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Do Race and Ethnicity Influence Turnover Intention in Newly Licensed Registered Nurses?

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DO RACE AND ETHNICITY INFLUENCE TURNOVER INTENTION IN NEWLY LICENSED REGISTERED NURSES?

A Dissertation Presented

By

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ABSTRACT

DO RACE AND ETHNICITY INFLUENCE TURNOVER INTENTION IN NEWLY LICENSED REGISTERED NURSES?

May 2019

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Background: Demand for health care services is rising while newly licensed nurses vacate employment positions at alarming rates. Healthcare leadership has called for an increased diversification of the healthcare workforce, but the workplace experience of nonwhite nurses in the first years has not been assessed.

Methods: This study utilized a quantitative cross-sectional survey design**.** The sample was limited to newly licensed nurses with no prior experience as a nurse. Linear regression models were constructed to determine which personal and structural attributes are associated with turnover intention, stratified by race and ethnicity. Hierarchical, backwards stepwise selection was used to build the final model.

Results: The majority of respondents were white English-speaking females, never married, holding a BSN and working in an acute care hospital. Nurses who speak a language other than English at home are treated more poorly than primary English speakers. Hispanics are most likely to report a negative work environment, a hostile climate, general incivility and inappropriate jokes. Turnover intention was associated with months at the current job, a negative work environment including experiencing incivility, not having enough time to do the things that must be done, and confidence in the ability to do one's job list. Blacks are likely to report a high turnover intention but remain in the current job while acknowledging a hostile environment and general incivility. Many nurses employed in non-acute care settings are nonwhite, report higher workload scores and high patient assignments.

Conclusions: Nonwhite nurses report negative work environments and high intention to leave but remain in their jobs. Among the full sample of newly licensed nurses, months at the current job, a negative work environment, including experiencing incivility, not having enough time to do the things that must be done, and confidence in the ability to do one's job were associated with turnover intention. Efforts to diversify the workforce must include education to prepare minority nurses for the environment they may encounter, including uncivil behavior and high workloads. Policy initiatives must address the treatment of new nurses and support new nurses as they transition to the professional role.

ACKNOWLEDGEMENTS

This work began when I was a newly licensed registered nurse, 35 years ago. I have had the opportunity to work with some amazing people who have taught me a great deal about nursing, healthcare, and myself. I would be remiss if I did not express my appreciation to all the preceptors, coworkers, patients and families I have worked with over these past 3+ decades who have taught me the importance of how we interact with each other and the impact of what nurses do every day.

I am grateful to the students at UMB whom I have taught these past several semesters. This diverse group has taught me why learning about their experience in the field is so important and why we need to really think about the experience of a new nurse in this time of changing healthcare delivery.

I have been blessed by many friends and coworkers who have encouraged me to continue and believed in me when I doubted myself. "Shirl the girl", you pushed me and encouraged me to move outside my comfort zone and to stay on course until I finished. SKW, I am forever grateful for those Sunday mornings at your kitchen counter, looking at the data. Scrubbing, coding and recoding- I think there were at least 17!

I can never thank my committee enough for all you have done for me. Phil, the many hours of looking at each and every survey item and thinking about the information each option would provide. You have helped me to think about surveys entirely differently and now I can't refuse to participate when asked. Judy, your advocacy for the nursing workforce is appreciated and your tenacious work on behalf of students and new nurses will impact our profession for many years. You have helped me to think differently. Thank you. Ling, you have consistently been available and gentle as you explained and helped me to understand and then think through how best to approach the analysis. I have learned a great deal from you. And Eileen, I will never truly understand how you made time for me in the midst of the schedule you keep. And yet, you always did. You have mentored me since that first research class many years ago in 2008. I had never taken research because when I graduated from UVM- nurses weren't reading research and we certainly weren't doing research. You have gently pushed me to continue. I will never be able to thank you enough.

And finally, my family who has patiently waited for to me to finish. It has been a very long time and you have supported me and kept things in order at home while I focused on school. I look forward to time together, relaxing and enjoying some of the many things I have missed these past 7 years. I could not have done this without your help. Thank you.

TABLE OF CONTENTS

CHAPTER Page

APPENDIX Page

APPENDIX Page

LIST OF FIGURES

Figure Page

LIST OF TABLES

Table Page

Table Page

CHAPTER 1

INTRODUCTION

The costs associated with nurse turnover are a significant financial burden to an already fiscally strapped healthcare administration system. The annual organizational costs for newly licensed nurse turnover are estimated to exceed $1.4-$2.1 billion (Kovner, Brewer, Fatehi, & Jun, 2014). In a large medical center in the U.S., turnover costs represented 5% of the total operating budget, with a quarter of turnover cost specific to nurse turnover (Waldman et al., 2004, p. 6). In a study of 414 newly licensed Registered Nurses (RNs) in Florida, 27% would take a non-nursing job for equal pay, 8.6% were contemplating abandoning nursing and 6.5% intended to look for a new profession (Unruh & Zhang, 2013, p. 1684). As the current workforce ages and healthcare demands increase, the financial costs to recruit, orient, and retain newly licensed nurses divert resources away from patient care. The goal of this study is to understand the factors that influence turnover to inform policies that address the needs of newly licensed nurses, especially those from a racially and ethnically diverse population.

Turnover intention is defined as the final step before an employee vacates a position. Job satisfaction has been positively associated with nurse turnover rates and is considered a

predictor of turnover (Baernholdt & Mark, 2009). Empirical research has found turnover intention is a reliable predictor of actual turnover (Bothma & Roodt, 2013). Harrison, Newman, & Roth (2006) assumes that intent to leave serves as both a proxy and predictor of actual turnover. Another perspective to gain a more accurate estimate of what influences turnover suggests a close look at unique facility characteristics and culture in addition to management strategies in complement to employee self-report (Cohen, Blake, & Goodman, 2015).

A limitation of previous research on nurse turnover is the inconsistent definitions of turnover and lack of uniformity in cost analysis models (Jones & Gates, 2007). Internal and external employee turnover can be both financially beneficial and detrimental to the employer and the employee (Yazinski, 2009). Patient care quality is negatively impacted when health care dollars are diverted to recruitment efforts (Joint Commission on Accreditation of Healthcare Organizations [TJC], 2002). New nursing graduates who are replacement hires can be offered a lower rate of pay, costing less for the employer, but concurrently requiring additional time and money for recruitment and orientation. Nationally, the cost of replacing a registered nurse ranges from about $22,000 to more than $64,000, including those expenses associated with filling temporary vacancies and hiring and training new staff (Robert Wood Johnson Foundation [RWJF], 2009). The benefit of limiting nurse turnover is emphasized when the associated costs are considered. Agreement does exist in attributing a substantial portion of direct turnover costs to temporary replacement used to manage unfilled vacancies, but temporary replacement staff impacts job

satisfaction, staff efficacy, nurse productivity and continuity of patient care (Duffield, Roche, Homer, Buchan, & Dimitrelis, 2014; Hunt, 2009; VHA, Inc., 2002).

Simultaneous direct and indirect benefits of turnover should also be considered in assessing the impact of nurse turnover. An experienced employee who seeks a new position at a new employer may demand a higher salary adding direct costs, however that employee also brings needed experience to the new position, generating an indirect benefit of turnover. The orientation needs of an experienced new hire may be less costly for the employer than the orientation costs for a newly licensed nurse because an experienced nurse requires less clinical practice support. Alternately, if an employee is a poor performer, creates a negative or toxic work environment due to incivility towards coworkers, or is unwilling to be a contributing team member, turnover of that employee may be considered a positive outcome of turnover by the remaining staff and administration.

Historically, the role of the nurse has expanded. Nurses today are challenged with higher patient volume, increased medical complexity, decreased length of stay for patients with a move towards population-based care in the community for patients previously admitted to acute care settings. The use of technology to deliver care that is more efficient, coupled with increased demands to educate and create discharge care plans for patients and families which require time and resources. At the same time, reimbursement costs are tied to quality measures directly related to nursing care and interventions (Hines & Yu, 2009). The increased data-driven focus on the cost of care delivery may conflict with patient-centered care and can generate frustration eventually leading to burnout, a strong contributor to turnover intention. Increased nurse turnover can trigger even more nurse turnover, creating a

cyclic and escalating demand on both human and financial resources. Increased hours worked by remaining staff and rotation to less desirable shifts to meet staffing needs due to nurse vacancies are compounded by an increased workload, staff frustration, and a more negative environment, all leading to a higher turnover rate for nurses seeking improved working conditions.

Significance

Demand for health care services is rising due to an aging population and national health care insurance reforms increasing access to care. At the same time, demand for health care is increasing to unprecedented levels, nearly one in five newly licensed nurses leave their first employer within the first year of practice and almost half leave within the first three years (Brewer, Kovner, Greene, Tukov-Shuser, & Djukic, 2012). Compounding the turnover rate amongst newly licensed nurses is the retirement of growing numbers of baby boomer nurses. As a result, the U.S. Department of Labor [DOL] Bureau of Labor Statistics [BLS] (2015) projects a 15% increase in employment opportunity for nurses from 2016 to 2026, anticipating a shortage of more than one million nurses by 2022 (United States Department of Labor Bureau of Labor Statistics [DOL, BLS], 2018).

Over a decade ago, the Institute of Medicine called for the increased diversification of the health care workforce as part of a multipronged approach to address racial and ethnic health disparities (Smedley, Stith, & Nelson, 2003). Ensuring workforce diversity and leadership development opportunities for nurses who identify with racial and ethnic minority groups must remain a high priority for the U.S. to achieve the goal of eliminating health disparities, and ultimately, attaining health equity (Phillips & Malone, 2014). More research

is needed to evaluate how working conditions may positively or adversely impact the intention of newly licensed nurses from racially and ethnically underrepresented groups to remain employed in the healthcare sector.

Access to healthcare varies among portions of the population. Medically underserved populations are designated by specific criteria: low ratio of primary care providers to population; high infant mortality rate; percentage of population below the poverty level, and percentage of population age 65 years and older (U.S. Department of Health and Human Services Health Resources and Services Administration [HRSA], 2016). Additionally, disparities exist by race. Compared to whites and blacks, Asian and Hispanic patients are more likely to forego needed healthcare (Mead et al., 2008, p. 44) and blacks and Hispanics are twice as likely to live in poverty as whites and Asians (Mead et al., 2008, p. 10). The infant mortality rate for blacks is more than twice the rate for whites and the rate for American Indian/Alaska natives is about fifty percent higher than the rate for whites (Mead et al., 2008, p. 28). Advocates for the lesbian, gay, bisexual, and transgender (LGBT) communities have campaigned for the designation of LGBT people as medically underserved and a healthcare professional shortage group in an effort to ensure culturally competent, nondiscriminatory care for their constituency (The Fenway Institute, 2014). The healthcare needs of underserved populations are best met when there are adequate members of the healthcare workforce who reflect the diversity of the community it serves. A diverse health care workforce increases culturally competent care, eliminates language barriers, and improves access to quality care (American Association of Colleges of Nursing [AACN],

2015; Baer et al., 2013; Cooper & Powe, 2004; Health Resources and Services Administration [HRSA], 2013).

While a diverse healthcare workforce is considered essential to achieving healthcare equity in the United States, the current demographic profile of the nursing workforce falls short of reflecting the increasingly diverse U.S. population (NACNEP, 2013). According to the U.S. Census Bureau, ethnic and racial minorities account for 37% of individuals residing in the United States (U.S. Census Bureau, 2016), compared to only 19% of registered nurses licensed to practice in the U.S.(Budden, Zhong, Moulton, & Cimiotti, 2013, p.7). Recruitment programs aimed at increasing the diversity in the workforce will be futile if newly licensed nurses leave the workforce as fast as new entrants arrive.

A decreasing number of U.S. census respondents identify as white alone (U.S. Census Bureau, 2016) and by 2055, researchers predict that the Unites States will not have a single majority race or ethnicity (Cohn & Caumont, 2016). Simultaneously, a more moderate decrease in the overwhelming white majority of registered nurses has been seen, from a profession comprised of 80% whites in 2000 to about 75% whites a decade later (Health Resources and Services Administration [HRSA], 2013, p. 24). Attempts to diversify the nursing workforce have focused on race and gender (AACN, 2015). The current understanding of race is as a social construct and often misused interchangeably for ethnicity, but neither term has clearly differentiated characteristics. Race is commonly based on shared similar physical traits often developed in response to the geography of the regions of origin (Brace, 2005) and ethnicity is considered to be fluid, based on shared aspects of the culture including language, religion, values, and beliefs (Baer et al., 2013; Perez & Hirschman,

2009). The concept of race was established as a simple explanation for the origin and significance of human observed biological differences and allowed groups of similarly appearing persons to be categorized into a societally assigned race (Brace, 2005). Both race and ethnicity are now understood to be socially constructed concepts and self-reported race often differs from assigned racial category which often appeared in demographic databases such as birth, death and marriage certificates. When self-reported, millions of Americans changed their self-identified race or ethnicity in sequential census responses, highlighting the fluidity of these concepts (Cohn, 2014).

Patient-provider race concordance is advocated by a number of healthcare leaders, but published evidence regarding its benefit is inconsistent (Cooper & Powe, 2004; LaVeist & Nuru-Jeter, 2002; Meghania et al., 2009). Most research focuses on physician-patient race concordance and there is little research on the effect of nurse-patient race concordance. Some reports identify no difference in race-concordant provider- patient relationships (Cooper & Powe, 2004) whereas other studies quantify significantly more participatory decision-making and overall satisfaction with healthcare in race-concordant relationships (LaVeist & Nuru-Jeter, 2002; Street, O'Malley, Cooper, & Haidet, 2008). The Sullivan Commission on Diversity in the Health Care Workforce [The Sullivan Commission], (2004) has summarized the body of work describing how nurses of diverse backgrounds have improved patient outcomes though language and cultural competence, and a strengthening of the business community through a workforce that mirrors the customer base.

Intentionally diversifying the workplace can place stress on the normative workforce. Blending potential differences in beliefs and values to achieve cultural diversity can lead to

cross-cultural misunderstandings particularly when one group is perceived as dissimilar to the majority (Meghania et al., 2009). In a sample of 529 practicing physicians, those who self-identified as non-majority were more likely to have left at least one job because of workplace discrimination (Nunez-Smith et al., 2009). In addition, having experienced racial/ethnic discrimination at any career point remained significantly associated with high job turnover (adjusted OR, 2.7), adjusted for physician race/ethnicity, sex, relationship status, and age (Nunez-Smith et al., p. 1274). African-American nurses reported less job satisfaction than their white counterparts (Kovner et al., 2006). Among Asian, African-American and Filipino nurses, 33%, 42% and 53% respectively cite race as the reason they believe they were denied a promotion for which they were qualified (Seago & Spetz, 2008, p. 21).

To date, studies on the role of race and ethnicity in workplace retention has focused on discrimination or workplace stress (Plaut, Thomas, & Hebl, 2014). The link between self-identified race and ethnicity and turnover intention for nurses has not been established despite the long hours spent at work and potential for conflict between racially and ethnically discordant groups. Research has investigated the influences of turnover intention in newly licensed registered nurses, but the personal characteristics of self-identified race/ethnicity of the study nurse participants has not been described.

This study was designed to inform policy initiatives geared to minimize turnover intention in a diverse group of newly licensed nurses through analysis of the newly licensed nurse's personal characteristics and the characteristics of his/her workplace. This study examined the personal characteristics of the newly licensed nurse including: self-identified

race and ethnicity; gender; age; marital status; education; physical injury on the job; self-confidence; interpersonal relationships; perception of a negative environment; and language concordance within the workplace and the characteristics of the workplace including: type of facility (acute care, rehabilitation hospital, residential long-term care, physician/ provider office, home healthcare, outpatient care center, elementary/ secondary school, public health or other); hospital size; unit type and size; workload; staffing adequacy; incivility within the workplace. Finally, the study examined the interrelatedness of the personal characteristics of the nurse and the characteristics of the workplace as influences of turnover intention within the first three years of practice.

Specific Aims and Hypotheses

There were three specific aims of this study.

Specific Aim #1

To examine the association between personal characteristics and turnover intention of newly licensed registered nurses within the first 3 years of nursing practice. Personal characteristics include self-identified race; ethnicity; gender; age; marital status; education; physical injury on the job; self-confidence; interpersonal relationships; perception of a negative environment; language concordance within the workplace.

Hypothesis #1.1

Among newly licensed nurses, personal characteristics will be associated with turnover intention within the first 3 years of nursing practice.

Hypothesis #1.2

Differences in the turnover intention of newly licenses nurses stratified by race/ethnicity will be observed.

Specific Aim #2

To examine the association between workplace characteristics and turnover intention among newly licensed registered nurses within the first 3 years of nursing practice. Workplace characteristics considered include type of facility (acute care, rehabilitation hospital, residential long-term care, physician/provider office, home healthcare, outpatient care center, elementary/secondary school, public health or other); hospital size; unit type and size; workload; staffing adequacy; incivility within the workplace.

Hypothesis #2.1

Workplace characteristics will be associated with turnover intention among newly licensed registered nurses within the first 3 years of nursing practice.

Hypothesis #2.2

Differences in the turnover intention of newly licenses nurses stratified by race/ethnicity will be observed.

Specific Aim #3

To examine the association between personal and workplace characteristics and turnover intention among newly licensed registered nurses within the first 3 years of nursing practice. Personal and workplace characteristics include self-identified race, ethnicity, gender, age,

marital status, education, physical injury on the job, self-confidence, interpersonal relationships, perception of a negative environment, language concordance within the workplace type of facility (acute care, rehabilitation hospital, residential long-term care, physician/ provider office, home healthcare, outpatient care center, elementary/ secondary school, public health or other); hospital size; unit type and size; workload; staffing adequacy; and incivility within the workplace.

Hypothesis #3.1

Among newly licensed nurses, personal characteristics and workplace characteristics will be associated with turnover intention within the first 3 years of nursing practice.

Hypothesis #3.2

Differences in the turnover intention of newly licenses nurses stratified by race and ethnicity will be observed.

CHAPTER 2

SYSTEMATIC REVIEW OF THE LITERATURE

A critical systematic literature review was conducted and is reported using PRISMA guidelines. The operational definitions of turnover, antecedent to turnover or turnover intention utilized in analyzed studies appear in Appendix A. Studies are listed according to rigor of study design, sampling size and methods, and validity and reliability of instruments employed. Studies are listed in descending order, beginning with the most rigorous study.

Literature Search Criteria

Inclusion Criteria. Research studies included in this review focused on newly graduated nurses (up to five years of first license), and employment as a licensed registered nurse. The search was initially restricted to the United States but given the limited data available, expanded globally to include studies conducted in other countries. Full text and English language restrictions were applied.

Exclusion Criteria. The search was limited to newly licensed nurses with no prior experience as a licensed nurse. Studies including nurses with prior experience as Licensed Practical Nurse (LPN) or other licensed nursing job such as those who graduated from an RN to Bachelor of Science in Nursing (BSN) degree program or nurses newly licensed in the

U.S. but educated in a foreign country and presumed to have some prior nursing experience were excluded. Studies focused on management-generated interventions to increase retention were excluded in order to elicit the newly licensed nurse perspective.

Search Results

The initial search of three electronic databases, Google Scholar, PubMed, and the Cumulative Index to Nursing and Allied Health Literature (CINHAL) yielded 247 records. Keyword search terms included newly licensed nurse, turnover, race, race concordance, nurse job satisfaction, novice. Records published in the English language between 2000 and 2015 were considered for inclusion. Multiple records that were duplicates (104) were eliminated from the search. ProQuest Dissertation and Theses Global database was searched for relevant unpublished academic work. Five records were retrieved and rejected for inclusion. Bibliographies of all studies were reviewed, and an additional 52 articles were considered. Titles and abstracts were reviewed to determine eligibility, eliminating an additional 122 articles. Study samples were reviewed for professional licensure criteria and subjects' length of employment, eliminating an additional 59. Fourteen studies are included in this analysis. For each study meeting inclusion criteria, pertinent details are included in the synthesis of the findings.

No relevant meta-analyses were identified. The majority of studies included non-experimental, descriptive survey design (Beecroft et al., 2008; Bowles & Candela, 2005; Smith et al., 2010; Tominaga & Miki, 2010). Two prospective studies evaluated the relationship between turnover intention and individual characteristics, the work environment, and organizational factors (Beecroft et al., 2008; Tominaga & Miki, 2010) while another

study looked specifically at the newly licensed nurses' perception of the first job (Bowles & Candela, 2005). A longitudinal comparative survey design with data collection at a one-year interval was utilized in a cohort study (Brewer et al., 2012) of a nationally representative sample evaluating personal characteristics, work attributes, opportunity, work attitudes and expected or unexpected shocks to the worker leading to turnover. Quantitative data was collected from subjects at multiple sites for the initial phase of one descriptive non-experimental study using a survey design followed by comparative data collected from a subsample at one site using a revised survey (Casey et al., 2004). Longitudinal data was analyzed in one predictive, non-experimental study (Stam et al., 2015) and examined the influence of personal and structural resources on job satisfaction, which is closely related to turnover. The impact of structural empowerment, psychological empowerment, and workplace incivility was examined in a predictive, non-experimental study of newly licensed nurses working in acute care hospitals (Smith et al., 2010). Survival analysis was used in one correlational study to estimate the probability of staying in the first job (Cho et al., 2012). One study utilized a descriptive correlational design (Laschinger, 2012) to evaluate how newly licensed nurses experience the workplace in terms of personal and situational factors that influence their relationship with their work and contribute to job and career satisfaction, predicting turnover intention. One study design utilized a mixed method approach in a population-based survey but reported only quantitative data on the relationship between transition (orientation) program, empowerment, work environment and intent to leave in the located article (Rhéaume et al., 2011). Although not a true mixed method design, one descriptive non-experimental longitudinal study evaluating the adjustment period for a new

nurse by measuring personal and environmental influences on job satisfaction included open-ended questions on the researcher-designed instrument and the authors report results as qualitative (Halfer & Graf, 2006) although data was collected by written survey only. Two qualitative studies investigating the lived experiences of newly licensed nurses were identified (Boychuk Duchscher, 2001; McCalla-Graham & DeGagne, 2015). Finally, although it does not meet inclusion criteria and does not address influences of newly licensed nurse turnover, a 10-year longitudinal study is included in the analysis because it is the only such study in the United States and yields relevant data regarding the rate of newly licensed nurse turnover, illuminating the current state of the issue (Kovner et al., 2014). The personal and workplace attributes associated with turnover intention identified in the literature search are shown in Table 1.

