses Association (ANA). (2019). *Nursing-sensitive indicators*. Retrieved

    from http://www.nursingworld.org

Barker, A. L., Morello, R. T., Ayton, D. R., Hill, K. D., Landgren, F. S., & Brand, C. A.

    (2015). Development of an implementation plan for the 6-PACK falls prevention

    programme as part of a randomised controlled trial: protocol for a series of

    preimplementation. *The BMJ*, *22*, 446-452.

    https://doi.org/doi:10.1136/injuryprev-2015-041915

Boyle, D. K., Dunton, N., Gajewski, B., Garrard, L., & Simon, M. (2016). Reliability and

    validity of the NDNQI injury falls measure. *Western Journal of Nursing

    Research*, *38*(1), 111-128. http://dx.doi.org/10.1177/0193945914542851

Choi, J., & Miller, P. (2018). Registered nurse perception of patient assignment linking to

    working conditions and outcomes. *The Journal of Clinical Scholarship*, *50*, (530-

    539). https://doi.org/10.1111/jnu.12418

Chung, G. H., Choi, J. N., & Du, J. (2014). Tired of innovations? Learned helplessness

    and fatigue in the context of continuous streams of innovation implementation.

    Journal of Organizational Behavior, *38*, 1130-1148. https://doi.org/10.1002/job

Cohen, J. (1992). Statistical Power Analysis. Current Directions in Psychological

    Science, 1(3), 98–101. https://doi.org/10.1111/1467-8721.ep10768783

Copeland, D., & Chambers, M. (2017). Effects of unit design on acute care nurses'

walking distances, energy expenditure, and job satisfaction: A pre-post relocation study. *Health Environments Research & Design Journal, 10*(4), 22-36. https://doi.org/10.1111/jonm.12669

Crosser, B., Davidson, J., Dunton, N., & Staggs, V. S. (2015). Challenges in defining and categorizing falls on diverse unit types. *Journal of Nursing Care Quality*, *30(2)*, 106-112. http://dx.doi.org/10.1097/NCQ.0000000000000085

Donabedian, A. (1966). Evaluating the quality of medical care. *The Millbank Memorial Fund Quarterly*, *44*, (3), 166-206. https://doi.org/10.1002/job.2191

Driscoll, A., Grant, M. J., Carroll, D., Dalton, S., Deaton, C., Jones, I., ... Astin, F. (2018). The effect of nurse-to-patient ratios on nurse-sensitive patient outcomes in acute specialist units: a systematic review and meta-analysis. *European Journal of Cardiovascular Nursing*, *17*, (11-12) 6-22. doi.org/10.1177/1474515117721561

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160.

Gibson, T., & Lloyd, S. (2018). Nursing staff perceptions of fall risk: The emergence of learned helplessness as a theme. *Journal of Nursing Administration*, *48*(1), 5-7. https://doi.org/10.1097/NNA.0000000000000562

He, J., Staggs, V. S., Bergquist-Beringer, S., & Dunton, N. (2016). Nurse staffing and patient outcomes: a longitudinal study on trend and seasonality. *BMC Nursing, 15*, (1-11). doi.org/10.1186/s12912-016-0181-3

Kim, M., Jeon, H., & Chon, M. (2015). Study on the knowledge and attitudes of falls and awareness of fall risk factors among nursing students. *Indian Journal of Science and Technology*, *8*, 74-80. doi.org/10.17485/ijst/2015/v8iS1/57593

Landry, N., Gifford, R., Milfont, T. L., Weeks, A., & Arnocky, S. (2017). Learned helplessness moderates the relationship between environmental concern and behavior. *Journal of Environmental Psychology*, *55*, 18-22. Retrieved from https://www.sciencedirect.com/science/article/pii/S0272494417301706

McKechnie, D., Pryor, J., & Fisher, M. J. (2016). Predicting falls: considerations for screening tool selection vs. screening tool development. *Journal of Advanced Nursing*, *72*(9), 2238-2250. https://doi.org/10.1111/jan.12977

Min, A., & Scott, L. D. (2016). Evaluating nursing hours per patient day as a nurse staffing measure. *Journal of Nursing Management*, *24*, 439-448. Retrieved from https://onlinelibrary.wiley.com/doi/abs/10.1111/jonm.12347

National Database for Nursing Quality Improvement (NDNQI) (2010b). Guidelines for data collection on American Nurses Association's National Quality Forum endorsed measures: Nursing care hours per patient day, skill mix, falls, falls with injury. Retrieved from https://www.nursingquality.org/

Nolte, A. G., Downing, C., Temane, A., & Hastings-Tolsma, M. (2017). Compassion fatigue in nurses: A metasynthesis. *Journal of Clinical Nursing*, *26*(23-24), 4364-4378. https://doi.org/10.1111/jocn.13766

Nursing-sensitive indicators. (2019). Retrieved from www.nursingworld.com

Quinless, F. W., & McDermott-Nelson, M. A. (1988). Development of a measure of

    learned helplessness. *Nursing Research, 37*(1), 11-15.

Recio-Saucedo, A., Dall'Ora, C., Maruotti, A., Ball, J., Briggs, J., Meredith, P., ...

    Griffiths, P. (2018). What impact does nursing care left undone have on patient

    outcomes? Review of the literature. *Journal of Clinical Nursing*, *27*, 2248-2259.

    https://doi.org/10.1111/jocn.14058

Reich, J., Farrell, K., Maloney, C., Drayton, D., & Johnson, T. (2017). Decreasing falls

    with injury rates: Development of a support staff falls advocate program. *Journal

    of Nursing Care Quality*, *32*(1), 40-46. doi.org/10.1097/NCQ.0000000000000206

Rowan, L., & Veenema, T. G. (2017). Decreasing falls in acute care medical patients: An

    integrative review. *Journal of Nursing Care Quality*, *32*(4), 340-347.

    doi.org/10.1097/NCQ.0000000000000244

Rydon-Grange, M. (2015). 'What's psychology got to do with it?' Applying

    psychological theory to understanding failures in modern healthcare settings.

    Journal of Medical Ethics, *41(11)*, 880-884. httpsdoi.org/10.1136/medethics-

    2015-102922

Spicer, J. G., Delmo, C. J., & Agdipa, C. (2017). The got-a-minute campaign to reduce

    patient falls with injury in an acute care setting. *MedSurg Nursing*, *26*(5), 313-

    315.

Staggs, V. E., Davidson, J., Dunton, N., & Crosser, B. (2015). Challenges in defining and

    categorizing falls on diverse unit types: lessons from the expansion of the NDNQI

fall indicator. *Journal of Nursing Care Quality*, *30* (2), 106-112.

https://doi.org/10.1097/NCQ.0000000000000085

Steege, L. M., & Dykstra, J. G. (2016). A macroergonomic perspective on fatigue and

coping in the hospital nurse work system. *Applied Ergonomics*, *54*, 19-26.

