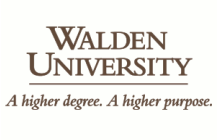

2019

Relationship Between Self-Determination and Employee Retention

Tiffany Edwards
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This is to certify that the doctoral study by

Tiffany S. Edwards

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.

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Walden University
2019

Abstract

Relationship Between Self-Determination and Employee Retention

by

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MBA, University of Phoenix, 2012

BS, New York Institute of Technology, 2010

Doctoral Portfolio Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

June 2019

Abstract

Retention of registered nurses (RNs) is essential to the sustainability of quality health care services. More than 55% of hospitals in the United States have not translated retention initiatives into a formal retention strategy. The purpose of this study was to examine the relationship between training programs, new hire onboarding processes, frozen positions, and nurse retention. The self-determination theory was the theoretical framework for this study. Secondary data were collected from the 2016 Texas Hospital Nurse Staffing Survey. Data were analyzed using multiple linear regression. The results of the multiple linear regression were statistically significant, with $F(3, 251) = .602$, $p > .001$, $R^2 = .007$. Although the model is significant, length of residency/internship/fellowship, length of new employee training, and total number of direct resident care RN positions frozen does not add significant predictive value to turnover. The results of the multiple linear regression produced correlation of the independent variables with the dependent variable of nurse turnover. Length of residency/internship/fellowship was positively correlated with RN turnover rate at .025, length of new employee training was negatively correlated at .072, and total number of direct resident care RN positions frozen was negatively correlated at .012. The findings of this study might influence positive social change by providing insights into length and content of programs and the effect of understaffing on retention of RNs. An increase in retention of RNs might contribute to improved hospital reputation, financial capability, and organizational balance leading to a positive effect on the economy, sustainability, and quality of life of the surrounding community.

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Dedication

This research is dedicated first and foremost to my loving husband Quintin Edwards. He has been a great source of motivation through my educational journey. The time spent pursuing my education was time taken away from family. Special dedication as well to my parents Peter Owen and Cherryl Biggins for their guidance. You both instilled in me the desire to learn more and attitude to believe I can achieve anything I put my mind to.

Acknowledgements

Special thanks and praise to my heavenly father who is the source of my strength. To my husband Quintin, son Quintin “Deuce” Jr, parents Peter and Cherryl, sisters Charmayne, Briana, Kimberly and Dana thank you for your support and understanding. To all my other family and friends, thank you for your kind words and support.

I sincerely appreciate the support of the Walden University staff. Special thanks to my chair Dr. Irene Williams, Dr. Jill Murray (second committee member), Dr. Peter Anthony (URR), and Dr. Zin Htway (statistics tutor) for your feedback and guidance. The completion of my study would not have been possible without your patience and leadership throughout this process.

Table of Contents

List of Tables

List of Figures

Section 1: Background and Context

Research on the relationship between self-determination theory (SDT) and employee retention is scarce. According to the SDT, people experience different types of motivation based on their work performed (Manganelli, Thibault-Landry, Forest, and Carpentier, 2018). Although nurse retention has been a topic in research for more than 50 years, the need for RNs continues to rise. Hospital nurse retention varies by type of facility.

Historical Background

Nurse retention is a recurring problem. Poor nurse retention within a hospital can affect medical services (Seifi, Heidari, & Gharebagh, 2017). The Bureau of Labor and Statistics (BLS) expects the job outlook for RNs to rise 15% between 2016 and 2026 (Bureau of Labor Statistics, 2016). Hospitals and other health care facilities suffer turnover rates with averages as high as 14% for bedside nurses and 24% for medical-surgical nurses each year (Seifi et al., 2017). The high turnover rates coupled with a healthy job outlook for nurses can make retention difficult.

Organizational Context

The Texas hospital nursing industry provides the context for my study. Internally, the nursing industry context includes the vision, mission, strategic objective and organization structure. The nursing industry follows the interdisciplinary effort shared vision (SV). SV is the effort that commits to common patient-centered goals within organizations (Liu, Johantgen, & Newhouse, 2017). The mission of hospital nursing is to increase positive patient outcomes. Strategically, the hospital nursing industry exists to

provide patients and the community with the support in times of medical need. The organizational structure of the hospital nursing industry is not unique.

The external context of the nursing industry contains factors to include legal, social, regulatory, financial, and economic. Hospitals have many legal and regulatory obligations to ensure patient health and safety. Effective management of hospitals can occur by implementing a systematic medical system while eliminating risk factors in administrative service (Hyun Jun et al., 2016). Managing legal risks also includes educating all hospital employees on preventative strategies and improving customer service throughout the hospital (Hyun Jun et al., 2016). Societal factors affect the ability of a hospital to staff its nursing component. Wankyo and Min (2018) found a well-qualified nurse staff increases patient outcomes. Hospitals must adhere to regulatory requirements.

Regulatory requirements restrict the processes and manner of those processes that each hospital performs. Weske, Boselie, van Rensen, and Schneider (2018) concluded a one-size-fits-all approach is nonexistent for implementing obligatory rules. Each hospital should discover best practices to implement regulatory requirements. Financial ability of a hospital affects how, and the variety of services performed. Recessions influence the quality of care hospitals perform. Keramidou and Triantafyllopoulos (2018) researched the major health reforms during the financial crisis in Greece. The reform applied by Greek governments reduced deficits of social security organizations; however, quality of care was also diminished (Keramidou & Triantafyllopoulos, 2018). Consideration of economic factors is necessary when discussing nurse staffing. The economy weighs

heavily on a hospitals ability to maintain a certain standard of care and retain a superior nursing staff.

Retaining nurses in their positions is a challenge for hospital managers and has been an ongoing problem for more than 50 years. U.S. President Lyndon B. Johnson signed the Nurse Training Act of 1964 to grow the field (Yett, 1966). Despite the addition of the Nurse Training Act of 1964, nurse retention remains a struggle for hospitals. Further research on the topic of hospital nurse retention is necessary for hospital leadership to aid in the decision-making process.

Problem Statement

Employee retention has been a topic in literature for many years. Improved retention and planning are necessary for the future of the nursing workforce (Jones-Berry, 2017). NSI Nursing Solutions (2017) found that despite most hospitals established retention initiatives, only 43.4% have translated the initiatives into a formal retention strategy. McLemore, Levi, and James (2015) found a significant positive relationship between flexibility in hospital practices and nurse retention. Creating positive practice environments is essential to nurse retention (Twigg & McCullough, 2014). Moreso, Dell, Verhoeven, Christman, and Garrick (2017) have linked employee retention to SDT constructs.

A variety of constructs may affect employee retention. Dahling and Lauricella (2017) identified SDT constructs as significant predictors of retention problems. The 2016 Texas Hospital Nurse Staffing Survey (THNSS) dataset for this study has not been used to examine the relationship between (a) length of residency/internship/ fellowship,

(b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention. The dataset provides valuable information for my study on nurse retention.

Purpose Statement

My purpose in this quantitative correlation study was to examine the relationship between (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention. The independent variables are the intrinsic motivator variables, including (a) length of residency/internship/ fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen. The dependent variable is nurse retention. The target population comprises archival data records from nurses in Texas hospitals who completed the 2016 THNSS. The implications for social change include the potential to identify intrinsic motivators that can foster nursing retention, which will benefit society by providing nursing care that is consistent, which serves to augment the health of community members.

Target Audience

The key stakeholders include hospital administrators, hiring managers, human resources professionals, hospital partners/stakeholders, patients and community members who may frequently visit a hospital. Hospital administrators, hiring managers, human resources professionals, and hospital partners/stakeholders may be interested in my study for the potential decrease in monetary costs to replace departing employees. Patients and

community members who frequent a hospital may be interested in my study because of the potential increase employee retention could have on the consistency of care.

Research Question

Is there a statistically significant relationship between a (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention?

Hypotheses

H_{o1}: There is no statistically significant relationship between a (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention intention.

H_{a1}: There is a statistically significant relationship between (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention intention.

Significance

The value of the study to businesses is the potential to decrease monetary loss through reduced training of new employees. Through the study, I may contribute to the awareness of how intrinsic motivational predictor variables relate to nursing retention in Texas hospitals. Through the study of nurse's retention intentions, I can provide nurse supervisors and those responsible for employee retention and recruitment, with awareness concerning the relationship of intrinsic motivation, predictor independent variables, and the dependent variable nurse retention. Through the study, I could contribute to a better understanding of intrinsic motivation, predictor independent variables' and their

relationship with the dependent variable nurse retention. The relationship of a nurse's perception of their hospitals (a) length of residency/internship/ fellowship; (b) length of new employee training; and (c) total number of direct resident care RN positions frozen to nurse retention is an essential potential cost reduction element, which can contribute significantly to hospital nurse retention rates. An increase in nurse retention could positively affect nursing recruitment and training costs at hospitals.

Through this study, I may contribute to social change by using the self-determination and employee retention study to increase awareness of social conditions related to nursing retention in Texas hospitals. Satisfied nurses are less likely to leave a position (Palmer, 2014). An increase in nursing retention could improve the connection and enhance the experience patients, and patients' families have with the hospital.

Theoretical Framework

The theoretical framework of my study is made up of the SDT. Deci and Ryan (1985) developed the SDT. They used the theory to explain a person's internal motivating factors that are stronger than extrinsic motivation (Deci and Ryan, 1985). The authors also identified the following vital constructs underlying the theory: (a) competence, (b) relatedness, and (c) autonomy. As applied to this study, the SDT holds that I would expect the independent variables to predict employee retention intention because Dysvik and Kuvaas (2010) and Mishra and Mishra (2017) identified intrinsic motivational constructs as significant predictors of turnover intentions and actual employee turnover. Figure 1 is a graphical depiction of the SDT as it applies to examining turnover intentions.

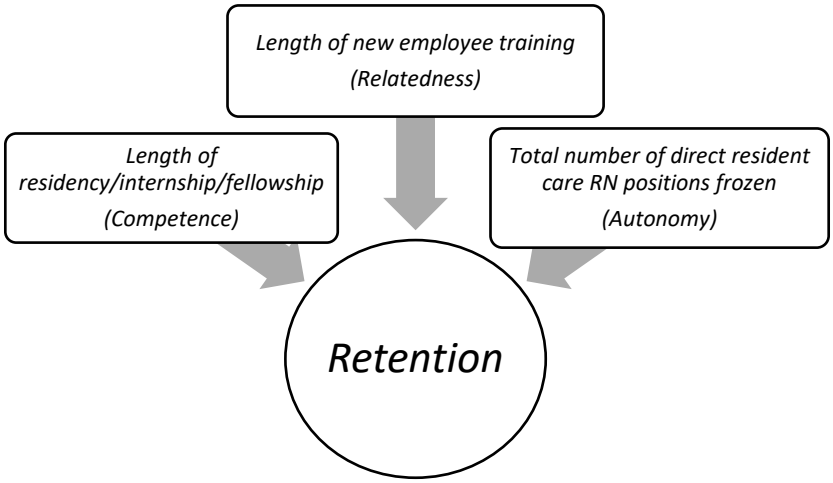


Figure 1. Self-determination theory. Graphical model of SDT as it applies to examining retention. Length of residency/internship/fellowship, length of new employee training, and total number of direct resident care RN positions frozen are the variables tested against a nurse's retention at Texas hospitals.

Representative Literature Review

In my review of professional and academic literature, I cover the basis for this study on the SDT. The literature on SDT is essential to this study. This study includes a review of retention literature. Investigating the literature allows for a clearer picture of the business problem. The literature review includes information on the nurse retention problem, which I address in this study. Adding turnover literature aids in the addition of context and depth, because turnover and retention can be interrelated. Motivational literature components that relate to my study allow a better understanding of what has motivated employees in the past.

Additional topics that I describe in this section are nurse employee retention, causes of nurse turnover, and implications of nurse turnover and retention. The literature review consists of an intensive examination of previous research findings that relate to

the variables and theoretical framework. An introduction to the SDT will begin this literature review. Covered in the literature review are the components of motivation that directly relate to my study topic. The use of the Walden University Library database searches allowed me to gather this information.

Strategy for Searching for Literature

I located peer-reviewed journal articles, dissertations, books, and U.S. government and private websites using the following databases and search engines: ABI/Inform Complete, Business Source Complete; Dissertation, and Theses and Walden University, eBook Collection (EBSCOhost); Emerald Management Journal, Google Scholar, Academic Search Complete. The following search terms assisted me during the research process: *employee retention*, *employee turnover*, *employee satisfaction*, *nurse retention*, *nurse turnover*, *self-determination or self-determination theory*, *management style*, *job satisfaction*, *turnover*, *retention*, and *quantitative versus qualitative.* Other words used to expand the study were *nurse retention or turnover*, *hospital employee retention*, and *hospital employee turnover*. To maintain academic rigor required by Walden University DBA program, I ensured an exhaustive search resulting in 75% of sources were peer-reviewed articles published within 5 years of the 2019 expected date of CAO approval.

Table 1

Resources

Type of resource	Within 5 years	Older than 5 years	Total	%
Books	1	9	10	4
Dissertations	0	0	0	0
Peer-reviewed articles	165	48	213	93
Other resources	5	1	6	3
Total resources	169	58	229	100
Total %	75%	25%		

Theoretical Framework

The relationship between self-determination and nurse retention is unclear. The well-being of nurses is an essential factor in nurse effectiveness (Adriaenssens, Hamelink, & Van Bogaert, 2017). Deci and Ryan's (1985) SDT comprises the theoretical framework for this quantitative correlation study. Deci and Ryan used the theory to explain a person's internal motivating factors that are stronger than extrinsic motivation. Deci and Ryan identified the following vital constructs underlying the theory (a) competence, (b) relatedness, and (c) autonomy. The SDT theoretical framework in this study allows examination of the relationship between (a) length of residency/internship/fellowship, (b) length of orientation, (c) total number of direct resident care RN positions frozen, and nurse retention.

Varieties of researchers use SDT as their theoretical framework. Leavell (2016) investigated the marketing concept in the fine arts arena. Fine art is a topic where researchers produce literature focused on marketplace actors versus participants. Leavell's journal article highlights another avenue to investigate motivations in the fine

art arena through SDT. Like Leavell, Cockrell, Stone, and Wier (2018) performed research through the extension of SDT. Cockrell, Stone, and Wier (2018) investigated how financial incentives might increase harmful or useless knowledge sharing among accounting professionals. Financial incentives encourage employees in certain roles to achieve goals. Dysfunctional knowledge sharing can harm an organization (Cockrell et al., 2018). Researchers have used SDT to examine relationships between workplace variables.

SDT provides insights relating to psychological elements. Thibault-Landry, Egan, Crevier-Braud, Manganelli, and Forest (2018) studied the relationship between employees' work cognitions, satisfaction and work intentions. Thibault-Landry et al. discovered empirical evidence through their investigation of the employee work passion appraisal model using SDT. Thibault-Landry et al. determined that employee cognitive appraisals of work characteristics positively related to basic psychological need satisfaction.

Organizational innovation might occur through SDT. Sipe (2018) attempted to make the business case for use of SDT through the lens of senior managers. Manganelli et al. (2018) discovered organizations encourage employee satisfaction of needs for autonomy, competence and relatedness with three important levers. Allowing employees to use and develop a variety of skills, providing greater flexibility on work scheduling and assigning job tasks that directly affect the work of others assists with employee satisfaction (Manganielli et al., 2018). Facilitation of need satisfaction in a work

environment produces positive work outcomes (Manganelli et al., 2018). More research is required on the topic of organizational innovation using SDT.