Each study was evaluated and ranked based on study design, sample, threats to validity, analysis performed and risk of bias. Level of evidence was considered and assigned according to Johns Hopkins Nursing Evidence Based Practice and Model Guidelines (Newhouse, Dearholt, Poe, Pugh, & White, 2007).

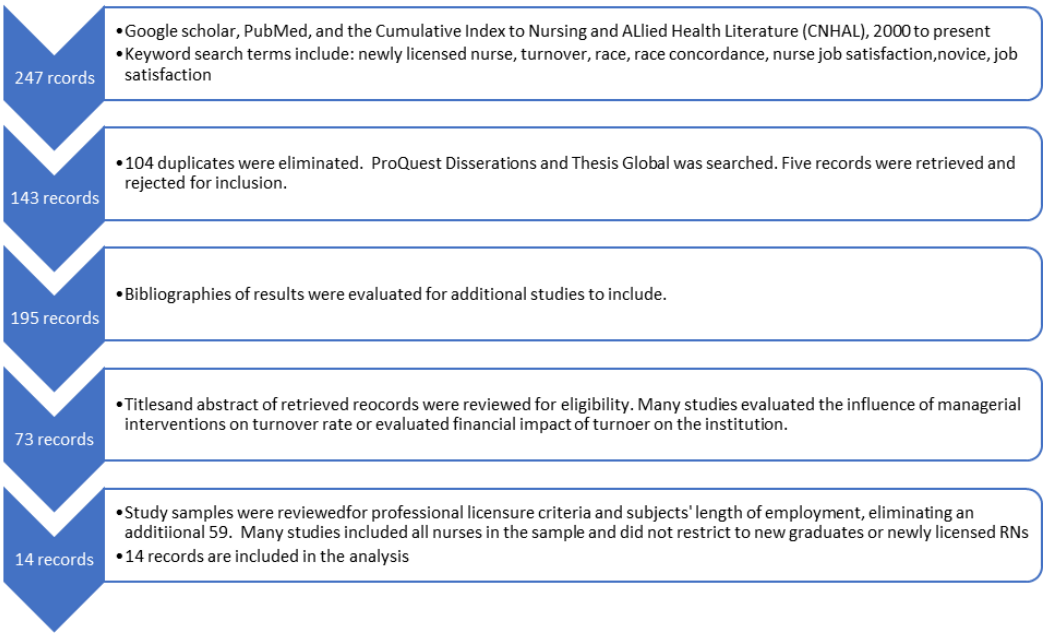


Figure 1. Electronic search flow for systematic literature review.

Table 1. *Personal and Structural Attributes Associated with Newly Licensed Nurse Turnover*

Personal Characteristics	**Citation**	**Positive/Negative Association**
Nurse's strong commitment to the organization/ employer	Brewer et al., 2012 Smith et al., 2010 Tominaga & Miki, 2010	Negative[1]
Age (being younger)	Beecroft et al., 2007	Positive[2]
Age (being older)	Tominaga & Miki, 2010	Negative[1]
High self-confidence in one's ability to perform one's job	Beecroft et al., 2007 Tominaga & Miki, 2010 Halfer & Graf, 2006 McCalla-Graham & DeGagne, 2015 Boychuk Duchscher, 2001	Negative[1]
Seeking social support as coping strategy	Beecroft et al., 2007	Positive[2]
Married	Cho et al., 2012	Positive[2]

Personal Characteristics	Citation	Positive/Negative Association
Strong interpersonal relationships	Cho et al., 2012 Laschinger, 2012 Smith et al., 2010 Tominaga & Miki, 2010 Rhéaume et al., 2011 Halfer & Graf, 2006 Boychuk Duchscher, 2001	Negative[1]
Negative mental and physical health	Brewer et al., 2012 Laschinger, 2012 Tominaga & Miki, 2010 Boychuk Duchscher, 2001	Positive[2]
Burnout (emotional exhaustion and cynicism)	Laschinger, 2012 Smith et al., 2010 McCalla-Graham & DeGagne, 2015	Positive[2]
Person-job value congruence	Laschinger, 2012 Rhéaume et al., 2011	Negative[1]
Psychological empowerment	Smith et al., 2010 Rhéaume et al., 2011	Negative[1]
Psychological capital (self-efficacy, hope, optimism, resiliency)	Stam et al., 2015	Negative[1]
Clinical practice and experience	Tominaga & Miki, 2010 McCalla-Graham & DeGagne, 2015 Boychuk Duchscher, 2001	Negative[1]
Positive perception of workplace empowerment	Beecroft et al., 2007 Laschinger, 2012 Smith et al., 2010 Rhéaume et al., 2011 Halfer & Graf, 2006	Negative[1]
Over-commitment	Tominaga & Miki, 2010	Negative
Physical injury on the job (strains/ sprains)	Brewer et al., 2012	Positive[2]
Dissatisfaction with hours of work	Brewer et al., 2012 Tominaga & Miki, 2010 Rhéaume et al., 2011 Halfer & Graf, 2006	Positive[2]
Additional hours of voluntary overtime	Brewer et al., 2012	Negative[1]
Not securing employment on unit of choice	Beecroft et al., 2007 (>31yo) Tominaga & Miki, 2010	Positive[2]
Small, nonmetropolitan hospital	Cho et al., 2012 Tominaga & Miki, 2010	Positive[2]
Nonunionized hospital	Cho et al., 2012	Positive[2]

Workplace Characteristics	Citation	Positive/Negative Association
Adequate staffing/ workload	Laschinger, 2012 Stam et al., 2015 Rhéaume et al., 2011 Halfer & Graf, 2006 McCalla-Graham & DeGagne, 2015	Negative[1]
Control over practice	Laschinger, 2012 Rhéaume et al., 2011	Negative[1]
Authentic leadership	Laschinger, 2012 Rhéaume et al., 2011 Halfer & Graf, 2006 Boychuk Duchscher, 2001	Negative[1]
Fairness in treatment by employer as compared to other staff	Laschinger, 2012	Negative[1]
Incivility (coworker and supervisor)	Smith et al., 2010	Negative[1]
Structural empowerment	Stam et al., 2015 Halfer & Graf, 2006	Negative[1]
Reward	Tominaga & Miki, 2010	Negative[1]
Professional Development	Halfer & Graf, 2006	Negative[1]

[1] Negative turnover intention indicates the RN is less likely to leave the current employment for a new position and is likely to remain in the current position.
[2] Positive turnover intention indicates the RN is thinking about leaving and may be more likely to leave the current employment for a new position, either within or outside of the hospital or network.

Discussion of Literature Review

A number of common themes related to job satisfaction and turnover intention are identified in the literature. The personal characteristics of the nurse and the external environmental characteristics of the workplace interact and cannot be considered in isolation. The extent to which the individual successfully adapts to the new role and work environment

leads to the level of job satisfaction. Job satisfaction and turnover intention and are closely and inversely interrelated.

Conceptual Model

The issue of newly licensed nurse turnover intention is considered using Myra Levine's Conservation Model, specifically the adaptation of the newly licensed nurse to the role of professional nurse and that individual's ability to maintain wholeness and integrity through physical and emotional well-being. The Conservation Model acknowledges the individual's interactions with the environment (Myra Levine- The Conservation Model, 1987), and defines adaptation as both physiological and behavioral, a product of energy conservation balanced with energy expenditure to maintain structural, personal, and social integrity as the individual (nurse) interacts with the internal and external (work) environment. The term conservation is derived from the Latin term conservatio, meaning "keeping intact" (Mahoney, 2016). If adaptation is successful, the individual maintains equilibrium and remains in the current employment position. If the nurse is unable to adapt to the professional role and work environment, the nurse is hypothesized to contemplate vacating the position, indicated by a higher turnover intention.

The conservation of energy is central to Levine's theory and synonymous with successful adaptation. Adaptation refers to the individual's response to the workplace and the individual's ability to adjust to the new role and work environment. The relationship between the nurse and the workplace is dynamic and fluid as depicted in Figure 2. In a video interview (Myra Levine- The Conservation Model, 1987) Levine describes adaptation as a temporary state, achieved with appropriate guidance and mentoring as in a successful

preceptorship, which would then allow the newly licensed registered nurse to become a free and independent professional. If successful in the attempt to conserve and adapt to the new role, the newly licensed nurse remains whole and continues in the professional role with a low turnover intention. Conversely, unsuccessful adaptation or an inability to conserve and maintain wholeness is a negative experience and is hypothesized to lead to increased turnover intention.

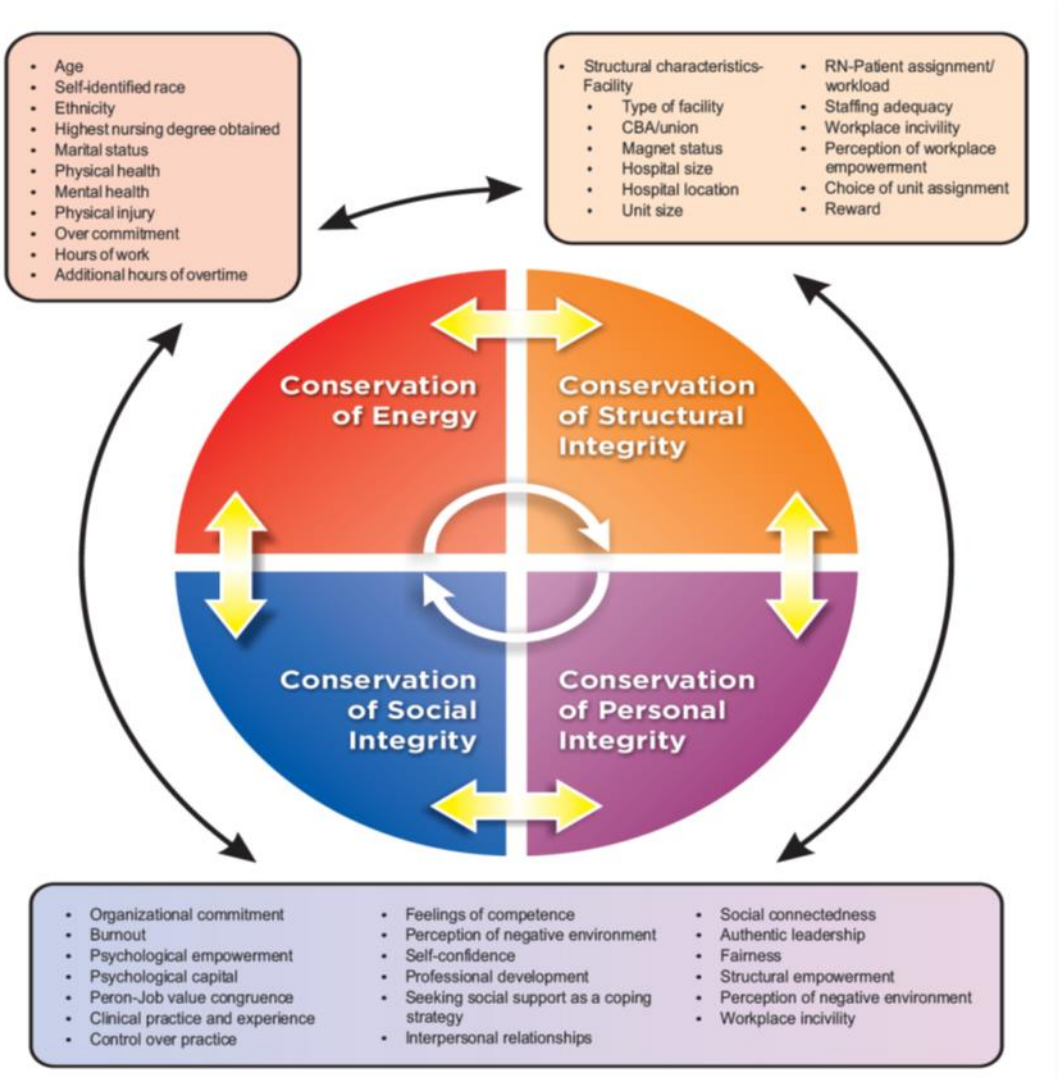


Figure 2. Conceptual model of the newly licensed nurse adaptation into a new employment position adapted from Levine's Conservation Model.

Personal characteristics of the individual including self-identified race, ethnicity, language concordance in the workplace, physical health, age, and educational background influence that adaptation and effective transition from student nurse to the new role and responsibilities of a licensed registered nurse. The effectiveness of the transition can influence turnover intention. The conservation of energy depends on the effective interaction between personal attributes of the individual and structural characteristics of the place of employment, preserving structural integrity. These personal and structural influences overlap and are not considered in isolation, but rather as reciprocal influences on the nurse's adaptation to the new role and environment and the environment's response to the new nurse. The structural characteristics of the facility, including type of facility (acute care, rehabilitation hospital, residential long-term care, physician/provider office, home healthcare, outpatient care center, elementary/secondary school, public health or other); hospital size; unit type and size; workload; staffing adequacy; incivility within the workplace interact with the conservation of energy and physical health of the individual. As the demands on the individual nurse increase through higher workloads and inadequate staffing, the individual's ability to conserve energy and adapt is jeopardized by increased stress and risk to physical health, potentially leading to inadequate or ineffective adaptation. That inadequate or ineffective adaptation may lead to increased turnover intention, or desire to vacate the current employment of a new job.

Inherent in the new role for the nurse is the interaction between the newly licensed nurse and the workplace environment. The nurse maintains personal and social integrity when influenced by interaction with the environment and learns to respond both to and

within the environment while adjusting to the new role. The individual and identified elements of the workplace environment interface; ideally the individual adapts and becomes congruent with the environment (Myra Levine- The Conservation Model, 1987). Each environment is a unique cultural experience, and includes language, ideas, and concepts, important elements for a diverse population and relevant to a diverse workforce seeking commonality. Compatibility and social connectedness with coworkers are reflected in the individual's personal and social integrity. An individual's feelings of confidence to perform the role and maintain positive interpersonal relationships are fundamental to conservation of personal and social integrity.

Adaptation. According to Levine, adaptation is a historical process and the individual responds to an event based on previous experience (Myra Levine- The Conservation Model, 1987). The newly licensed nurse may be unable to respond to events because of the lack of previous clinical experience on which to base a response. Prior experience and feeling competent and skillful is associated with turnover intention. Multiple studies identified an association between self-confidence, feeling competent and possessing the ability to provide quality care and turnover intention, which is an antecedent to turnover. In a previous study, those newly licensed nurses who reported lower self-confidence and competency reported higher levels of turnover intention (Beecroft et al., 2008). This may be linked to the environmental response from coworkers and increased frustration in the workplace, which is then reflected in interpersonal relationships. The repeated need for the novice to request assistance from more experienced coworkers magnifies the dichotomy between wanting to provide good care to patients and the lack of skills and knowledge to deliver that care. Some

graduates report their education prepared them to successfully pass the licensing examination but did not prepare them to function effectively in the first twelve months of practice (McCalla-Graham & DeGagne, 2015). Other newly licensed nurses report being floated to areas where they did not feel qualified (Bowles & Candela, 2005). Even over time, newly licensed nurses cannot develop full competence with all skills, equipment, and patient populations. When asked about caring for patients with epidural catheters, 41% of respondents reported being uncomfortable with that patient population after one year of practice and 37% reported being uncomfortable caring for dying patients with no improvement over time (Casey et al., 2004, p. 305). However, some newly licensed nurses focused on mastering skills in the initial three to six months of a new job were able to develop work organization and confidence in many skills by 18 months of employment (Halfer & Graf, 2006).

Conservation of energy. The concept of conservation of energy is linked to the individual characteristics of the newly licensed nurse and represents the theoretical elements of wholeness and internal stability. The empirical data utilized to test the theory include self-identified race; ethnicity; gender; age; marital status; education; physical injury on the job; self-confidence; interpersonal relationships; perception of a negative environment; language concordance and was collected through demographic questions on electronic survey.

Race and ethnicity. Despite an effort to increase the racial/ethnic diversity of healthcare providers, no identified studies considered the role of race or ethnicity in nurse turnover. Only two of the 14 retrieved studies include race or ethnic background in describing the sample, but neither included race or ethnicity as a factor in the analysis (Brewer et al., 2012;

Kovner et al., 2014). One study reports a nationally representative sample in phase 1 of data collection (Kovner et al., 2014) and the other mirrors the current nursing workforce (AACN, 2015), which is 82.5% white (Brewer et al., 2012, p. 529).

Age. There are contradictory effects of age on nurse turnover intention. A study of younger newly licensed nurses found they were more likely to report turnover intention (Beecroft et al., 2008), but a study of older newly licensed nurses found these older nurses had low turnover intention (Tominaga & Miki, 2010). The difference in turnover intention between older and younger newly licensed nurses may be due to older nurses having more family obligations and financial security or the development of higher expectations in the workplace through past life experience for the older nurse. Additionally, those nurses who leave their first employment at an older age may represent a sample of the population who seek an advanced degree and leave employment to return to school. The nurses who return to the workforce in an advanced practice role may positively contribute to healthcare access in a different capacity.

Education. Higher education is frequently associated with higher turnover intention, possibly because of greater job opportunity, but should not be considered in isolation. Of nearly 900 newly graduated pediatric nurses, 30% of associate degree prepared nurses reported a higher turnover intention compared to 38% of baccalaureate prepared nurses (Beecroft et al., 2008, p. 44). In contrast, diploma-prepared nurses were more likely to leave in univariate analysis (Hazard ratio 1.428, 95% Confidence Limit), but education was not statistically significant when controlling for confounders (Cho et al., 2012, p.68). Bowles & Candela (2005) found no difference in the perception of first job experience between

associate degree and bachelor degree graduates. In a sample of 737 newly licensed nurses, 49.5% held a junior college or vocational school equivalency degree and 50.5% held college or higher degree. When considered in isolation, education was associated with higher intention to leave, but when considered in linear regression, the significance of education in that sample disappeared and clinical practical expertise and confidence became statistically significant (Tominaga & Miki, 2010, p. 40). When comparing individual perception of professional status, those nurses with higher professional status scores were less likely to be included in a group likely to leave current employment (Beecroft et al., 2008).

Physical and mental health. The physical and mental capacity to respond to events in the workplace is critical to safe nursing practice. An inability to respond may cause an increase in stress and ultimately have a negative impact on physical and mental health of the caregiver. In response, the newly licensed nurse may employ maladaptive coping strategies to minimize anxiety or stress associated with the new work environment. Given the 24/7 nature of nursing, hours of work may alter the newly licensed nurse's social support system and capacity to employ healthy coping mechanisms. Consequently, the newly licensed nurse may have to find alternate coping strategies and support systems to successfully adapt to the new role. Seeking social support as a coping strategy in responding to a particularly stressful encounter was positively associated with turnover intention in one study of nearly 900 newly licensed nurses (Beecroft et al., 2008). Multiple studies documented a significant association between physical and mental health and turnover intention (Boychuk Duchscher, 2001; Brewer et al., 2012; Laschinger, 2012). In addition, newly licensed nurses who reported poor

problem-solving skills to respond to a stressful situation were more likely to report turnover intention (Beecroft et al., 2008).

Risk of personal injury. Personal safety in the environment threatens personal health and therefore influences newly licensed nurse turnover intention. The largest study in this systematic review found personal injury was the strongest predictor of turnover (Brewer et al., 2012). Brewer et al., (2012) report that 40% of the 1653 nurses who had left their employer by year two of employment experienced at least one personal injury or strain within the first year and of those, 19% had left their first job before completing two years in the same job (p. 533). Three additional studies report a strong relationship between physical and mental health and turnover intention (Brewer et al., 2012; Laschinger, 2012; Tominaga & Miki, 2010) and one smaller study reported a negative perception of employment created by risk to mental and physical health (Boychuk Duchscher, 2001). Personal and mental health are significantly related to turnover intention (Laschinger, 2012; Tominaga & Miki, 2010).

Stress and coping. Work obligations and competing family responsibilities may create great internal conflict influencing turnover intention. Internal conflict in the absence of coping skills may negatively influence physical and mental health and risk successful adaption to maintain wholeness as an individual. Nearly half (47%) of respondents in one study reported experiencing stressors in their personal life (Casey et al., 2004, p. 305). Married nurses reported more than two times the likelihood of turnover intention, which remained consistent in both univariate (Hazard Ratio 2.48, 95% Confidence Limit) and multivariate analysis (Hazard Ratio 2.58, 95% Confidence Limit) when controlling for education, hospital size and

location, and factors associated with job satisfaction including rate of pay, employment security, physical work environment, and work hours (Cho et al., 2012, p. 68) suggesting increased conflict between work and home life. Newly licensed nurses reported being emotionally, spiritually, and physically exhausted (Boychuk Duchscher, 2001; Laschinger, 2012) in the first two to three months of practice, focused only on themselves initially but developed a sense of self-determination by approximately five months of practice (Boychuk Duchscher, 2001).

Conservation of Structural Integrity. The concept of conservation of structural integrity is linked to the structural characteristics of the employment facility and represents the context of the environment in which the newly licensed nurse functions and learns to adjust or adapt. The individual constantly interacts with the environment expending varying amounts of energy to achieve balance and respond to the workplace. The discrete yet integrated response to the forces of the environment are deemed holism by Levine and the individual maintains a stable state in response to external environmental changes, remaining whole (Myra Levine- The Conservation Model, 1987). The empirical data collected and utilized to test the theory include type of facility (acute care, rehabilitation hospital, residential long-term care, physician/provider office, home healthcare, outpatient care center, elementary/secondary school, public health or other); hospital size; unit type and size; workload; staffing adequacy; incivility within the workplace.

Unit of choice. The physical environment of employment is an important factor in job satisfaction. Newly licensed nurses may not initially secure employment in the unit of their

choice. Newly licensed nurses who did not receive their first choice of unit were more likely to report turnover intention (Beecroft et al., 2008). Those who worked on smaller units (less than 20 patients) reported more positive perceptions of the job than those who worked on units with 30 or more patients (Bowles & Candela, 2005). Newly licensed nurses who perceived low levels of workplace flexibility were more likely to report higher turnover intention (Beecroft et al., 2008).

Hours of work. Hours of work and financial compensation also influence turnover intention. Those nurses who were offered more voluntary overtime or had more than one job for pay had a decreased turnover intention (Brewer et al., 2012). Although a third of nurses report choosing nursing because of the employment opportunities, more than one-third (37%) reported dissatisfaction with hours of work and 33% were dissatisfied with their pay (Cho et al., 2012, p. 33).