Retrieved from

https://www.sciencedirect.com/science/article/pii/S0003687015301071

Taylor, E., & Hignett, S. (2016). The SCOPE of Hospital Falls. *Health Environments*

Research & Design Journal, *9*, (9), 86-109.

https://doi.org/10.1177/1937586716645918

Watson, B. J., Salmoni, A. W., & Zecevic, A. A. (2015). Falls in an acute care hospital as

reported in the adverse event management system. *Journal of Hospital*

Administration, *4*(4), 84-91. doi.org/10.5430/jha.v4n4p84

Zhao, Y. (2016). *Factors associated with inpatient falls and injurious falls in acute care*

hospitals (Doctoral dissertation, University of Kansas). Retrieved from

https://search-proquest-

Medical-Surgical Fall Outcomes Related to Nurse Experience and Learned Helplessness

Jennifer Glendening, MSN

Walden University

Outlet for Manuscript

The target journal for this manuscript is *Nurse Education Today*. *Nurse Education Today* is a peer-reviewed journal that encourages submissions of original research, including manuscripts that offer applicable and resourceful knowledge related to nursing practice and healthcare education published by Elsevier (Elsevier; http://journals.elsvier.com). Nurse Education Today accepts manuscripts formatted to the America Medical Association (AMA) Manual (10th edition). The recurrent safety issue related to patient falls, an emerging nursing behavior, learned helplessness, and the possible implications to nursing practice and patient outcomes are the focus of this manuscript. LH presents a unique concept to nursing practice that may interest a diverse scope of health systems nationally and internationally which align with *Nurse Education Today's* mission to support the promotion of new nursing knowledge to promote health promotion and education across the globe.

Abstract

Purpose: This study aimed to identify differences between the medical-surgical fall incidence from nurses' self-reported learned helplessness (LH) among three specified nurse experience groups. It highlighted the importance of nursing implications to patient outcomes and provides pertinent information needed to support and enhance future research endeavors on the concepts of LH and nurse experience groups and the impact on nursing practice and efforts to strive toward continuous improvements in the quality and safety outcomes of medical-surgical patients.

Methods: The participants were 117 medical-surgical registered nurses employed at an urban, academic medical center located in the northeastern part of the United States. This study was conducted using a validated survey-tool, the Learned Helplessness Scale (LHS) to measure nurses' self-reported levels of learned helplessness (LH). Data collected from the facility's internal incident reporting system captured fall incidence and a survey captured nurse experience levels. The covariate, age, added to determine if controlling for age of the nurse strengthened the statistical findings to conduct variance (ANOVA) testing.

Results: The Pearson *r* correlation did not reveal significant relationships between LH and nurse experience $p = .670$ [($p = .628$ and fall incidence ($p = .834$)]. The Pearson *r* did not reveal a statistically significant relationship between age and fall incidence ($p = .894$). Because linearity could not be established among the study variables and

covariate, no further statistical analysis performed. Assumptions were not met for

ANOVA and ANCOVA testing.

Conclusion: There were no linear relationships identified between medical-surgical fall

incidence and nurses' self-reported LH. There was no linear relationship between the

dependent variable, falls incidence and the covariate, age. Therefore, no further

statistical testing conducted. Although the analyses did not result in significant findings,

little is known about the influence of LH among medical-surgical nurses, patients, and

organizational quality and safety outcomes.

Introduction

As quality and safety issues continue to rise despite evidence-based interventions to reduce the incidence of patient falls, a comprehensive understanding of the needs, values, and knowledge of nurses remains crucial to strengthening nursing practice and improving patient outcomes. Multiple researchers discussed the importance of falls as a serious safety concern and recognized falls as one of the most frequent and costly adverse patient events in acute care hospitals (Kim, Jeon, & Chon, 2015; Reich, Farrell, Maloney, Drayton, & Johnson, 2017; Rowan & Veenema, 2017; Spicer, Delmo, & Agdipa, 2017; Staggs, Davidson, Dunton, & Crosser, 2015; Taylor & Hignett, 2016). Studies conducted on the development, education, implementation, and results of evidence-based fall reduction strategies mainly focused on patient-related risk assessments, post-fall huddle reviews, and the structure of the inpatient unit (McKechnie, Pryor, & Fisher, 2016; Ploeg et al., 2018; Spicer et al., 2017; Taylor & Hignett, 2016). However, fall reduction strategies continued to lack sustainability through comparable fall rates and no overall decline in fall incidence across acute care facilities.

Gibson and Lloyd (2018) focused on attitudes and behaviors to describe the reasons nurses perceived fall reduction strategies had failed, despite following recommended fall reduction policies and procedures on their units. Gibson and Lloyd (2018) suggested the concept of learned helplessness (LH) may be a rising concern among inpatient nursing staff due to the high frequency of falls among medical-surgical units and the undesirable consequences affecting the patient, clinical staff, and the

organization following a fall event. While some researchers have suggested LH as an

essential concept to consider for the ongoing crusade to improve quality and safety

initiatives, (Landry, Gifford, Milfont, Weeks, & Arnocky, 2017; Moreland, Ewoldsen,

Albert, Kosicki, & Clayton, 2015; Ren et al., 2018), other researchers suggested

relationships between medical-surgical nursing and levels of nursing experience to be of

considerable value for further research on quality improvement (Bowden, Bradas, &

McNett, 2019; (Brown, Hochstetler, Rode, Abraham, & Gillum, 2018; Doughty,

McKillop, Dixon, & Sinnema, 2018; Monagle, Lasater, Stoyles, & Dieckmann, 2018;

Nibbelink & Brewer, 2016; Staggs et al., 2015). Due to the gap in knowledge on the

psychosocial needs of nurses associated with patient outcomes, this study focused on

examining for differences between nursing experience, nurses' self-reported LH, and

medical-surgical fall incidence.

Significance

Research relevant to inpatient falls and quality outcomes mainly focused on the

root causes of the fall-related to knowledge deficits of the patient or nurse, or the deficits

of the unit structure or access to resources to implement safer care. Despite the extensive

research to understand the complexity and phenomenon of falls, patients continue to fall,

with about 40% of falls reported as injurious by the Joint Commission (Staggs et al.,

2015). According to McKechnie et al. (2016), a multidisciplinary approach is ideal for

the effective use of risk assessments and fall precautions during inpatient admissions,

thus further complicating the role of the bedside nurse. Because of many factors, both

structural and procedural, impact the outcomes of patients' falling, bedside nurses face a magnitude of responsibility in preventing adverse inpatient events.

Medical-surgical nurses are presented with patient assignments that comprise diverse variations in age, diagnoses, and treatments, in addition to higher nurse to patient ratios than other inpatient units, therefore, medical-surgical nurses experienced patient falls more often than nurses working in other unit-types (Bowden et al., 2019; Rowan & Veenema, 2017; Staggs et al., 2015). Unexpected patient events, like falls, stimulate unanticipated variation or disruption to patient care and place emotional burdens on nurses working in sophisticated units with multiple competing quality and safety priorities (Gibson & Lloyd, 2018; Kim et al., 2015; Reich et al., 2017; Rowan & Veenema, 2017). Medical-surgical nurses presented with complicated patient assignments and diverse working environments increases the exposure to adverse events that further complicate and threaten clinical decision-making required of nurses (Doughty et al., 2018). The experience of the nurse is an exciting concept to consider when evaluating patient outcomes, like falls, and other nursing-sensitive indicators.