Researchers have tested the SDT constructs in the education industry. Sánchez-Oliva, Pulido-González, Leo, González-Ponce, and García-Calvo (2017) tested the effects of a training program with physical education (PE) teachers. Sánchez-Oliva et al. found an increase in SDT constructs. Komiyama and McMorris (2017) determined that student motivation to read was characterized by two forms of autonomous motivation. Khan et al. (2018) examined factors that influence a student's adoption of Massive Open Online Courses by integrating SDT constructs. Khan et al. determined SDT constructs had a significant positive influence on behavioral intentions. Lou et al. (2018) determined that SDT provides a framework for understanding social and psychological foundations of autonomous learning. Wisniewski et al. (2018) discovered that students who underwent role redefinition through SDT took risks that are more intellectual and became more critical of their education systems and institutions. Further discussion surrounding SDT and autonomous learning is necessary for a more detailed understanding of SDT and education.

SDT constructs were also used to test course design. Experiential learning allows students to connect theory to practice, however exploration as to why experiential learning is effective was necessary (Rayburn, Anderson, & Smith, 2018). The design of experiential learning was tested using SDT constructs. Rayburn et al. (2018) discovered course design was successful in increasing psychological needs fulfillment as well as student perceived outcomes. In addition to experiential learning, SDT constructs were

used to examine instructional strategies used to motivate students to participate in online communication courses. Jacobi (2018) found SDT assists contemporary scholars in understanding specific needs of online learners as well as discrete challenges for today's teachers.

Research surrounding the relationship between adolescents, teachers, and parents has been grounded in SDT. Li, Deng, Wang, and Tang (2018) used a dual-process motivation mediation model to examine connections between autonomy support and autonomous motivation between psychological control and controlled motivation and the predictive effect on junior high-school students' academic performance and school satisfaction. Middle students have specific needs. Development needs of junior high-school students differ from those younger and later in adolescence (Booker, 2018). Through their study, Li et al. demonstrated that perceived autonomy support from teachers was a stronger predictor of autonomous motivation, performance and overall school satisfaction than that of parents. Although parental support is necessary for student development, teachers are aware of the importance of the pedagogical experiences for students (Booker). Gniewosz, and Watt's (2017) research supports expectations that perceived encouragement conveyed by student-perceived mathematical ability beliefs held by parents and teachers promotes positive mathematics task values development. Research supports the effectiveness of SDT constructs in the educational environment.

The use of SDT is prevalent in adolescent research. Although leisure is viewed globally as an important developmental context for youth, Xie, et al. (2016) discovered adaptation in leisure-based intervention and education programs should vary in different

cultural contexts. High-risk behaviors were also a focus in adolescent research. Hardy, Dollahite, Johnson, and Christensen (2015) used the SDT to examine adolescents' motivations to abstain from sexual intercourse and marijuana use and engage in charitable donating and community volunteering. Through their research, Hardy et al. discovered similar patterns existed for motivations to engage and abstain. Similarly, Riley and McDermott (2018) realized parents contributed uniquely to an adolescents sexual-risk behavior and knowledge. Parenting behaviors appear frequently through SDT exploration.

Researchers have used SDT in a variety of methods. Brenning and Soenens (2017) discovered needs satisfaction related heavily to more maternal responsiveness and autonomy support amongst women during pregnancy, 4 months postpregnancy and when a child is 2 years old. Like new parent roles, parents of early adolescents also play a part in a child's life. Adolescents with parents who are less supportive of their need for autonomy are more likely to engage in nonsuicidal self-injury (NSSI) (Emery, Heath & Rogers, 2017). Children who experience NSSI do not perceive autonomy support from their parents.

Mental health is a serious issue. Although the applicability of SDT to mental health is unclear, Jochems, Duivenvoorden, van Dam, van der Feltz-Cornelis, and Mulder (2016) tested the process model of SDT on a sample of outpatients with a severe mental illness (SMI). Research using SDT in the health care arena is scarce. Frielink, Schuengel, and Embregts (2017) tested whether the four subtypes of extrinsic motivation (external, introjected, identified and integrated) can be differentiated among people with intellectual

disability (ID). Research shows initial universality among the four subtypes across populations with and without ID (Frielink et al., 2017). SDT can be a useful basis for interventions in patients with an SMI (Jochems et al., 2016). Further research is required to validate the reliability of SDT in mental health patients.

Nurse Retention

Retention rates among nurses have been a topic in the health care industry for more than 50 years. The concept of how organizations adequately staff has become a critical management practice that might assist with identification of the drivers of turnover and the factors that promote retention of nurses and health care aides (Black, 2015). Consideration of a variety of factors is necessary to perform an accurate assessment of turnover drivers. Bragg and Bonner (2015) found that nurses resigned from rural Australian hospitals due to a conflict of values between the nurse and the hospital. According to Black (2015), turnover drivers include job autonomy; ongoing training/orientation; educational opportunities; caring relationship with residents; supportive supervisor; and an appreciated, respectful work environment. Although Black found the factors that contribute to retention are unique for both HCAs and nurses, Bragg and Bonner believe the process of nurse resignations requires the ability of facilities to capture additional data. Retention amongst nurses requires further research into a variety of factors.

Underlying contextual factors can also be unique. Mei-Fang et al. (2016) used a cross-sectional survey and found that social support, work stress, jobs satisfaction, and organization-based self-esteem (OBSE) contributed to a nurse's intention to stay in a

position. Intent to remain in a position is important to understand when researching nurse turnover. According to Aluwihare-Samaranayake, Gellatly, Cummings, and Ogilvie (2018), an understanding of contextual work-life influences on nurses in Sri Lanka's intent to stay in their position should lead to evidence-based strategies that result in higher nurse retention. Mei-Fang et al. determined that OBSE mediates the effects of social support and job satisfaction on a nurse's intent to stay in a position. Intent to remain in a position could change based on location.

Global demographic changes have resulted in the need for strategies to improve nurse retention. Rahnfeld, Wendsche, Ihle, Müller, and Kliegel (2016) examined the relationship between geriatric nurses' intent to leave a position and the nursing profession entirely and discovered that reasoning does not change as the environment changes. Work environments are necessary to consider when concluding why a nurse leaves a position. Roche et al. (2016) believed considerable organizational restructuring and turnover of nurse executives attributes to the decline in nursing shortages. Rahnfeld et al. assessed turnover and found the work environment is a crucial factor in nurses leaving a position. Analyzing the work environment is essential to a well-developed study on employee retention.

Nursing researchers continuously highlight the retention problem. Poor nurse retention might be attributed to the education process prior to graduation. Fifty percent of a nursing program covers clinical practice, however Scammel (2016) believed the central theme throughout a nursing program should cover resilience and the link to stress. McKinnon (2017) reviewed a quantitative study and found a correlation between self-

concept, resilience, the practice environment, and retention. Online advanced education could also attribute to retention problems. Knestrick, et al. (2016) determined the identification of predictor variables that put online students at risk for attrition are critical to helping students succeed. The trend in research is the need for a better work environment, physician/nurse collaboration, scheduling and educational opportunities.

Poor nurse retention does not exist solely inside hospitals. Public health agencies must also develop strategies to sustain nurses given the growth in national policies focused on public health (Yeager & Wisniewski, 2017). Due to the social media era, the spotlight has grown on public health. Flexible schedules and employee autonomy are two factors that influence nurses to begin and remain employed in local government public health agencies (Yeager & Wisniewski, 2017). Retention rates vary amongst nurses by career tenure and location. Newly licensed RNs have a retention rate of 83%, whereas the retention rate in urban areas and Magnet hospitals is higher than other areas (Blegen, Spector, Lynn, Barnsteiner, & Ulrich, 2017). Workplace characteristics differ, however the retention rate for nurses remains low in general. Blegen et al. (2017) found hospital characteristics have a more significant effect on newly licensed nurse retention than personal characteristics. Further awareness on hospital characteristics may benefit the topic of nurse retention.

Researching employee tenure can benefit the nursing industry. Tenure is a prominent issue in the nursing community (Moreland, Ewoldsen, Albert, Kosicki, & Clayton, 2015). Organizational commitment directly affects turnover, yet upwards of 37% of first-year nurses are willing to change jobs after only 1 year (Moreland et al.,

2015). Nurse engagement is a necessary element for organizations to review when considering retention initiatives. Psychologically engaged nurses are less inclined to leave their position (Carter & Tourangeau, 2012). The ability to test nurse engagement may assist in retention efforts. Tenure may affect the consistency of care in hospitals. RN tenure improves patient care (Mayuko, Stone, Schmitt, Phibbs, & Wang, 2016). Organization tenure is separate from position tenure and professional tenure. Uchida-Nakakoji, Stone, Schmitt, Phibbs, and Wang (2016) found that aligning quality outcomes with cost effectiveness is necessary to guide the direction of health policy in the United States. The form of tenure researched alters the results.

The concern of the long-term care (LTC) sector retention poses a problem. The LTC sector has difficulty retaining HCAs and nurses (Fernet, Trépanier, Demers, and Austin, 2017). The ability to identify why LTC turnover has not improved is necessary. Fernet et al. indicated the need to understand the motivational factors that trigger turnover in newly licensed nurses and discovered that motivation linked to an employee's intention to leave a position while health care facilities require more focus on motivating employees. Black (2015) identified LTC turnover as a chronic concern that is negatively impacting organizational effectiveness and patient outcomes. Further awareness on LTC sector nursing may benefit the topic of nurse retention.

Many factors influence retention of nurses. Despite the need for Indian nurses in South Africa, financial well-being, quality of work and private lives remains an obstacle in the recruiting process (Coustas, 2019). Fewer health professionals work in rural South African areas where the need is greater (Haskins, Phakathi, Grant, & Horwood, 2017).

Quality of work life (QWL) serves a role in nurses accepting a position. Scruth, Garcia, and Buchner (2018) discovered that psychological empowerment and job satisfaction are two factors that impact a nurses QWL. Research on what affects QWL between the different generations could assist in improving nurse retention.

Many variables can be associated with nurse turnover intentions. Yang and Kim (2016) found job satisfaction, compassion fatigue, and traumatic events as essential factors that influence a nurse's intent to leave a position. Knowledge of the intent to leave a position is important when performing turnover research. Race, ethnicity, and gender may play a role in nurse retention. Doede (2017) performed a study on race as a predictor of job satisfaction and turnover in US nurses. Doede discovered that Black and Hispanic nurses are more likely to intend to quit while controlling their job dissatisfaction. A workplace free of discrimination can assist with a reduced turnover of minority nurses.

No shortage exists of research focused on NLRNs. Read and Laschinger (2017) highlighted the increasing number of NLRNs from accelerated nursing programs and the need to understand the differences in transition experiences that may occur between those who attended a traditional 4-year program. Nurses who attended a traditional program felt they were better prepared for their transition into the nursing workforce. Nurse turnover is widespread across the world. Many common phrases resonate throughout research. Like the U.S., workplace culture is a major reason nurses leave their positions in China (Tang et al., 2018). Nurse residency programs (NRPs) could affect retention of NLRNs. New graduate nurses hired into a NRP in freestanding California hospital to perform psychiatric mental health nursing had a retention rate of 88.3% after Year 1 and

97.1% after year 2 (Pelletier, Vincent, Woods, Odell, & Stichler, 2018). Nurse retention across the world requires more action-based initiatives versus research with no intent for organizations to adjust practice.

Professional development has been the focus of nurse retention in the literature. Continuing professional development (CPD) can affect a nurse's sense of value to a hospital (Scammel, 2018). Training is vital to nurses continued success. Professional development is configured by statutory, mandatory and developmental training (Glasper, 2018). Each form of training assists in advancement for the nursing profession. Glasper annotated availability of training and time provided to complete training as issues nurses have raised. Further research on CPD in nursing is required.

Nurse practitioner (NP) retention should also be considered when discussing nurse retention. Hagan and Curtis (2018) used Herzberg's Dual-Factor Theory (1966) and determined interventions to increase NP autonomy and facilitate employment in positions with more competitive salaries are likely to improve NP retention. Similarly, Horner (2017) researched NP retention and job satisfaction. Mentoring NPs can improve job satisfaction and reduce turnover based upon increased job satisfaction (Horner, 2017). Nursing research is not solely focused on the NP population but the career. Additional research on the NP population and retention is necessary for accurate retention information.

Employee Retention

The reason a nurse leaves a position is often unclear. Treatment effects and sorting and matching effects of employees may affect retention. A positive association

exists between corporate social initiative and retention rates (Bode, Singh & Rogan, 2015). Carnahan, Kryscynski, and Olson (2017) agreed that corporate social responsibility (CSR) will improve employee retention when the turnover is motivated by a preference for more meaningfulness in the workplace. Flexible practices can retain an employee and are one employee benefit to consider when studying retention. Although flexible practices can improve retention, incorporating other factors such as organizational and socioeconomic characteristics are necessary (Idris, 2014). The flexibility of an organization is not enough alone as employees require the correct salary and organizational culture to remain in an organization. Further research on the relation of flexible practices to employee retention is necessary.

Organizational culture could affect employee retention. Inabinett and Ballaro (2014) determined that organizational culture positively relates to an organization's performance. The link between organizational performance and employee retention could reside in the organizations adapted culture. Kontoghiorghes (2015) mentioned that organizational culture significantly affects employee performance. Talent management relies heavily on the organizations ability to adapt to strategic external trends (Kontoghiorghes, 2015). Organizational culture should be considered when evaluating employee retention.

Transfer of knowledge must be taken into consideration when discussing employee retention. Transfer of knowledge is imperative in retaining new employees as well as maintaining a continuous workflow when employees depart (Agarwal & Islam, 2015). Knowledge is an important element in employee retention. Many organizations do

not benefit from knowledge retention policies due to failure to successfully implement the outlined strategies within the policy (Makhubela and Ngoepe, 2018). Knowledge transfer can also lead to a sustainable competitive advantage (Ahammad, Tarba, Liu, & Glaister, 2016). Knowledge sharing is required in order to maintain knowledge within an organization.

Leaders play a role in employee retention. Reciprocity is unclarified but expected from leaders when employees provide the benefit of social exchange (Covella, McCarthy, Kaifi, and Cocoran, 2017). The responsibility of retaining employees is not the sole responsibility of the organization. Although Dechawatanapaisal (2018) uncovered a direct relationship between leader-member exchange and job embeddedness, it was also discovered that organizational identification played an intermediary role. Leaders must be cognizant of their influence on employees to depart an organization.

Nurse staffing. Patient to nurse ratio is a national challenge. Staffing and scheduling committees influence on RN turnover lacks evidence (Shimp, 2017). The American Nurses Association began mandating staffing resulting in the development of staffing and scheduling committees throughout the nation. A higher nurse-to-patient ratio is consistently associated with high nurse burnout and a higher percentage of job dissatisfaction (Shin, Park, & Bae, 2018). Shimp discovered the nursing practice environment has a direct influence on nurse retention, turnover and staff perception of staffing, and resource adequacy. The use of retention and turnover initiatives could lead to improved retention rates.