Job satisfaction related to the opportunity for overtime is not surprising given that nearly one-quarter of respondents in one study identified financial stressors and student loans as a source of personal stress (Casey et al., 2004). However, financial incentives can have negative effects on the work environment and create challenges for successful adaptation for coworkers or themselves. Nurses who are unhappy in their job but remain in their current employment in order to meet financial obligations may create a negative working environment for other nurses. Excessive hours worked may negatively affect personal and mental health which adversely affects job satisfaction. Those nurses who report negative mental and physical health report a higher intention to leave their current position. In contrast, working additional hours may indicate satisfaction with the job and a desire to be

present for additional hours per week. These studies did not examine the reasons nurses chose to work additional hours.

Not enough time. Many newly licensed nurses report having to stay beyond their scheduled hours to finish their work (Bowles & Candela, 2005). Dissatisfaction with work schedules was not initially identified as problematic but was documented at six and 12 months, a time when the nurses also reported feeling satisfied with job competence (Halfer & Graf, 2006) and presumably able to focus on other aspects of their professional life. Hours of work, considered a structural attribute of the employment facility, may contribute to internal conflict and magnify family-work life stressors. Competing demands at home and work also contribute to the cycle of stress and adversely impact nurses' health.

Some newly licensed nurses reported time constraints barring nurses from spending time with their patients (Bowles & Candela, 2005). Time management is a challenge for newly licensed nurses but seems to evolve with experience. Newly licensed nurses report notable improvement in delegating to ancillary personnel, organizing patient care needs, and providing input into changes to the patient care plan from six months to one year of employment (Casey et al., 2004). Despite reported challenges in completing their work and difficulty delegating tasks to others early in their careers, newly licensed nurses responded to a change in workflow designed by administration that involved delegation to unlicensed personnel. The percentage of nurses not intending to leave dropped from 50% to 39% when a reorganization plan shifting tasks previously completed by the nurse to unlicensed personnel was announced in a Canadian province (Rhéaume et al., 2011, p. 495).

Authentic leadership. Newly licensed nurses often seek leadership and administrative guidance within the workplace. Administrative response to concerns or support of professional development can influence turnover intention. In some instances, a majority of nurses report hospital administration did not listen to their concerns or provide an opportunity for advancement (Bowles & Candela, 2005) while other nurses reported receiving positive reinforcement from managers (McCalla-Graham & DeGagne, 2015). Authentic leadership is identified as a significant predictor of turnover intention for newly licensed nurses (Laschinger, 2012) and those subjects who reported a responsive and supportive environment reported less turnover intention (Beecroft et al., 2008; Casey et al., 2004).

Staffing. Adequate staffing influences the newly licensed nurses' work experience. Newly licensed nurses report a stressful working environment and specifically identify inadequate staffing as a barrier to safe patient care (Bowles & Candela, 2005; McCalla-Graham & DeGagne, 2015; Rhéaume et al., 2011; Stam et al., 2015). In fact, newly licensed nurse perception of adequate staffing for the provision of care was a statistically significant independent predictor of job satisfaction (Stam et al., 2015). Inadequate staffing is reflected in an increased workload for the newly licensed nurse, amplifying the newly licensed nurses' lack of clinical skill and knowledge. The inability to respond quickly to patient needs because of a lack of experience also contributes to an increase in stress for the newly licensed nurse. System constraints on the newly licensed nurse lead to frustration, compounded by conflicts in professional relationships, low job satisfaction and increased turnover intention.

Conservation of Personal and Social Integrity. The concepts of conservation of personal and social integrity are linked to the individual's interactions within the environment, ability to interface with others, ability to meet the demands of the job, feelings of competence, and the theoretical elements of perception of the environment and adapting to the new role as a professional nurse. The empirical data collected to test the theory includes feelings of competence as a nurse, social connectedness, perceptions of the environment and quality interpersonal relationships.

Inexperience and skill level. An inability to respond to patient needs independently because of inexperience and lack of skills requires interaction and communication with an expert provider, likely the physician or a senior coworker. Both are identified in several studies as closely linked to job satisfaction and ultimately turnover intention. Newly licensed nurses who had positive interactions with senior staff and physicians were less likely to report turnover intention, whereas those nurses who perceived negative interpersonal relationships were more likely to report turnover intention. The confidence to respond to patient needs is often underdeveloped or missing for the newly licensed nurse, which is incongruent to the identified need to respond to a rapidly changing patient condition. Many report an overwhelming sense of responsibility (Boychuk Duchscher, 2001), which may negatively affect health, signifying a lack of adaptation or wholeness.

An incongruence between person-job values which may be reflected in the newly licensed nurses' perception of the work environment makes turnover intention more likely and is specifically identified in two studies (Laschinger, 2012; Rhéaume et al., 2011). The nurse who is unable to deliver a desired level of care is more likely to report turnover

intention. This discrepancy is related to lack of competence or skill, ineffective coping strategies and problem-solving techniques, interpersonal relationships with senior coworkers who do not mentor the newly licensed nurse or a discrepancy in ethical and personal standards. Workplace empowerment, or the ability to control one's practice, is negatively associated with turnover intention in multiple studies (Beecroft et al., 2008; Halfer & Graf, 2006; Laschinger, 2012; Rhéaume et al., 2011; Smith et al., 2010). Lack of control over practice may be linked to leadership, which is negatively associated with turnover intention. Those newly licensed nurses who report authentic leadership, categorized as supportive, with positive communication are less likely to report turnover intention (Boychuk Duchscher, 2001; Halfer & Graf, 2006; Laschinger, 2012; Rhéaume et al., 2011). These newly licensed nurses feel empowered by the supportive leadership in the facility where they work.

Interpersonal communication. Interpersonal communication is a consistent area of concern for newly licensed nurses and has a statistically significant influence on turnover. Perceptual awareness is the newly licensed nurses' experience of the environment and the communication and ongoing interactions in the workplace interaction. Perceiving a negative environment, provoked by repeated requests for help from coworkers, potentially solidifies a sense of incompetence for the newly licensed nurse and may compound negative physical or mental health, and thereby negatively impacts and likely impedes adaptation to the new role and workplace.

Virtually all respondents reported feeling comfortable communicating with patients and families (Casey et al., 2004) whereas communication with physicians is almost universally stressful for the novice nurse. Newly licensed nurses reported witnessing or

facing verbally abusive behavior by physicians (Boychuk Duchscher, 2001) causing increased stress and fear but some newly licensed nurses gained confidence in communicating with physicians between six months and one year of practice (Casey et al., 2004). The communication challenge is alarming given that communication failures were the leading root cause of sentinel events reported to the Joint Commission from 1995 to 2004 (O'Daniel & Rosenstein, 2008, Chapter 33). As some newly licensed nurses remain in practice and move to the advanced beginner level of practice development (Benner, 2013) using past experience to inform the current situation, the newly licensed nurse has more confidence and improved adaptation to the new role through an improved sense of competence and self-confidence.

Interpersonal relationships had the greatest impact on likelihood of nurse turnover in a sample of 351 newly licensed nurses working in a hospital (Cho et al., 2012). The interaction with coworkers has a profound effect on turnover. Coworker incivility or negative interpersonal relationships was identified in a number of studies (Cho et al., 2012; Laschinger, 2012; Rhéaume et al., 2011; Smith et al., 2010) and statistically significant predictor of job satisfaction (Cho et al., 2012; Laschinger, 2012). Nearly all (90.4%) respondents (n=117) in one study reported coworker incivility (Smith et al., 2010, p. 1010). In contrast, other results identified staffs that worked well together and described coworkers as helpful (Bowles & Candela, 2005).

The new work environment creates a dichotomy between being able to provide care in a manner consistent with personal expectation and the practical ability to provide such care. Many nurses reported frustration with constantly needing to ask for assistance and not

having the competence to function independently, or the time or knowledge to deliver quality care (Boychuk Duchscher, 2001). Feeling prepared to function as a nurse is significantly related to higher job satisfaction and lower turnover intention (Laschinger, 2012). Control over nursing practice, often lacking for the newly licensed nurse, is associated with increased empowerment and decreased intent to leave (Rhéaume et al., 2011). Feeling personally suited for nursing work was also associated with lower turnover intention (Tominaga & Miki, 2010).

The synthesis of findings from this literature review and the conceptual model appear in the Conceptual-Theoretical-Empirical Structural Framework in Figure 3. This C-T-E guided the development of the study aims and hypotheses as well as study design and methodology.

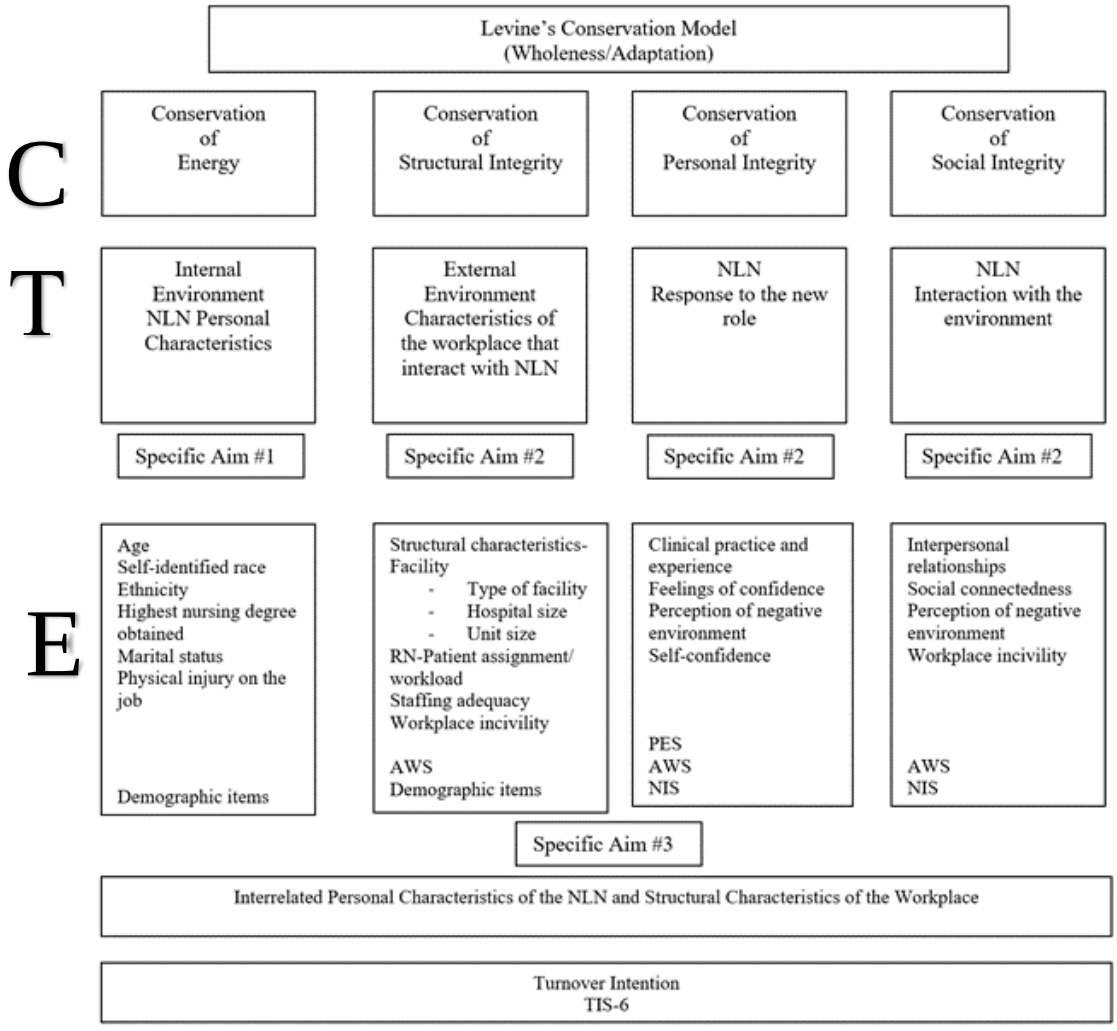


Figure 3. Conceptual Theoretical Empirical (C-T-E) Structure

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

Research Design

Study design. This study utilized a quantitative cross-sectional survey design oversampling by race and Hispanic ethnicity. Data collection took place using electronic and paper survey.

Study population and sample. In order to gain information about turnover intention in racially and ethnically diverse newly licensed nurses, the sample was generated from the Massachusetts Board of Registration in Nursing (BORN) publicly accessible list of registered nurses initially licensed between June 2, 2014 and June 2, 2017. This sampling frame included name, mailing address, and the date the initial Massachusetts license was issued. No personal demographic data is retained by the Board of Registration in Nursing and email address submission, although recommended, is not mandated. Therefore, the list was stratified by race and ethnicity distribution for each zip code. The number of RNs issued an initial Massachusetts license within the identified timeframe was 12,804 and represents the population of interest.

Distribution of race was categorized into three levels based the demographics of the population by zip code. Population race was coded for each sampling unit: 1: if percentage of population in the zip code identifies as black is less than 30%; 2: if percentage in the zip code identifies as black is 30-60%, and 3: if the percentage of population identifies as black is greater than 60%. Among the total of 12,804 nurses, 12,167 (or 95%) were in race=1 category, i.e. < 30% of population is black; 578 (4.5%) in level 2, i.e. 30-60% of population is black; 59 (0.5%) in level 3, i.e. more than 60% of population is black. Distribution of Hispanic ethnicity was treated similarly. Distribution was categorized into three levels based on the percentage of Hispanics in the population by zip code; 1: if percentage of population in the zip code identifies as Hispanic is less than 30%; 2: if percentage in the zip code identifies as Hispanic is 30-60%, and 3: if the percentage of population identifies as Hispanic is greater than 60%. Among the total of 12,804 nurses, 12,379 (or 97%) are in Hispanic=1 category, i.e. < 30% of population is Hispanic; 328 (2.56%) in level 2, i.e. 30-60% of population is Hispanic; 97 (0.8%) in level 3, i.e. more than 60% of population is Hispanic.
A random sample from each stratum was invited to participate by letter sent via United States Postal Service (USPS) to the mailing address on file with the Board of Registration in Nursing. Beginning at a random start, an invitation was sent to every 41st nurse in each stratum coded #1; every 4th nurse in each stratum coded #2; every 3rd nurse in each stratum coded #3 to attain a racially and ethnically diverse sample.

Inclusion criteria. Newly graduated registered nurses (up to 3 years of first license) initially licensed in Massachusetts between June 2, 2014 and June 2, 2017.

Exclusion criteria. The study was limited to newly licensed nurses with no prior experience as a nurse. Nurses with prior experience as a Licensed Practical Nurse (LPN) or other licensed nurse, such as those newly licensed in the U.S. but educated in a foreign country or newly licensed in Massachusetts but previously licensed in another state and presumed to have some prior nursing experience, were ineligible. Those newly licensed nurses who have changed jobs more than twice since initial licensure were deemed ineligible in order to eliminate confounding variables that contributed to turnover intention for that individual and potentially may skew the study results.

Recruitment strategies

Prior to recruitment, the National Black Nurses Association (Appendix F), the National Association of Hispanic Nurses (Appendix G), the Western Massachusetts chapter of the National Association of Hispanic Nurses (Append H), and the New England Regional Black Nurses Association (Appendix I) were contacted to request their endorsement of the study in order to increase cooperation and decrease unit nonresponse from their membership. Presidents of both the National Association of Hispanic Nurses Massachusetts Chapter and the New England Regional Black Nurses Association responded and agreed to place a notice of the study launch on the association member information forum and encourage those invited members to complete the survey. No recruitment took place using social media. Letters inviting nurses to participate were mailed to a random sample of 1,200 newly licensed nurses (within 3 years of initial license) (Appendix J) and included a nominal ($2) cash incentive. The letter was directed to a specifically named person, included a description of the study purpose and a link to an electronic survey.

Using the Dillman's tailored design method, each potential respondent was given a unique five-digit access code to enter on the survey response (Dillman, Smyth, & Christian, 2014), facilitating identification of non-responders. Three weeks after the initial mailing, a postcard was mailed to non-responders (Appendix K). An additional three weeks later, (six weeks from the initial mailing) a reminder including both the web address for the electronic survey and a paper copy of the survey with a return envelope pre-addressed to the principal investigator was mailed to non-responders (Appendix L).

The initial mailing yielded an insufficient number of responses for meaningful data analysis. Therefore, the Board of Registration in Nursing list, minus those randomly selected for inclusion in the first mailing, was stratified by race and ethnicity as described above, and a second wave of letters was sent to an additional 470 nurses, replicating the initial random selection strategy. Three weeks following the first letter, a reminder postcard was sent, and a final reminder including both the instructions to access the survey using the electronic link and a paper copy of the survey was sent to non-responders 6 weeks after the initial invitation. The final response rate was calculated at 18%. This probability sampling strategy provided the opportunity to gather data from newly licensed nurses living in Massachusetts with a focus on black, non-Hispanic and Hispanic, any race nurses. White, non-Hispanic nurses were included in the sample and used for analysis of differences between and within groups. The random stratified sampling design infers that that there will be no difference between those surveyed and the census of newly licensed nurses in Massachusetts. Inferences can be made to black, non-Hispanic and Hispanic, any race newly licensed nurses living in predominantly nonwhite zip codes and employed in workplaces similar to members of the

sample population. No inferences can be made to other ethnic groups or those nurses who have been licensed for greater than 3 years, trained in another country, or previously worked as a nurse (e.g. Licensed Practical Nurse) and not newly licensed registered nurses.

Recruitment using social media sites or membership lists of professional nursing organizations devoted to black and Hispanic nurses would likely have decreased nonresponse but would have provided a probability sample. Not all ethnically and racially diverse RNs are members of these organizations or active on affiliated social media sites. The turnover intention of those who are accessible through these means may be different from those who are inaccessible through social media and therefore not including that portion of the population may have altered survey results.

Sampling frame evaluation. The sampling frame was expected to cover the target population. To work as a registered nurse, state Board of Registration in Nursing licensure is required and therefore, the database provided by the state was expected to be current. Nurses are required to notify the Board of Registration in Nursing of change of address and change in name (e.g. marriage), but not all nurses report such changes to the Board of Registration in Nursing in a timely manner. Of the 1670 potential respondents on the sampling frame, 150 were not contacted due to an inaccurate mailing address listed in the Board of Registration in Nursing database, confirmed when the researcher's letter was "returned to sender" via USPS.

Privacy. A high privacy experience for the respondent through this self-administered computerized survey was anticipated. Privacy was at the discretion of the respondent as the electronic survey link was accessed at the time/ location determined by the newly licensed

nurse. It is expected that respondents accessed the survey away from the workplace which would limit influence of the employer.

Sampling/mode pairing. The use of an online survey was expected to be well received by the newly licensed nurse because that population is largely computer literate. The licensing exam is computer-based, and many schools administer preparatory computer-based exams in the years prior to degree completion. Additionally, this sample is likely required to use computers in the workplace as electronic documentation is now nearly universal in healthcare facilities. In addition, methods to access the internet were considered in instrument development and design. Pew Research Center reports that 97% of college graduates have any type of cellular phone and 91% have a "smart phone" (Pew Research Center, 2018, para. 2). Therefore, the instrument used in this study was accessible and piloted on multiple different electronic devices to ensure consistent presentation of the survey on hand held devices, laptops and desktop computers.

Survey items were incorporated to identify eligibility and ineligibility of respondents to reduce the risk of a coverage error. The electronic survey facilitated electronic stratification of responses for accurate analysis and calculation of a response rate. Paper surveys were provided in the third and final mailings to members of the target sample. 301 nurses accessed the electronic survey and 53 completed and returned paper surveys. Eligible paper responses were inputted into the database and then verified for accuracy in transcription by a second research assistant.

Human subjects consideration. This study was reviewed and approved by the Institutional Review Board at the University of Massachusetts Boston through expedited review. The

researcher successfully completed CITI training in March 2017. The original survey tools adapted for use in the quantitative data collection have been tested for validity and reliability in previous studies. All participants provided informed consent and were notified of the study purpose, potential or anticipated risks or discomforts, estimated time commitment, participant rights, an explanation of confidentiality of data, and the importance of collecting this data for workplace policy development. Participants were provided with contact information for both the investigator and the faculty advisor for further information regarding the study in addition to contact information for the Institutional Review Board of the University of Massachusetts, Boston for questions or concerns regarding their rights as a research participant.

Data Collection Methods

Study instrument. This study included an electronic survey design with optional paper survey distributed to non-responders. The variables explored and scales utilized and the number of items related to each variable of interest on the study survey are displayed on Appendix B. Items were adapted for more accurate data using Item Specific Responses to replace Agree-Disagree scales. The item specific response is considered a more direct method to collect respondent opinion and decrease acquiescence bias (Saris, Rivella, Krosnick, & Shaeffer, 2010). One survey with questions derived from multiple previously validated and reliable instruments was developed (Appendix E) and deployed as the study survey.

The original instruments adapted for inclusion in this study instrument include the Psychological Empowerment Scale (PES) (Spreitzer, 1995); Areas of Worklife

Survey(AWS) (Leiter & Maslach, 2000); Nursing Incivility Scale (NIS) (Guidroz et al., 2010); and the Turnover Intention Scale (TIS-6) (Bothma & Roodt, 2013). Other relevant items explore statistically significant influences on turnover intention for newly licensed nurses as identified in a literature review but not previously analyzed by race and ethnicity and were integrated into the survey instrument. Because of the challenge in separating individual workplace experiences over time and because of the varied experiences nurses may experience in professional life, respondents were instructed to consider experiences within a defined four-week timeframe when responding to the survey.

*Psychological Empowerment Scale***.** Psychological empowerment refers to a set of psychological states necessary for a worker to feel in control of their work (Spreitzer, 2007). The Psychological Empowerment Scale (PES) instrument focuses on how the employee experiences their work, rather than the managerial influence on their work (Spreitzer). Questions to evaluate the nurse's ability to do their work were adapted from the PES for inclusion in the study survey. The PES has been widely used to evaluate psychological empowerment in a variety of populations and reliability and validity have been established in multiple samples, including nurses. In ongoing evaluation by the instrument developer, the PES has demonstrated distinct dimensions contributing to empowerment through second-order confirmatory factor analysis (Spreitzer). Convergent and discriminatory validation have been established (Boudrias, Goudreau, & Laschinger, 2004). On the original instrument, items are measured on a 6-point Likert scale (1=strongly disagree, 6=strongly agree) (Menon, 1999). The Cronbach alphas for each subscale are greater than or equal to

.80. Test-retest reliability of the perceived confidence subscales was calculated at 0.77 (Menon,1999, p. 161).