The term, new-to-practice (NTP), adds another unique characteristic to the bedside nurse. Nurses are considered "new" during their first year of practice and face different challenges than their unit-level peers (Bowden et al., 2019; Doughty et al., 2018). According to Nibbelink and Brewer (2016), the convoluted factors that contribute to the bedside nurses' clinical judgments often resulted in less than optimal patient results among acute care nurses. During the first year, nurses often lack previous professional

and clinical experience. Therefore, NTP nurses may face higher levels of stress, vulnerability, and less self-confidence placing them at risk for impaired clinical decision-making (Brown et al., 2018; Doughty et al., 2018; Kavanaugh & Szweda, 2017). Many NTP nurses work on a medical-surgical unit as their first nursing practice experience because they lack the additional nursing skills required to work in specialty areas, like critical care or surgical inpatient units. During the first year, new nurses admitted to gaining some confidence through working with teams and building relationships with nursing peers. However, newer nurses within their first year admitted the more clinical experience was the most significant and supporting factor in stimulating professional growth and confidence in clinical decision-making (Brown et al., 2018).

Less experience with clinical decision-making plus the high incidence of patient falls across medical-surgical units may stimulate perceived negative thoughts regarding the ability or inability to prevent or mitigate patient harm among NTP nurses. According to Watson, Salmoni, and Zecevic (2015), more falls occurred in medical-surgical units than other unit-types with efforts to an overall decrease falls rates were not achieved over a five-year timeframe based on events collected from a newly implemented event reporting system. Despite the best quality and safety efforts implemented at many inpatient care settings, patients continue to fall. NTP nurses face unique stressors due to lack of experience and may develop negativity versus positivity due to the complex responsibilities required of the medical-surgical setting. Examining differences in levels of nurse experience and the presence of LH may bring forth vital evidence to demonstrate

the need for more tailored educational programs to include the behavioral factors of nurses that may influence inpatient fall outcomes.

Relevant Scholarship

Inpatient falls are a well-known and persistent safety challenge across acute care hospitals. The American Nurses Association (ANA) included patient falls as a nursing-sensitive indicator in 1995, which proclaimed the nurse as an integral component to the outcomes related to falls (Quigley et al., 2015). For over 20 years, different quality and safety programs developed, created, and validated evidence-based tools for nurses to predict and prevent patients from falling. Although research initially focused on falls in older adult over age 65, many researchers highlighted that over time, the incidence of inpatient falls has expanded to include diverse patient populations of all ages and medical backgrounds (Bowden et al., 2019; Copeland & Chambers, 2017; McKechnie et al., 2016; Rowan & Veenema, 2017). Although systematic approaches to prevent patients from falling are implemented at home and in the hospital setting, Quigley et al. (2015) stated older adults visit their local emergency department every 13 seconds for a fall and die every 20 minutes from a severe injury secondary to a fall, with 55% of traumatic brain injuries caused by falls in children aged fourteen and under. With growing numbers of patients arriving at the emergency department after a fall, clinical judgment to reduce the incidence of inpatient falls requires consideration of the nurses' ability to predict fall risk across heterogeneous patient populations.

According to Quigley et al. (2015), about 50 fall risk assessment tools exist in nursing practice. However, despite comprehensive and exhaustive research dedicated to predicting and prevent falls, many researchers questioned the utility of evidence-based fall prevention initiatives. Researchers agreed that variations in the use of fall risk screening tools and prevention strategies in combination with the rising demands of medical-surgical patient populations are the reasons nurses continue to grapple with significant issues related to patient falls (McKechnie et al., 2016; Rowan & Veenema, 2017; Watson, Salmoni, & Zecevic, 2015). The *Got-A-Minute Campaign* included an extensive multidisciplinary effort to reduce falls in one medical-surgical unit that comprised of hourly patient rounding, fall risk assessments, post-fall debriefs including staff and the patient, and peer-to-peer mentorship with improvements noted from a 1.21/1000 fall rate to a decrease of 0.15/1000 fall rate over 3 years (Spicer et al., 2017). Despite the success of the *Got-A-Minute Campaign*, Spicer et al. stressed that the overall engagement, education, and decision-making of the nurses impacted the incidence of patient falls more so than the actual fall reduction tool or strategies used to improve outcomes. It is well known that many fall prevention methods exist in nursing practice, but the sustainment of a successful decline in patient harm still exists among acute care medical-surgical settings.

Some empirical evidence suggests that research in the scope of fall prevention required an expansive conceptual and theoretical methodology to allow for the complexity of medical-surgical inpatient nursing care. Ploeg et al. (2018) conducted a

study to compare fall rates in pre-, during, and post-interventions of a fall reduction

sustainability model across three medical-surgical units using a Welch-adjusted ANOVA

test. Ploeg et al. reported that no statistically significant changes in fall rates across the

three inpatient units were discovered ($F = 2.71, p = .10$).   In Australia, a fall reduction

project named *6-PACK* included a pre-intervention profile review of six hospitals and 24

inpatient units over a two-year timeframe (Barker et al., 2015). Barker et al. (2015)

utilized a mixed-methods research methodology to evaluate the *6-PACK* and suggested

failures to the successful implementation to any fall-risk strategy is a system-wide issue

related to specific characteristics of the unit, nurse, and the patient. Other researchers

suggested that categorizing falls in conjunction with the implementation of an evidence-

based fall reduction quality improvement model did not contribute to successful

outcomes because of nursing behaviors associated with the heavy demands of

complicated patient care delivery and impaired nurse decision-making (Copeland &

Chambers, 2017; Gibson & Lloyd, 2018; Kim et al., 2015; Nibbelink & Brewer, 2016;

Monagle et al., 2018; Staggs et al., 2015; Taylor & Hignett, 2016).   Different levels in

nurse experience and helplessness among nurses remain essential variables to consider in

exploring current gaps in knowledge related to the incidence medical-surgical falls.

 Nurses require considerable cognitive and technical skills and continuously face

various challenges during their shifts. Complex patient assignments, interprofessional

conflicts, emotional responses to caring for acutely and chronically ill patients and

families, the demands of shift work, and ever-changing practice changes required of

nursing to assume additional responsibilities stress and burden nurses with an already

existing and overwhelming list of demands (Bowden et al., 2019; Choi & Miller, 2018;

Monagle et al., 2018; Ryan, Bergin, & Wells, 2017). Researchers suggested that NTP

nurses within the first year caring for inpatients have different emotional, technical, and

educational needs than their more experienced peers. These researchers stated dedicated

resources including a nurse residency program and an experienced preceptor to guide the

NTP nurse in the first year have better outcomes in attrition and nurse satisfaction

(Brown et al., 2018; Doughty et al., 2018; Kavanaugh & Szweda, 2017). Nurse residency

programs are a popular program implemented in hospitals across the United States to

support the educational and emotional needs of NTP nurses.

Ryan, Bergin, and Wells (2017) offered a different perspective and suggested

older (>40 years old), more experienced bedside nurses face adversities related to age,

physical status, and earned respect of younger (<40 years old), nursing generations.

Although younger nurses often looked to more experienced peers for guidance during

their shifts, Ryan et al. (2017) suggested older nurses perceived a lack of respect or

recognition from newer nurses and felt less empowerment to drive change within

inpatient units. Bowden, Bradas, and McNett (2019) suggest more falls occurred among

nurses with less than 1 year of experience ($n = 106$, 30.8%) and nurses with more than 5

years' experience ($n = 171$, 49.7%) versus nurses in the 1 to 4-year experience level ($n = $

67, 19.5%). Bowden et al. (2019) highlighted that nursing experience levels might

demonstrate differences in nursing style and behaviors and maybe a critical supportive factor to patient fall outcomes.