New graduate nurses are necessary with many nurses approaching retirement and the current nurse shortage. The turnover rate of new graduate nurses in Korea is twice the rate of all Korean nurses (Mi, 2016). Creating a supportive workplace and better work-life balance could improve retention and lessen the nursing shortage (Boamah & Laschinger, 2016). Nurse staffing plays a role in nurse retention. Aiken (2018) discovered that many countries have adopted safe nurse staffing standards due to documentation that better patient outcomes derive from a highly qualified workforce. Increased nurse retention is necessary to raise consistency of care.

Desired education level can affect RN staffing. According to Aiken (2018), better patient outcomes occur when nurses have a bachelor's level education. The average proportion of nurses with a Bachelor of Science in nursing (BSN) across South Korean hospitals is 30.86% (Cho, Park, Choi, Lee, & Kim, 2017). With an emphasis on high quality care, education level is an important factor in staffing. Education level coupled with workplace stress and job satisfaction impact a nurse's intentions to stay or leave a position (Labrague, Gloe, McEnroe-Petitte, Tsaras, and Colet (2018). Education levels of RNs requires more research as it relates to staffing.

The form of nurse staffing affects patient experiences. A high percentage of part-time nurses is positively associated with patient experience (Oppel & Young, 2017). Part-time nurses may be more experienced. Outside of hospitals, teachers have a greater appreciation for school nurses who work full-time on the campus (Biag, Srivastava, Landau, and Rodriguez, 2014). The full-time work on a school campus is associated with a positive impact on handling emergency medical situation (Biag et al., 2017). Schools

and medical facilities must get nurses approved through budgets. The amount of full-time work affects the ability to staff full-time workers.

Poor nurse staffing affects consistency of care. Griffiths et al. (2018) discovered that low RN staffing is associated with reports of missed nursing care in hospitals. RNs are necessary in the hospital and nursing home environment. Nearly 70% of nursing home facilities are for-profit facilities and operate at low staffing to increase profit (Harrington & Edelman, 2018). Nurse staffing also affects patient satisfaction. Hockenberry and Becker (2016) found that a higher employee RN to patient ratio increases overall patient satisfaction, while contract RNs negatively affects patient satisfaction. Diving into the topic of turnover allows a greater understanding of company staffing struggles.

Nurse turnover. Turnover is costly to any organization. Nurses leave their positions for a variety of reasons. Schroyer, Zellers, and Abraham (2016) found that nurses with a mentor had a 25% higher retention rate. Critical care nurses have a difficult job. The critical care nurse shortage in Canada is elevating to crisis proportions (Sawatzky, Enns, & Legare, 2015). Research is scare on multiple organizational and transitional factors to determine retention strategies for critical care nurses. Sawatzky et al. discovered that professional practice, management, physician/nurse collaboration, nurse competence, control/responsibility and autonomy influenced the 24% of nurses expected to leave critical care in the next year. Turnover research is important to the study of nurse retention.

Nurse turnover has many associated costs. The right leader affects retention of nurses. Authentic leaders indirectly influence nurse retention and foster new nurses' identification with the leader and organization (Fallatah, Laschinger, & Read, 2017). Yim, Seo, Cho, and Kim (2017) discovered that occupational stress management programs are necessary to strengthen psychological capital amongst nurses. Improvement in nurse turnover while decreasing the nursing shortage is necessary. Lindley and Cozad (2017) discovered that nurse knowledge and work environment progressively associate with positive patient outcomes, fewer medical errors, and fewer adverse patient events. Similarly, Bruyneel, Thoelen, Adriaenssens, and Sermeus (2017) found that job dissatisfaction and emotional exhaustion also play a role in turnover.

Employee turnover is not a new issue in the workplace. Early targeting of work environment could improve nurse turnover (Bruyneel et al., 2017). Almost 80% of new nurses work in hospitals with higher turnover rates when compared to experienced nurses (Kovner et al., 2016), whereas the estimated internal turnover rate is 13% at magnet hospitals and 30% nationally. Gellatly, Cowden, and Cummings (2014) found that staff nurses with high affective commitment or high normative commitment experience stronger relationships within their work unit and are less likely to leave their position. Hong and Lee (2016) found emotional intelligence decreased turnover intention by mediating between burnout and emotional labor. Turnover intention is an important factor to research when discussing employee turnover.

Nurse turnover is an issue affecting more than the United States. Zhang, Huang, Liu, Yan, and Li (2016) found that Chinese hospital managers focused on the shortage of

nurses, resulting in increased nurse turnover. Physicians can assist with decreasing nurse turnover. A positive correlation between job satisfaction and positive physician-nurse relationships exists (Zhang et al., 2016). Nurse turnover is an issue in the Philippines as well. A positive physician and nurse relationship could decrease nurse turnover. (Labrague et al. (2018) found that younger nurses have higher turnover intentions in comparison with older nurses in the same work environment. Many factors contribute to nursing turnover. Hayward, Bungay, Wolff, and MacDonald (2016) found that a combination of factors contributed to a nurse's decision to leave the profession. Reasons for nurse turnover are interrelated work environment and personal factors (Hayward et al., 2016). Nurse turnover could affect the quality of care provided.

The cost of nurse turnover can be expensive. Duffield, Roche, Homer, Buchan, & Dimitrelis (2014) found significant turnover costs allotted toward temporary replacement of nurses. Through passage of the Nursing Shortage and Training Act of 1964, the federal government attempted to solve the nurse shortage dilemma; however, it is still a pressing issue as 56% of hospitals use temporary nurses (Sukyong & Spetz, 2013). Temporary nurses increase the cost of employing nurses.

Managers must be prepared to deal with nurse turnover. The difficulties caused by turnover require Nurse Managers to deal with turnover in a variety of ways (Mizuno Tironi, de Carvalho Silva, Gomes Dellaroza, Lourenço Haddad, & Oliveira Vannuchi, 2014). Wan, Li, Zhou, and Shang (2018) discovered 35.9% of experienced nurses in China had a high-level turnover intention. Insight into turnover intention could assist nurse leaders.

Job Satisfaction & Motivation. Job satisfaction and motivation are essential elements of research for a study on employee retention. Engagement of employees and workplace passion are often associated (Bushardt, Beal, Young, & Khosla, 2016). Hulin (1968) discovered that turnover decreased by 18% with changes in the company's pay and promotion policies. Human Resources Management (HRM) practices are essential to consider when discussing job satisfaction. Sveinsdóttir, Ragnarsdóttir, and Blöndal (2016) determined that realistic praise produced cost effective positive influences on employees. Further research on job satisfaction levels and nurse turnover is required.

The relationship between job satisfaction and motivation required information from the Harvard Professional Group to perform incidental sampling. A multifaceted relationship exists between self-efficacy and job satisfaction (Reid, 2014). Scheers and Botha (2014) discovered that the more job satisfaction an employee perceived, the more motivated the employee felt. Brunges and Foley-Brinza (2014) found workplace culture was one of the leading factors in increasing employee commitment, engagement, and job satisfaction. The concern for nurse job satisfaction is long standing because job satisfaction among RNs employed in a hospital setting is lower than other workers in the United States and the dissatisfaction among RNs hinders recruiting efforts, lowers retention, and increases turnover (Roberts-Turner et al., 2014). Nurses of varied ages and years of experience perceived a higher level of happiness when leaders both inspire and encourage them in addition to holding them accountable for outcomes due to their actions (Roberts-Turner et al., 2014). Job satisfaction amongst nurses is a significant element to study when discussing nurse retention.

The capacity of the U.S. health care system cannot handle the needs, and the anticipation of the primary care workforce decline rises to 20% by 2025. Orgambídez-Ramos and de Almeida (2017) found work environment with supervisors and coworkers affected job satisfaction. The NP workforce growth measurement is high at 130% (Poghosyan, Jianfang, Jingjing, & D'Aunno, 2017). NPs view relationships with physicians as supervisory rather than collaborative and the relationship aspect of a NP's job coupled with perceived relationships is leading to the low overall job satisfaction (Poghosyan et al., 2017). A favorable practice environment could promote NP job satisfaction. In addition, age is a significant factor in job satisfaction (Andresen, Hansen, & Grov, 2017). Satisfaction with coworkers is another facet hospitals will have to overcome to retain clinical staff.

Job satisfaction is an important aspect of nurse retention. Shin and Lee (2016) found that improvement in the nurses' social capital could positively affect their job satisfaction. Like the study on job satisfaction by Andresen et al. (2017), Alotaibi, Paliadelis, and Valenzuela (2016) discovered that like the United States, Saudi Arabia has a chronic shortage of national nurses (Alotaibi et al., 2016). Saudi nurses would be more satisfied with their positions if educational opportunities were readily accessible (Alotaibi et al., 2016). A reduction in the workload could also increase their satisfaction on the job.

High-stress environments could attribute to employee burn out. Hinderer et al. (2014) realized trauma nurse burnout and compassion fatigue had the most robust correlation to turnover. Physical contact with patients is necessary to consider when discussing job satisfaction. Nurses' comfortability with physical touch is associated with

higher workplace well-being, and job burnout is associated with severe physical and mental health problems (Pedrazza, Minuzzo, Berlanda, & Trifiletti, 2015). A more in-depth understanding of the work environment could assist with retention of rural nurses (Nowrouzi et al., 2016). Further investigation in this area is required despite the correlations found.

Intent to remain in a position correlates with job satisfaction. Many reasons are associated with a nurse's intention to leave a position. Perry et al. (2016) uncovered that nurses and midwives chose to leave a position based on health as well as job satisfaction and shiftwork. Administrative support is a topic not mentioned often in research. Azar, Badr, Samaha, and Dee (2016) found that nearly 70% of nurses experienced stressful disruptive/abusive situations with 40% contemplating leaving the career. Hospital administrators are challenged with retaining bedside nurses and maintaining nurse job satisfaction as nursing shortages have continued with the changing demographics of RNs and increased patient complexity (Bugajski et al., 2017). The effects of administrative support on a nurse's intent to leave a position and the career require further research.

Australia faces a nurse shortage. The workforce demand projections for Australia RNs could exceed supply by 2030 (Mills, Woods, Harrison, Chamberlain-Salaun, & Spencer, 2017). The nursing workforce is the largest in health care, and overall effectiveness of health care systems relies on a sustainable nursing staff (Mills et al., 2017). Nei, Anderson Snyder, and Litwiller (2015) found supportive and communicative leadership as reliable predictors of nurse turnover. Lin, Viscardi, and McHugh (2014) used secondary data to explore the perceptions of job satisfaction on new graduate nurses

who participate in nurse residency programs in various settings. Lin et al. (2014) found positive interpersonal relationships and interactions affected satisfaction throughout the nurse residency program. A review of various nurse orientation programs will help with research on nurse job satisfaction and motivation.

Job satisfaction affects how an employee perceives his/her workplace. Job satisfaction is associated with better performance (Correia Dinis & Fronteira, 2015). The idea of satisfaction at work may appear worse based on the thinking of the unsatisfied or satisfied person. An increase in job satisfaction is strongly related to a decrease in turnover (Tschopp et al., 2014). Correia Dinis and Fronteira (2015) found nurses who were dissatisfied with surgical rotation on the job were professionally satisfied with the nursing career. Career orientation is vital to job satisfaction and retention study. A person may think someone feels a certain way about him or her regardless of truth and it can adversely affect his or her job satisfaction (Prati & Pietrantoni, 2014). Further research is required on job satisfaction and turnover in the nursing industry to determine best practices to reduce nurse turnover.

Motivation is a critical factor in job satisfaction of an employee. Many definitions are associated with motivation (Grujičić, Jovičić-Bata, Rađen, Novaković, & Šipetić-Grujičić, 2016). Motivation is value based and leads to the intentional fulfillment of needs and goals (Isfahani, Hosseini, Khoshknab, Peyrovi, & Khanke, 2015). Motivation derives from a wide range of social factors including salary, prestige, and personal achievements (Damij, Levnajic, Skrt, & Suklan, 2015). According to Hitka and Balazova's (2015) study, motivation can change significantly in different situations.

Using a quantitative approach, Hitka and Balazova found that detailed knowledge of the clinical setting influenced employee motivation levels.

Motivation affects employee performance. Positive employee attitude makes customers feel more welcome (Scheers & Botha, 2014). Customers are essential for the survival of any industry. Researchers found that motivated health professionals had increased job satisfaction and consequently, health services improved (Polyviou, Latsou, & Geitona, 2014). A higher quality of health services improves the health care industry. Sacks, Alva, Magalona, and Vesel (2015) found that community health nurses (CHNs) in Ghana desired more training, guidance, and supervision alongside fair pay and advancement opportunities. Increased training and an increase in motivational factors like pay and opportunity would impact Ghana's maternal and under five mortality rates (Sacks et al., 2015). High levels of employee motivation might positively affect employee performance.

Employers should pay close attention to employee dissatisfaction. Research shows that dissatisfaction has led to harmful effects for both the employer and employee (Bueno Somense & Marocco Duran, 2014; Sacks et al, 2015). Job satisfaction and motivation differ, however. Satisfaction is the fulfillment of a need linked to aspects of a job, such as salary, benefits, and recognition. Motivation is an inclination for action that arises from a need and connects to work performed (Bueno Somense & Marocco Duran, 2014). Understanding employee motivation is essential in determining employee dissatisfaction. Rantanen et al. (2016) examined the differences in work-related motivational and stress factors. Workplace motivation is a central topic in theories on

how to improve health care. Galletta, Portoghese, Pili, Piazza, and Campagna (2016) used the self determination theory (SDT) for their study on the effect of work motivation on Italian nurses. According to SDT, an individual is an active organism oriented to growth (2016). Galletta et al. (2016) found that employees who feel supported by organizations maintained positive work attitudes and had low levels of turnover through the study. Levels of turnover can vary by industry.

Job satisfaction can disrupt organizational commitment. Certified Nursing Assistants (CNAs) have high turnover rates. CNAs provide up to 70% of the direct patient care and comprise nearly 66% of the health care workforce (Brady, 2016). CNA turnover can be costly and disruptive to an organization. Many employers are concerned about high turnover and low retention of CNAs who cost an estimated $15,000 to recruit, orient, and train at a new facility (Brady, 2016). Teamwork, recognition and a chance to improve are critical elements in job satisfaction of CNAs, and while low pay reduces satisfaction, it is not the primary reason for dissatisfaction (Brady, 2016). CNA turnover is important to note as RNs and CNAs interact daily. Leite, de Aguiar and Albuquerque (2014) found positive feelings toward an organization are first necessary for satisfaction in a position. Rewards with satisfaction were more important than satisfaction with personal relationships.

Independent Variable A – Length of Residency/Internship/Fellowship

Length of a residency, internship or fellowship is one of the independent variables addressed in the study on self-determination and employee retention. Residency, internship and fellowship are all terms used to describe the orientation period for a new

position. Although NRPs have been used as a recruitment strategy for over 40 years, less than half of U.S. hospitals use NRPs (Pittman, Herrera, Bass, & Thompson, 2013). Trinh et al. (2014) performed a study on the impact of hospital volume, residency and fellowship training on perioperative outcomes after radical prostatectomy. Teaching institutions were less likely to have patient complications as well as a prolonged stay of patients. Ackerson and Stiles (2018) found nurse residency programs improved retention through year one, however by year two retention was not sustained. Turnover intent of newly licensed RNs (NLRN) one-year post-residency was low, however by year two organizational commitment began to affect turnover intent (Church, He, & Yarbrough, 2018). Length of training programs for NLRNs is important to review when investigating nurse retention.