*Nursing Incivility Scale***.** The Nursing Incivility Scale (NIS) captures sources of incivility including physicians, coworkers, patients, and direct supervisors (Guidroz, Burnfield-Geimer, Clark, Schwetschenau, & Jex, 2010). In the original instrument, participants are asked to assign a degree of agreement with 43 statements regarding interactions with people at work on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) (Guidroz et al., 2010). Subscales addressed include hostile climate, inappropriate jokes; inconsiderate behavior; gossip and rumors; free-riding; abusive supervisor; lack of respect; and displaced frustration (Guidroz et al.). Sources of incivility evaluated in the original instrument include the broad category of all individuals the nurse interacts with at work; other nurses; the direct supervisor; physicians; and patients and patient families and visitors. These subscale of incivility by source were integrated into the study survey. Scores are aggregated at the subscale level and a source level aggregated score can enable understanding of source-specific incivility (Guidroz et al.). Cronbach alpha for each source was .85-.94 (Guidroz et al.). For this study, the instrument was modified to elicit responses based on the frequency of an occurrence (1=never, 2=about once a month, 3=about once a week, 4=more than once a week but not every day, 5=every day that I work) to better evaluate the work environment and culture created in and tolerated at the workplace. Patients and their family members were separated with items specific to each category analyzed as a source of incivility because the interactions with between patients and family members and the nurse are different and family members are not typically present 24/7.

Visitors were eliminated as a source of incivility in this study because the nurse is not obligated to share information with non-family visitors and content of conversations between visitors and the healthcare team are restricted by the Health Insurance Portability and Accountability Act of 1996 (HIPAA) (U.S. Department of Health and Human Services [U.S. HHS], 2015) regulation. Scoring was conducted at the source level, for general incivility (negative environment) including lack of respect, abusive supervision, displaced frustration, gossip and rumors, inconsiderate behavior, and taking credit for what one did not do; general incivility at the workplace, including employees shouting, blaming others for their mistakes, minor disagreements turning into personal attacks, inappropriate jokes (including regarding race, religion, gender, and inappropriate race remarks), and offensive body language. Subscales were individually scored and summed and then subscales were averaged to create the overall Nursing Incivility Score reflective of the respondent's perception of an uncivil environment.

Areas of Worklife Survey. In the original Areas of Worklife Survey (AWS) instrument, a problematic relationship between the individual and the environment, often described as misfit or imbalance as when the demands of the job exceed the individual's capacity to cope effectively, are assessed using six identified areas of worklife: workload, control, reward, community, fairness, and values (Leiter & Maslach, 2000, p. 2-7). Cronbach alpha for control, reward, community, fairness, and values subscales range from .72 to .82, and .66 for workload subscale (Leiter & Maslach, 2000, p. 13). Workload is assessed in this study by utilizing the workload subscale of the AWS, modified to prompt frequency-based responses in order to elicit information about the occurrences of increased or sustainable workload

(1=never, 2=about once a month, 3=once a week, 4=several times a week, 5=every day that I work). Chronic work overload allows little to no time to recover and can lead to deterioration in work quality and disruption of collegial relationships (Leiter & Maslach). Such overload can lead to exhaustion, an antecedent to burnout which is positively associated with turnover intention.

Turnover Intention Scale-6. The 6-item Turnover Intention Scale is a shortened version of the original 15-item scale. Cronbach alpha is reported as .80 and the TIS-6 was determined to accurately distinguish between leavers and stayers, confirming criterion-predictive validity (Bothma & Roodt, p. 12). In the original instrument, a 5-point Likert-type scale is utilized to respond to statements (1=rarely to 5=never; 1=to no extent – 5=to a very large extent; 1=highly unlikely – 5=highly likely) (Roodt, 2004). All items from the TIS-6 were included in the study survey. TIS-6 items were modified to include more clearly defined response options (1=not at all, 2=to a small extent, 3=to some extent, 4=to a great extent; 1=never, 2=about once a month more than once a month but not every week, 3=once a week, 4=several times a week, 5=every day that I work; 1=very unlikely, 2=not likely, 3=somewhat likely, 4=very likely) for consistency in respondent interpretation of the scales and integrated into the study survey. The total score is calculated by summing individual item scores. Two items were reversed scored; one item related to job satisfaction and one item related to looking forward to another day at work (G. Roodt, personal communication, 11/29/2015).

Cognitive interviews. Prior to deploying the survey, and in order to assure that the survey questions would elicit meaningful information that accurately responded to the study's purpose, cognitive interviewing was conducted with an ethnically and racially diverse sample

of newly licensed nurses, accurately representative of the study population. Retrospective think alouds, definitions and probing techniques were utilized during the interview process to explore the participant interpretation of individual items and key concepts. Interviews were audiotaped and transcribed for analysis to ensure quality and accuracy of survey items and minimize response error. Minor clarifying revisions to the study instrument were made as a result of the interview analysis.

Operational Definitions

Turnover intention. Turnover intention is defined as an individual's intention to leave the current position and is considered a reliable predictor of leavers and stayers. Using the TIS-6, respondents provided a frequency estimate (range 9-30) regarding job satisfaction, frustration at the current job, looking forward to another day at work, dreaming about getting another job, considering leaving, and if offered another job at the same pay, the likelihood of accepting that job. A composite variable, Turnover Intention Scale Sum (TISsum) was created as the sum of the six turnover intention scale items as per the instrument scoring instructions (G. Roodt, personal communication, 11/29/2015). The TISsum score increases as turnover intention increases. Conversely, a low TISsum score indicates a low turnover intention. The turnover intention score was entered into the analysis as a continuous variable. In the event turnover had occurred and the initial position had been vacated, categorization of voluntary or involuntary turnover was clarified with a single item. Voluntary turnover is considered willfully vacating a position for another nursing position, either within or outside the same facility or system. Involuntary turnover is the dissolution of

employment by the manager/employer such as termination or reduction in force. Turnover may be internal or external. Internal turnover is the transition into another licensed position within the same network or hospital system. External turnover is the transition to another position outside of the original system or hospital. External turnover may be transition to another job requiring licensure as a registered nurse or to a non-nursing position or employment that does not require licensure as a registered nurse. Respondents who had vacated a position were asked if leaving the job was voluntary. Those responses were collected as binary yes/ no variables and entered into data analysis as a categorical variable.

Nurses. Registered nurses are those licensed in Massachusetts by the Board of Registration in Nursing and living in Massachusetts according to the Board of Registration database. These registered nurses are referred to simply as nurses hereafter.

Race. Race is self-identified by the respondent and was collected as a categorical variable. Categories were taken from the U.S. Census (U.S. Census Bureau, Population Division, 2012, p. 2). A multiracial category was created to include those respondents who identify as a member of more than one race in any combination. Race was operationalized as a multi-categorical variable (white , black Asian multiracial) and entered into bivariate and multivariate analysis. A binomial (0,1) variable of white and any other race was entered into bivariate and multivariate data analysis.

Ethnicity. For the purposes of this study, only Hispanic ethnicity was considered because of the prevalence of Hispanics in the geographic area. Ethnicity was collected as a binary "yes/no" variable and self-identified by the respondent. Hispanic ethnicity of any race was operationalized as a discreet categorical variable.

For analysis, a race and Hispanic ethnicity variable was constructed and entered into the data analysis as a categorical variable with five categories; White non-Hispanic, black non-Hispanic, Asian non- Hispanic, multiracial non-Hispanic and Hispanic any race. White non-Hispanic responses served as the reference group in the analysis.

Age. Age was collected as a discrete number. Respondents were asked to enter their age as a whole number. Responses were entered into the data analysis as a continuous variable.

Language concordance within the workplace. Respondents were asked the primary language spoken at home and responses are compared to the primary language of most of their patients. Language of the respondent and of the patients were both collected as categorical variables, English, Spanish, French or other. Respondents who chose "other" were asked to enter the language in a fill in the blank response. Those respondents who indicated a primary language other than English spoken at home were asked how often they are called to translate for others. The frequency of translating was collected as a categorical variable with clarification of frequency terms noted to ensure accuracy of response; never; rarely (less than once a week); sometimes (about once a week); often (more than once every week). Translation was entered into data analysis as a categorical variable.

Education. Two separate items regarding education, highest nursing degree and highest non-nursing degree completed were collected as ordinal variables. Highest nursing degree response options included diploma, associate degree, bachelor degree, master's degree and doctorate. Highest non-nursing degree response options included none, associate degree, bachelor's degree, master's degree, and doctorate. No inquiry was made regarding the major

of the non-nursing degree. Both nursing degree and other degree attained were entered into the analysis as categorical variables.

Gender. Gender was collected as a categorical variable asking respondents how they describe themselves; male, female, or some other way. Codes (0,1) were generated for gender indicating male, female as no respondents identified themselves as "some other way." Male gender was used as the comparison and denoted by 0. Gender was entered into the analysis as a categorical variable.

Marital status. Marital status was collected as a categorical variable, never married; married/ cohabitating; widowed; divorced; and separated, consistent with items found on the U.S. Census (U.S. Census Bureau, n.d.). Never married and divorced were combined and entered bivariate analysis and compared to married/cohabitating respondents. No respondents were widowed or separated. In the final regression model, marital status was entered as a multi-categorical variable, never married, married/ cohabitating, divorced.

Time at current job. Total time at current job was collected as two separate interval variables in years and months on the survey. Respondents indicated number of years (0,1,2,3) and number of months (0,1,2,3,4,5,6,7,8,9,10,11) at their present job. Years at current job were transformed into months (0, 12, 24, 36). A single continuous variable was created by summing the months and years. Analysis was conducted using length of time at the current job as a continuous variable.

Confidence. Confidence is characterized by a feeling of mastery and the ability to cope with and manage the many contingencies of clinical nursing (Benner, 1982, p. 405). It is developed over time. In this study, confidence is measured as perceived self-confidence in

one's ability to do one's job, using an item specific response. Clinical experience is gained over time and measured longitudinally. A comparison is made between level of confidence perceived by nurses at varied lengths of time in the current job. Respondents were asked about how confident they are in their ability to do their job. Responses were collected as a categorical variable (not at all confident, a little confident, somewhat confident, or very confident).

Type of healthcare facility. Nurses work in a variety of settings, both in-patient and outpatient. Facility type was collected as a categorical variable (acute care hospital; rehabilitation hospital; residential long-term care; physician/provider office; home healthcare; outpatient care center; elementary/secondary school; public health; other). For the purposes of data analysis, categories were combined based on the usual interactions between the nurse and other members of a healthcare team, level of autonomy, and ongoing interactions with patients and families. Acute care hospital nurses comprised one category. Rehabilitation hospital nurses and residential long-term care nurses were combined into another category. Physician/provider office and outpatient care center responses were combined because of the similarity in episodic care provision and the ambulatory nature of the patient population. Home healthcare, elementary/secondary school, and public health nurse responses were combined into one category because of the level of autonomy involved in the work, the longitudinal relationship between the nurse and patient, and less frequent interaction with physicians. The final category was "other." Respondents were asked to specify the type of facility where they are currently employed if "other" was chosen. A binomial variable was created to identify acute care hospital and non-acute care place of

employment to increase the sample size for bivariate and multivariate analysis. In the final regression, place of employment was entered as a categorical variable, acute care; rehabilitation/ long term care; physician or provider office/ outpatient setting; home health, school or public health; and other.

Hospital size. Number of licensed beds was collected as a continuous variable. Respondents entered a whole number. Responses were then categorized by number of beds for data analysis (unknown or no response entered); less than 51 beds; 51-100 beds; 101-250 beds; 251-500 beds; more than 500 beds) and hospital size was entered into analysis as a categorical variable.

Unit type. Acute care hospital nurses indicated the primary unit of employment (critical care; adult medical/surgical; adult telemetry; adult telemetry and medical/surgical patients; maternal/child health; pediatrics; operating room; pre or post-operative care; emergency; mental health; or outpatient). Those who identified as critical care nurses were asked to label the specific patient population in their critical care unit (adult; pediatric; neonatal; mixed adult and pediatric critical care). Acute care hospital respondents were queried about an assignment as a "float nurse," those nurses who have accepted a position available for assignment on a different unit each shift based on patient and staffing needs. Float nurses have been oriented to a variety of units to which they may be assigned. Responses regarding position held as a float nurse were analyzed as binary yes/no data. Those respondents who are not designated as float nurses were asked about being floated to another unit for a shift and the staff role they accepted on the destination unit (as an assistant/aide or if they took a patient assignment as a nurse) as categorical variables.

Specialty units. A binary variable (0,1) was created to indicate those units with defined patient populations and specific competencies and skills that require extended orientation (critical care, maternal child, operating room, emergency, mental health). Other acute care hospital units in which nurses work were collapsed into one category including non-specialty general patient population units, areas new nurses would have had broader exposure to during prelicensure education. Specialty units were analyzed in bivariate and multivariate analysis as a categorical binary variable. Type of unit was entered into the final regressions as an 11-option categorical variable.

Unit size. Respondents entered a whole number to indicate the number of patients on their regularly assigned unit on most days during their shift. A new binary variable was created for between group analysis for those nurses working on unit small units (less than 20 patient beds) and those working on larger units (20 or more patient beds). Unit size was entered into analysis as a continuous variable and as a categorical variable in separate analysis. Unit size was entered into the final regression as a continuous variable.

Patient assignment. The number of patients assigned to the nurse at one time on most days was entered as a discrete number and treated as a continuous variable in data analysis. Patient assignments for critical care and any other unit were analyzed separately as legislation exists in Massachusetts that limits the number of patients assigned to a nurse in an ICU. No other limits on the number of patients assigned to a registered nurse at one time exist in Massachusetts at the time of data collection.

Workload. Workload is evaluated using both the number of patients assigned to a nurse at one time and the workload subscale of the Areas of Worklife Survey. Respondents assigned

a frequency to items related to having enough time to do the work that must be done; feeling stressed at work; and the incidence of leaving the stress at work rather than taking it home. One item was reversed scored as the increased incidence of leaving stress at work rather than taking it home indicates a reasonable workload that does not penetrate the personal life of the respondent. Raw scores were adjusted according to the scoring key provided by the instrument authors (Leiter & Maslach, 2000, p. 10). The adjusted scores were then averaged for the workload subscale score. The Areas of Workload Average score was entered into analysis as a continuous variable.

Physical injury on the job. A binary yes/no (0,1) response was obtained regarding any injury while on the job as a nurse. Those respondents who responded in the affirmative were queried for additional clarifying information regarding the type of injury sustained (strain; trauma from being struck by a patient; trauma from being struck by a family member; needlestick; body fluids splash; fall while working in or out of the workplace; fall unassociated with direct patient care; other with the option to provide a qualitative response). Respondents were then asked if the injury required additional time out of work other than the initial treatment (as in Occupational Health or the Emergency Department) as an indicator of the severity of the injury. Both sustaining an injury at work and missing work as a result of the injury were entered into the analysis as categorical variables.

Perception of a negative environment. The culture and climate of the workplace were evaluated using subscales from the Nursing Incivility Scale, specifically hostile climate; inappropriate jokes; inconsiderate behavior; gossip and rumors; and free-riding (others taking credits for what they did not do). Scores were aggregated at the subscale level (hostile

climate, inappropriate jokes, inconsiderate behavior, gossip and rumors, free-riding, abusive supervision, lack of respect, and displaced frustration) and the source level (general environment, nurses, supervisor, physician, patient, family).

The overall negative environment score included subscales from all sources as the interactions from any source contributes to the work environment. Specific interpersonal relationships were analyzed separately. The negative environment score was generated by summing the score on six subscales, lack of respect; abusive supervision; displaced frustration; gossip and rumors; inappropriate behavior; and taking credit for other people's work and entered into the analysis as a continuous variable.

The general incivility subscale included elements of a hostile climate (employees yelling or shouting; blaming others for their mistakes, basic disagreements turn into personal attacks), inappropriate jokes (regarding minority groups, race, religion, and gender) and inconsiderate behavior (display of offensive body language). Responses were collected as categorical variables and numerically coded based on the frequency assigned to each item. A composite variable was generated by summing the individual elements of the general incivility subscale and the mean of the composite variable for each respondent was entered into the analysis as a continuous variable. Subscales for hostile climate, inappropriate jokes, inconsiderate behavior, gossip and rumors (gossip about one another or the supervisor; bad-mouthing co-workers; spreading rumors; free riding; abusive supervision (verbal abuse; shouting or yelling; and lack of respect) were calculated as the mean score of those relevant items for each respondent and entered the analysis as continuous variables.

Interpersonal relationships. Positive interpersonal relationships were contingent on respectful interactions and mutual trust (Clarke & Mahadi, 2016). Incivility is common in a wide range of workplace environments and nurses experience incivility from several sources, including other people at work, other nurses, the direct supervisor, physicians, patients, and patients' families. To better understand the specific source of incivility for newly licensed nurses, potential sources were scored separately. Interpersonal relationships were evaluated using the source subscales of the Nursing Incivility Scale, including interactions between the respondent and other people at work, other nurses, physicians, direct supervisor, patients and patient families. Source level is helpful to design targeted interventions. Interactions between physicians and other nurses on the unit and physicians and the respondent were evaluated separately and may have contributed to the milieu of the environment, hostile or respectful. Between-group differences of physician interactions with other nurses compared to physician interactions with the individual respondent were compared for whites and any other race, and Hispanic any race to identify a between group difference in the respondent's perception of interpersonal communication in the workplace. Similarly, respondents were queried about their interactions with patients and patient families over the previous four weeks. Responses to additional items that specifically evaluated the interactions between patients and families and other nurses on the unit were compared with responses designed to assess the interactions with those groups and the respondent individually. Between and within group comparisons were made. Incivility scores were entered into data analysis as continuous variables.

Staffing adequacy. Staffing adequacy was considered using 2 separate items. The number of patients assigned to the respondent at one time was entered as a whole number and treated as a continuous variable. The mean number of patients assigned was calculated for different types of units and different types of facilities. Additionally, adequate staff enables the nurse to complete the work that must be done. Respondents were asked to indicate the frequency of having the time to do the work that must be done (1=never, 2=about once a month, 3=about once a week, 4=more than once a week but not every day, 5=every day that I work). Responses were collected and entered into the analysis as a categorical variable.

Narrative response. At the end of the survey, an optional open-ended question allowed respondents the opportunity to provide a brief anecdotal narrative about their work experience.

Response and Nonresponse

The sampling design for this study had potential for both unit nonresponse and item nonresponse. Because the sampling frame included only licensed registered nurses who had successfully completed a nursing curriculum and earned a diploma, associate's or bachelor's degree, there was no expectation for nonresponse due to inability to respond. All sample members were literate and fluent in written English, as they successfully passed a licensing exam in English and met an English proficiency requirement for licensure as a registered nurse in Massachusetts. The types of unit nonresponse anticipated were noncontact and refusal. Mailing addresses were the only contact information available on the frame. Although nurses are responsible to notify the Massachusetts Board of Registration in Nursing about a change in mailing address, the sampling frame was not entirely current. Not all

research letters mailed reached the intended target and therefore some noncontact occurred and was confirmed by letters returned to the investigator via USPS as undeliverable. Additionally, some sample members may have refused to participate and discarded the invitation letter, either opened or unopened. Noncontacts that are not returned are impossible to distinguish from refusals as no identifying feedback was received. Others (n = 8) were not received within the study timeframe, and therefore not included in the analysis. Those eight responses were reviewed, and none were eligible for inclusion as they had been previously licensed in another state or country, or had vacated three or more jobs as a nurse.

Item nonresponse was expected to be minimal. Because the study questions have been previously validated and deemed reliable in samples of nurses and survey items were revised after cognitive interviews, inadequate comprehension of the intent of the question was anticipated to be minimal. Questions were designed to minimize failure to retrieve adequate information and enhanced by revisions to responses through the use of item specific response. The questions did not focus on sensitive information that may be difficult to disclose and the web-based study design allowed self-imposed confidentiality for respondents, minimizing discomfort in responding to questions. All responses included race and ethnicity. The study design made clear that any responses omitting race and ethnicity would not be included in data analysis because these concepts were crucial to the study hypotheses and inform the study results.

Noncontact, the largest source of nonresponse, is the unavoidable inability to directly reach the sampling frame. The researcher relied on a database provided by the state agency responsible for licensure oversight of professional nurses in the commonwealth. Not all

contact information for nurses in Massachusetts was current and some members of the target population could not be reached. To achieve a truly random sample and avoid risk to randomization, social media was not utilized as a recruitment strategy, although a higher response rate may have been achieved using social media recruitment.

Response rate. Response rates (RR) are defined and differentiated by AAPOR as follows: RR1, the minimal response rate and RR3, estimates the proportion of cases of unknown eligibility is actually eligible; (American Association for Public Opinion Research [AAPOR], 2016, p. 61-62).

Ineligibility. Ineligible individuals were identified by items on the survey and are those nurses licensed by the Massachusetts Board of Registration in Nursing state within the three-year target range but previously licensed in another state or country, therefore not newly licensed registered nurses. Those nurses who are licensed in more than one state and represent a duplicate in the sampling frame are also included in this category.

Refusals. Refusals were calculated as both unit and item (nonresponse to ethnicity and race items) nonresponse using the American Association for Public Opinion Research [AAPOR] Response Rate Calculator (American Association for Public Opinion Research [AAPOR], 2017). Those surveys that were returned after the data collection period were not included in the data analysis. Those surveys returned unopened are calculated as noncontacts.

Power Analysis

The primary analysis was conducted using multivariable linear regression to examine the relationship between turnover intention and race/ethnicity, adjusting for other personal and workplace variables. Turnover intention was regressed on race and ethnicity while

controlling for other predictors in order to test whether race is an independent predictor after adjusting for the other variables. Partial correlation was estimated and tested by controlling for other variables. With a sample size of $N = 183$, using a two-sided Type 1 error $\alpha = 0.05$, there is 80% of power to detect a partial correlation $r = 0.21$ between turnover intention and race and ethnicity when controlling for six other covariates. The following plot, Figure 4, illustrates power for sample sizes between 100 and 200.