Professional and technical confidence are essential skills to master for nurses of all ages. Researchers suggested that missed patient care or overlooked aspects of fall prevention strategies by bedside nurses positively contributed to less than desirable fall rates particularly in the medical-surgical inpatient areas (Choi & Miller, 2018; Reich et al., 2017; Rowan & Veenema, 2017). NTP nurses often lack practice maturity to master the decision-making needed for complex patient care to maintain requirements of competing for quality improvement initiatives and miss crucial elements of fall reduction strategies (Kim et al., 2015; McKechnie et al., 2016; Monagle et al., 2018). LH has been suggested as a concept to consider as a rising concern related to quality and patient safety outcomes of inpatients (Gibson & Lloyd, 2018; Landry, Gifford, Milfont, Weeks, & Arnocky, 2017; Rydon-Grange, 2015). Addressing the behavioral needs, particularly levels of LH among nurses, may add more depth to educational and strategic action plans intended to improve fall risk assessment and reduce the harm caused by patient falls.

Some researchers applied psychological theory and LH to patient behaviors in clinical settings (Choi & Miller, 2018; Reich et al., 2017; Rowan & Veenema, 2017). However, Rydon-Grange (2015) suggested a more recent application to include system-wide, organizational relationships. Gibson and Lloyd (2018) and Landry et al. (2017) offered additional support and added employee disengagement and detachment from key quality indicators intended to maintain safety often result in an acquired sense of

hopelessness and helplessness despite best efforts to mitigate harm in the workplace. Some key terms collected of qualitative studies using structured interviews and focus groups included, *numbing*, *fearful*, *helpless*, *embarrassed*, and *surrender* when asked to describe how they feel when safety is repeatedly compromised in the workplace despite best efforts and intentions to avoid and prevent adverse events (Gibson & Lloyd, 2018, Landry et al., 2017; Rydon-Grange, 2015). Behavioral responses that may support the development of acquired LH among nurses of different experience levels are currently under-researched.

Research Question

Research Question 1 (RQ1): Does medical-surgical inpatient fall incidence differ from self-reported LH between three nurse experience level groups?

Null Hypothesis ($H_0$1): Medical-surgical inpatient fall incidence does not differ in self-reported LH between three groups of nurse experience level.

Alternative Hypothesis (H_a1): Medical-surgical inpatient fall incidence does differ in self-reported LH between three groups of nurse experience level.

Research Question 2 (RQ2): What are the differences in medical-surgical inpatient fall incidence and self-reported LH between nurse experience groups when controlling for nurse age?

Null Hypothesis ($H_0$1): Medical-surgical inpatient fall incidence and self-reported LH between three groups of nurse experience level does not differ when controlling for nurse age.

Alternative Hypothesis (H_a1):   Medical-surgical inpatient fall incidence and self-reported LH between three groups of nurse experience level does differ when controlling for nurse age.

Methods

Participants

With approval from the Institutional Review Board, registered nurses working in medical-surgical units as defined by the NDNQI were emailed a letter with a link to an online survey (see Appendix A). Descriptive characteristics of the nurse participants were captured in addition to the LHS survey tool (see Appendix B). Nurses employed at a larger, teaching hospital (400–499 beds) across nine medical-surgical inpatient units will be included in the analysis.

Setting. The research setting included nine acute care, medical-surgical, and medical-surgical combined units as defined by the NDNQI. These nine units' staff two, 12-hour shifts per day with nurse-to-patient ratios ranging from 1:5 or 1:6, depending on unit census and staffing availability throughout the health system.

Sample and Power

The sample size for the study comprised of medical-surgical inpatient nurses across nine inpatient units from a large, academic, level-one trauma center located in the northeastern United States. Using the G*Power 3.1.9.4 calculator and the point biserial model statistical test, (Faul, Erdfelder, Buchner, & Lang, 2009), I set input parameters at

a medium effect size of 0.3, probability error of 0.05, and power of 0.80 which provided

a total sample size of 82. There were nine units and roughly 1200 nurses employed

among all the units. Stratified random sampling applied to ensure that nurses from all

nine units were represented in the sample. Independent samples from each medical-

surgical unit were grouped and matched to the proportion of the overall population of

medical-surgical nurses.

Variables/Data Sources

     Independent variables. The self-reported LH of the three groups; nurses with

less than one year of clinical experience, nurses with more than one year of clinical

experience and less than five years' experience, and nurses with more than five years

clinical experience represented the independent variable.

     Descriptive data collected from each participant captured nurse characteristics

including the experience level were grouped by nurses with less than one year clinical

experience, more than one year and less than five years' experience, and nurses with

more than five years clinical experience (see Appendix B). The nurses' self-reported LH

collected via a survey developed using a previously validated tool, the Learned

Helplessness Scale (LHS). Permission was granted to utilize the survey tool by Dr.

Frances Ward (see Appendix C). To measure LH, the added total of all twenty item

scores determined the final score (Quinless & McDermott-Nelson, 1988). The possible

range of scores on the LHS is 20 to 80 with higher scores indicating higher learned

helplessness (Quinless & McDermott-Nelson, 1988). The LHS is a questionnaire-type

survey tool comprised of 20 items and graded using a 4-point Likert scale (1 = *Strongly disagree* and 4 = *Strongly agree*) (see Appendix D). Two examples of the 20 items included in the survey include, "*No matter how much energy I put into a new task, I feel I have no control over the outcome*" and "*I do not try new tasks if I have failed similar tasks in the past*" (Quinless & McDermott-Nelson, 1988).

Dependent variable. The dependent or outcome variable for this study was the medical-surgical inpatient unit-level patient fall incidence.

The medical-surgical fall incidence data were accessed from the medical center's incident reporting management system after permission or user agreements were established and approved by the appropriate stakeholders. NDNQI defines fall incidence as the total number of falls that occur within an inpatient unit per 1000 hospital days (NDNQI, 2010b).   Falls data comprised of the overall patient fall incidence which allowed for interval-ratio level data of the nine medical-surgical units the facility used to report falls to the NDNQI for benchmark comparison. The NDNQI categorizes medical-surgical units by medical, surgical, or combined medical-surgical (NDNQI, 2016b). NDNQI is the only available nursing database which supports the overall measurement and comparison of a researched and validated group of nursing-specific demographical and quality metrics, defined as, nursing-sensitive indicators (NSI) (NDNQI, 2010b). NSI reflect Donabedian's SPO conceptual framework to provide hospitals a meaningful platform to apply and evaluate recommended practice to improve quality outcomes endorsed by the National Quality Forum (ANA, 2019). Patient falls are one of the

nineteen NSI included in the database and provide hospitals the link to direct nursing care

related to falls through the measurement of a total number of inpatient falls per 1000

inpatient days (fall rate), or patient outcomes (NDNQI, 2010b).

Measurements

Data collected via the survey were de-identified to protect the privacy of the nurse

participants and the facility. The organization and analysis of data using SPSS V25.0

examined for differences in the facility's medical-surgical fall incidence compared to

three defined groups of nurses with less than or greater than one year of medical-surgical

inpatient experience while controlling for age. Data collection consisted of a specified

timeframe (eighteen months from January 2018 through June 2019) and aligned with the

distribution of the LH survey to the employed nurses at a specified academic medical

center. Statistical findings presented in tabled formats.