Nurse retention remains a challenge. Clinical experience is required for NP education. Recruitment and retention of preceptors is difficult due to variables that can affect NP education and practice (Staples & Sangster-Gormley (2018). Overutilization, burnout or refusal to accept students is a result of NP programs having too many students in relation to the number of clinical sites and preceptors (Staples & Sangster-Gormley (2018). NP residencies are common. Family NP (FNP) residencies and fellowships are used in hiring and retaining skilled primary care providers (Norwick, 2016). A one-year FNP residency was implemented in a federally qualified health center with intensive operations. The residency has improved patient access by allowing three FNP residents to generate enough revenue to offset the nonproductive preceptors time (Norwick, 2016). Residency's are common for NPs.

NLRNs are essential to the success of the nursing industry. It is vital to assess the needs of NLRNs Eckerson, C. M. (2018). The timeframe for NRPs varies by facility and type. Cochran (2017) believes NRPs should be an average of 10 to 15 months to successfully prepare a NLRN for independent practice. Several new nurses enter the profession each year. New nurses who participated in residency programs found them beneficial to orientation (Van Camp & Chappy, 2017). Orienting a new employee assists in familiarizing them with the organization. Hopson, Cranford, Regan, Gisondi and Branzetti (2016) discovered that program directors prefer 36 to 48-month training programs, however their opinions may be biased based on their experiences. Residency programs vary by organization. Pillai, Manister, Coppolo, Ducey, and McManus-Penzero, (2018) noticed high turnover rates amongst NLRNs could be associated with low employment loyalty among Millennials. There is little viable information on the length of residency, internship or fellowship and the effects on employee retention. Further research is required on residency, fellowship and internship length and nurse retention.

Independent Variable B – Length of New Employee Training

Length of new employee training is an independent variable addressed in the study on self-determination and employee retention. Formal education includes systematized knowledge (Melnic & Botez, 2014). Formal education does not automatically improve a person's IQ, yet it provides an increase in worldly knowledge (McNerny, 2014). Olga, Weiss, and Yakusheva (2017) found nurse graduates from higher ranked institutions have higher productivity. Educational institutions may play a

role in productivity. Olga et al. (2017) determined the productivity boost is dependent upon the quality of the educational institution and recognizing differences in educational outcomes is necessary when building the baccalaureate educated nursing workforce.

New employee training is essential at any organization. Langley, Dority, Hatton, and Fraser (2018) found the employee retention rates rose from 50% prior to an established onboarding plan for neurocritical care advanced practice providers to 83% upon implementation of the program. Employees cited lack of clinical knowledge and/or enough training as departure reasons. New graduate nurses require support to effectively develop. Maryniak, Markantes, and Murphy (2017) discovered through use of a standardized orientation process, onboarding and orientation efficiencies decreased and employee retention increased. New employee training is an integral part of the onboarding process.

New employee training is a form of formal education. McNerny (2014) found that formal education could improve confidence levels. Employees with higher confidence are a resource for knowledge and potential workplace advancement advice. Lin, Viscardi and McHugh (2014) explored the relationship between supervisors' education level and use of force training and their subordinate officer's use of force practices. Lin, Viscardi and McHugh used police use of force reports from 2004 to 2007 and found that officers whose supervisors took the intermediate training and held a bachelor's degree or higher were less likely to use higher levels of force. Mihaela's (2016) study on innovation links and impact pinpointed a direct link between university personnel education and turnover. The higher the innovate education of employees the better productivity (Mihaela, 2016).

The higher the education level, the lower the turnover for the companies that employ the higher educated individuals.

On-the-job-training (OJT) versus formal education is noteworthy. OJT provides an efficient set of skills for those in continuous change organizations (Neill, 2014). The objectives of OJT differ from those of formal education. Some nurses gain academic leadership preparation before a management position, others learn through practice (Clark-Burg, 2017). Formal education is a factor in a variety of interactions. Formal education influences attitudes and perceptions toward animals (Tavares Pinheiro, Mota Rodrigues, & Borges-Nojosa, 2016). Formal education can allow an employee to gain a better understanding of societal issues. Negative perceptions of snakes are less frequent with increased levels of schooling (Tavares et al., 2016). Further research is required on the exact topic of new employee orientation lengths.

Independent Variable C – Total Number of Direct Resident Care RN Positions Frozen

Total number of direct resident care RN positions frozen is the final independent variable addressed in the study on self-determination and employee retention. RN staffing has been a dilemma over the last 50 years. Hill and DeWitt (2018) conducted a study to determine an appropriate staffing model for a neurocritical care unit. Hill and DeWitt noted the lack of a standard process to determine appropriate staffing levels and concluded a position to assist solely with traveling and high acuity patients is beneficial to provide consistent safe and attentive care.

Frozen positions include necessary nursing positions remaining unposted to decrease salary cost. Respicio, Moz, Vaz, Somensi, and Dias (2018) approached their study on nurse staffing from a different angle. Multi-skill and multi-shift nurse staffing is the approach of staffing positions per skill category on a strategic level. The multi-skill and multi-shift approach described by Respicio, Moz, Vaz, Somensi, and Dias is reliant on a mathematical model for complying with legislation guidelines while minimizing salary expense. Wise, Fry, Duffield, Roche, and Buchanan (2015) attempted to estimate average staffing levels using skill mix and patient presentations. Wise et al. noted ratios are not beneficial for every clinical situation but assist in the increase of nursing supply to prevent understaffing in units. Further research on this method is required to make an informed decision on its usefulness.

Available research on the number of frozen direct resident care RN positions is scarce. Nurses experience staffing patterns negatively (Moloko, Hafisa, & Agnes, 2017). Effectively staffing nurses requires information outside of ratios. Creating conditions for nurses that promote safe, quality care is also necessary (Simpson, 2017). Paynter (2014) highlighted the risk to nurses who are hungry or thirsty and eating on duty to get through a busy shift. Eating in public places around sick people heightens the risk of exotic germs nurses may ingest (Paynter, 2014). In addition to the safety of nurses, Paynter noted that eating and drinking can damage equipment as well as give patients the perception the nurse does not care about their needs. Ensuring there are enough staff to cover each shift requires hiring outside of budget constraints.

Dependent Variable – Nurse Retention

Recruitment and training can be costly to an organization. The relationship between reduced job satisfaction increases turnover rates resulting in increased spending on nurse recruitment and training in health care facilities (Omar, Abdul Majid, & Johari, 2013). Nurse turnover is costly to organizations and society (Kovner, Brewer, Fatehi, & Jun, 2014). Upwards of 44% of health care is paid for by the government (Martin, Hartman, Whittle, & Catlin, 2014) and the cost to replace one departing RN ranged from $10,098 to $88,000 between 1990 and 2010 (Li & Jones, 2013). Organizations must find an effective way to retain nurses. Nurses intent to leave their position is due to a variety of modifiable work-related factors (Han, Trinkoff, & Gurses, 2015). Consideration to compromise on modifiable work-related factors is vital.

Struggles with nurse retention have continued for over 50 years. Staffing shortages have a detrimental effect on patient care (Doshi, 2014). Hairr, Salisbury, Johannsson, and Redfern-Vance (2014) examined the relationships between job satisfaction, nurse staffing, and nurse retention. The results of Hairr et al.'s study indicated a moderately strong inverse relationship between job satisfaction and nurse retention. Further research on nurse retention struggles is necessary to make informed decisions to improve staffing.

The health care environment is constantly changing. Vardaman, Rogers, and Marler (2018) researched retaining nurses in a changing health care environment by examining the roles of change-related self-efficacy (CSE) and job embeddedness in reducing turnover intentions amongst nurses. Vardaman, Rogers, and Marler discovered

that CSE is directly linked to turnover intentions. Job embeddedness on turnover intentions is manifested through CSE. The increased baby-boomer population has caused increased turnover throughout the United States (Cox, Willis, & Coustasse, 2014). The shortage of nurses continues to rise as the expected need increases. Decreased staffing coupled with low retention and retirement has made it difficult for the active nurse workforce to provide quality patient care (Cox et al., 2014). In 2016, the Bureau of Labor and Statistics released their finding for projected employment growth between 2016 and 2026. The report shows expected the need for RN's would rise from 2,955,200 to 3,393,300, which is an increase of 15% (Bureau of Labor Statistics, 2016). Nurse retention is increasingly important.

Transition

The purpose of this quantitative correlation study was to examine the relationship between three independent variables and the dependent variable nurse retention. A secondary data set was utilized for this study. In Section 1, the research problem and theoretical framework are used to develop a comprehension of the internal motivating factors that are stronger than extrinsic motivation. A historical perspective and discussion of employee retention, causes of employee turnover, and the theoretical framework used by preceding researchers to explore employee retention strategies were presented in the literature review. Section 2 includes a detailed justification of the research design and method that best aligns with and supports this research study. Section 2 contains an account of my role as the secondary research instrument for the study and details the study participants, ethical research considerations, data collection and organization

techniques, and reliability and validity. Section 3 will include conclusions of applicability to professional practice and implications for social change. The section will conclude with a presentation of the findings from research, recommendations for action, and future research.

Section 2: Project Design and Process

Method and Design

RN retention is an unremitting problem, which affects the quality of patient care in health care organizations, specifically related to the maintenance of a competitive advantage in the recruitment and retention of skilled RNs. RN retention compels nurse managers to explore and develop effective retention strategies to mitigate turnover (Sawatzky et al., 2015). Section 2 includes comprehensive information about the research method and design. Section 2 also includes information about the ethical considerations for the collection, organization, and analysis of data.

Method

My purpose in this quantitative correlation study was to examine the relationship between (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention. My study method is the secondary data analysis. Data from a 2016 nurse staffing survey is the resource for this study.

Quantitative data collection involves a variety of techniques. The three primary paradigms include laboratory experiments, simulations, and field experiments (Wienclaw, 2013). Quantitative data collection experiments are not solely experimental. Use of quantitative data collection is useful for statistically based research. Statistically based research includes primary and/or secondary data sources. Quantitative data collection is useful to examine similarities and differences.

Like quantitative data collection, qualitative data collection is not restricted to one paradigm. Qualitative data collection techniques consist of field observation, participatory or nonparticipatory, survey research, and secondary analysis (Wienclaw, 2013). Researchers using qualitative data collection methods have little or no control over the experiment. Qualitative data collection expenses can be lower through use of surveys (Wienclaw, 2013). Although all questions may not be answered, qualitative data collection is useful to determine attitudes and opinions.

Mixed methods data collection includes a combination of qualitative and quantitative methods. Conceptualizing the relationship between qualitative and quantitative methods often leads to a variety of design typologies to analyze data (Alavi, Archibald, McMaster, Lopez, & Cleary, 2018). Use of mixed methods data collection is not always the same.

Quantitative data collection is best for my study because my purpose in this study was to examine relationships between three independent variables and the dependent variable nurse retention. Qualitative data collection is not best for my study because the purpose of my study is to examine versus explore. Mixed methods data collection is not best for my study because it encompasses a combination of quantitative and qualitative data collection. As previously mentioned, the qualitative method is not best for my study.

Research Question

Is there a statistically significant relationship between a (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention?

H_0: There is no statistically significant relationship between a (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention intention.

H_{a1}: There is a statistically significant relationship between (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention intention.

Design

For my study, I selected the secondary data analysis. The benefit to my study is the ability to analyze a pre-existing data set related to the research question. I will use my quantitative correlation study to examine the relationship between (a) length of residency/internship/fellowship, (b) length of new employee training, (c) total number of direct resident care RN positions frozen, and (d) nurse retention. The targeted population consists of nurses who completed the THNSS.

The ex post facto design is quasi-experimental secondary data analysis. Quasi-experimental research, often referred to as causal-comparative research, does not include random assignment but is employed to balance internal and external validity (Handley, Lyles, McCulloch, & Cattamanchi, 2018). Ex post facto designs are used to examine how an independent variable present prior to the study affects the dependent variable (Salkind,

2010). Participants of the study were not randomly selected. All members of the nursing population were not provided an equal chance to participate in this study. The secondary data obtained was from the 2016 THNSS. All participants completed the THNSS.

Researchers use a cross-sectional or descriptive design to describe the relationship between variables or phenomena. Descriptive research does not begin with a hypothesis; however, a hypothesis is typically developed after data is collected. Data collection in descriptive research is observational (Abutabenjeh & Jaradat, 2018). The descriptive design assists the researcher in determining when and how many observations to make. A correlational design is used to explore the relationship between variables using statistical analyses. Correlation studies are used to inquire (Abutabenjeh & Jaradat, 2018). Use of a correlational design does not include the need to look for cause and effect. A correlational design is also mostly observational.

Experimental research dates to the late 1800s. The father of experimental medicine, Claude Bernard, used experimentation to aide in preserving health and curing disease (Flannelly, Flannelly, & Jankowski, 2018). Experimental designs are often referred to as true experimentation. The scientific method is used in experimental designs to establish a cause-effect relationship among variables in research (Abutabenjeh & Jaradat, 2018). Through the experimental design, researchers attempt to control all variables except the independent variable. With the experimental design, researchers collect the effects of the independent variable on the dependent variable(s) and analyze for a relationship.

The quasi-experimental design will work best for my study on nurse retention and the SDT as a laboratory environment is not required for my study. My purpose in this study was to examine differences between predictor and independent variables. My research begins with a pre-established hypothesis; therefore, the descriptive design is not best for my study. The purpose of my study was to examine versus explore as required by the correlational design. Examination of the data will allow me to determine if the hypothesis is true or false. My study is not a true experimentation and does not require the scientific method used in experimental designs.

Data Analysis

Data analysis is performed differently for quantitative and qualitative research methods. Quantitative data analysis involves techniques such as *t*-test, ANOVA, and trend analysis. Qualitative techniques include thematic analysis and modified van Kaam method. The *t*-test is used to assess hypotheses that involve a single mean or the differences between two means (Green & Salkind, 2011). According to Green and Salkind, a researcher uses the ANOVA to assess the relationship of one or more factors with a dependent variable. A trend analysis is used in research to analyze data from experimental or non-experimental studies (Green & Salkind). Thematic analysis is used in qualitative research to allow identification of themes within data (Keevash, Norman, Forrest, & Mortimer, 2018). Masterson and Brenner (2016) demonstrated that the modified Van Kaam method allows the researcher to extract the meaning from individual participants and develop a meaning of the experience for the entire group.

The secondary data set used was screened by the creator of the THNSS. Only completed de-identified data was provided for statistical analysis. Missing data is assumed incomplete and not viable for research. Only data that is viable for research can be considered missing. Assumptions exist within any research method. Assumptions are unexamined beliefs within the research (Leedy & Ormrod, 2010). Data assumptions include all those who took the 2016 THNSS were hospital nurse leaders in their facility. Another assumption is the nurse leader who completed the survey was employed with the Texas hospital at the time of completion. The assumption is the nurse leader had enough knowledge to accurately complete the survey. Testing performed on the data is assumed accurate.

As a researcher, the assumption is that qualitative data completed is trustworthy. Those who provide the qualitative data should be credible and dependable. Data provided from the THNSS is trusted as credible, dependable, transferable, and trustworthy. The 2016 THNSS was used to assess the size and effects of the nursing shortage in Texas hospitals ("Texas Department of State Health Services, Nursing Workforce Data Section", 2018). According to Sanchez-Balcells (2018), there is no perfect instrument as each has its strengths and weaknesses. Context for use is most important. The 2016 THNSS was used to survey general acute care, psychiatric, special and rehabilitation hospitals. The data obtained is relevant to for-profit, nonprofit, public, and Texas Department of State Health Services-operated hospitals in addition to hospitals linked to academic institutions and military hospitals. Performing a detailed search online and using google scholar and the Walden library database, I discovered no researcher was

found to have used the 2016 THNSS to perform scholarly research. Scholarly research of the 2016 THNSS could benefit decisions of leaders and HR professionals in the Texas hospital nursing community as well as the hospital nursing community across the U.S.