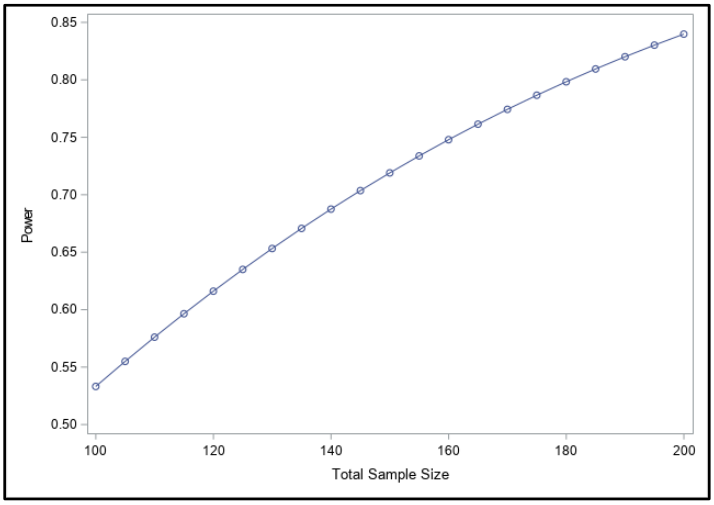


Figure 4. Type III F Test in multiple regression used to calculate power for sample size

Data Analysis

Using the statistical software package Stata 15.1(College Station, TX, StataCorp LLC), univariate descriptive statistics are reported as unweighted frequencies. When respondents selected "don't know" or did not respond to a question, these categories were re-coded to missing for all items except hospital size. Any response that did not include a response to the number of licensed beds in their hospital was recoded to "don't know." Due to the small nonwhite sample size, race/ethnicity was collapsed into a dichotomous variable (0-White Non-Hispanic, 1-all others) for some analyses. Descriptive statistics are used to

describe the study sample. Categorical variables such as self-identified race, ethnicity, gender, marital status, highest nursing and non-nursing degree obtained, and physical injury, workplace ,unit size, unit type, are summarized with frequencies and percentages; continuous variables such as turnover intention, age, number of patients assigned, workload and incivility scores from all sources are summarized with means and standard deviations or medians and interquartile ranges as appropriate. P-value is considered statistically significant if less than or equal to 0.05. All tests, where applicable, are two-tailed. All analysis is conducted using Stata 15.0 (College Station, TX, StataCorp LLC) with two-sided alpha=0.05.

Specific Aim #1. Specific Aim #1 is to examine the association between personal characteristics and turnover intention of newly licensed registered nurses within the first 3 years of nursing practice. Personal characteristics considered include including self-identified race, ethnicity, gender, age, marital status, physical injury, self-confidence, and language concordance within the workplace.

Hypothesis 1.1. To test Hypothesis 1.1, the association between personal attributes and turnover intention were examined using analysis of variance (ANOVA), Kruskal Wallis test, or Chi-square test as appropriate to each measure.

Hypothesis 1.2. To test Hypothesis 1.2, linear regression models were constructed to determine which personal attributes are associated with self-identified race, ethnicity and turnover intention while adjusting for potential confounders.

Specific Aim #2. Specific Aim #2 is to examine the association between workplace characteristics and turnover intention among newly licensed registered nurses within the first 3 years of nursing practice. Workplace characteristics considered include type of facility (acute care, long term care, rehabilitation hospital, residential long-term care, physician/ provider office, home healthcare, outpatient care center, elementary/ secondary school, public health or other) hospital size, unit type and size, workload, workplace incivility within the workplace

Hypothesis 2.1. To test Hypothesis 2.1, the association between workplace characteristics and turnover intention were examined using analysis of variance (ANOVA) or Kruskal Wallis test, or Chi-square test as appropriate to each measure.

Hypothesis 2.1. To test Hypothesis 2.2, linear regression models were constructed to determine which structural attributes are associated with self-identified race and ethnicity and turnover intention while adjusting for potential confounders.

Specific Aim #3. Specific Aim #3 is to examine the association between personal and workplace characteristics and turnover intention among newly licensed registered nurses within the first 3 years of nursing practice. Personal and workplace characteristics include self-identified race, ethnicity, gender, age, marital status, education, physical injury on the job, self-confidence, interpersonal relationships, perception of a negative environment, language concordance within the workplace type of facility (acute care, rehabilitation hospital, residential long-term care, physician/ provider office, home healthcare, outpatient care center, elementary/ secondary school, public health or other); hospital size; unit type and size; workload; staffing adequacy; and incivility within the workplace.

Among newly licensed nurses, personal characteristics and workplace characteristics will be associated with turnover intention within the first 3 years of nursing practice.

Hypothesis 3.1. To test Hypothesis 3.1, linear regression models were constructed to determine which structural attributes are associated with personal and workplace characteristics of newly licensed nurses and turnover intention while adjusting for potential confounders. Hierarchical, backwards stepwise selection was used to build the final model, using a p-value of 0.2 as removal criterion. *P*-value is considered statistically significant if equal to or less than 0.05.

Hypothesis 3.2. To test hypothesis 3.2, differences in the turnover intention of newly licenses nurses stratified by race and ethnicity will be examined. Hierarchical, backwards stepwise selection was used to build the final model, using a *p*-value of 0.2 as removal criterion.

CHAPTER 4

RESULTS

Chapter 4 presents the statistical results for the study aims. Aim 1 examined the association between personal characteristics of newly licensed registered nurses (within three years of hire) and turnover intention, stratified by race. Aim 2 examined the association between workplace characteristics of newly licensed nurses and turnover intention, stratified by race. Aim 3 examined the full model; the association between personal and workplace characteristics and turnover intention and tested the hypothesis that turnover intention would be higher for minority and Hispanic nurses.

An initial mailing was sent to 1200 registered nurses who were issued an initial license in Massachusetts between June 1, 2014 and June 1, 2017. The first mailing elicited 232 survey responses. A second mailing of 470 elicited an additional 118 responses. Final disposition codes for the survey are detailed on Table 2. The total number of ineligible responses was 137. A small number (n=23) were included in the calculation as refusals, either unit or item nonresponse. Eight surveys were returned after the field period and not included in data analysis. Three respondents logged onto the survey website but did not complete the survey, considered a break off from data collection. An additional 150 surveys

were returned unopened. This ultimately yielded 183 respondent surveys that met the study criteria for inclusion and constitutes the study sample. The response rate was based on a sample frame of 1,670 surveys that were mailed out, with a response rate of 18% (AAPOR RR1=12%; AAPOR RR 3=18%).

Table 2. *Final Disposition Codes for the Survey*

Type of Nonresponse	**n**
Completed interviews	183
Refusals- includes unit and item non-response	23
Contacted, but no interview (other than refusal e.g. break off)	3
Ineligible households (using screener)	137
Completed but not returned during the field period	8
Noncontacts, case known to be eligible	150
Other unknown eligibility	1166
Total	**1670**

Sample Characteristics

The sample is comprised of 183 newly licensed (less than 3 years) registered nurses who completed the full survey, either online or a paper copy mailed to the researcher. The sample was diverse (38.8% nonwhite) which allowed for sub-analyses by race and ethnicity, thereby achieving a major goal of the study. Sixty-seven respondents provided additional anecdotal information about their work experience in response to an open-ended question at the end of the survey and these narrative responses illuminated the quantitative results. The

results are organized by specific aims and hypotheses. Race categories, white, black, Asian, and multiracial as listed are all non-Hispanic ethnicity. To allow for unique identification for each individual, those of Hispanic ethnicity, any race, are included in their own category.

The mean age of respondents was 32 years. The sample was racially and ethnically diverse (61.2 % white, 16.3% black,7.1% Asian, 7.1% multiracial, 8.2% Hispanic). The majority were English speaking (90.7%) and hold a bachelor's degree in nursing (72.1%). About half of the sample have no other degree. More than ninety percent of respondents were female (90.71%) and less than ten percent were males (9.29%). Just over half of the sample have never been married (n = 95, 51.9%) and a few were divorced (n = 6, 3.3%). The majority report being somewhat or very confident in their ability to do their job. Six (<4%) report feeling only a little or not at all confident. Nearly all work with patients who are primary English speakers. Twenty-eight respondents (15.3%) have experienced a workplace injury and of those, 17.9% (n = 5) missed work due to the injury.

The mean length of time at the current job is 16.2 months. More than half of this sample works in an acute care setting (n = 106, 57.9%) while the remaining nurses in the sample work in the community. The sample is relatively evenly distributed across small and large hospitals. Nearly 70% (n = 74) of those in acute care work on a general unit such as medical surgical unit, telemetry unit, or combined medical-surgical/ telemetry unit. The remaining nurses (n = 32, 30.1%) in acute care work in a specialty area. The majority of nurses in acute care (n = 65) have been floated to another unit for a shift and almost all (n = 53, 75%) accepted a patient assignment on the destination unit.

More than half of the sample (n = 110, 60.1%) reported already leaving at least one job and almost twenty percent (n = 22) of those who have vacated a job reported changing jobs a second time. The majority (85%) of respondents who changed jobs transitioned to a job in a different hospital network or system, while only 13% (n = 15) reported staying within the same network or hospital system.

Nearly 50% (n = 83) of the sample report having enough time to do the things that must be done more than once a week or every day of work. The average number of patients assigned to each nurse in all settings is 7.9. Workload was operationalized in this study as the Area of Worklife workload subscale. Responses ranged from 1- 5.7, with a sample mean score of 3.5. Respondents experienced hostility and rudeness in the workplace (mean 13.6) and identify patients and their families as a source of incivility with some frequency (mean =18.8,11.1 respectively). Turnover intention considered the final step before vacating a position, for this sample ranged from 18.3 to 21.5 (mean =19.3).

Personal Characteristics

The distribution of personal characteristics, first for the entire sample and then stratified by race and ethnicity, is displayed in Appendix C. All respondents perceive a negative environment at some time. Respondents reported the frequency of experiencing employees shouting, blaming others for their mistakes, minor disagreements turning into personal attacks, inappropriate jokes (including regarding race, religion, gender, and inappropriate race remarks), and offensive body language, operationalized in this study as a composite variable for general incivility (mean = 6.6 , range 3-18). Condescending behavior

from coworkers, patients and families, and having unreasonable demands placed on them was operationalized here as lack of respect. Responses ranged from 8 to 39 (mean = 20.5). Respondents reported varying frequency of a hostile climate where employees raise their voices with frustration, blame others, or launch personal attacks (mean = 13.6, range 8-36). Inappropriate jokes contribute to a negative environment (mean= 5.4). Newly licensed nurses reported varied levels of coworker incivility, specifically from other nurses (mean 13.4, range 5-25), the direct supervisor (mean = 3.6 , range 3-10) and physicians (mean = 6.0, range 4-15).

Association Between Personal Characteristics and Turnover Intention. Specific Aim 1 of this study was to evaluate the association between personal characteristics of the newly licensed nurse and turnover intention in the first three years of practice. Two hypotheses were tested; first that there would be an association between personal characteristics and turnover intention and secondly, that there would be differences in turnover intention for minority nurses. As noted on Appendix C there were significant differences in personal characteristics among the different racial and ethnic groups.

Age. Age was not statistically significant for turnover intention in this sample. Age was not significant by race and ethnicity, but differences in univariate analysis were observed. Black nurses reported the highest mean age (34.4) compared to Asians who reported the youngest mean age (29.3).

Gender. Gender was not associated with turnover intention but differences in gender by race and ethnicity were noted. No Hispanic males responded to the survey. Approximately a

quarter of male respondents were black, while only 16% of females were black. Approximately one quarter (n = 3) of multiracial nurses were male compared to 7% of white nurses.

Marital status. Being married or cohabitating was associated with lower turnover intention in this sample ($p = 0.05$). Just over half of the sample ($n = 95$, 51.9%) have never been married and less than half ($n = 82$, 44.8%) were partnered. Asians were more likely to have never been married (69.2%). Half of those who reported being divorced ($n = 3$) were black. Hispanic and multiracial nurses were equally as likely have never married or be partnered.

Highest nursing degree. Highest nursing degree was not associated with turnover intention but differed by race and ethnicity. The majority of the sample held a bachelor's degree in nursing as the highest nursing degree, and though not statistically significant, those with an associate degree were more likely to be nonwhite. Approximately one third of blacks, multiracial and Hispanic nurses held an associate degree as the highest nursing education, compared to less than 20% of whites. More than half of those with a master's degree are white ($n = 5$) and no Hispanics have an advanced degree. Less than 8% of Asians, blacks and multiracial nurses reported a master's degree in nursing.

Other non-nursing degree. Having another degree was not statistically significant for turnover intention but differences were noted by race and ethnicity. More than 50% of blacks ($n = 16$) held a non-nursing bachelor's degree, and more than 50% of Asians hold a bachelor's ($n = 6$) or masters ($n = 1$) in another field. One quarter of Hispanics held a non-nursing bachelors and less than 10% ($n = 1$) held a non-nursing associates degree.

Confident. Feeling confident in the ability to do their job was not associated with turnover intention ($p = 0.08$), but a trend suggesting feeling confident in the ability to do their job was associated with less turnover intention was identified. The subsample of black non-Hispanic nurses was equally somewhat confident and very confident in their ability to do their job. Sixteen percent of Asians reported being only a little confident in their ability to do their job ($n = 2$), while the majority of Asians reported being somewhat or very confident ($n = 10$). Hispanic nurses report being somewhat or very confident in their ability to do their job but had the lowest percentage ($n = 4$, 26.7%) of very confident nurses. Although feeling confident in one's ability to do their job revealed a trend towards significance when analyzed by race and ethnicity ($p = 0.08$) that significance disappeared ($p = 0.62$) when collapsing race and ethnicity into a binary variable to compare nonwhite to white nurses.

Primary language at home. Primary language spoken in the home was not statistically significant for turnover intention in this sample. The majority of this sample speaks English at home and approximately 10% are multilingual. The majority of black nurses are primary English speakers while 20% speak another language, such as (Nigerian) Igbo or Haitian Creole at home. Most Asian nurses speak English in the home ($n =10$); the remaining Asians speak a language other than English, specifically Korean, Vietnamese or Cantonese. All Spanish speakers are Hispanic.

Primary language of patients. Primary language of patients was associated with turnover intention ($p = 0.01$). Respondents reported most patients speak English, but not all races and ethnicities care for only English speakers. Twenty percent of Hispanic nurses report primary

Spanish speaking patients, and nearly 10% of multiracial nurses report "other" as the primary language of most of their patients.

Translate. Multilingual nurses may be called upon to translate for patients. Being called to translate was not statistically significant for turnover intention ($p = 0.22$) or when examined by race and ethnicity in this sample. Of the 10 respondents called on to translate for patients, half were called to translate one or more times per week and only two were never called on to translate. Those called on to translate most frequently speak English as the primary language in the home and are white.

Injured. Sustaining an injury at work was not associated with turnover intention in this sample. Strain, including back strain or other muscle strain from lifting or moving patients or equipment was reported either as a single injury or in combination with another type injury by 64.29% ($n = 18$) of those injured at work. Nearly half (n = 12) of injured study participants reported sustaining a needlestick. Three respondents sustained a body fluids splash. Only two respondents reported being struck by a patient and none reported being struck by a family member. Two respondents reported a fall either in or out of the workplace or a fall unassociated with direct patient care. Five reported some other injury at work that was not specified. An equal number, nearly one quarter of Asians and multiracial nurses (23.1% $n = 3$) sustained a workplace injury. A higher number of whites reported an injury ($n = 16$) representing 14.3% of that subsample. More whites than multiracial nurses ($n = 3$, n = 2 respectively) missed work due to the injury. No blacks, Asians or Hispanics reported being out of work as a result of the injury sustained.

General incivility. Experiencing general incivility was associated with turnover intention ($p \leq 0.0001$) and although differences by race/ethnicity were not statistically significant, a trend for nonwhites to experience higher levels of incivility was noted. Asians reported virtually the same level of incivility when compared to white non-Hispanics, (12.5, 12.9 respectively) but other races and ethnicities experienced more general incivility than white nurses. Black nurses in this sample report a high general incivility score compared to whites, (7.1, 6.2 respectively). Hispanics report the highest frequency of general incivility (8.7).

Lack of respect. Experiencing a lack of respect was statistically significant for turnover intention ($p \leq 0.0001$) and the perception of a hostile climate differed by race and ethnicity. Hispanic and multiracial nurses reported the most frequent lack of respect (23.4, 22, respectively) and black and Asian nurses the least frequent episodes (18.9, 18.1, respectively). White nurses report lack of respect equal to the mean for all races and ethnicities.

Negative environment. The perception of a negative environment was associated with turnover intention in this sample ($p \leq 0.0001$). A difference in that perception was noted when analyzing data by race and ethnicity. Hispanic nurses report the most negative environment (66.8). Black and Asian nurses reported below mean negative environment scores (57.8, 55.1, respectively).

Hostile climate. A hostile climate is statistically significant for turnover intention in this sample ($p \leq 0.0001$) and the perception of a hostile climate differ by race and ethnicity. The distribution was different than that of a negative environment. Hispanic and black nurses

reported the highest level of hostility in the environment (17.8, 14.7, respectively) and white and Asian nurses the lowest (12.9, 12.5 respectively).

Inappropriate jokes. Inappropriate jokes, a measure of inappropriate remarks and jokes regarding race, religion, and gender, correlated with turnover intention ($p \leq 0.0001$) in this sample. Differences do exist by race and ethnicity. White nurses reported the lowest inappropriate jokes score. Asian nurses reported a slightly higher inappropriate jokes score (5.2, 4.9, respectively) when compared to whites. Multiracial nurses reported a high inappropriate joke score when compared to white nurses (5.8). Black and Hispanic nurses reported the highest score (6.1, 7.5 respectively).

Nurse as source of incivility. Incivility perpetrated by other nurses was statistically significant for turnover intention in this sample ($p \leq 0.0001$) and differences exist in the report of nurse as source of incivility by race and ethnicity. Hispanic nurses report the highest nurse incivility score (14.3) and Asian nurses report the lowest (12.2).

Direct supervisor as source of incivility. Of all sources of incivility measured in this study, incivility by supervisors was the lowest. The direct supervisor is considered the person whom the respondent reports to most frequently and often differs based on shift worked. The responses may be based on interactions with a nurse manager or shift supervisor but refer to a person in a supervisory position over the newly licensed nurse. Incivility from the direct supervisor was assessed by abusive supervision (verbally abusive, yell at respondent), and lack of respect (behaves in condescending manner towards respondent). Direct supervisor as source of incivility was associated with turnover intention in this sample ($p \leq 0.0001$). There was no significance when analyzed by race and ethnicity, but differences were noted in

univariate analysis. Hispanics reported the highest level of direct supervisor as source of incivility (mean 3.9, SD ± 1.8) followed closely by black and multiracial nurses (mean supervisor incivility score for both was 3.8) compared to white nurses who reported a mean supervisor incivility score of 3.5 (SD ± 1.1).

Physicians as source of incivility. Physician incivility was statistically significant for turnover intention in this sample ($p = 0.01$). Rates of physician incivility were higher than the rates reported by nurses regarding their supervisors in the sample as a whole. The root question of items used to assess the uncivil behavior of physicians were identical to those used regarding the direct supervisor and queried the respondent regarding lack of respect and abusive supervision by physicians. Additional inquiry regarding the perception of how physicians interact with other nurses on the unit were included for comparison with interaction between physician and the respondent.

Turnover intention. The mean turnover intention for this sample, was 19.3. Differences were identified by race and ethnicity but were not statistically significant between subsamples. Nonwhite compared to white nurses reported the highest turnover intention (18.8 vs. 19.9 respectively).. Hispanic nurses reported the highest turnover intention (21.5) compared to black (20.0) multiracial (19.7) and white nurses (18.8). Asian nurses reported the lowest turnover intention score (18.3). A comparison of personal and environmental characteristics for this sample by mean turnover intention is shown on Table 3.

Table 3. *Comparison of Personal and Environmental Characteristics by Mean Turnover Intention*

Variable	TIS ≤ 19.3	TIS >19.3	*p* value
Race			0.4
White, non-Hispanic	63 (56.3)	49 (43.7)	
Black, non-Hispanic	14 (46.7)	16 (53.3)	
Asian, non-Hispanic	5 (38.5)	8 (61.5)	
Multiracial, non-Hispanic	6 (46.2)	7 (53.8)	
Hispanic	5 (33.3)	10 (66.7)	
Age [1]	30.2 (7.7)	32.3 (9.6)	0.11
Gender-Self-identified			
Male	9 (52.9)	8 (47.1)	0.85
Female	84 (50.6)	82 (49.4)	
Marital Status			0.03[1]
Never	52 (54.7)	43 (45.3)	
Married/ Cohabitating	41 (50.0)	41 (50.0)	
Divorced		6 (100)	
Nursing Degree			
Diploma in Nursing	2 (66.7)	1 (33.3)	0.41[2]
Associates of Science in Nursing	17 (43.6)	22 (56.4)	
Bachelor of Science in Nursing	70 (53.0)	62 (46.9)	
Master of Science in Nursing	4 (44.4)	5 (55.6)	
Highest Non-nursing degree			
None	44 (47.31)	49 (52.7)	
Associates degree	6 (40.0)	9 (60.0)	
Bachelors degree	40 (56.3)	31 (43.7)	
Masters degree	3 (75.0)	1 (25.0)	
Primary language spoken at home			
English	87 (52.4)	79 (47.6)	0.18[4]
Spanish		4 (100)	
French	1 (100.0)		
Other	5 (41.7)	9 (58.3)	

Variable	TIS < 19.3	TIS > 19.3	*p* value
Language concordance			
Primary language of patients			.49[5]
English	88 (50.3)	87 (49.7)	
Spanish	3 (60.0)	2 (40.0)	
Other	2 (66.7)	1 (33.3)	
How often called to translate			0.5[6]
Never	1 (50.0)	1 (50.0)	
Rarely	1 (33.3)	2 (66.7)	
Sometimes	1 (100.0)		
Often	2 (50.0)	2 (50.0)	
Injured at work			0.08
Yes	10 (35.7)	18 (64.3)	
No	83 (53.5)	72 (46.5)	
Missed work due to injury			0.62[7]
Yes	1 (20.0)	4 (80.0)	
No	9 (39.1)	14 (60.9)	
Perception of negative environment			
General incivility [1]	5.2 (2.7)	8.1 (3.7)	<.0001
Lack of respect [1]	18.5 (6.6)	22.5 (6.7)	<.0001
Negative environment [1]	55.2 (17.3)	67.3 (16.3)	<.0001
Hostile climate [1]	11.8 (4.9)	15.6 (5.8)	<.0001
Inappropriate jokes [1]	5.2 (2.6)	5.7 (3.0)	0.27
Nurse as source of incivility [1]	11.7 (5.5)	15.2 (5.3)	<.0001
Direct supervisor as source of incivility [1]	3.3 (0.8)	3.9 (1.7)	0.0019
Physician as source of incivility [1]	5.6 (1.9)	6.4 (2.8)	0.02

[1] Fischer's exact test of never married, currently married or divorced
[2] Chi-square test of diploma or associate degree in nursing vs. bachelor's or Master degree in nursing
[3] Chi-square test of no other (non-nursing) degree vs. any degree in another field
[4] Chi-square test of nurse's language spoken at home English vs. any other language
[5] Chi-square test of patient home language as English vs. any other language
[6] Fischer's exact test of never or rarely translate vs sometimes or often called to translate
[7] Fischer's exact test of never missing work due to injury or missed work due to injury calculated for those nurses who reported a work-related injury (n=28)

The personal characteristics positively associated with turnover intention in this sample were marital status, feeling confident in their ability to do their job, general incivility, a lack of respect, the perception of a negative environment, hostile climate, and other nurses, direct supervisor and physician as sources of incivility. These characteristics were analyzed by race and ethnicity to assess for a difference between subgroups of race and ethnicity of the sample.