Design and Analysis

A cross-sectional correlational research design may assist to validate assumptions

made regarding correlation between variables (Warner, 2013). Therefore, a statistical

model using predictor variables (age and self-reported LH of three distinct groups of

nurse experience level) determined the quantifiable effect of the predictor variables

related to the social issue of medical-surgical fall incidence. The dependent variable or

fall incidence provided a continuous, numerical variable and measurable on an interval-

ratio scale. To identify influence, prediction, or correlation with the medical-surgical fall

incidence outcome, analyses conducted of possible interactions across the variables, the

self-reported LH and the experience level of the nurse predictor variables, and the age of the nurse. Self-reported LH and age were continuous, numerical variables and measurable on an interval-ratio scale. Nurse experience level groups were categorical and converted to dummy variables that allowed for regression analysis. Data prepared and arranged to highlight both the independent and dependent variables.

First, checks for normally distributed medical-surgical fall incidence, linear relationships between age, self-reported LH, and nurse experience group, and homogeneity conducted using SPSS V.25. One-way Analysis of Variance (ANOVA) will provide a review of unexplained variance in the regression model to identify how medical-surgical fall incidence varied as a relationship involving the self-reported LH of each of the three nurse experience groups. Correlation and scatterplots used to review if self-reported LH of the three groups were linearly related and significantly correlated to the medical-surgical fall incidence.

To asses for possible interactions, an Analysis of Covariance (ANCOVA) conducted in SPSS V.25 using a general linear model and scatterplots with different markers and the interaction variables. The covariate or moderator variable age, added for further testing. ANCOVA increases the power of the ANOVA and provides an assessment of more variability in the model (Warner, 2013).

Results

Sample Characteristics

Participants (n=117) were all nurses who indicated that via the survey they regularly

worked in one of the nine medical-surgical inpatient units. Of the participants, 85.7%

identified as female and 14.3% of the nurses identified as male. The highest percentage

of the nurses' age grouping was in the 20-30 year (58%), followed by the 30-40 year

range (24.4%). The minimum age of the nurses was 22, the maximum age was 62, and

the median age of the medical-surgical nurse was 31 years old. Nurse experience levels

revealed similar percentages among the three specified groups, (< 1 yr. experience $= 34\%$,

>1 yr. but > 5 years' experience $= 37.8\%$, > 5 years' experience$= 33.6\%$). Unit

characteristics were displayed as the number of nurse participants in each of the nine

medical-surgical units included in the study. The sample size distribution varied

considerably among the nurse participation between the nine units used for the analysis

(see Table 1).

Table 1.
Medical-Surgical Unit Characteristics

	# of Nurses	%
Medical-Surgical Unit		
Unit 1	28	24%
Unit 2	25	21.4%
Unit 3	17	14.5%
Unit 4	10	8.5%
Unit 5	9	7.7%

Unit 6	9	7.7%
Unit 7	8	6.8%
Unit 8	6	5.1%
Unit 9	5	4.3%

I calculated statistical tests using SPSS V.25.0 to determine if differences existed in medical-surgical fall incidence from the self-reported LH scores and three levels of nurse experience across nine inpatient units in an academic medical center. Descriptive testing revealed skewness and kurtosis values meeting the assumption of normal distribution as data variables showed values at ±1 for both fall incidence and LH for all three nurse experience groups (see Table 2). A Shapiro-Wilk test of normality resulted in non- significant values for falls incidence and LH among the three experience levels of the nurse participants which indicated the assumption of normality was met (see Table 3). There were no outliers or missing data noted during testing. Given the sample size met minimum requirements (n=117), there were no assumptions to indicate nonnormality significantly affected the results. The variance of validity of a relationship between variables is dependent of the positive, negative, or no significance of a linear relationship (Cohen, 1992).

The sample of medical-surgical nurses showed an average LH score of 50.7 (SD = 9.96). The fall incidence across the nine medical-surgical units showed an average of 48.86 falls (SD = 10.12). Pearson correlation coefficient revealed there was no differences in self-reported LH scores of the nurses and the fall incidence between the

three nurse experience levels (<1 yr. experience, >1 yr. but less than 5 yrs. experience, >5

yrs. experience). No significant relationships between the dependent and independent

variables revealed (see Table 4). There were no linear relationships between the

covariate, age and the three nurse experience levels. According to Warner (2013),

covariate variables should be linearly related to the dependent variable and at each level

of the independent variable. Therefore, no further testing was conducted ($r = .012$, $n =$

117, $p = .894$) (see Table 4.). The null hypotheses were retained.

Table 2.
Fall Incidence and Learned Helplessness Tests of Normality

	Skewness	Kurtosis
< 1 yr. nurse experience	.403	.788
>1 yr. but <5yr. nurse experience	.354	.695
> 5 yrs. nurse experience	.374	.733

Table 3.
Shapiro Wilk Test of Normal Distribution

		Shapiro-Wilk
Fall Incidence	< 1 yr. nurse experience	.388
	>1 yr. but >5 yrs. experience	.814
	> 5 yrs. experience	.900

LH Score	< 1 yr. nurse experience	.399
	>1 yr. but >5 yrs. experience	.279
	> 5 yrs. experience	.094

Table 4.
Pearson's Coefficient Correlation between Nurses' Reported LH and Falls, and Experience Level

		RN Experience	Fall Incidence	LH Score
Pearson Correlation	RN Experience	1.00	.019	.040
	Fall Incidence	.019	1.00	-.045
	LH Score	.040	-.045	1.00
Sig. (2-tailed)	RN Experience		.834	.670
	Fall Incidence	.834		.628
	LH Score	.670	.628	
Pearson Correlation	RN Experience	.012		
	Age	1.00		
Sig. (2-tailed)		.894		

Discussion

Interpretation

The aim of my study was to investigate for differences in medical-surgical fall incidence from nurses' self-reported LH between three differentiated nurse experience groups. Although my study did not reveal differences among the three nurse experience groups (< 1 yr. nurse experience, >1 yr. but < than 5 yrs. nurse experience, > 5 yrs. nurse experience), the literature supports a need for further investigation. Previous research focused on generalized fall reduction guidelines and strategies which have demonstrated that the application of evidence-based fall reduction tools has not resulted in consistently lower fall rates two years post implementation (McKechnie, Pryor, & Fisher, 2016; Ploeg et al., 2018; Spicer et al., 2017; Taylor & Hignett, 2016). Other studies suggested that acquired behavioral attributes might influence an individual's perceived ability to control patient falls due to the presence of acquired levels of LH (Landry, Gifford, Milfont, Weeks, & Arnocky, 2017; Moreland, Ewoldsen, Albert, Kosicki, & Clayton, 2015; Ren et al., 2018). In addition, the experience level of the nurses (NTP or experienced) remains the subject of previous research related to inpatient quality outcomes

Despite the ongoing efforts to reduce the incidence of patient falls, as well as, comprehend the complex factors associated with fall risk assessment, patients continue to fall as the growing needs to care for medical-surgical patient populations continue to soar (Bowden et al., 2019; Rowan & Veenema, 2017; Staggs et al., 2015). My study focused on differences among medical-surgical nurses fall incidence and the self-reported LH by experience level. Newer nurses, particularly, nurses with less than one-year experience may face higher levels of stress and lower levels of self-confidence thus posing risk for impaired or delayed clinical judgement when caring for patients (Brown et al., 2018; Doughty et al., 2018; Kavanaugh & Szweda, 2017). I used age as a covariate, but age was not correlated to fall incidence or LH. Although the results did not reveal significant differences in medical-surgical fall incidence from the nurses' LH between the three experience levels, future research might bring forth more information that is detailed and significant findings.