The sampling procedure for my study is multiple linear regression. Secondary data was obtained from the 2016 THNSS. Data sampled from this staffing survey assists in answering the research question. I will use multiple regression to analyze the variables. Multiple linear regression is beneficial to a study with non-experimental variables. An appropriate sample size for my study is shown in figure 2 below. Using a Gpower analysis, the appropriate sample size is determined at 74 participants.

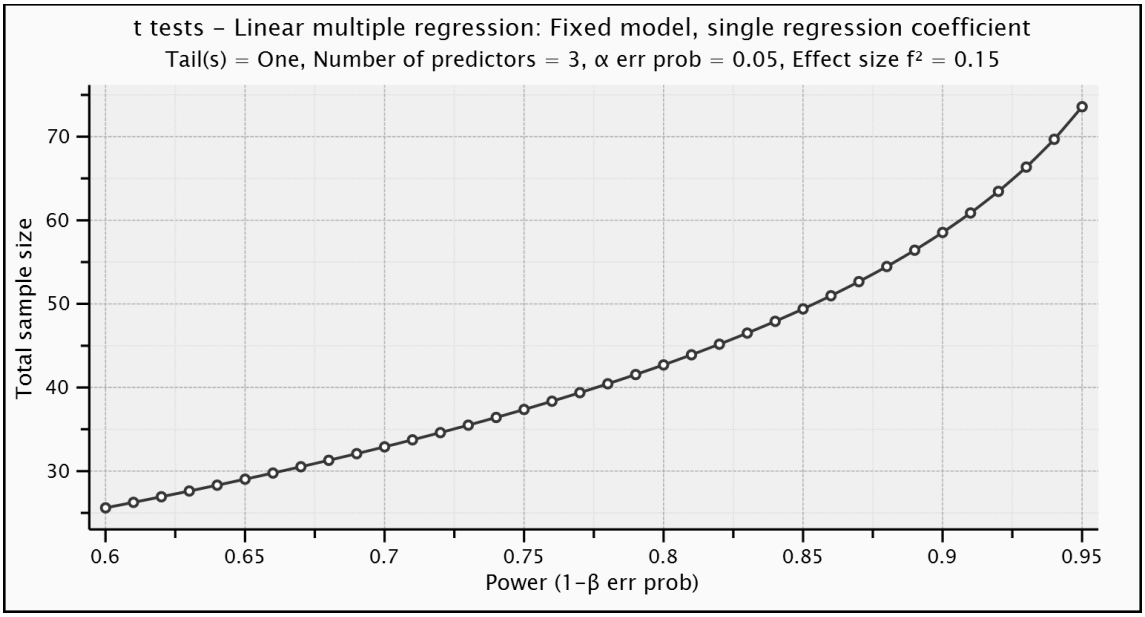


Figure 2. Linear multiple regression. Graphical model of multiple linear regression sample size.

Advantages and disadvantages exist with any sampling procedure. Use of the secondary data analysis ex-post facto design provides advantages and disadvantages with

my doctoral study. A primary advantage of secondary data analysis is the ability to use previously secured data. Using data obtained for a similar purpose saves time and money (Prada-Ramallal, Roque, Herdeiro, Takkouche, & Figueiras, 2018). The researcher does not have to spend the time and money that will be spent on securing primary data. Account must also be taken for disadvantages of secondary data analysis. Secondary data analysis is predisposed to measurement bias (Prada-Ramallal et al., 2018). Bias in the data must be annotated in assumptions.

Ethics

The informed consent process for my study included the secondary data set. The hospital nurse staffing survey (HNSS) included a confidentiality statement prior to information collection. Participants of the study can withdraw from the study prior to submission of any completed surveys. Completion of surveys was on a voluntary basis. Any surveys submitted and included in the THNSS are unable to be removed from my study.

A multiple linear regression t-test is the best statistical test for my quasi-experimental study. Multiple linear regression allows the researcher to analyze data from studies with experimental or nonexperimental designs (Green & Salkind, 2011). My study includes three independent variables and one dependent variable. According to Green and Salkind, linear regression is more complex and delicate when performed on multiple independent variables. The significance test is based on assumptions for the fixed-effects model and the random-effects model (Green & Salkind, 2011). The random

effects model is most appropriate for my study as it is more fitting for the nonexperimental studies.

Assumptions are present in any statistical model. In the random-effects model two main assumptions exist. Assumption one is that the variables are multivariately normally distributed in the population and assumption two is the cases represent a random sample for the population and the scores on the variables are independent of other scores on the same variables (Green & Salkind). If assumptions are violated the study results are void. Sampling in a multiple linear regression is important to consider. Multiple correlation indices assist in assessing the overall effect of the predictors on the dependent variable whereas part a partial correlation assists in assessing the relative effects of the individual predictors (Green & Salkind). An appropriate sample size of participants for my study is 74 participants.

Researchers must be fair when providing incentives to research participants. No incentives were provided to participants who completed the THNSS by myself or the secondary data source. Results of the study are available to all participants online. Results of my analysis of the data based upon my examination of the relationship between (a) length of residency/internship/fellowship, (b) length of new employee training, (c) total number of direct resident care RN positions frozen and (d) nurse retention will be provided to the secondary data source provider.

As the researcher, I am responsible for following specific ethical guidelines when dealing with human participants. The Belmont Report (1978) provides the ethical foundation for research involving human participants. I followed the ethical research

guidelines established by The Belmont Report for my study. The guidelines established by The Belmont Report include (a) respect for persons, (b) beneficence, and (c) justice (Ross, Iguchi, & Panicker, 2018). Respect for persons includes recognizing individuals as autonomous agents with unalienable rights for self-determination (United States. (1978). Participants of the survey are protected ethically by secondary data provider. I was provided de-identified data and am unable to determine any personally identifiable participant information (PII). If any PII is located within the data provided, I will ensure to remove it and notify the secondary data provider of the findings, so they are able to take appropriate measures. Beneficence addresses the obligation of the researcher to not only protect the well-being of the human participants but extends that to include maximizing potential benefits to the participant (Ross, Iguchi, & Panicker). The need for equitable distribution of the benefits and burdens of human research participants is covered by justice (Ross, Iguchi, & Panicker). The agreement on page 2 of Appendix A lists describes the confidentiality of the survey responses.

Data is maintained in a safe place for 5 years to protect rights of participants. The secondary data provider will maintain original data. The Walden IRB approval number is 03-07-19-0393280. All Walden policies and research standards will be followed for data handling.

Transition and Summary

The purpose of this quantitative correlation study was to examine the relationship between three independent variables and the dependent variable nurse retention. Section 2 contained a detailed justification of the research design and method that best aligns with

and supports this research study. The section also contained a presentation and description of my role as the secondary researcher, study participants, and ethical considerations. Section 3 will contain my interpretation of the data. This interpretation will be framed within the context of the theoretical framework. Section 3 will also include conclusions of applicability to professional practice and implications for social change. The section will conclude with a presentation of the findings from research, recommendations for action, and future research.

Section 3: The Deliverable

Executive Summary

Purpose of the Project

My purpose in this quantitative correlation study was to examine the relationship between (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention. The independent variables are the intrinsic motivator variables, including (a) length of residency/internship/ fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen. The dependent variable is nurse retention. The target population comprises archival data records from nurses in Texas hospitals who completed the 2016 THNSS. The implications for social change include the potential to identify intrinsic motivators that can foster nursing retention, which will benefit society by providing nursing care that is consistent, which serves to augment the health of community members.

The study may provide change and contribute to the practice of business. Improved nurse retention could assist with costs associated with new employee training and recruitment. Hospitals and other employers of nurses might use this study to make determinations on the appropriate route to take for improved nurse retention. Through this study, I may assist with allocating proper resources to recruiting and retaining nurses.

The intended effects of the study on nurse retention are improved tenure of Texas hospital nurses. Improved tenure could assist with a higher quality of patient care. Patient care is important to the nursing industry and the reason for its existence.

Goals and Objectives

Goals and objectives are necessary for any study. My goal in this secondary data analysis was to analyze data provided by the secondary data provider. Through analyzing the data, I expect to determine if a statistically significant relationship exists between (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen and nurse retention. Another goal of mine was to those responsible for nurse retention of triggers that relate to lower retention rates.

My objective in this study was to positively affect the practice of business in the nursing industry. Through this study, I want to change the way nursing leaders approach hiring practices. Another goal is to improve nurse retention by drawing awareness to issues that affect turnover.

Overview of Findings

Using Pearson's correlation, I did not detect patterns in retention of employees as it was tested against the independent variables. The study variables (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen were not significantly correlated to the dependent variable retention. length of residency/internship/fellowship was significant at .773, length of new employee training was significant at .501, and total number of direct resident care RN positions frozen was significant at .209. Although the model is significant, (a) length of residency/internship/fellowship, (b) length of new

employee training, and (c) total number of direct resident care RN positions frozen does not add any significant predictive value to turnover.

The frequency of survey respondents from North Texas (34.8%) far exceeded the response rate of the Rio Grande Valley (5.2%). The average turnover rate of RNs in Texas hospitals is 31.9% with the highest turnover rate of 280%. Using the inverse of turnover, the retention rate of Texas hospital RNs is 68.1%. Table 2 displays the frequency of the survey respondent's location, whereas Figure 4 displays the turnover statistics for the surveyed population. Most representatives who provided a response to the study were employed by a hospital with less than 50 beds. Figure 3 displays the staffed bed categories for the surveyed hospitals.

Table 2

Response Frequency by Surveyed Regions

Region	Percentage
Panhandle	6.7
Rio Grande Valley	5.2
North Texas	34.8
East Texas	7.2
Gulf Coast	15.1
Central Texas	13.0
South Texas	9.0
West Texas	8.7

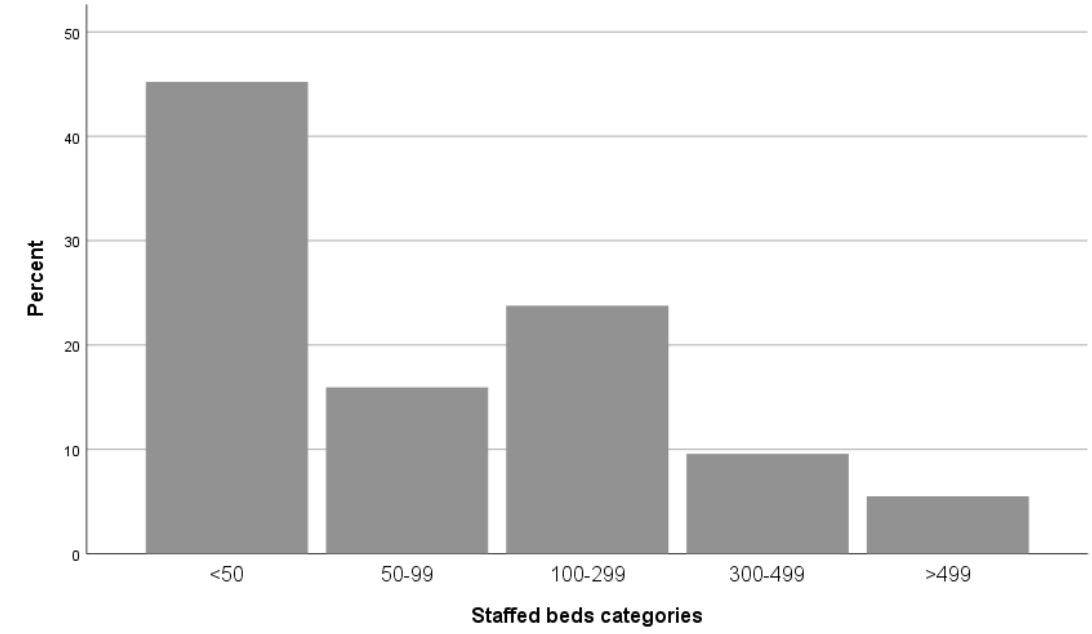


Figure 3. Graphical model of staffed beds categories.

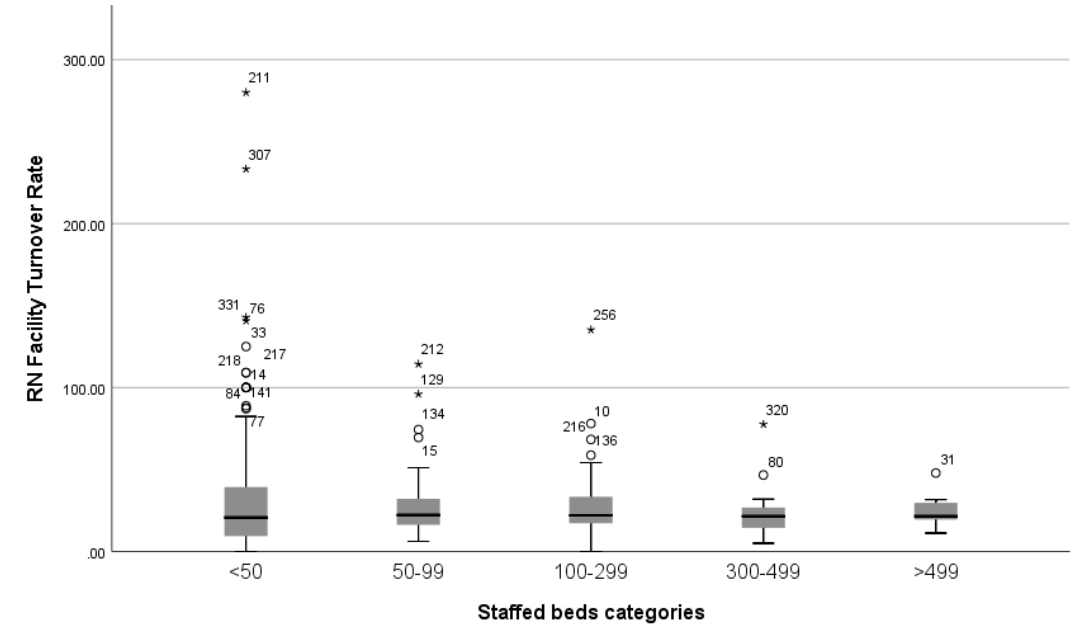


Figure 3. Boxplot of turnover by staffed beds categories.

Recommendations

Based on the findings of my research, nurse leaders who perform adjustments in the length of new hire training could have a positive effect on nurse retention. The most significant relationship exists between the length of new hire orientation and turnover. Performing more affect in-depth research on the effects of adjusted new hire orientation length could positively influence nurse retention.

Nurse retention is important. The monetary consequences of replacing departing employees can by high. Understanding ways to improve employee retention could save those in charge of replacing and training nurses time and money.

Presentation of the Findings

In this subsection, I include the findings of the statistical tests and summaries of the statistical assumptions. The deidentified data was provided to me by a secondary source in a Microsoft Excel spreadsheet as well as in SPSS format. I ran normality plots and frequency tables on the data prior to any additional tests. The frequency of the required data did not produce an adequate sample for data analysis. I used the series mean to replace missing data.