Marital status was associated with turnover intention ($p = 0.05$), but no statistically significant difference was found between race and ethnicity and marital status using Fischer's exact test ($p = 0.21$).

In examining the association between race and ethnicity and reports of a hostile climate, a significant difference is found ($p = 0.01$). Table 4 includes the results of ANOVA and post hoc testing of significance for between race/ Hispanic ethnicity variances in hostile climate and inappropriate jokes. Ten comparisons were made using post hoc Tukey test, but only comparing Hispanic to white nurses yielded a statistically significant result ($p = 0.01$). No other between race comparisons were statistically significant in that analysis.

The perception of a negative environment was correlated with turnover intention but was not statistically significant when analyzed by race and ethnicity. Assessing a negative environment by race and ethnicity as a five-category variable in one-way ANOVA was not statistically significant ($p = 0.47$) and when collapsing race and ethnicity to a binary white versus nonwhite comparison, no statistical significance was found ($p = 0.56$).

Table 4. *Results of ANOVA and Post Hoc Testing of Significance for between- Race/ Hispanic Ethnicity Variances in Hostile Climate and Inappropriate Jokes*

	One way ANOVA					Tukey Post Hoc Test				
		SS	df	F	*p* value	*p* value	Contrast	SE	*t* value	95% CI
Hostile Climate	Between groups	376.62	4, 176	3.08	0.017					
Hispanic v. white						0.012	4.94	1.52	3.25	.749, 9.14
Inappropriate Jokes	Between groups	101.98	4, 176	3.36	0.0112					
Hispanic v. white						0.01	2.52	0.759	3.32	.428, 4.61

Contributing to a negative environment are inappropriate jokes, a workplace characteristic which was found to be statistically significant when assessed by race and ethnicity (p = .01). Again, the significant difference identified was between white and Hispanic nurses, (p = .01) as displayed in Table 4. No other between- race comparisons were statistically significant despite reports of inappropriate jokes from other races.

The interpersonal relationships considered to be personal characteristics were operationalized in this study as levels of incivility from other nurses, the direct supervisor, physicians, and general incivility in the workplace. General incivility and sources of incivility found to correlate with turnover intention in Pearson correlation analysis appear in Table 5. General incivility, nurse, direct supervisor and physician as source of incivility are all statistically significant in Pearson correlation to turnover intention.

Table 5. *Pearson Correlation of General Incivility, Nurse, Direct Supervisor, and Physician as Source of Incivility Correlated with Turnover Intention.*

	N	***r***	***p***
Turnover Intention	178		
General incivility	178	.4083	< .0001
Direct supervisor as source of incivility	175	.2831	<.001
Physician as source of incivility	174	.2236	<.001
Nurse as source of incivility	178	.2041	<.05

Nurse as source of incivility was statistically significant for turnover intention ($p < 0.05$) but no significant difference was identified when analyzed by race and ethnicity ($p = 0.77$) in one-way ANOVA testing.

There was no statistically significant difference in report of direct supervisor incivility by race and ethnicity, but there was an association between race and ethnicity and how the supervisor interacts with newly licensed nurses of different races and Hispanic ethnicity, specifically how frequently the nurses are yelled at by the direct supervisor ($p = 0.010$) in chi-square analysis. Hispanic nurses are more likely to self-report being yelled at by the supervisor ($p = 0.001$). When the sample was classified into only two groups (white and nonwhite) and entered into an equation with frequency of direct supervisor yelling, that significance disappeared, ($p = 0.142$).

A trend was noted when examining reports of physician incivility by race and ethnicity ($p = 0.08$) in ANOVA analysis as shown in Table 6. Between group post hoc Tukey analysis for physician as the source of incivility was conducted but there was no statistically significant difference in the between-race comparisons.

Table 6. *ANOVA Test Results for Physician Incivility and Race and Ethnicity*

		One way ANOVA			
		SS	**df**	**F**	***p* value**
Physician Incivility	Between groups	48.1	4, 175	2.08	0.08

When the sample was classified into only two groups by race as white and nonwhite and entered into the equation with frequency of physician as source of incivility score as in Table 7, the between group difference had greater significance ($p = 0.02$).

Table 7. *Physician Incivility Towards White Compared with Nonwhite Nurses*

		One way ANOVA			
		SS	df	F	*p* value
Physician Incivility White/Nonwhite	Between groups	28.02	1,174	4.84	0.02

Individuals were more likely to report higher physician incivility if they spoke Spanish or other non-English language at home (9.25 vs 6.04, Spanish, English respectively) as in Table 8.

Table 8. *Mean Physician Incivility Score by Nurse's Home Language*

	Mean (SD)
English	6.04 (± 2.41)
Spanish	9.25 (± 2.98)
French	8 (-)
Other	4.72(± 1.42)

Between group analysis revealed a difference in physician incivility when considering the home language of the respondent. As shown in Table 9, incivility scores were statistically significantly lower by those who reported "other" as the primary language spoken at home compared to the Spanish language group (-4.5, $p \leq 0.01$) and higher in the Spanish language group compared to the English language control group (3.2, $p = 0.04$). However, there were no associations revealed in other between group analyses.

Table 9. *Physician as Source of Incivility Mean Score Compared by Home Language of Respondent* (N =176).

Physician as source of incivility score by home language	**Contrast**	**SE**	***p* value**	**95% CI**
Spanish vs English	3.2	1.2	0.04	.08, 6.32
Other vs Spanish	-4.52	1.4	< 0.01	-8.12, -.92

Physician incivility- general incivility. Physician incivility is moderately correlated with general incivility ($p = .0016$, $r = .2344$) as noted on Table 10. Physician incivility towards other nurses on the unit is strongly correlated with incivility towards the respondent, with higher scores of physician incivility towards other nurses associated with higher scores of incivility towards the respondent.

Table 10. *Pearson Correlations of Physician as Source of Incivility*

Physician Incivility	**N**	**r**	***p* value**
Physician incivility towards other unit nurses and respondent	175	.5037	<.0001
General incivility	179	.2344	.0016

To test hypothesis 1.2, linear regression was used to evaluate the relationship among the personal factors hypothesized to influence turnover intention in newly licensed nurses, with race/ethnicity as the independent variable of interest. Linear regression models were constructed to determine which personal attributes are associated with self-identified race, ethnicity and turnover intention while adjusting for potential confounders. Race and ethnicity were entered into a linear regression to assess the change in turnover intention when considering only race and ethnicity. Only Hispanic ethnicity revealed a trend for turnover intention ($p = 0.08$). Then variables found to be statistically significant in the described analyses in assessing turnover intention were entered into linear regressions to evaluate the changes in the outcome variable, turnover intention. Results are shown in Table 11. When controlling for other personal characteristics including marital status, perception of a negative environment, general incivility, lack of respect, a hostile climate, inappropriate jokes, nurse, direct supervisor and physician as sources of incivility, being black, non-Hispanic ($p = 0.06$) and married or cohabitating ($p = 0.07$) suggested a trend towards significance and inappropriate jokes was statistically significant ($p = < 0.01$). Black non-Hispanic and married or cohabitating respondents were more likely to have higher turnover intention, and turnover intention decreased by 1.1 for every 1 unit increase in the inappropriate jokes score. This model accurately predicts 30% of turnover intention. Hispanic ethnicity, incivility by

nurse, the direct supervisor and physician did not explain any of the variance in turnover intention.

Table 11. *Linear Regression Model to Determine which Personal Attributes are Associated with Self-identified Race, Ethnicity and Turnover Intention while Adjusting for Potential Confounders.* $R^2 = .30$ Adjusted $R^2 = .24$. $p \leq .0001$ $N = 164$

Hypothesis 1.1	**Raw Effect of Race and Ethnicity on Turnover Intention**				**Adjusted for Personal Characteristics**			
	ß	**SE**	***p* value**	**95% CI**	**ß**	**SE**	***p* value**	**95% CI**
White, non-Hispanic	reference							
Black, non-Hispanic	1.14	1.12	.31	-1.08,3.36	2.06	1.12	.06	-.15,4.28
Asian, non-Hispanic	-.55	1.73	.75	-3.96, 2.85	2.03	1.70	.23	-1.32, 5.41
Multiracial, non-Hispanic	.87	1.6	.59	-2.29, 4.02	1.01	1.5	.49	-1.89, 3.92
Hispanic, any race	2.64	1.5	.08	-.33, 5.6	1.41	1.42	.32	-1.39, 4.22
Married/ Cohabitating					1.38	.78	.07	-.16, 2.93
Divorced					1.84	2.15	.39	-2.41, 6.11
Negative environment					.04	.12	.72	-.91, .28
General incivility					-.13	.55	.81	-1.21, .95
Lack of respect					.01	.23	.93	-.43, .47
Hostile climate					.62	.49	.19	-.34, 1.59
Inappropriate jokes					-1.02	.41	<.01	-1.92, -.29
Nurse as source of incivility					.05	.17	.76	-.28, .38
Physician as source of incivility					.11	.19	.58	-.28, .49
Direct supervisor as source of incivility					.44	.34	.19	-.23, 1.11

Those variables that were statistically significant in the personal characteristic regression or hypothesized to influence turnover intention were combined into a stepwise backwards linear regression using a pr .02 as removal criterion. Hispanic ethnicity ($p = 0.04$)

was the only race or ethnicity that was statistically significant in this model. Having a non-nursing bachelor's degree (p = 0.04), and a negative environment (p = 0.017), a hostile climate (p = < 0.0001), inappropriate jokes (p = < 0.0001) were associated with turnover intention as displayed in Table 12. Being divorced was not statistically (p = 0.07) but revealed a trend towards significance. This model accurately predicts 30% of turnover intention when considering personal and environmental characteristics.

Table 12. *Hierarchical Stepwise Backwards Regression for Personal and Environmental Characteristics on Turnover Intention*, pr.02 R^2 = .30, Adjusted R^2 = 0.27 $p \leq 0.0001$
N = 164

	Coefficient	**SE**	***p* value**	**95% CI**
Hispanic ethnicity	2.09	1.02	0.04	.075, 4.11
Non nursing Bachelors	-1.61	0.78	0.04	-3.15, -.69
Negative environment	0.07	0.03	0.01	.01, .12
Divorced	-1.11	0.22	<.0001	-1.56, -.66
Hostile Climate	1.32	0.74	0.07	-.14, 2.79
Inappropriate Jokes	0.6	0.13	<.0001	.33, .86

Workplace Characteristics

Comparison of workplace characteristics stratified by race and ethnicity. The distribution of workplace characteristics, first for the entire sample and then stratified by race and ethnicity, is displayed in Appendix D.

Months at job. The length of time at the current job suggested a borderline trend towards significance for turnover intention (p = 0.09). The mean length of time at the current job for

this sample was 16.2 months. White nurses reported the longest duration (18.3) and Hispanic nurses reported the shortest duration in the current position (13.1).

Employer. Employment setting was associated with turnover intention ($p \leq 0.0001$). White nurses were more likely to work in an acute care hospital and Hispanics were more likely to be employed in a provider's office or outpatient setting. Less than half of black nurses in the sample reported work in acute care (36.7%) and the remaining black nurses reported workplaces across all other outpatient settings.

Hospital size. Hospital size was not statistically significant for turnover intention but differences in the place of employment by race and ethnicity are noted. One quarter of the sample did not know the number of beds in the facility where they work. Nonwhite nurses were more likely to work in smaller facilities and whites were likely to work in larger hospitals (234 vs. 343 respectively). More than 50% of white nurses were employed in hospitals with more than 100 licensed beds.

Type of unit. The type of unit where respondents work was associated with turnover intention ($p = 0.05$) and the type of units where nurses work differed by race and ethnicity. Nearly all nurses who reported working in critical care areas were white (n =11) and nonwhite nurses were more likely to work on general medical-surgical units. Seventy-two percent of black nurses ($n = 8$) reported working on a combined medical- surgical telemetry unit and only 2 black nurses reported working in a specialty unit. Most of the nurses working in mental health were nonwhite ($n = 3$).

Unit size. The number of patients on the unit was associated with turnover intention ($p =$ 0.04) and minimal racial and ethnic differences were noted. White and Hispanic nurses were

more likely to work on larger units (19 patients) and black, Asian, and multiracial nurses reported working on slightly smaller units (16-17 patients).

Floated. Being floated to another unit was not statistically significant for turnover intention in this sample *(p* = 0.14). More than half of whites, blacks, Asians, and Hispanics reported being floated to another unit for a shift. Slightly less than half of multiracial nurses reported being floated to another unit.

Changed jobs. Having changed jobs at least once was associated with turnover intention in this sample *(p* = 0.005) and racial and ethnic differences are noted. Nearly all of the sample (72%) has changed jobs at least once and 12% have changed jobs two times. No Asian or multiracial nurse reported changing jobs more than one time. Those respondents who changed jobs two times were more likely to be white.

Stayed in-network. Staying within the same hospital network or healthcare system was not associated with turnover intention (*p* = 0.45). Most of the respondents who changed jobs left the initial network and transitioned into a new system. Asians were more likely to remain within network than any other race or ethnicity.

Enough time. Having enough time to do the things that must be done was strongly associated with turnover intention in this sample ($p \leq 0.0001$). The distribution of respondents who had enough time every day, more than once a week, weekly, monthly or never was relatively even across races and ethnicities.

Patients assigned. The number of patients assigned to the nurse at one time was strongly associated with turnover intention (*p* = 0.0005). Differences by race and ethnicity are noted. Nonwhite nurses report higher number of patients assigned than white nurses. Hispanic,

multiracial and black nurses have higher patient assignments (10.7, 8.8, 8.7 respectively) compared to white (7.5) and Asian nurses (5.6) who reported the lowest number.

Areas of Worklife workload. The AWS workload scale was strongly associated with turnover intention in this sample ($p \leq 0.0001$). Asian nurses report the lowest mean workload score (3.2) and Hispanic nurses report the highest (3.7) mean score.

Hostility and rudeness. The hostility and rudeness score was statistically significant for turnover intention ($p \leq 0.0001$) and differences were reported by race and ethnicity. Hispanic nurses report experiencing the highest level of hostility and rudeness (17.8) compared to white nurses (12.9). Blacks and multiracial nurses report higher than mean scores (14.7, 13.9, mean 13.6) for hostility and rudeness and Asian nurses report the lowest mean score (12.5).

Patient as source of incivility. Patients as the source for incivility was statistically significant for turnover intention in this sample ($p \leq 0.0001$). The mean scores reported for uncivil behavior by patients (18.7) differed by race and ethnicity. Hispanic and multiracial nurses reported higher than mean scores (21.3, 20.8 respectively) and blacks reported below mean scores (17.9).

Family as source of incivility. The mean scores reported for incivility by families (11.1) was strongly associated with turnover intention ($p \leq 0.0001$) and the reports of uncivil interactions differed by race and ethnicity. Hispanic and multiracial nurses report higher than mean scores (12.9, 10.9 respectively) and black nurses reported below mean scores (10.2). Asian nurses reported the lowest family as source of incivility score (9.2).

A graphic comparison of the sources of incivility analyzed by race and ethnicity is shown in Figure 5.

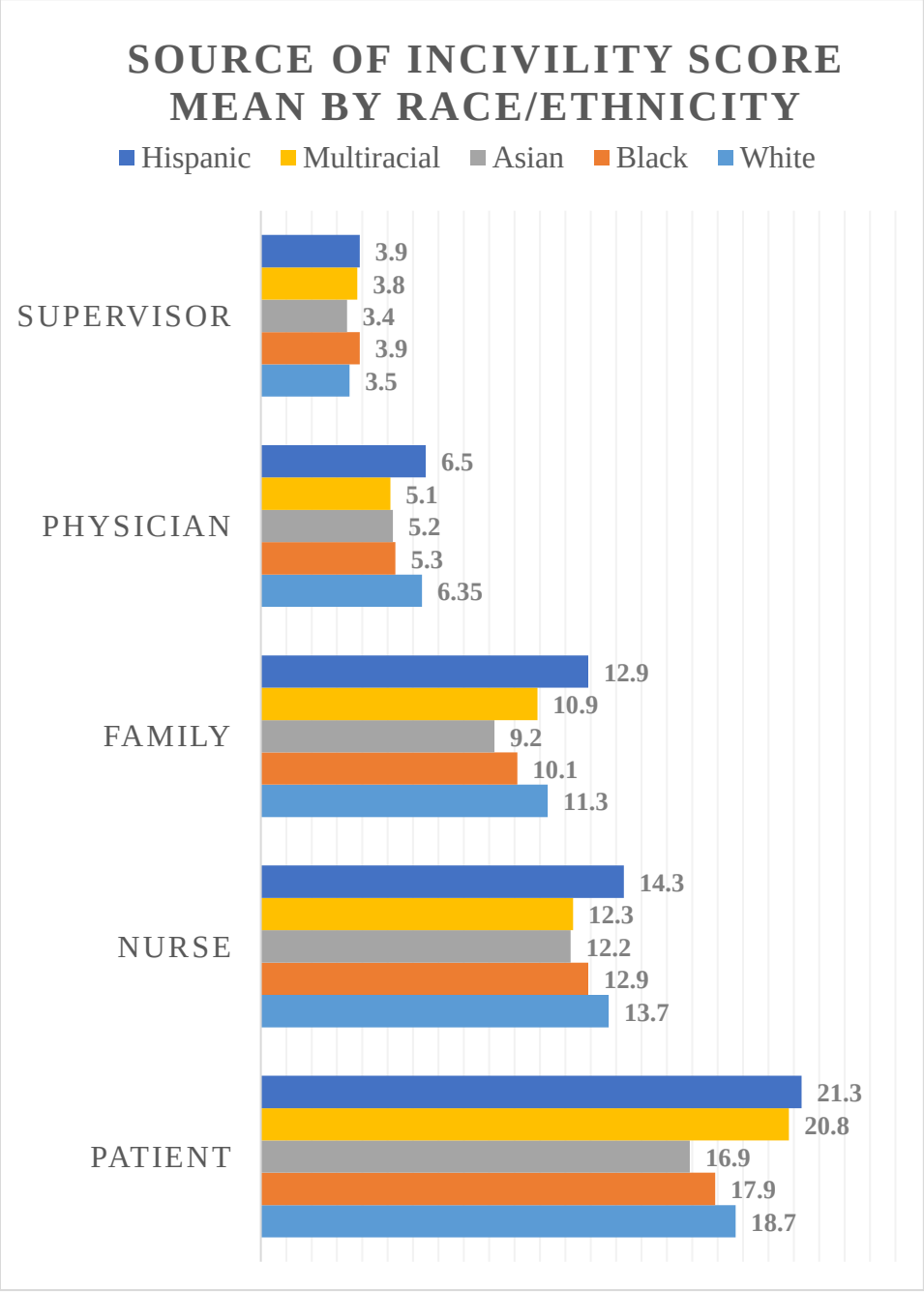


Figure 5. Source of incivility expressed as mean score by race and ethnicity.

A comparison of workplace characteristics for this sample by mean turnover intention is shown on Table 13.

Table 13. *A Comparison of Workplace Characteristics by Mean Turnover Intention*.

Variable	**TIS < 19.3**	**TIS >19.3**	***p* value**
Months at job	15.8 (9.7)	16.5 (5.8)	0.59
Employer- type of facility [1]			0.008
Acute Care	60 (64.5)	46 (57.9)	
Rehabilitation/ Long term care	7 (7.5)	29 (15.9)	
Office/ Outpatient	12 (12.9)	23 (12.6)	
Public Health/ School/ Visiting Nurse	8 (8.6)	10 (5.5)	
Other	6 (6.5)	15 (8.2)	
Hospital size[⌂]	26 (28.0)	20 (22.2)	0.7[2]
Unsure	10 (10.8)	9 (10.0)	
<51 beds	11 (11.8)	12 (13.3)	
51-100 beds	10 (20.4)	23 (25.6)	
101-250 beds	10 (10.8)	15 (16.7)	
251-500 beds	17 (18.3)	11 (12.2)	
>500 beds			
Unit type- Acute Care hospital[1]			0.43[3]
Critical Care[∞]	10 (16.4)	3 (6.5)	
Adult Medical-Surgical	13 (21.3)	12 (26.1)	
Adult Telemetry	8 (13.1)	1 (2.1)	
Adult Medical-Surgical and Telemetry Combined	15 (24.6)	20 (43.4)	
Maternal Child Health, including Labor and Delivery	3 (4.9)	2 (4.4)	
Pediatrics	4 (6.6)	1 (2.2)	
Operating Room	1 (1.6)	2 (4.4)	
Perioperative Care	2 (3.3)		
Emergency	3 (4.9)	2 (4.4)	
Mental Health	1 (1.6)	3 (6.5)	
Outpatient	1 (1.6)		
Unit size [4]	17.4 (15.3)	19.6 (13.9)	0.11
Floated to another unit			0.16
Yes	34 (50.8)	33 (49.2)	
No	24 (649)	13 (35.1)	

Variable	TIS < 19.3	TIS >19.3	*p* value
Optimal unit size[5]			0.56
Less than 20 patients	36 (59.0)	25 (40.9)	
20 or more patients	24 (53.3)	21 (46.7)	
Workload			
Number of patients assigned	6.1 (8.3)	9.7 (9.1)	0.007
Area of Worklife workload Subscale score	3.1 (.9)	3.9 (1.0)	< 0.0001
Staffing adequacy			
Frequency- Have enough time to do the things that must be done			< 0.0001
Never	17 (18.3)	3 (3.5)	
Monthly	25 (26.9)	13 (14.9)	
Weekly	23 (24.7)	16 (18.4)	
More than once a week	20 (21.5)	21 (24.1)	
Every day that I work	8 (8.6)	34 (39.1	
Times changed jobs			0.24
Once	55 (79.7)	55 (87.3)	
Twice	14 (20.3)	8 (12.7)	
Stayed in same network/ healthcare system			0.48
Yes	6 (12.5)	7 (17.9)	
No	42 (87.5)	32 (82.1)	
Hostility and rudeness [ı]	4.8 (2.0)	7.3 (3.0)	< 0.0001
Yes	48 (51.6)	39 (43.3)	
No	45 (48.4)	51 (57.7)	
Patient as source of incivility [ı]	17.1 (6.5)	20.6 (5.9)	0.0003
Family as source of incivility [ı]	10.1 (4.6)	12.2 (4.4)	0.0017

[⌂] Hospital size refers to the number of licensed beds within the acute care facility.
[∞] Critical care units include Intensive Care Units (ICU) defined by patient population- NICU neonatal; PICU- pediatric; ICU- adult
[∫] Specialty Units include: critical care, maternal child health, operating room, emergency, mental health. All other units considered general.
[1]Acute Care indicates facility providing short term treatment of severe injury or episode if illness, or urgent medical condition.
Rehabilitation indicates facility that provides multidisciplinary rehabilitation services for recovery from a traumatic injury, illness, or medical event that no longer requires acute care

treatment. Long term care indicates facility providing chronic care that cannot be provided in the home setting.
Office/ Outpatient indicates episodic treatment location provided with onsite medical provider, such as a physician's office or community health center.
[2] Chi-square test of hospital size based on 137 responses, less than 251 beds vs. 251 beds or larger. "Unsure" or no response not entered in analysis.
[3] Chi-square test of specialty vs. non specialty unit.
[4] Unit size refers to the average number of beds typically occupied by a patient on the unit worked
[5] Optimal unit size refers to an average daily census on the unit of less than 20 patients each day

Association between Workplace Characteristics and Turnover Intention. Specific Aim 2 of this study was to evaluate the association between workplace characteristics of the newly licensed nurse and turnover intention in the first three years of practice. Two hypotheses were tested; first that there would be an association between workplace characteristics and turnover intention and secondly that there would be differences in turnover intention for minority nurses.