Limitations

My study had some limitations. First, the Learned Helplessness Scale only captures the broad interpretation of the nurses' levels of perceived ability to control outcomes to situations based on personal feelings. The scale does not measure the nurses' self-reported LH specifically related to patient fall incidence. Second, the medical-surgical units varied broadly in terms of size, patient population, and workflow which may have skewed the findings. It is unknown if self-reported LH of nurses related to falls or nurse experience levels would be similar or different when working in other types of medical-

surgical units or other geographic regions of the country. Lastly, perhaps including three

levels of nursing experience did not provide a wide enough or specific enough variable

for analysis. Although literature suggested that newer nurses, especially those who are in

their first year of clinical practice, have different emotional, technical, and educational

needs than their more experienced nursing peers (Brown et al., 2018; Doughty et al.,

2018; Kavanaugh & Szweda, 2017), Ryan, Bergin, and Wells (2017) claimed older, more

experienced nurses (above 40 years old) faced adversity compared to other age groups

although viewed as subject matter experts by younger nurses with less knowledge.

Limitations such as these, unlike previous research, nurses' perspectives about the

incidence of patient falls have not comprised a quantitative examination of the constructs,

LH or specific nursing experience groups.

Implications

The study findings revealed no linear relationships or differences among the

variables. However, previous literature supports, all three variables, including the

covariate, age of the nurse used for these analyses have implications to nursing practice.

Patient falls occur among a diverse patient population of various ages and medical history

(Bowden et al., 2019; Copeland & Chambers, 2017; McKechnie et al., 2016; Rowan &

Veenema, 2017). Complex working demands of the medical-surgical population

influenced higher rates of falls in inpatient settings (McKechnie et al., 2016; Rowan &

Veenema, 2017; Watson, Salmoni, & Zecevic, 2015). In addition, other researchers

suggested that the complexity of the phenomenon of patient falls in conjunction with

nursing behaviors associated with the burden of patient care impaired nursing clinical

judgement related to fall reduction guideline implementation among medical-surgical

inpatient units (Copeland & Chambers, 2017; Gibson & Lloyd, 2018; Kim et al., 2015;

Nibbelink & Brewer, 2016; Monagle et al., 2018; Staggs et al., 2015; Taylor & Hignett,

2016). Although my study did not reveal differences in fall incidence based on the

experience level of the medical-surgical nurse, literature suggests fall outcomes are

associated with the nurse's level of nursing practice experience. Bowden et al. (2018)

revealed nursing experience levels might demonstrate differences in nursing style and

behaviors and maybe a critical supportive factor to patient fall outcomes. Fall rates were

higher among nurses with less than one-year clinical practice ($n = 106$, 30.8%) and nurses

with greater than five years 'clinical practice ($n = 171$, 49.7%) compared to nurses in the

one to four-years nursing practice level ($n = 67$, 19.5%).

Recommendations

Future research on the topic of LH and nursing behaviors associated with quality

and patient safety outcomes have important implications to nursing practice. The use of a

survey tool other than the LHS may reveal LH and perceived attitudes or behaviors of

nurses differently. Qualitative and mixed-methods studies may assist in interpretation of

lived experiences of nurses with LH. Qualitative research designs may offer the

descriptive, observable data to enhance future research endeavors on the topic of nursing

behavioral responses to repeated exposures to negative or poor patient outcomes between

nurse experience levels and age group. Qualitative inquiry may be a more effective

research method to elicit nursing perceptions related to fall incidence among the medical-surgical inpatient hospital settings.

Conclusion

Little is still known about the impact of levels of LH on nurses, patients and the organization. Findings from this correlational study did not reveal linear relationships among the variables LH, nurse experience level, age or fall incidence. However, the study did bring attention to another perspective to consider which was the perceived behavior of the nursing staff when addressing quality improvement or patient safety concerns. Nursing educators and administrators may include nurses in decision-making during the development or implementation of new strategies to reduce fall incidence and address behaviors that may arise due to the exposure to less than desirable patient outcomes. Future assessment and scholarly query into the perceived behavioral characteristics and mindfulness of nurses related to falls may bring forth positive social change for practicing medical-surgical nurses and the patients they serve, heal, and educate.

References

American Nurses Association (ANA). (2019). *Nursing-sensitive indicators*. Retrieved

    from www.nursingworld.com

Bowden, V., Bradas, C., & McNett, M. (2019). Impact of level of nurse experience on

    falls in medical-surgical units. *Journal of Nursing Management*, *27*(4), 833-839.

    https://doi.org/10.1111/jonm.12742

Brown, J., Hochstetler, G. A., Rode, S. A., Abraham, S. P., & Gillum, D. R. (2018). The

    lived experience of first-year nurses at work. *The Health Care Manager*, *37*(4),

    281-289. https://doi.org/10.1097/HCM.0000000000000228

Choi, J., & Miller, P. (2018). Registered nurse perception of patient assignment linking to

    working conditions and outcomes. *The Journal of Clinical Scholarship*, *50*, (530-

    539). https://doi.org/10.1111/jnu.12418

Copeland, D., & Chambers, M. (2017). Effects of unit design on acute care nurses'

    walking distances, energy expenditure, and job satisfaction: A pre-post relocation

    study. *Health Environments Research & Design Journal, 10*(4), 22-36.

    https://doi.org/10.1111/jonm.12669

Donabedian, A. (1966). Evaluating the quality of medical care. *The Millbank Memorial

    Fund Quarterly*, *44*, (3), 166-206. https://doi.org/10.1002/job.2191

Doughty, L., McKillop, A., Dixon, R., & Sinnema, C. (2018). Educating new graduate

    nurses in their first year of practice: The perspective and experiences of the new

    graduate nurses and the director of nursing. *Nurse Education in Practice*, *30*, 101-

105. https://doi.org/10.1016/j.nepr.2018.03.006

Farokhzadian, J., Nayeri, N. D., & Borhani, F. (2018). The long way ahead to achieve an effective patient safety culture: challenges perceived by nurses. *BMC Health Services Research, 18*, 1-13. https://doi.org/10.1186/s12913-018-3467-1

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160.