I ran a multiple linear regression in SPSS calculated to predict RN retention based on (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen. The regression model produced significant findings $F(3, 251) = .602$, $p > .001$, $R^2 = .007$. Multiple linear regression can determine statistical relationships between variables (Aliahmadi, Mozafari, Jafari-eskandari, & Nozari, 2016). The statistical tests used to test the

hypothesis were frequency counts, means, and standard deviation. The prediction of nurse retention is required for this study. The inverse of the turnover variable is used to measure RN retention.

Participants predicted RN turnover is equal to 31.901 + .144 (length of residency/internship/fellowship) - .426 (length of new employee training) - .235 (total number of direct resident care RN positions frozen), where length of residency/internship/fellowship and length of new employee training are measured in weeks, and total number of direct resident care RN positions frozen is an exact number. Turnover increased .144 for each week of residency, decreased .426 for each week of training, and decreased .235 for each RN position frozen. Both length of residency/internship/fellowship, length of new employee training, and total number of direct resident care positions frozen were not significant predictors of RN turnover.

Table 3

Multiple Linear Regression

				Multiple regression weights	
Variable	*M*	*SD*	Correlation with RN turnover rate	*B*	*B*
RN turnover rate	32.25	33.52			
Length of residency in weeks[a]	22.47	18.88	.025	.214	.044
Length of orientation in weeks[b]	12.04	8.49	-.072	-.426	-.081
Total direct RN Positions frozen[c]	.51	2.37	-.012	-.235	-.018

Note. $N = 255$.

Descriptive Results

Data collection ran during the Spring of 2016. Of the 666 hospitals surveyed, 345 provided a response. Only surveys that included responses to all study variables were analyzed. The variables used for the test were: (a) length of residency/internship/ fellowship in weeks, (b) length of orientation in weeks, and (c) total number of direct resident care RN vacancies on hold or frozen and the dependent variable RN facility turnover rate. RN facility turnover rate was used to determine nurse retention. 345 nurse leaders participated in the 2016 THNSS. Table 4 illustrates the variable statistics on the uncleansed de-identified dataset. The data is presented to give the reader insight into the sample population for the selected variables. Survey takers did not answer each question at the same rate. The response rate of the surveys required replacement of missing data as displayed in Table 5.

Table 4

Variable Statistics

	RN facility turnover rate	Length of residency in weeks[a]	Length of orientation in weeks[b]	Total direct RN positions frozen[c]
N valid	259	84	158	290
N missing	86	261	187	55
Minimum	.00	1	1	.00
Maximum	280.00	104	52	20.60

Table 5 incorporates the variable statistics of the cleansed de-identified dataset. There was a tremendous amount of missing data that significantly reduced the sample size. Missing data for variables a and b was replaced with the series mean. The data displayed in table 5 is presented to give the reader insight into the dataset that was used to

answer the research question. Missing data values were replaced for variables a and b to ensure the data set included accurate data to analyze. Prior to replacing missing variables, the sample size dropped to 47 viable surveys. The viable surveys include those that contain a response for all study variables. Use of the replaced missing variables adjusted the viable survey responses from 47 to 255 viable responses.

Table 5

Variable Statistics of Replaced Missing Data

	RN Turnover Rate	Length Residency in Weeks[a]	Length Orientation[b]	Total Direct RN Positions Frozen[c]
N valid	259	345	345	290
N missing	86	0	0	55
Minimum	0	1	1	0
Maximum	280	104	52	21

Note. a. Dependent variable: RN turnover rate b. Predictors: (constant), length orienatation, Direct resident care RN hold, length residency

I conducted a multiple linear regression on cleansed de-identified data from the 2016 THNSS. The purpose of the multiple linear regression is to analyze data from experimental or nonexperimental studies (Green, 2011). Multiple linear regression relates to the hypothesis as it is appropriate to use with non-experimental variables. Using a confidence interval of 95% and a confidence interval of +/-5, sample size calculations using a Gpower analysis presented findings confirming a size of 74 participants. All survey takers did not answer questions at the same rate. For this reason, the deidentified missing values for the cleansed de-identified data were replaced using the mean. The

sample size in this study is 255. In addition to a multiple linear regression, I conducted a bi-variate correlation to determine the probability using a = .05.

Demographic Frequencies and Percentages

Table 6 displays the frequency and percentages from the survey results. Nearly one half of the sample consisted of Texas hospitals with less than 50 beds (45.2%), with 34.8% of the total sample respondents in the North Texas region. Of the survey respondents, 65.8% were in a metro non-border area. Weeks of residency, internship, fellowship had a minimum of 1 and maximum of 104 weeks (M = 24.61, SD = 9.15). Weeks of new employee training (orientation) had a maximum of 52 and minimum of 1 (M = 11.98, SD = 5.99). The number of RN positions frozen maxed at 21 (M = 0.49, SD = 2.43).

Table 6

Frequency Counts for Hospital Size and Region

Variable	Category	*N*	%
Staffed beds			
	<50	156	45.2
	50-99	55	15.9
	100-299	82	23.8
	300-499	33	9.6
	>499	19	5.5
Region			
	N/A	1	0.3
	Panhandle	23	6.7
	Rio Grande Valley	18	5.2
	North Texas	120	34.8
	East Texas	25	7.2
	Gulf Coast	52	15.1
	Central Texas	45	13
	South Texas	31	9
	West Texas	30	8.7

Metro/Border Status			
	Metro Border	20	5.8
	Metro Non-Border	227	65.8
	Non-Metro Border	9	2.6
	Non-Metro Non-Border	89	25.8

The research question of this study was: Is there a statistically significant relationship between a (a) length of residency/internship/fellowship, (b) length of new employee training, (c) total number of direct resident care RN positions frozen and nurse retention? The participants in the study included nurse managers who participated in the 2016 THNSS. All study participants were qualified to complete the THNSS. It is the assumption that all participants reliably provided answers on the THNSS.

A multiple linear regression t-test with a single coefficient was the best statistical test for my quasi-experimental study. My study included three independent variables and one dependent variable. The significance test is based on assumptions for the fixed-effects model and the random-effects model (Green & Salkind, 2011). The random effects model is most appropriate for my study as it is more fitting for the nonexperimental studies.

Quantitative data analysis involves techniques such as *t*-test, ANOVA and trend analysis. According to Green and Salkind, a researcher uses the ANOVA to assess the relationship of one or more factors with a dependent variable. A trend analysis is used in research to analyze data from experimental or non-experimental studies (Green & Salkind). I used the quantitative analysis for my non-experimental study.

Descriptive Statistics for Independent Variables

Table 7 displays descriptive statistics, specifically for the mean and standard deviation, for each of the study variables. The independent study variables included (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen. The dependent variable was nurse retention. Nurse retention is found using the inverse of the variable RN Facility Turnover Rate found in the survey.

Table 7

Descriptive Statistics for Study Variables

Variable	*M*	*SD*
Length of Residency in Weeks[a]	24.61	9.15
Length of Orientation in Weeks[b]	11.98	5.99
Total Direct RN Positions Frozen[c]	.49	2.43
RN Turnover Rate	30.62	33.34

Note. *N* = 255

Summary Statistics

Table 7 displayed the descriptive statistics for the four summated scale scores. The observations for length of orientation had an average of 11.98(*SD* = 5.99). The observations for length of residency had an average of 24.61 (*SD* = 9.15). The observations for total direct RN positions frozen had an average of .49 (*SD* = 2.43). The observations for RN turnover rate had an average of 30.62 (*SD* = 33.34).

Inferential Analysis

Tests of Assumptions

Prior to answering the research question, I used several statistical methods to test the statistical assumptions. Tests included identifying possible univariate and multivariate outliers. I also tested normality for the scale scores. I tested linearity between the independent and dependent variable, independence of observations, multicollinearity, independence of residuals, and homoscedasticity.

Outliers. I measured the presence of univariate outliers. Outliers existed in this dataset. Only one extreme outlier was eliminated from the dependent variable. This outlier was far outside the range of all other survey responses. The outlier was eliminated by adjusting the missing value range to not exceed 281 for turnover. All other outliers were legitimate, and a non-parametric test was not required.

Figure 4. Boxplot of RN positions frozen

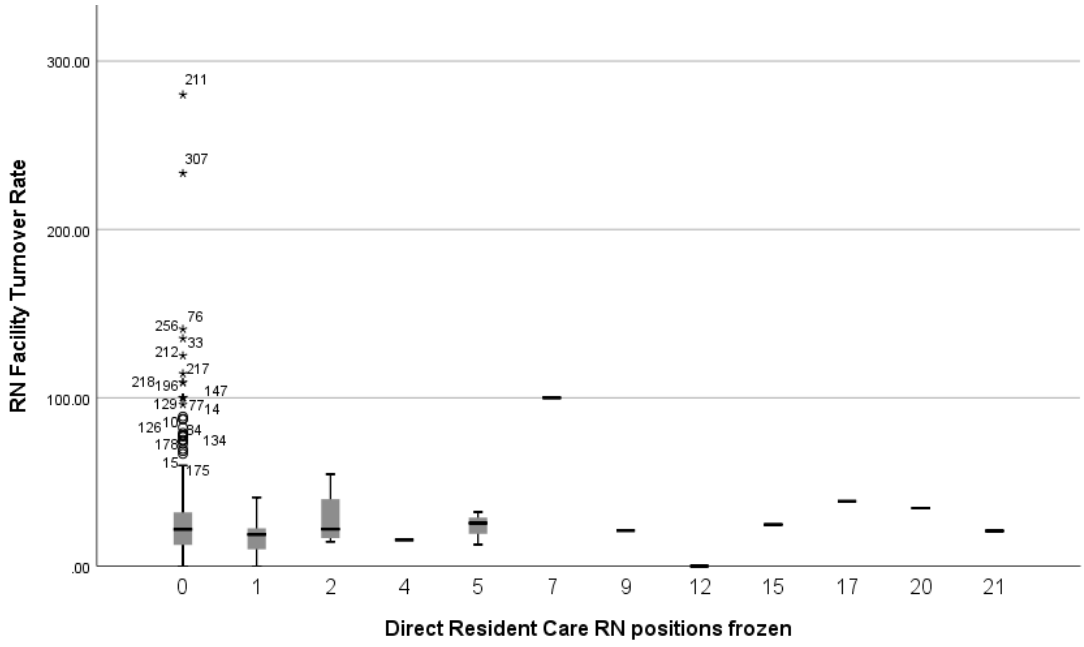


Figure 5. Boxplot of length of residency

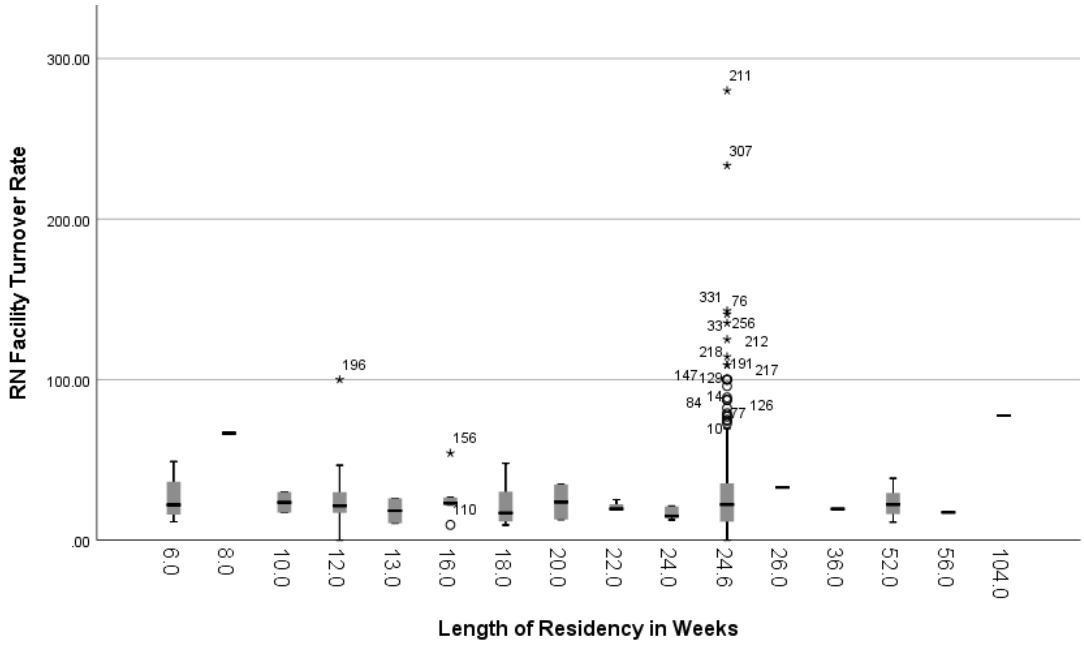
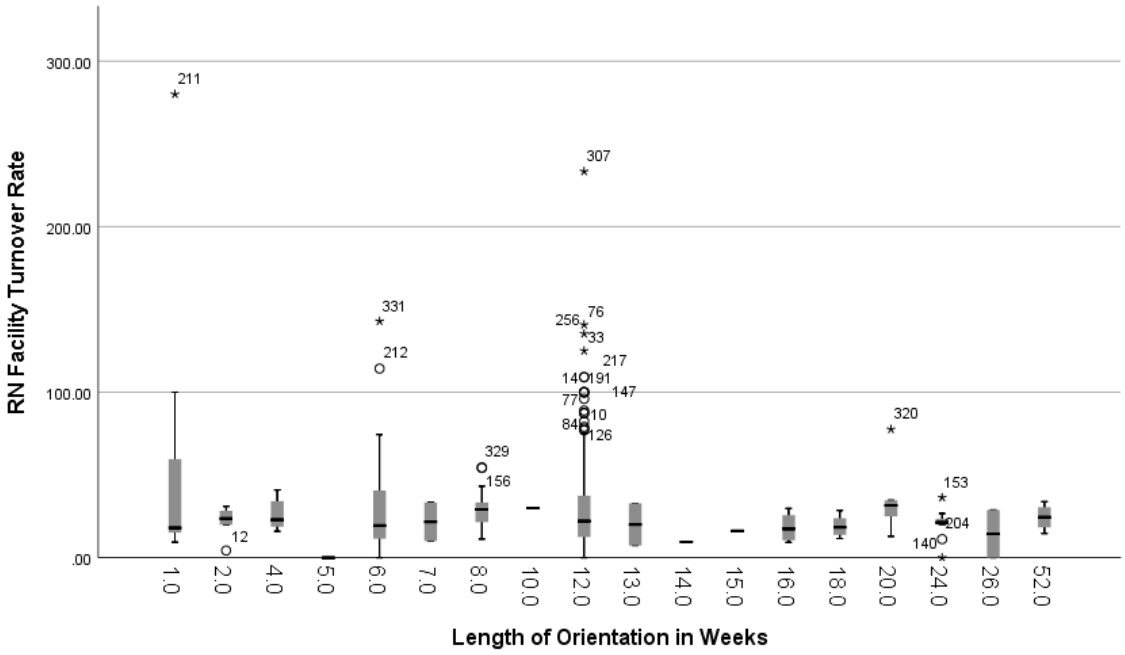


Figure 6. Boxplot of length of orientation



Normality. Before conducting statistical tests, researchers must inspect the data. With a sample of N = 255, the general linear model can range from strong to moderate variations of normality. Figure 7 frequency histogram represents the frequency of RN turnover. Figure 7 contains a bell curve, which is overly peaked, in the middle of the distribution. The overly peaked bell curve would suggest the data met normality as the data was normally distributed.