The workplace characteristics of newly licensed nurses found to be associated with turnover intention in bivariate analysis include months at the current job, workplace setting, type of unit, unit size, having enough time to do the work that must be done, number of patients assigned at one time, workload as assessed by AWS workload scale, hostility and rudeness in the workplace, and patients and families as sources of incivility.

To test hypothesis 2.1, linear regression was used to evaluate the relationship among the workplace characteristics found to be statistically significant for turnover intention. Characteristics of the workplace entered into the equation included months at the current job,

workplace setting, type of unit, size of unit, having enough time to do the work that must be done, number of patients assigned, AWS workload score, hostility and rudeness, patient and family as sources of incivility. The results of the analysis are displayed on Table 14.

Table 14. *Linear Regression of Significant Workplace Characteristics on Turnover Intention.* $R^2 = 0.44$, Adjusted $R^2 = 0.26$, $p = 0.0021$, $N = 98$

Variable	**ß**	**SE**	***p* value**	**95% Confidence Interval**
Months at job	0.15	0.05	0.006	.05, .25
Employer- type of facility	omitted			
Unit type- Acute Care hospital	3.21	1.87	0.09	-.51, 6.95
Adult Medical-Surgical	0.89	2.17	0.68	-3.43, 5.21
Adult Telemetry	3.15	1.85	0.09	-.55, 6.85
Adult Medical-Surgical and Telemetry Combined	2.83	2.42	0.24	-2.00, 7.67
Maternal Child Health, including Labor and Delivery	-.40	2.49	0.87	-5.10, 5.12
Pediatrics	2.48	3.65	0.49	-4.80, 9.76
Operating room	-3.80	3.77	0.31	-11.31, 3.70
Perioperative care	0.01	2.56	0.99	-5.10, 5.12
Emergency	5.45	4.92	0.27	-4.35, 15.26
Mental health	omitted			
Unit size	0.006	0.03	0.83	-.06, .07

Variable	ß	SE	*p* value	95% Confidence Interval
Enough time once/ month	-1.83	2.01	0.37	-5.83, 2.17
Enough time once/ week	-1.14	2.12	0.59	-5.38, 3.08
Enough time more than once/ week	-1.49	2.51	0.55	-6.50, 3.50
Enough time every day	0.77	2.84	0.79	-4.90, 6.44
Number of patients assigned	-.09	0.27	0.72	-.64, .44
AWS workload score	0.95	0.84	0.26	-.72, 2.63
Hostility and rudeness score	2.03	1.22	0.1	-.41, 4.47
Patient as source of incivility	0.06	0.15	0.71	.23, .34
Family as source of incivility	0.13	0.19	0.51	-.27, .53

Working in an acute care hospital ($p = 0.09$) and working on an adult telemetry unit ($p = 0.09$) were suggestive of a trend towards significance for turnover intention. No other workplace characteristics remained statistically significant in multivariate analysis. The sample size for this equation was 98, but this model does predict 44% of turnover intention. The results were similar when entering employment setting as a binary variable (acute care hospital versus non-acute setting) and type of unit as specialty or general unit. The statistically significant variables were the same as in this model but the R^2 decreased to 0.36.

To test hypothesis 2.2, linear regression was used to evaluate the relationship among the workplace characteristics found to influence turnover intention in newly licensed nurses,

and race/ethnicity as the independent variable of interest. Characteristics of the workplace entered into the equation included months at the current job, workplace setting, type of unit, size of unit, having enough time to do the work that must be done, number of patients assigned, AWS workload score, hostility and rudeness, patient and family as sources of incivility. The results of the analysis are displayed on Table 15.

Table 15. *Linear Regression of Significant Workplace Characteristics on Turnover Intention with Race and Ethnicity as the Independent Variable of Interest.*
$R^2 = 0.44$, Adjusted $R^2 = 0.26$, $p = 0.0021$, $N = 98$

Variable	ß	SE	p value	95% Confidence Interval
Black non-Hispanic	1.36	1.64	.41	-1.92, 4.64
Asian, non-Hispanic	-.35	2.35	.88	-5.03, 4.33
Multiracial, non-Hispanic	.22	1.98	.91	-3.72, 4.17
Hispanic, any race	1.04	2.46	.67	-3.93, 6.01
Months at Job	.15	.05	<.01	.04, .26
Employer- Type of Facility	omitted			
Unit Type- Acute Care Hospital	3.18	1.99	.11	-.78, 7.15
Adult Medical-Surgical	.94	2.25	.67	-3.55, 5.42
Adult Telemetry	2.83	1.94	.15	-1.03, 6.70
Adult Medical-Surgical and Telemetry Combined	2.62	2.51	.30	-2.38, 7.63
Maternal Child Health, including Labor and Delivery	-.47	2.68	.86	-5.83, 4.88
Pediatrics	2.71	3.90	.49	-5.06, 10.49
Operating Room	-3.74	3.87	.34	-11.47, 3.98
Perioperative Care	-.78	2.65	.94	-5.47, 5.11
Emergency	5.45	5.11	.29	-4.75, 15.65
Mental Health	omitted			
Unit size	.01	.03	.81	-.05, .07
Enough time once/ month	-1.95	2.06	.34	-6.06, 2.16
Enough time once/ week	-1.31	2.19	.55	-5.68, 3.07
Enough time more than once/ week	-1.82	2.62	49	-7.05, 3.41
Enough time every day	.69	2.94	.81	-5.18, 6.57
Number of patients assigned	**-.09**	**.28**	**.76**	-.64, .48
AWS workload score	.94	.86	.28	-.78, 2.66
Hostility and rudeness score	2.09	1.27	.11	-.45, 4.64
Patient as source of incivility	.04	.15	.77	-.25, .34
Family as source of incivility	.15	.21	.47	-.27, .58

This analysis is similar to the analysis results obtained before entering race and ethnicity as an independent variable. The significance of working on a telemetry unit was lost and place of employment was omitted in the analysis. When entering employment setting as a binary acute care hospital / nonacute care and race and ethnicity as white and nonwhite, the results were unchanged. Race and ethnicity had little influence on turnover intention when controlling for other workplace characteristics.

All variables that were statistically significant for turnover intention in previous analyses or hypothesized to influence turnover intention were combined into a hierarchical stepwise backwards linear regression using a pr .02 for removal criterion. Race and ethnicity were not statistically significant in the final model, shown in Table 16. The most predictive variables for turnover intention, predicting 53% of turnover intention, were not having enough time to do the work that must be done, hospital size, months at the current job, and hostility and rudeness in the workplace. The sample size in this analysis decreased to $n = 49$.

Table 16. *Backwards Stepwise Linear Regression of Workplace Characteristics on Turnover Intention with Race and Ethnicity as the Independent Variable of Interest.*
$R^2 = 0.53$, Adjusted $R^2 = 0.43$, $p = 0.0001$, $N = 49$

Variable	ß	SE	p value	95% Confidence Interval
Months at Job	.26	.07	.001	.12, .40
Hispanic ethnicity	-4.68	2.84	.11	-10.43, 1.06
Unit Type-specialty unit	-1.79	1.26	.16	-4.34, .75
Hospital size = > 500 beds	-3.76	1.49	.01	-6.77, -.75
Hospital size = 51-100 beds	-3.43	1.9	.08	-7.27, .414
Hospital size =101-250 beds	-4.06	1.47	.009	-7.04, -1.08
Enough time once/ month	-3.87	1.25	.004	-6.39, -1.34
Hostility and rudeness score	2.80	1.46	.06	-.15, 5.75

Association Between Personal and Workplace Characteristics and Turnover Intention

The third specific aim of this study was to examine the association between personal and workplace characteristics and turnover intention among newly licensed registered nurses within the first 3 years of nursing practice. Those characteristics considered in this model included those found to be statistically significant in the previous analyses when assessing the association between turnover intention and personal and workplace characteristics separately. This analysis evaluated the interrelated personal and workplace characteristics.

To test Hypothesis 3.1, linear regression models were constructed to determine which personal and workplace characteristics are associated with turnover intention while adjusting for potential confounders. The results of the analysis are displayed on Table 17. Only months at the current job remained statistically significant ($p = 0.04$) with an increase of .12 in turnover intention for every unit change in added months at the same job. No other personal or workplace characteristics were statistically significant in this model. The model included a sample size of $n = 96$, and accurately predicted 44% of turnover intention in this group ($p = 0.0019$). The model was further evaluated, and employment setting was entered into the model as a binary acute care hospital- non-acute setting to replace the five categories of employment settings and the results were not different than in the model summarized in Table 17.

Table 17. *Linear Regression of Significant Personal and Workplace Characteristics on Turnover Intention*. $R^2 = 0.44$, Adjusted $R^2 = 0.26$, $p = 0.0019$, $N = 96$

Variable	ß	SE	p value	95% Confidence Interval
Married or cohabitating	1.09	1.09	.32	-1.08,3.27
Divorced	1.47	3.36	.66	-5.22, 8.18
A little confident	-7.62	6.72	.26	-21.03, 5.78
Somewhat confident	-9.18	5.68	.11	-20.51, 2.14
Very confident	-8.31	5.8	.16	-19.87, 3.24
General incivility	.08	.49	.86	-.88, 1.05
Lack of respect	-.24	.34	.48	-.91, .43
Negative environment	.14	.13	.26	-.11, .39
Hostile climate	.05	.32	.87	-.58, .69
Direct supervisor as source of incivility	.04	.76	.95	-1.48, 1.56
Physician as source of incivility	.01	.29	.96	-.57, .59
Months at Job	.12	.06	.04	.004, .23
Specialty unit	.08	.24	.72	-.40, .57
Unit size	.03	.03	.33	-.33, .09
Not enough time about once a month	-2.57	2.19	.24	-6.94, 1.78
Not enough time about once a week	-.36	2.23	.87	-4.82, 4.09
Not enough time more than once a week	-.88	2.81	.75	-6.48, 4.72
Not enough time every day	2.25	3.14	.46	-4.00, 8.52
Number of patients assigned	.04	.22	.84	-.39, .48
AWS Workload score	.96	.94	.31	-.90, 2.83
Hostility and rudeness	.36	1.40	.79	-2.43, 3.15
Patient as source of incivility	-.04	.25	.85	-.54, .45
Family as source of incivility	.02	.41	.96	-.79, .83

To test hypothesis 3.2, differences in the turnover intention of newly licenses nurses stratified by race and ethnicity race and ethnicity were entered into the equation as a five-category variable. Backwards, stepwise selection of personal and workplace characteristics

on Turnover Intention Using a p-value of 0.2 was used for the analysis. The results are shown in Table 18.

Months at the current job was more statistically significant when controlling for race and ethnicity *(p* ≤ 0.01). A negative environment (*p* ≤ 0.01), not having enough time to do the things that must be done about once a week (*p* < 0.01) were the most statistically significant predictors of turnover intention. Being somewhat (*p* = 0.01) or very confident (*p* = 0.01) showed the biggest decrease in turnover intention (-11.96, -11.42 respectively) and were both associated with turnover intention in this model. Lack of respect (*p* = 0.07) and being a little confident (*p* = 0.06) were marginally significant. Race and ethnicity were not statistically significant in this final model.

Table 18. *Linear Regression of Hierarchical, Backwards Stepwise Selection of Personal and Workplace Characteristics on Turnover Intention Using a p-value of 0.2.* $R^2 = 0.42$, Adjusted $R^2 = 0.35$, $p \leq 0.001$, $N = 96$.

Variable	ß	SE	p value	95% Confidence Interval
Not enough time once a week	3.74	1.39	.001	.96, 6.51
Months at Job	.16	.05	<.01	.06, .26
Negative environment	.21	.07	<.01	.07, .35
Not enough time about once a month	-2.72	1.05	.01	-4.81, -.63
Somewhat confident	-11.96	4.56	.01	-21.03, -2.89
Very confident	-11.42	4.57	.01	-20.52, -2.33
A little confident	-10.46	5.56	.06	-21.52, .58
Lack of respect	-.34	.184	.07	.07, .26
Unit size	.04	.03	.19	-.02, .09
Black, non-Hispanic	1.91	1.38	.16	-.82, 4.65

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Examining the personal and workplace characteristics of minority newly licensed nurses has highlighted the differences in the workplace experiences as these nurses enter the workforce. A number of personal characteristics of the nurse and characteristics of the workplace were found to influence the experience of the newly licensed nurse and turnover intention and are important considerations for policy initiatives. These characteristics are interrelated and impact the successful transition of the newly licensed nurse to the role of the professional nurse. Our healthcare system prides itself in providing culturally competent care, but not all members of the healthcare care workforce experience a culturally competent workplace. The impact of race and ethnicity on turnover intention has not previously been evaluated in the nursing literature and this study provides an introductory look into the work experience of a racially and ethnically diverse sample of newly licensed nurses.

Although race and ethnicity were not statistically significantly associated with turnover intention, the workplace experience of minority nurses in this sample is different than the workplace experience for white nurses. Hispanic nurses reported the highest level of incivility from all sources, including coworkers, supervisors, physicians, patients and

families and black nurses reported experiencing high levels of incivility from coworkers, physicians and supervisors and lower levels of incivility from patients and families. Despite describing high levels of uncivil behavior from colleagues and high workloads, black nurses remain in the same job for the longest duration compared to other nonwhite nurses in the study.

Although this study successfully oversampled a diverse group of respondents, the majority of this study sample was white, (61.2%). Racial and ethnic diversity have not been achieved in nursing despite calls by the Institute of Medicine to increase the diversification of the healthcare workforce. As the demographics of the population change, so should the diversity of the workforce. Workforce diversity in nursing is needed to provide truly culturally competent care and required in order for the U.S. to achieve the goal of eliminating health disparities and achieving health equality (Phillips & Malone, 2014). This sample achieved about 8% Hispanic newly licensed nurses, much lower than the 18% of the U.S. population (United States Census Bureau [U.S. Census Bureau], 2018) and 11% of the Massachusetts state population (Pew Research Center, 2019) represented by Hispanics. The study sample was made up of 16% black nurses, a substantial oversampling compared to the 6.2% (National Advisory Council on Nurse Education and Practice [NACNEP], 2013) and 4.2% (Massachusetts Department of Public Health [MDPH], 2016) in the national and Massachusetts nursing workforces and 8.8% of black Massachusetts residents (U.S. Census Bureau, 2018). But as the diversity of the workforce is increased, the experience of the newly licensed nurse entering the workforce should be considered.

The perception of a negative environment was examined in this study as a hostile climate and inappropriate jokes. General incivility in the workplace speaks to the atmosphere nurses function within and the interpersonal relationships forged in that environment. General incivility was moderately correlated with higher turnover intention, therefore creating a respectful atmosphere is important to maintaining a stable workforce. Interestingly, inappropriate jokes, a composite variable examining inappropriate race, religion, gender jokes and remarks, was correlated with lower turnover intention but the individual components specifically related to race do not correlate with turnover intention. Rather, it was inappropriate remarks about religion and gender that were found to be statistically significant. Inappropriate jokes in the workplace correlate with higher levels of general incivility but with a lower turnover intention. The race and ethnicity of coworkers is not identified in this sample, and race concordance within the workplace is not established. The race and ethnicity of those making inappropriate jokes and remarks may or may not be the same as the respondent's race and ethnicity which may therefore influence the interpretation and tolerance of those remarks.

Lack of respect predicts turnover intention as well. All nurses who identified as nonwhite and/or Hispanic in this sample reported higher levels of general incivility from other employees and Hispanic nurses reported a lack of respect in the workplace. These interpersonal dynamics disadvantage the newly licensed nurse adapting to the new role and strains the personal integrity of the new nurse. The impact of interpersonal relationships on turnover intention in this sample is consistent with previous studies (Bowles & Candela, 2005; Cho, Lee, Mark, & Yun, 2012; Laschinger, 2012; Rheaume et al., 2011; Smith,

Andrusyszyn, & Laschinger, 2010). Those nurses who report higher levels of incivility from other nurses, the direct supervisor, or physicians reported higher turnover intention scores but not all those nurses with high turnover intention have changed jobs. Hispanic nurses reported the shortest duration at the current job but black nurses have remained in environments they describe as uncivil. This raises questions regarding the flexibility of nurses to transition to a different work environment for those nurses who have been treated uncivilly or perceive hostility at work. Employment opportunities are limited for those nurses who do not meet the minimum education requirements for acute care hospitals, most of which require a require a BSN for new hires. Those who hold an associate degree in nursing are more likely to be nonwhite, highlighting an inequity in educational opportunities for racial/ethnic minority individuals, and restricting many nonwhite nurses to working in community settings.

Nurses who work in the community historically have fewer resources available to them as compared to those in a hospital setting. Many nonwhite nurses were employed in nonacute settings where the mean number of patients assigned at one time was higher than in acute care. Some respondents reported being pushed to work beyond their skills and capabilities. A shift towards care provision in outpatient and ambulatory settings may contribute to the higher workload and assignments and worsen the current conditions of work for these nurses unless addressed and obviated. Approximately 12% of the non-acute care sample worked in home health, elementary or secondary schools or public health positions. In this sample, the distribution between white and nonwhite/Hispanic any race nurses in this setting was even. Despite higher numbers of patients assigned at one time, this group

reported low workload scores and not surprisingly, low turnover intention. This group also likely has fewer nurse coworkers, direct supervisors and ongoing physician interaction within the same work setting than those nurses working in acute care. The interactions with identified sources of incivility may be limited in the non-acute settings but this study was not designed to investigate the managerial and oversight structures of the workplace.

The experience can be difficult for the new nurse who is working autonomously. With limited experience to draw on, some newly licensed nurses were questioned by concerned families. Many positions outside the acute care arena involve nurse - patient/family interface without an experienced nurse to assist in that interaction. One Cape Verdean nurse described her experience when interacting with a challenging family and highlighted the need for new nurses to be mentored.

> "Working as a private duty nurse one family refuses to allow RN to speak directly to physician the family insists on handling all MD inquiries. This pt [patient] and family is [sic] highly educated with patients [sic] morbidities and will often refuse RN's request to perform assessment and ordered care…. In my first position in a LTC [long-term care] facility I had no preceptor shadowing, my first day I observed 2nd day I was put on the tx [treatment] cart the third day I was on my own. I feel I would of [sic] been a stronger nurse instead of "faking it until you make it".

Both families and patients exhibit uncivil behavior towards nurses. The behavior of patients is assessed based on frequency of how often patients show they are irritated or impatient, question the information provided by the nurse, are condescending, place

unreasonable demands on the nurse and how they interact with other nurses on the unit as assessed by the respondent. The reports differed by race and ethnicity. Hispanic nurses who are more likely to work in an outpatient setting, report the highest mean patient incivility score, and black nurses who are more likely to work in rehabilitation and long-term care report the lowest scores. Although not statistically significant, white and Hispanic nurses report the highest level of patient incivility from patients and families.

The employment position of the nonwhite personnel may be misjudged by others in the workplace, including patient and family who assume that the nonwhite staff hold support positions and are not professionally licensed, which can lead to frustration for the nonwhite nurse. When given the opportunity to provide anecdotal information about their workplace, nonwhite nurses report being asked specifics about their education in contrast to white nurses who are assumed to be capable and competent. In addition, some support staff challenge the nonwhite nurse and refuse to take direction from them. According to 244 CMR 3.00: M.G.L. c. 112, § 80B. (Nurse Practice Act), the nurse is authorized to delegate to unlicensed personnel, but a lack of respect, based on both lack of experience and nonwhite race, creates a barrier to patient care when the delegation is not accepted. One mixed race Caribbean nurse relayed a history of Caucasian unlicensed staff refusing to accept delegation from a nonwhite nurse. The inability to delegate effectively creates more work for the nurse, adding to the workload and likely an increased AWS score because those nurses have added responsibilities. This level of distrust may contribute to the general incivility which in turn impacts turnover intention.

Direct supervisor incivility, measured as abusive supervision and lack of support, is positively correlated with higher turnover intention and with higher levels of general incivility in the workplace. Nurses who identify as a race other than white or as Hispanic report being yelled at by their direct supervisor more frequently than white nurses. Nurses of color express an added burden of proving themselves in the workplace and being bullied by the supervisor. One black nurse relayed her experience with a supervisor.

> "I feel being a minority, I find myself constantly having to prove myself to my other coworkers that I am just as competent as they are….I have found myself in situations of bullying, passive aggressive/ condescending behavior from my direct supervisor, coworkers even the doctors I work with."

Being supported and feeling able to ask questions is important in the early years of practice development as new graduates transition to the role of professional, but there is a reported difference in how nurses of color are treated when compared to white nurses in this study. Leiter (2013) reports that people apply different standards to their behaviors towards out-of-group members than towards in-group members (p.33). While no statistically significant direct link was identified between turnover rate and race and ethnicity, the negative interactions between nonwhite nurses and the direct supervisor must be considered as informative. Though the race and ethnicity of the supervisor who made the remarks was not specified, the direct supervisor was viewed as a perpetrator of incivility by both white and nonwhite nurses who can be grouped together as staff nurses (in-group members), evaluating the supervisor as out-of-group according to Leiter's model. Some white nurses report having

witnessed poor interactions with the direct supervisor. The new nurse then is absent a support system and mentor needed in the early years of professional practice.