Gibson, T., & Lloyd, S. (2018). Nursing staff perceptions of fall risk: The emergence of learned helplessness as a theme. *Journal of Nursing Administration*, *48(1*), 5-7. https://doi.org/10.1097/NNA.0000000000000562

Joint Commission. (n.d.). https://www.jointcommission.org/standards

Kavanaugh, J., & Szweda, C. (2017). A crisis in competency: The strategic and ethical imperative to assessing new graduate nurses' clinical reasoning. *Nursing Education Perspectives*, *38*(2), 57-62. https://doi.org/10.1097/01.nep.0000000000000112

Kim, M., Jeon, H., & Chon, M. (2015). Study on the knowledge and attitudes of falls and awareness of fall risk factors among nursing students. *Indian Journal of Science and Technology*, *8*, 74-80. https://doi.org/10.17485/ijst/2015/v8iS1/57593

Landry, N., Gifford, R., Milfont, T. L., Weeks, A., & Arnocky, S. (2017). Learned helplessness moderates the relationship between environmental concern and behavior. *Journal of Environmental Psychology*, *55*, 18-22. Retrieved from

https://www.sciencedirect.com/science/article/pii/S0272494417301706

McKechnie, D., Pryor, J., & Fisher, M. J. (2016). Predicting falls: Considerations for screening tool selection vs. screening tool development. *Journal of Advanced Nursing*, *72*(9), 2238-2250. https://doi.org/10.1111/jan.12977

Mokoka, K. E. (2015). Managing a multigenerational nursing workforce to strengthen staff retention. *Professional Nursing Today*, *19(4)*, 42-45. https://doi.org/http://www.pntonline.co.za/index.php/PNT/article/view/797

Monagle, J. L., Lasater, K., Stoyles, S., & Dieckmann, N. (2018). New graduate nurse experiences in clinical judgment: What academic and practice educators need to know. *Nursing Education Perspectives*, *39*(4), 201-207. https://doi.org/10.1097/01.nep.0000000000000336

Moreland, J. J., Ewoldsen, D. R., Albert, N. M., Kosicki, G. M., & Clayton, M. F. (*20*15). Predicting nurses' turnover: The aversive effects of decreased identity, poorer interpersonal communication, and learned helplessness. *Journal of Health Communications*, 20(10), 1155-1165. doi.org/10.1080/10810730.2015.1018589

National Database for Nursing Quality Improvement (NDNQI) (2010b). Guidelines for data collection on the American Nurses Association's National Quality Forum endorsed measures: Nursing care hours per patient day, skill mix, falls, falls with injury. Retrieved from https://www.nursingquality.org/

Nibbelink, C. W., & Brewer, B. B. (2016). Decision-making in nursing practice: An integrative literature review. *Journal of Clinical Nursing*, *25*(3), 289-313.

https://doi.org/110.1016/j.bbi.2017.04.008

Nolte, A. G., Downing, C., Temane, A., & Hastings-Tolsma, M. (2017). Compassion

fatigue in nurses: A metasynthesis. *Journal of Clinical Nursing*, *26*(23-24), 4364-

4378. https://doi.org/10.1111/jocn.13766

Nursing-sensitive indicators. (2019). Retrieved from www.nursingworld.com

Ploeg, J., Ireland, S., Cziraki, K., Northwood, M., Zecevic, A. A., Davies, B., ... Higuchi,

K. (2018). A sustainability oriented and mentored approach to implementing a fall

prevention guideline in acute care over 2 years. *SAGE Open Nursing*, *4*, 1-17.

https://doi.org/10.1177/2377960818775433

Quigley, P., Lunsford, B., Wilson, L. D., Wexler, S. S., D'Amico, C. O., & Hester, A. L.

(2015). Focus ON...Falls prevention. *American Nurse Today*, *10*(7), 28-39.

Retrieved from https://americannursetoday.com/wp-

content/uploads/2015/07/ant7-Falls-630_FULL.pdf

Quinless, F. W., & McDermott-Nelson, M. A. (1988). Development of a measure of

learned helplessness. *Nursing Research, 37*(1), 11-15.

Recio-Saucedo, A., Dall'Ora, C., Maruotti, A., Ball, J., Briggs, J., Meredith, P., ...

Griffiths, P. (2018). What impact does nursing care left undone have on patient

outcomes? Review of the literature. *Journal of Clinical Nursing*, *27*, 2248-2259.

https://doi.org/10.1111/jocn.14058

Reich, J., Farrell, K., Maloney, C., Drayton, D., & Johnson, T. (2017). Decreasing falls

with injury rates: Development of a support staff falls advocate program. *Journal*

of Nursing Care Quality, *32*(1), 40-46.

https://doi.org/10.1097/NCQ.0000000000000206

Ren, Y., Zhou, Y., Wang, S., Luo, T., Huang, M., & Zeng, Y. (2018). An exploratory

study on resilience and its influencing factors among hospital nurses in

Guangzhou, China. *International Journal of Nursing Sciences*, *5*, 57-62.

https://doi.org/10.1016/j.ijnss.2017.11.001

Rowan, L., & Veenema, T. G. (2017). Decreasing falls in acute care medical patients: An

integrative review. *Journal of Nursing Care Quality*, *32*(4), 340-347.

https://doi.org/10.1097/NCQ.0000000000000244

Ryan, C., Bergin, M., & Wells, J. S. (2017). Valuable yet vulnerable—A review of the

challenges encountered by older nurses in the workplace. *International Journal of*

Nursing Studies, *72*, 42-52. https://doi.org/10.1016/j.ijnurstu.2017.04.006

Rydon-Grange, M. (2015). 'What's psychology got to do with it?' Applying

psychological theory to understanding failures in modern healthcare settings.

Journal of Medical Ethics, *41(11)*, 880-884. https://doi.org/10.1136/medethics-

2015-102922

Spicer, J. G., Delmo, C. J., & Agdipa, C. (2017). The got-a-minute campaign to reduce

patient falls with injury in an acute care setting. *MedSurg Nursing*, *26*(5), 313-

315.

Staggs, V. E., Davidson, J., Dunton, N., & Crosser, B. (2015). Challenges in defining and

categorizing falls on diverse unit types: lessons from the expansion of the NDNQI

fall indicator. *Journal of Nursing Care Quality*, *30*(2), 106-112.

https://doi.org/10.1097/NCQ.0000000000000085

Taylor, E., & Hignett, S. (2016). The SCOPE of Hospital Falls. *Health Environments Research & Design Journal*, *9*, (9), 86-109.

https://doi.org/10.1177/1937586716645918

Warner, R. M. (2013). *Applied statistics: From bivariate through multivariate techniques* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

Watson, B. J., Salmoni, A. W., & Zecevic, A. A. (2015). Falls in an acute care hospital as reported in the adverse event management system. *Journal of Hospital Administration*, *4*(4), 84-91. doi.org/10.5430/jha.v4n4p84

Part 3 Summary

Integration of the Three Studies

This research study was composed of three manuscripts, which included a thorough examination of the self-reported LH of medical-surgical nurses and the relationship to fall incidence. I used a modified Donabedian Structure-Process-Outcome (SPO) conceptual model that was designed to identify relationships or differences between the complex issue of patient fall incidence and nurses' LH among medical-surgical units. Study variables also included nurse staffing, nurse experience levels, and the age of the nurse. There were no significant relationships or differences found among the three studies but common themes related to falls and LH were identified throughout the literature review.

Fall Incidence

Patients continued to fall during inpatient admissions at alarming numbers despite evidence-based tools created to predict patient fall risk and reduce the incidence of falls and falls with injury (He et al., 2016; Ploeg et al., 2018; Porter, Cullen, Farrington, Matthews, & Tucker, 2018; Rowan & Veenema, 2017; Spicer et al., 2017; Staggs et al., 2015; Zhao, 2016). Second, falls were considered avoidable events and had costly implications to healthcare organizations (Rowan & Veenema, 2017). Lastly, the bedside nurse primarily drove fall prevention. Therefore, mounting pressures to prevent patient falls, particularly in medical-surgical units with a wide diversity of patient needs plagued

nurses as fall rates continue to occur and many resulted in patient harm (Gibson & Lloyd, 2018; Reich, Farrell, Maloney, Drayton, & Johnson, 2017; Watson, Salmoni, & Zecevic, 2015; Yoder, 2018).