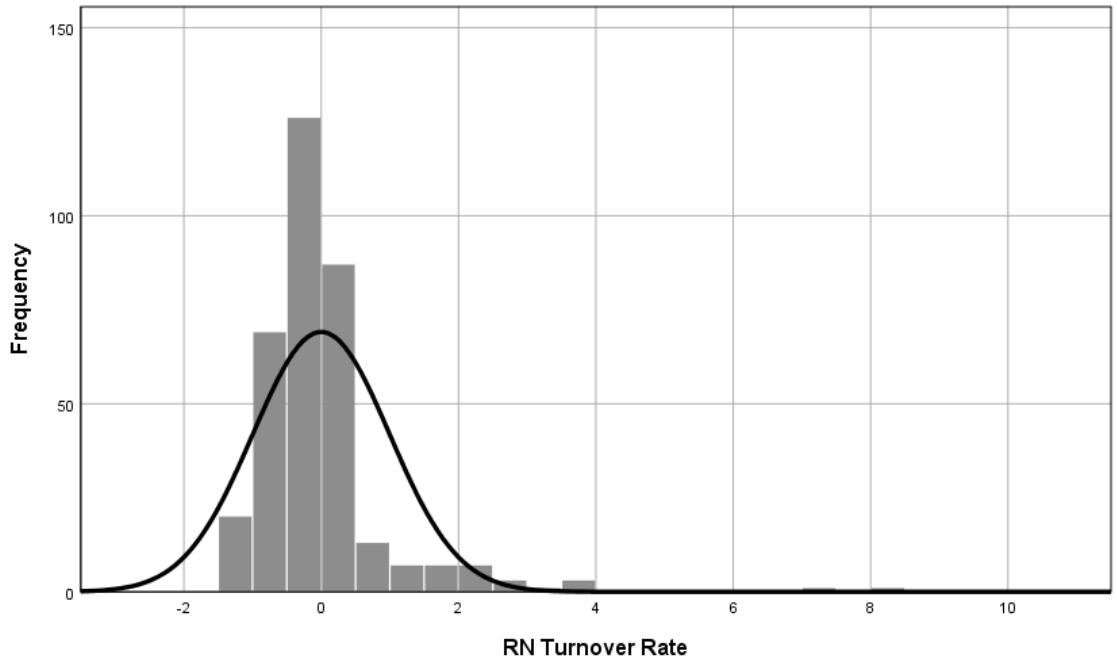


Figure 7. Graphical representation of frequency histogram for turnover.

Figure 8 displays the frequency for variable a. The data for variable a is evenly distributed as displayed in the bell curve. Figure 9 displays the frequency for variable b. Similar to variable a, variable b is also evenly distributed. Missing data for variables a and b was replaced using the series mean. Figure 10 displays the frequency for variable c. Frozen RN positions is evenly distributed as shown below.

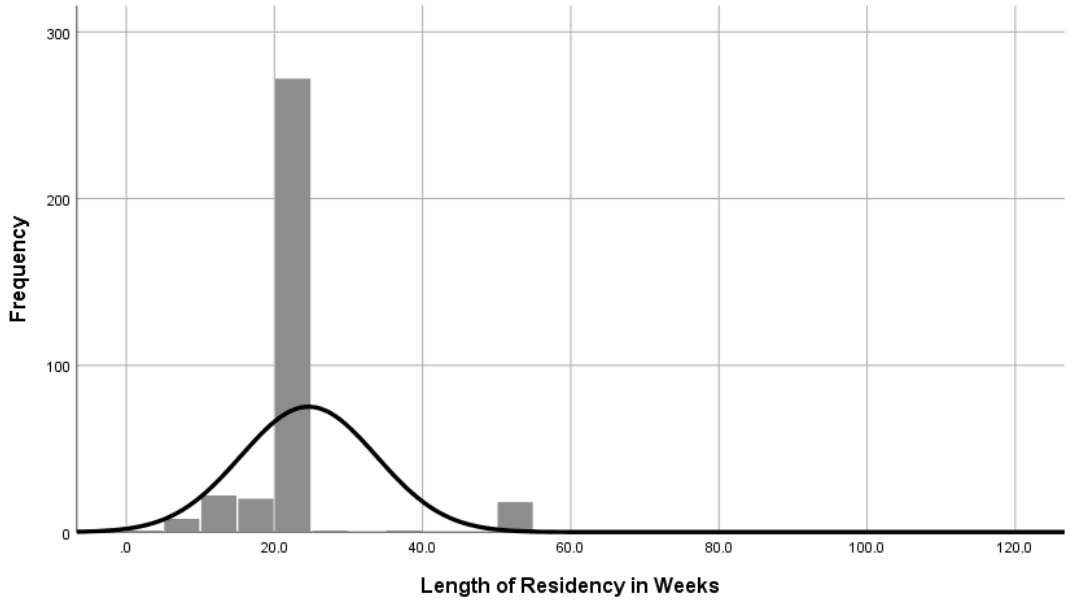


Figure 8. Graphical representation of frequency histogram for length of residency in weeks.

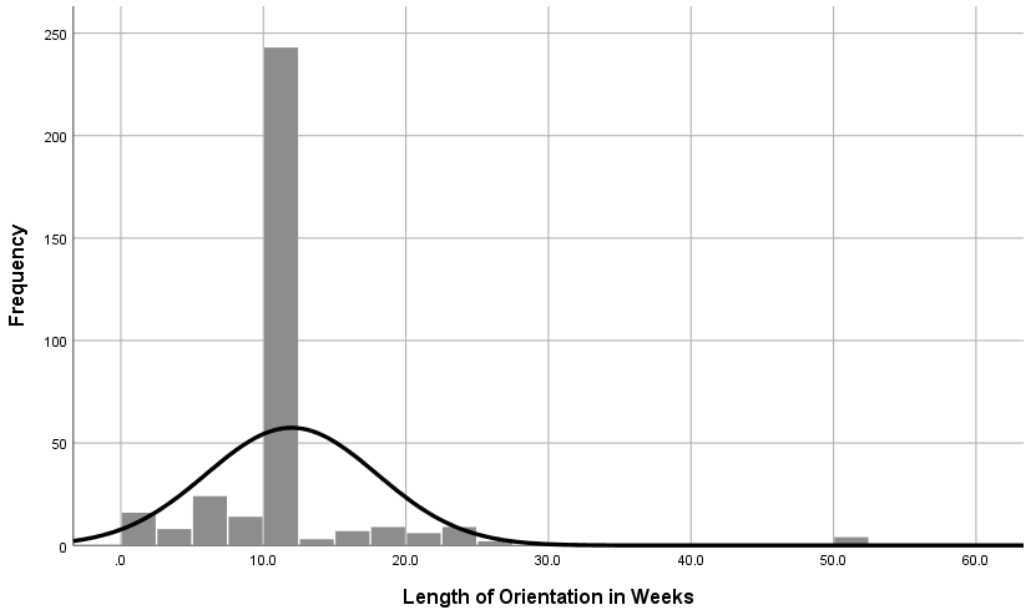


Figure 9. Graphical representation of frequency histogram for length of orientation in weeks.

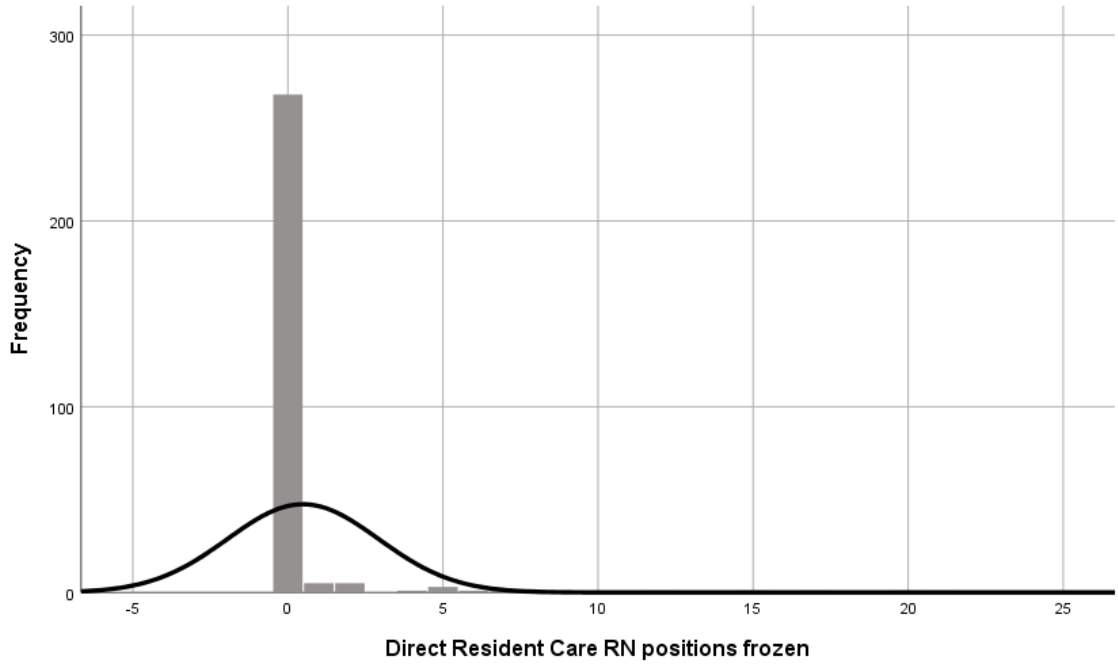


Figure 10. Graphical representation of frequency histogram for direct resident care RN positions frozen.

Linearity. To examine the extent of linearity between the three predictor variables and the dependent variable nurse turnover, I created a bivariate scatterplot. The bivariate scatterplots for the independent variables are shown in figures 11-13. Linearity is met for each dependent variable. I also checked linearity with regression of standardized residuals.

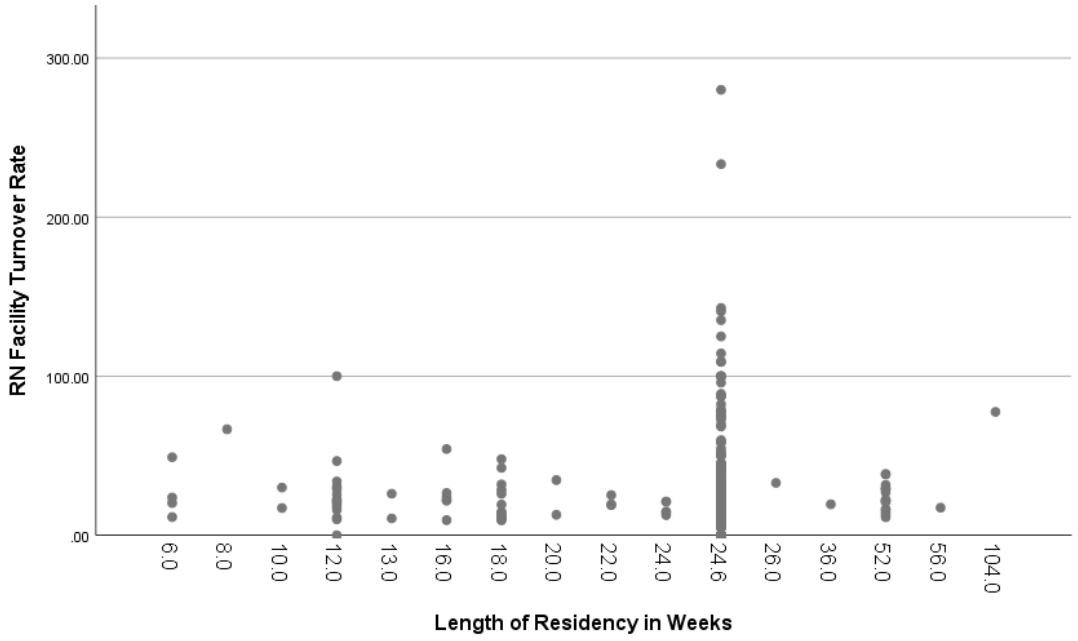


Figure 11. Graphical representation of frequency histogram for length of residency in weeks.

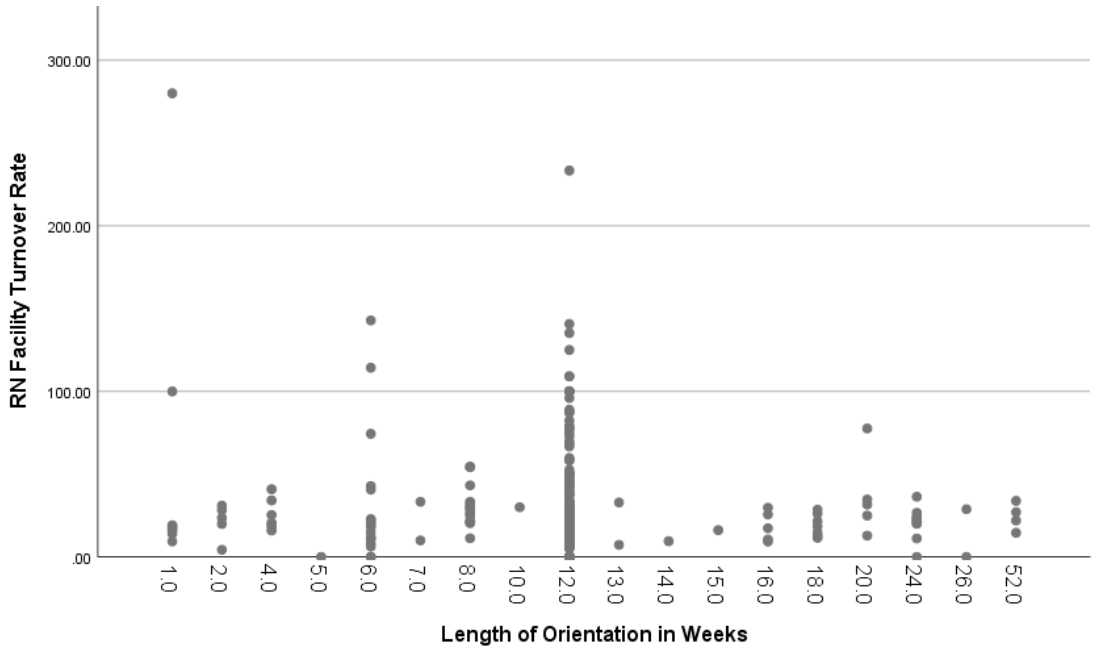


Figure 12. Graphical representation of frequency histogram for length of orientation in weeks.

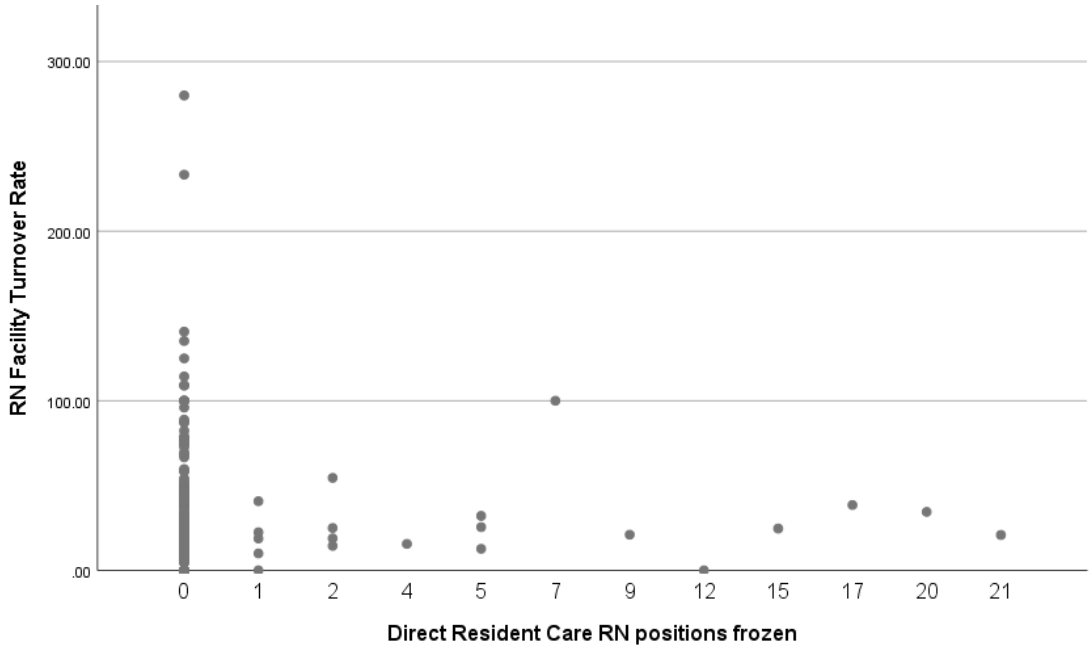


Figure 13. Graphical representation of frequency histogram for direct resident care RN positions frozen.

Independence of Observations. The data met the independence of observation assumption. The data was provided via a secondary source. Each survey taker only took the survey once.

Multicollinearity. In statistics, methods exist to detect multicollinearity. I ran tests to detect multicollinearity between the independent variables. Table 8 displays the bivariate correlation between the independent variables. Length of residency and direct RN positions frozen are correlated at the 0.05 significance level. Length of orientation and length of residency are correlated at the 0.01 significance level.

Table 8.

Bivariate Correlation

		Direct resident care RN positions frozen	Length of residency in weeks	Length of orientation in weeks
Direct resident care RN positions frozen[a]	Pearson Correlation	1	.126*	.003
	Sig. (2-tailed)		.032	.959
	Sum of squares and cross products	1712.445	865.529	12.578
	Covariance	5.925	2.995	.044
	N	290	290	290
Length of residency in weeks[b]	Pearson Correlation	.126*	1	.167**
	Sig. (2-tailed)	.032		.002
	Sum of squares and cross products	865.529	28788.036	3139.347
	Covariance	2.995		9.126
	N	290	345	345
Length orientation in weeks[c]	Pearson Correlation	.003	.167	1
	Sig. (2-tailed)	.959	.002	
	Sum of squares and cross products	12.578	3139.347	12343.899
	Covariance	.044	9.126	35.883
	N	290	345	

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Another way to test multicollinearity is performance of a partial correlation. As shown in tables 9-11, the independent variables are not partially correlated. I ran a partial correlation between the three independent variables and found the variables remained constant as not significantly correlated ($p > 0.05$).

Table 9. *Partial Correlation Controlling for Length of Residency*

	Direct resident care RN positions frozen	Length of orientation in weeks
Direct resident care RN positions frozen	1	-.023 .692 287
Length orientation in weeks	-.023 .692 287	1

Table 10. *Partial Correlation Controlling for Length of Orientation*

	Direct resident care RN positions frozen	Length of residency in weeks
Direct resident care RN positions frozen	1	.128 .030 287
Length residency in weeks	.128 .030 287	1

Table 11. *Partial Correlation Controlling for Direct Resident Care RN Positions Frozen*

	Length of residency in weeks	Length of orientation in weeks
Length of residency in weeks	1	.206 .000 287
Length orientation in weeks	.206 .000 287	1

Independence of residuals. I checked the assumption of independence of residuals using a normal probability P-P plot as well as a frequency histogram of standardized residuals. Figure 14 is a normal probability P-P plot of the regression of standardized residuals. I found that residuals did not all cluster near the plot line. In Figure 15, the frequency histogram of the standardized residuals approximated a normal curve while the data was not normally distributed. The data met this assumption.

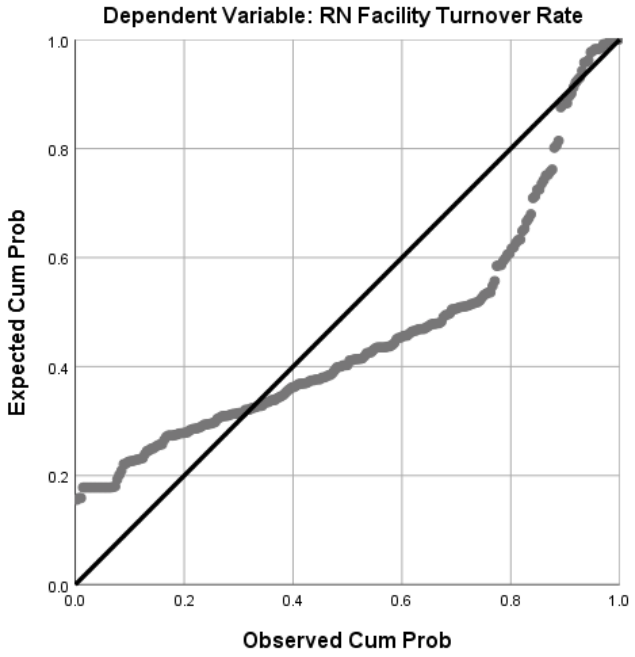


Figure 14. Normal probability P-P Plot of regression standardized residuals.

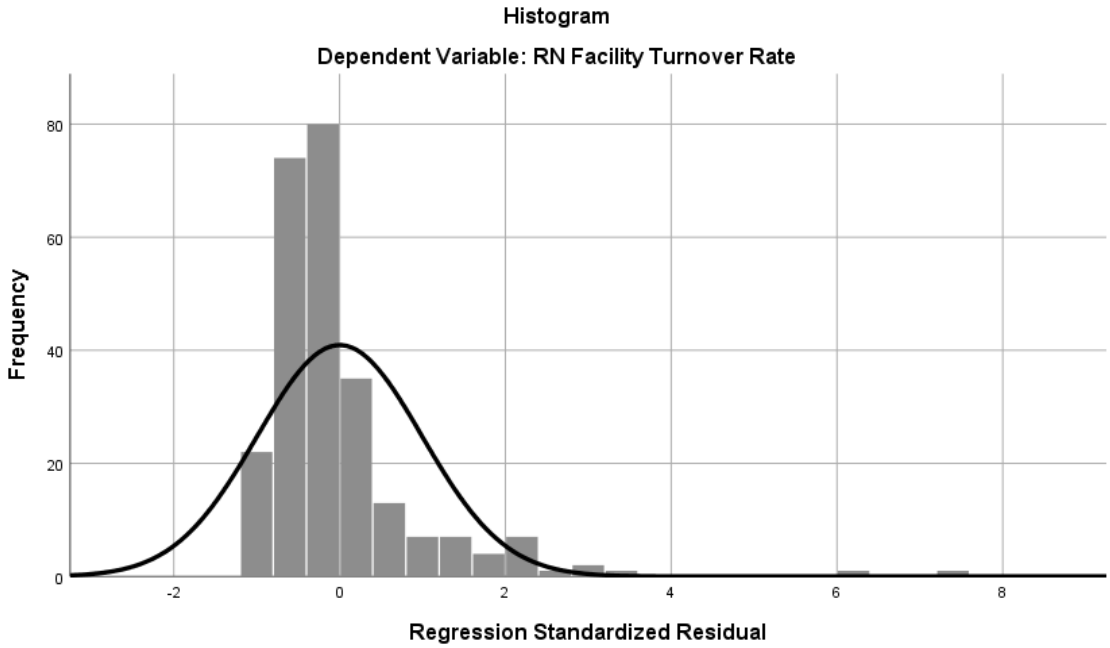


Figure 15. Frequency histogram of standardized residuals.

Homoscedasticity. I addressed the assumption of homoscedasticity with a scatterplot of standardized residuals with the standardized predicted values. The findings of this research showed that there was a random bivariate distribution of scores indicating homoscedasticity. Outliers were not closely grouped together indicating there was no heteroskedasticity.

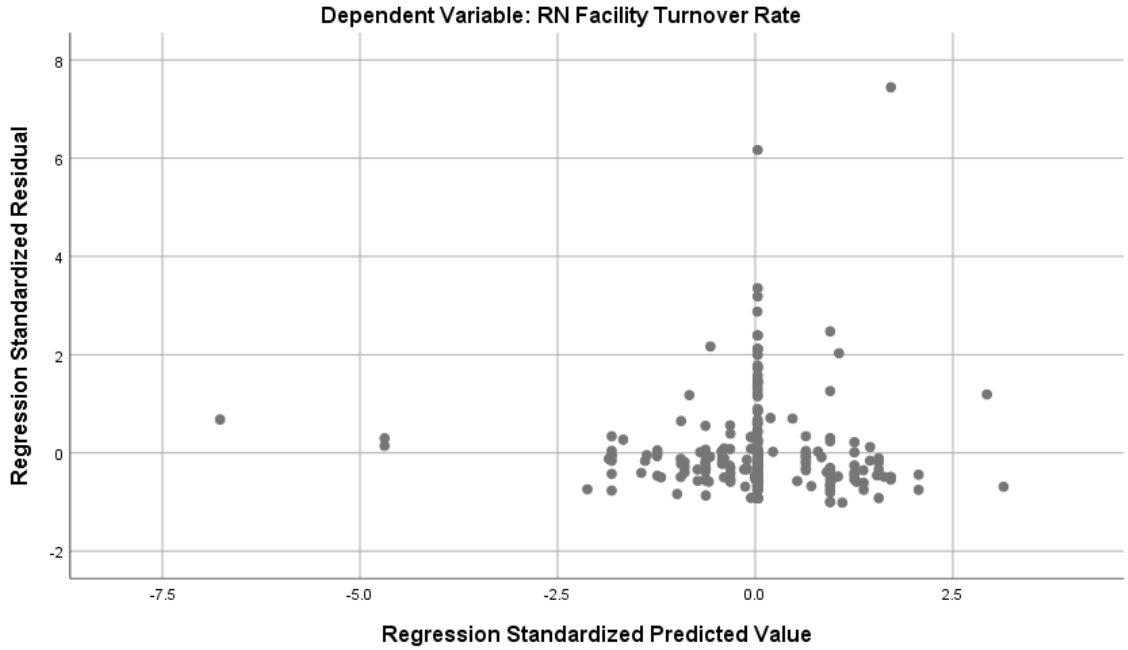


Figure 16. Scatterplot of standardized residuals and substandarized predicted values.

Recommendations for Action

The findings of this research indicate that the (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen has some influence on retention of RNs. Rather than leaders of health care organizations and human resources representatives just continuing programs, I suggest proceeding with additional research to address retention and develop strategies to regularly and continuously assess their nurses' degree of job satisfaction. I recommend surveying the importance of the various facets of training programs and new hire programs to ensure they are relevant to the success of the RN and organization. Additionally, managers and supervisors should receive training on how to effectively assign workloads in an understaffed environment. The results of the developed strategies should be specific, measurable, attainable, realistic and timely. The

feedback from managers and supervisors would assist in assessing the effectiveness of the training and new hire programs in addition to nurse staffing. I will share the findings of this research with the Texas Center for Nursing Workforce Studies. I hope that members of this organization will pass my recommendations along to hospital and nursing leaders in Texas, who may use them as a bias to develop strategic initiatives for reducing turnover. I will also provide an executive summary of my findings to health care leaders, of various hospitals to be shared with hospital managers and nursing leadership and staff. Finally, I intend to explore other professional, academic, and leadership forums, within the health care community that would be opportunities for sharing this research.

Implications for Social Change

Improving the retention of RNs could be a positive social change for the community that is served by the health care organization employing the RNs. Improving the reputation, financial capability and balance of a health care organization could have a positive effect on the economy, sustainability, and quality of life of the surrounding community. Also, a more stable workforce could reduce community disruptions caused by constant turnover those serving community residents.

Skills and Competencies

My decision to research nurse retention emerged from my professional experience in human resources and my close relationship with RNs. I was also intrigued by poor nurse retention due to my professional experience working as a human resource professional in the health care industry. The difficulties with nurse retention in Texas

hospitals inspired me to want to know more about the best strategies to increase retention of nurses through research into new hire programs, training programs, and frozen positions that may lead to understaffing. During the process of reviewing literature, analyzing secondary data, I learned more about the complexity of the nursing profession, and the impact of poor employee retention on the patient, community, and the bottom-line. Sharing these findings, health care leaders, and other organizational leaders can have necessary tools to reinforce their insights on understanding the importance of developing effective new hire and training programs and reevaluating the consequences of frozen positions on the patient, organization, and community. My DBA portfolio in optimal resume contains information related to my studies at Walden University. My portfolio contains files TEdwards Resume as well as a summary of completed courses for my DBA program, and career goals. My portfolio can be accessed by navigating to https://waldenu.optimalresume.com/previewDoc.php?tkn=542eb49e9db0ba2cf1877d6d58279dc6-p1059615.

Conclusion

Poor retention is a significant problem in the nursing profession leading to decreased staffing and diminished quality of patient care. It is necessary to recognize the factors that lead to RN turnover and create and implement strategies to retain RNs. The overarching message for readers of this study is that patient care is more likely to be negatively affected due to poor RN retention. The fundamental reason for this research was to find out if (a) length of residency/internship/fellowship, (b) length of new employee training, and (c) total number of direct resident care RN positions frozen

significantly affect retention. Hospital and nurse leaders have been unable to reduce the mass departure of nurses more than 50 years after the passage of the 1964 Nurse Training Act to grow the field.

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Appendix: Informed Consent

Texas Center for Nursing Workforce Studies

Department of State Health Services

P.O. Box 149347 • Austin, TX 78714-9347 • Phone: 512-776-2365 • www.dshs.state.tx.us/chs/cnws

Welcome to the 2016 Hospital Nurse Staffing Survey (HNSS)

Purpose: The primary purpose of this survey is to assess the size and effects of the nursing shortage in Texas Hospitals. The information in this survey will serve as a guide for the development of policy recommendations by the Texas Center for Nursing Workforce Studies Advisory Committee. The data you provide will also be instrumental in developing projections for the number of nurses needed in Texas. Your participation in this study is completely voluntary but highly encouraged.

Due Date: The survey deadline has been extended to **June 3rd**.

Confidentiality Agreement: Your responses are completely confidential. We will report aggregate findings (statewide and regional results) only.

Please note that question numbers may not directly correspond with numbering on the online version of this survey.

If you have questions at any time about the survey or the procedures, you may contact Cate Campbell by phone at 512-776-2365 or by email at TCNWS@dshs.state.tx.us.

For the purpose of this survey, please include data for all hospital services except clinics.

1. **Please provide the following information for your individual hospital (NOT hospital system).**

Hospital Name:

State License #:

Physical Address:

Mailing Address (if different from above):

City, County, State, Zip Code:

Contact Person:

Contact Title:

Contact Email:

Contact Phone Number:

CNO Name (if different from Contact Person):

CNO Email:

2. **Number of beds**

Number of Licensed Beds:	
Number of Staffed Beds:	