Learned Helplessness

The presence or level of LH in an individual is correlated to preoccupation with safety in the workplace (Bernstein, 2016; Gibson & Lloyd, 2018; Landry et al., 2017; Rydon-Grange, 2015). Second, a common belief is that nurses acquired a grouped set of perceived behaviors that were correlated to actions of patient care delivery (Gibson & Lloyd, 2018; Moreland, Ewoldsen, Albert, Kosicki, and Clayton, 2015; Reich, Farrell, Maloney, Drayton, & Johnson, 2017; Rowan & Veenema, 2017; Spicer et al., 2017). Lastly, LH had been positively identified as influencing a relationship between nurses' feelings of guilt and hopelessness and the high frequency of patient falls in medical-surgical units (Gibson & Lloyd, 2018; Landry et al., 2017; Moreland et al., 2015; Porter et al., 2018).

Lessons Learned

Quantitative research relies on the underlying tenets that the world is stable and predictable, and that numerical data collection and analysis will explain or predict the problem of interest. In contrast, qualitative research relies on the adaptation and observations of the researcher to draw conclusions of constant changes to the environment. As the researcher, my goal was to determine if a relationship between fall incidence and LH existed using numerical values for both variables. However, LH may

be observed or perceived differently based on unique experiences with patient falls and as the role of a medical-surgical nurse. The LHS may have been too broad of a data collection tool for the purpose of the study. The questions included in the survey tool do not relate to any specific scenario or situation. Therefore, it may be difficult to determine a correlation to falls with emotional responses from nurses using set or predictor variables. A qualitative research design may have brought forth rich details encompassing each nurse participant's LH level specifically linked to the frequent exposure to patient falls.

Conclusion

Fall incidence remains a considerable obstacle across the health continuum. Because a wider range of patient needs secondary to the growing complexity of patient conditions and nursing needs due to unit-type workflows exist today, this study promotes positive social change related to a much-needed focus on mental power and energy for nurses to maintain quality of care delivery and decrease adverse patient events. Relevant scholarship presented throughout the three manuscripts supported positive social change and suggested a stronger culture of clinical excellence with the consideration of behavioral needs of nursing related to quality, safety, and service outcomes when developing and implementing fall risk prevention strategies is imperative. Insights from this study should guide and encourage healthcare organizations to consider acute care nurses' psychological and perceived attitudes related to inpatient fall risk assessments and inpatient fall incidence. Future studies to understand nurses' self-perceived presence

of LH and influence on the incidence of patient falls could bring forth broader knowledge

to improve nursing autonomy and empowerment related to patient safety.

Appendix A

Nurse Recruitment Email

Dear Registered Nurse,

A Walden University doctoral candidate is seeking Registered Nurses who are at least 18 years old to participate in a research study. Your email was identified because your primary inpatient work unit is within the medical-surgical specialty which aligns with the researcher's topic of interest. The purpose of this study is to examine the relationship between nurses' self-reported learned helplessness, nurse staffing, nurse experience, and medical-surgical fall incidence.

Participation in this study involves:

- Completion of a 15 minute survey
- A gift card to the CUH coffee shop for participation

For more information about this study, please contact the Principal Investigator, Jennifer Glendening, MSN by phone at 609-332-5057 or email at jennifer.glendening@waldenu.edu.

Thank you,
Jennifer Glendening, MSN
Principal Investigator

Study Title: Learned Helplessness Among Acute Care Nurses and Its Influence on

Inpatient Fall Incidence

Appendix B

Descriptive Nurse Characteristic Survey Questions

Example Descriptive Nurse Characteristics

Have you been employed as a Registered Nurse (RN) anytime between January 2018 through June 2019?

○ YES

○ NO

Are you a registered nurse (RN) who currently works on a medical-surgical inpatient unit?

☐ YES

☐ NO

Age

☐ 20-30

☐ 30-40

☐ 40-50

☐ 50-60

☐ Over 60

Gender

☐ Male

☐ Female

What is your current level of nurse experience?

☐ < 1 year (new to practice)

☐ > 1 year but < 5 years

☐ > 5 years

Appendix C

Permission for Use of Learned Helplessness Scale (LHS)

Frances Ward, PhD, RN, NP-**C**

Memorandum

TO: Jennifer Glendening, MSN, RN-BC, CMSRN, CPHQ

FROM: Frances Ward, PhD, RN

DATE: August 15, 2019

SUBJ: Learned Helplessness Scale (LHS)

Attached is a copy of the LHS for your use in your research. The authors of the LHS are

the late Mary Ann Nelson McDermott PhD, RN, and me.

Items # 1, 4, 7, 8, 9. 11, 13, 15, 17, and 18 are scored as follows:

Strongly Agree	=	4
Agree	=	3
Disagree	=	2
Strongly Disagree	=	1

Items # 2, 3, 5, 6, 10, 12, 14, 16, 19, and 20 are scored as follows:

Strongly Agree	=	1
Agree	=	2
Disagree	=	3
Strongly Disagree	=	4

Add all twenty item scores to obtain the final score. The possible range of scores on the LHS is 20 to 80 with higher scores indicating higher learned helplessness.

Appendix D

Learned Helplessness Scale (LHS) Survey Tool

Instructions to Participant:

Please place a check in the box that most closely describes you or your feelings about yourself.

Thank you.

		Strongly Agree	Agree	Disagree	Strongly Disagree
1.	No matter how much energy I put into a task, I feel I have no control over the outcome.	☐	☐	☐	☐
2.	I feel that my ability to solve problems is the cause of my success.	☐	☐	☐	☐
3.	I can find solutions to difficult problems.	☐	☐	☐	☐
4.	I don't place myself in situations in which I cannot predict the outcome.	☐	☐	☐	☐
5.	If I complete a task successfully, it is probably because of my ability.	☐	☐	☐	☐
6.	I have the ability to solve most of life's problems.	☐	☐	☐	☐
7.	When I do not succeed at a task, I do not attempt any similar tasks because I feel that I would fail them also.	☐	☐	☐	☐
8.	When something doesn't turn out the way I planned, I know it is because I didn't have the ability to start with.	☐	☐	☐	☐
9.	Other people have more control over their success and/or failure than I do.	☐	☐	☐	☐
10.	I try new tasks if I have failed similar ones in the past.	☐	☐	☐	☐
11.	When I perform poorly, it is because I don't have the ability to perform better.	☐	☐	☐	☐
12.	I accept tasks even if I am not sure that I will success at them.	☐	☐	☐	☐
13.	I feel that I have little control over the outcomes of my work.	☐	☐	☐	☐
14.	I am successful at most tasks I try.	☐	☐	☐	☐
15.	I feel that anyone else could be better than me at most tasks.	☐	☐	☐	☐
16.	I am able to reach my goals in life.	☐	☐	☐	☐
17.	When I don't succeed at a task, I find myself blaming my own stupidity for my failure.	☐	☐	☐	☐
18.	No matter how hard I try, things never seem to work out the way I want them to.	☐	☐	☐	☐
19.	I feel that my success reflects my ability, not chance.	☐	☐	☐	☐
20.	My behavior seems to influence the success of a work group.	☐	☐	☐	☐

©LHS form B