Although not associated with higher turnover intention, those nurses who speak a language other than English at home reported being treated differently than primary English speakers. This subsample reported a higher incidence of being yelled at by the direct supervisor and more frequently identified the physician as a source of incivility. This is concerning given the important role communication plays in both providing care and mentoring new nurses who are building a practice foundation. In addition, multilingual newly licensed nurses are sometimes given the additional responsibility of providing accurate medical translation while novices in the field. These nurses may be asked to explain procedures and diagnoses unfamiliar to them, given their limited experience and lack of expertise. In addition, providing translation for other staff members increases the workload of the new nurse who is learning time management skills.

Communication has been identified as the most important aspect of care provision (Ali & Watson, 2017). Nearly all respondents identified English as the primary language spoken at home (90.71%) with a moderately higher percentage of respondents reporting English as the primary language of their patients (95.63%). Spanish was the primary language spoken at home for 2.19% of survey respondents, approximately equal to the 2.73% reported primary language of patients for this sample. This is far less than similar data for all nurses in Massachusetts and Massachusetts residents. The majority (76%) of Massachusetts Hispanics speak a language other than English in the home (Pew Research Center, 2019), inverse to the majority (90.71%) of nurses in this sample who are English speakers at home.

This language mismatch emphasizes the importance of a diverse workforce as language discordant patient- nurse relationships may challenge effective communication for patients. It is troubling that a statistically significant difference in family incivility was observed when incivility was analyzed by the primary language of the nurse. Spanish speakers report a statistically significantly higher family incivility score than those nurses who speak English, French or another language at home. All respondents who speak Spanish at home identify as Hispanic. Discrimination and racism perpetrated by patients and families have been documented in the nursing literature (Moceri, 2013). Communication is fundamental to nursing care and a diverse health care workforce increases culturally competent care and eliminates language barriers (American Association of Colleges of Nursing [AACN], 2015; Baer et al., 2013; Cooper & Powe, 2004; Health Resources and Services Administration [HRSA], 2013). Increasing the diversity of the nursing workforce can serve to improve nurse-patient communication as the patient population becomes more diverse but race and ethnic discordant nurse-patient relationships may create adversity for the qualified nonwhite nurse trying to provide care for a white patient.

Most of this sample works in acute care (n = 106), but nonwhites are underrepresented in that workplace (n = 31). Nonwhites employed in acute care are more likely to work in general care units as opposed to specialty areas and report higher workloads and average number of patients assigned at one time. Although not statistically significant, turnover intention for nurses working in specialty areas was lower when compared to turnover intention for those working on a general nursing unit in this study. The literature reports an increase in turnover intention for those nurses who did not secure employment on

their first choice of unit (Beecroft et al., 2008), but this study was not structured to elicit that data from each respondent.

More than 60% (n = 110) of the nurses in this sample have changed jobs at least once and an additional 22 changed jobs a second time, higher than the 50% documented in the literature (Brewer, Kovner, Greene, Tukov-Shuser, & Djukic, 2012). Using the Robert Wood Johnson estimate of turnover cost (Robert Wood Johnson Foundation [RWJF], 2009), the healthcare system responding to that turnover likely spent $2.41 – $7 million to replace those nurses in the sample who vacated their first position. In addition to the financial burden resulting from that turnover, the residual effect on the remaining staff and cost to patient care must be considered. Staff efficacy, job satisfaction, nurse productivity and continuity of patient care is impacted when staff leave a position (Duffield, Roche, Homer, Buchan, & Dimitrelis, 2014; Hunt, 2009; VHA, Inc., 2002).

The American Nurses Association (ANA) supports the federal Safe Staffing for Nurse and Patient Safety Act of 2018, which factors the complexity and stability of patients into assignments while also adjusting for nurse experience, available technology, resources and unit workflow (American Nurses Association [ANA], 2018, para. 5) but new graduates are not seeing the translation of this ideal into the workplace. Their limited experience is reportedly not factored into the assignment and the expectation may seem unrealistic to the new nurse, challenging the ability of the new nurse to maintain structural integrity and meet the demands of the job. "Our patients needs and our physical and emotional well-being are compromised…. If experienced nurses can barely manage the care of five patients, why is it expected that newer nurses should be able to; burnout comes fast." Assignments that

anticipate the new nurse to function at a level beyond their capability threaten the integrity of the new nurse and increase the likelihood of the new nurse vacating the job and potentially the profession.

As nurses remain at the same job for a duration of time, it is assumed the experience gained cultivates proficiency. In this sample, confidence is not statistically different by race or ethnicity, almost all respondents report feeling somewhat or very confident in their ability to do their job, but Hispanic nurses reported the lowest percentage of very confident nurses. Confidence can increase with time and experience as the nurse successfully adapts to the new role. Feeling confident and being able to do the job is an indication of adaptation to the role of professional nurse. As expected, and consistent with previous studies, the nurses in this study who reported feeling somewhat or very confident in their ability to do their job reported lower turnover intention.

An experientially diverse workforce is important to allow new graduates to learn from veteran staff (Hnatiuk, 2012). Interpersonal relationships are an important influence on communication which can impact mentoring and emotional support for the new nurse. A 23 yo white respondent reported

> "I was not expecting the emotional toll that working in an ICU has taken on me and my mental health….the verbally abusive patients are starting to take a toll. Most of the patients are delirious but that doesn't negate the emotional toll it takes when someone yells at you for 12 hours…. I plan on leaving my job at the 2-year mark."

The milieu of the workplace was evaluated through the respondent's lens of the workplace and used to examine the perception of a negative environment. In focusing on the

dynamics of the workplace, Leiter (2013) notes that diminishing resources coupled with growing demand have the potential to increase conflict among team members. Conflict in this setting can lead to burnout and decreased productivity (Leiter). Although turnover intention for a racial and ethnically diverse nursing workforce has not been well studied, the literature does cite both discrimination and at least one change in job for physicians who self-identify as non-majority (Nunez-Smith et al., 2009). In addition, African American nurses have reported less job satisfaction, a precursor to turnover, than their white counterparts (Kovner, Brewer, Wu, Cheng, & Suzuki, 2006).

Unexpectedly, white nurses assigned higher incivility scores to physicians as the source of incivility than nonwhite nurses. This may be due to ongoing and expected oppression due to the longstanding microaggressions experienced by blacks (Wallace, Roth, Zimmerman, & Eckert, 2016). Nurses who have historically been challenged or experience hostility regularly may anticipate some level of incivility and view it as usual or expected.

There is some evidence that working on a smaller unit (less than 20 patients) is more optimal for the nurse (Bowles & Candela, 2005), but unit size was not associated with turnover intention in this study. However, an increase in unit size was correlated with higher levels of incivility perpetrated by other nurses. Newly licensed nurses reported statistically significant higher levels of nurse incivility correlated with higher turnover intention ($p = 0.05$, $r = .1566$). Hispanic and white respondents both reported larger unit size compared to black, Asian, and multiracial nurses. In addition, the correlations between unit size and family incivility (r (154) = .1860, $p = .0201$), and unit size and patient incivility (r (156) = .2342, $p = .003$) are not surprising given that a larger unit's geography could

increase the response time to a call light, the difficulty of locating the nurse, and the noise and perception of chaos in the environment which may hamper communication between the nurse and the family/ patient and ultimately increase frustration and uncivil behavior.

Workload has been reported to be positively correlated with turnover intention across all races and ethnicities and areas of practice in this sample and is related to adequate staffing. The perception of inadequate staffing has been documented in the literature as a barrier to safe patient care (Bowles & Candela, 2005)(McCalla-Graham & DeGagne, 2015; Rheaume et al., 2011) and as a predictor of job satisfaction which is a precursor to turnover intention (Stam, Laschinger, Regan, & Wong, 2015). The results of this study are similar. Higher AWS scores are correlated with higher turnover intention. As shown in previous studies, turnover intention was higher for this sample when nurses were unable to complete the work that must done within the scheduled hours of work. Staffing limits in acute care hospitals (outside of the ICU) are frequently discussed by healthcare leadership and legislative initiatives in Massachusetts have been proposed but not adopted . Currently, each individual hospital and unit create matrices that may or may not include consideration of the experience and skill level of the nurse. There was no statistically significant difference by race in the number of patients assigned, but the number of patients assigned does correlate with workload and the nurse's ability to do the work that must be done. Interestingly, not having enough time to do the work that must be done and high workload scores are associated with turnover intention, but the number of patients assigned was less significant which seems inconsistent. The number of patients assigned and the amount of care required

should be factored into assignments if the nurse's level of experience and abilities are considered.

The length of time at the current job was not correlated with workload, and nurses who were more experienced did not report lower AWS scores and did not report being better able to manage the amount of work assigned. One Hispanic respondent explained her work frustration as related to workload. "Staffing ratios are the #1 reason I feel frustrated @ work….I find it hard to be a "safe" nurse when workload is too much." Some nurses reported an inability to take breaks for themselves because of the amount of work and demands to be met in providing patient care. Nurses are expected to meet the physical, spiritual and emotional needs of patients while challenged to meet their own basic needs, regardless of race and ethnicity. This inability to meet their own personal needs risks the successful adaptation to the new role, as clarified by this respondent, "Five patients creates a very stressful unrealistic demand on patient care placing us in a position on most days where there is no break to eat and barely - if at all - a bathroom break."

Inadequate staffing has been reported in the literature to be the root cause of difficult workplaces, is associated with high workload (Bowles & Candela, 2005; McCalla-Graham & DeGagne, 2015;Rheaume et al., 2011;Stam et al., 2015), and was operationalized in this study as AWS score. Patient- nurse relationships are hampered by the workload and demands of the job, and the inability of the new nurse to meet those demands, regardless of race. When the new nurse cannot meet the demands and is unable to achieve full adaptation to the role and vacates a position, the remaining staff experience additional challenges in the workplace. Turnover creates an unsettled work environment and increases turnover by

nurses searching for a better workplace experience. Contributing to the increased workload of the nurse in all settings is staffing adequacy.

The mean number of patients assigned to those nurses who reported a needlestick injury was higher than the mean number of patients for all nurses in the sample. Nearly half of those nurses in this study who sustained a workplace injury reported a needlestick, which can have devastating and lifelong implications for the injured worker. While documented transmission of HIV or hepatitis through workplace exposure is believed to be rare (0.23%; Centers for Disease Control and Prevention [CDC], 2015, para. 3), a risk of transmission exists and has potential lifelong implications for the worker who is injured. There is a dearth of studies that examine the rate of needlestick injuries for newly licensed nurses in the U.S., but a Taiwanese study reported that new nurses were 1.0 to 2.6 times more likely to sustain a needlestick injury than experienced nurses and most likely to sustain that injury in the first few months of work (Yang, 2013), which has implications for a need for additional training in the pre-licensure setting. Our observations in this study are different. The mean length of time at the job for those nurses in this study who sustained a needlestick injury at work was much longer, 11.9 months. After having been at a job for nearly a year, the new nurse is expected to be developing some competence and would be considered an advanced beginner, efficient and skillful in some parts of practice having experienced actual situations on which to base clinical decisions (Benner, 1982), and presumably possessing the dexterity to manage percutaneous devices. Experiencing a needlestick at that point indicates some other factor contributing to the increased risk and should be explored in order to reduce risk in this population.

Previous studies have found that positive interpersonal relationships with coworkers had the greatest impact on lower nurse turnover. Conversely, coworker incivility or negative interpersonal relationships were predictors of lower job satisfaction and can be considered a precursor of higher turnover intention (Bowles & Candela, 2005; Cho et al., 2012; Laschinger, 2012; Rheaume, Clement, & LeBel, 2011; Smith et al.,2010). According to Benner, the novice nurse uses discretionary judgment in the first months of practice (Benner, 1982) while developing proficiency. They may depend on guidance from expert nurses, but this sample reported statistically significant levels of incivility from other nurses on the unit, the direct supervisor and physicians. The novice nurse who seeks guidance from experienced staff is likely discouraged from requesting help and may be more challenged to adapt easily to the new role. The risk of poor adaptation to the new role is higher turnover. Turnover intention is positively correlated with higher levels of incivility from other nurses, the direct supervisor and physicians in this sample. Findings are consistent with the literature (Beecroft, Dorey, & Wenten, 2008; Laschinger, 2012; Oyeleye, Hanson, O'Connor, & Dunn, 2013).

Males reported abusive supervision by the direct supervisor more frequently than females ($p = 0.002$) . Nearly all (96.8%) female nurses reported the supervisor "never" yelled while 17.64% of male nurses reported that the supervisor yelled at least once a month or more than once a week. When controlling for gender in addition to race and ethnicity, Hispanics were more likely to be yelled at by the supervisor ($p = 0.001$). There is no comparable data located in the literature for comparison.

Marital status may impact the support systems in place for the new nurse. Having a partner may provide emotional support or additional personal stress, depending on the relationship. Alternately, those nurses and their families who are solely or mostly financially dependent on the current employment may lack the freedom to vacate suboptimal working conditions. About half of the sample were partnered across all races and Hispanic ethnicity. White males are more likely to have never married in contrast to black males who are more likely to be married or cohabitating. Contrary to previous studies, marital status was not associated with turnover intention in this sample.

Gender was not documented as associated with turnover intention in the literature but considered in data analysis for this study as the number of male nurses has increased over the past decades (Landivar, 2013) and policy initiatives should consider the changing demographics of the workforce. Similar to the national nursing workforce (90.9% females and 9.1% males) (Smiley et al., 2018, p. S11), more than ninety percent of respondents in this study were female (90.71%) and less than ten percent were males (9.29%). The majority from each race and ethnicity in this sample were female and no Hispanic males responded to the survey. Blacks and Asians reported the highest percentage of males responding to the survey (13% and 14% respectively). When stratified by gender and race, this study had higher percentages of nonwhite males than white males. The trend of minority males as newly licensed nurses in Massachusetts is an important consideration. It is difficult to assess the number of nonwhite or Hispanic male nurses in Massachusetts because that data is not maintained by and publicly available from the Massachusetts Board of Registration in Nursing. Gender was not associated with turnover intention in this study, but workplace

differed by gender when race was considered. A larger proportion of the white males (41%, n = 10) worked in acute care compared to only 25% of black males (n = 2).

This sample is well educated overall, but disparities exist when considering education by race and ethnicity. Nearly three quarters (71.4%) of the sample held a bachelor's degree as the initial nursing degree earned, exceeding national and state workforce estimates (41.7%, 40.4% respectively) (Massachusetts Department of Public Health [MDPH], 2016,). Although the study sample is more educated than national and state estimates, it does approximate the Institute of Medicine (2011) goal to have 80% of nurses baccalaureate prepared; thus, perhaps offering a glimpse into the workplace experience of nurses who fit that profile. Less than one quarter of the study sample reports an associate degree as the highest nursing degree (21.2%) compared to more than one third of nurses nationally with the same educational achievement (Smiley et al., 2018,). Only 1.63% of respondents held a diploma as the initial nursing education obtained which is far less than 12.0% of nurses nationally (Smiley et al., 2018,) and 19.8% of all licensed nurses in Massachusetts (MDPH, 2016). A higher percentage of the sample (5.43%) achieved a master's in nursing as the initial degree, compared to 2.7% of all Massachusetts nurses who currently hold a Masters (MDPH, 2016,).

Differences in the level of education by race and ethnicity were observed in this study. Compared to 71% of the overall study sample holding a bachelor's degree, only one third of Hispanics and more than one quarter of blacks hold an associate degree as the highest nursing degree achieved. In addition, no Hispanics have achieved a master's degree. A prerequisite to employment in most acute care hospitals in Massachusetts is a BSN, yet that

prerequisite is not equally achieved by minority nurses, creating an employment opportunity barrier to nonwhite nurses seeking acute care employment. Diversifying the workforce in acute care hospitals cannot be achieved if opportunities to obtain a BSN are not shared across races and ethnicities. This study did not explore the personal educational goals or barriers for respondents. While black and Hispanic nurses have a lower percentage of BSNs in this sample, it is unclear if access to a higher degree existed for these nurses and if so, if the access was limited because of personal or financial challenges, family obligations, or geographical access or if other challenges contributed to educational decisions. As a profession, we have an obligation to assure that nursing education opportunities, both pre and post licensure, are equally available across all racial and ethnic groups. This has implications for opportunities for advancement within the profession as well as patient care. Racially and ethnically diverse new nurses often serve as cultural brokers for patients and colleagues leading to higher levels of culturally appropriate care. If nursing desires a diverse nursing workforce, as we profess to claim, we must have the will to remedy these inequities in educational and advancement opportunities for nonwhite nurses.

Nursing degree did not influence turnover intention in this sample. The literature is inconsistent when assessing the influence of education on turnover intention. Previous studies have reported an increase in turnover intention for nurses who are diploma-trained (Cho, Lee, Mark, & Yun, 2012) while others found higher turnover intention for nurses with an associates degree (Beecroft et al., 2008). Another study found no difference in educational level and turnover intention (Bowles & Candela, 2005).

Consistent with the literature that indicates having been injured at work is a significant predictor of vacating a job, this study shows that not having been injured predicts a lower turnover intention, but injury at work did not differ by race or ethnicity. According to Occupational Safety and Health Administration (OSHA), nurses and nursing assistants are the occupational designation most at risk for work-related injury and illness, especially musculoskeletal disease (Occupational Safety and Health Administration [OSHA], 2013,). Nationally, the incidence of injury to nurses is 55.7 per 10,000 full time workers, with a median of 8 days away from work (Bureau of Labor Statistics, U.S. Department of Labor [BLS, DOL], 2014,).

Musculoskeletal injuries are one of the most common injuries experienced by healthcare workers, frequently sustained as a result of lifting or moving patients. Statewide in 2010, an estimated 1,000 Massachusetts hospital workers suffered musculoskeletal injuries associated with patient handling (Massachusetts Department of Public Health [MDPH], 2017). Of the nurses in this sample who reported a workplace injury (n = 28, 15.3%), about half of those who reported an at-work injury (*n* = 12, 6.6%) sustained a needlestick and are from varied workplaces and race/ethnicity. Although this study was not structured to evaluate the etiology of workplace injuries, some associations were noted. The mean number of patients assigned to those who sustained a needlestick is 11.25, (range 1-25) across all care settings which is higher than the mean number of patients assigned to all nurses in the study (mean 7.9, range 1-50).

Workplace violence is the violence or threat of violence against workers (U.S. Department of Labor Occupational Safety and Health Administration [OSHA], 2017). Only

one respondent reported being struck by a patient and none reported being struck by a family member, far less than the 25% of a large sample studied by the American Nurses Association who reported being struck by a patient or family member (American Nurses Association [ANA], 2017, p. 4).

While the incidence of all at-work injuries is not statistically significantly different by race and ethnicity, whites represented more than half of those who reported an injury and 60% of those who missed work because of that injury. This study did not seek to elicit data regarding access to or limitations to workplace benefits. It is therefore unclear if those who did not miss work due to the injury were forced back to work because of challenges in accessing employment benefits that provided compensation for a workplace injury or if the injury sustained did not require time away from work.

Age was not statistically significant in examining turnover intention in this sample, which differs from the literature. Other studies have reported younger nurses have increased turnover intention (Beecroft et al., 2008) and older nurses have less turnover intention (Tominaga & Miki, 2010). There was no correlation between age and turnover intention in this study. This study did not explore personal responsibilities of the respondents which may prevent or inhibit turnover intention, such as family financial responsibilities to care for young children or older adults.

Successful adaptation to the new role of registered nurse requires the individual to maintain wholeness and integrity through physical and emotional well-being for nurses of diverse race and ethnicity. Inherent in the new role for the nurse is the interaction between the newly licensed nurse and the workplace environment. Compatibility and social

connectedness with coworkers are reflected in the individual's personal and social integrity. An individual's feelings of confidence to perform the role, and maintain positive interpersonal relationships are fundamental to conservation of personal and social integrity. The newly licensed nurse deserves to be allowed to adapt to the new role and to conserve energy, and maintain structural, social and personal integrity. By ensuring a safe environment that encourages personal and professional growth in the racially and ethnically newly licensed nurse employed in a supportive and respectful environment, turnover intention can be decreased thereby lessening the financial impact of nurse turnover and simultaneously improving patient care.

Limitations

There are both strengths and limitations of this study that should be considered. Although this sample is more racially and ethnically diverse than state and national workforces estimates, it is a small sample. It may not accurately reflect associations that exist in a larger sample. The issue of nonresponse bias cannot be ignored. Respondents may have shared experiences that are dissimilar to those who did not respond. White nurses were included in the sample to provide a comparison in an effort to describe a realistic representation of the employment experience for racially and ethnically diverse newly licensed nurses but the 18% response rate is less than ideal and may have skewed the results to illustrate a more uncivil environment than exists for the larger population. In addition, there are a larg number of variables assessed in this sample and some findings may be difficult to replicate. Some analyses which did not produce a statistically significant

association between personal and workplace characteristics and turnover intention revealed trends that were informative.

By seeking a racially and ethnically diverse sample, this study has provided a voice to a nonwhite newly licensed nursing workforce and allowed newly licensed nurses who are black, Asian, multiracial and Hispanic the opportunity to describe their workplace experience, a viewpoint that has been understudied.

The data was collected from nurses with less than three years of experience. The initial frustrations or challenges faced by newly licensed nurses may be resolved with additional time at work and after the initial employment period. The workplace experience may be influenced by the level of interest in that setting; no information was gathered about how that workplace was chosen and if it was the first choice for the nurse or taken because of limited employment options. Orientation programs for hospitals are not standardized and some nurses may have one, few, multiple or no preceptors. The strength, length and quality of orientation may influence turnover intention and should be considered in future studies in addition to available resources designed to mentor new nurses as they transition from to student to licensed nurse. Past experience in another role may influence the workplace experience, changing the comfort level of the newly licensed nurse with the environment and no data was collected about previous work experience, with the same or different employer. In addition, the concordance of race and ethnicity with the preceptor and new nurse may have influenced the immersion of the new nurse into the workplace and influenced the experience. No data was gathered regarding the race and ethnicity of the coworkers, supervisors, and

physicians. Concordance may influence perception of the environment and responses provided on the survey.

Language spoken at home was identified as significantly influencing sources of incivility, but no data was gathered regarding the nurse's status as native to the U.S. or if immigrated, length of time since immigration which may influence immersion into the U.S. culture and communication with others. Acculturation to the U.S. may influence communication in and perception of the workplace. General incivility was identified as associated with turnover intention, but other sources of incivility were less clearly associated with turnover intention. The items used to elicit information about sources of incivility may not have been sensitive enough to identify true sources of incivility in this diverse sample. Usual shift worked was not gathered and may influence communication between the new nurse and patient, family, physician and supervisor as interactions that may have influenced survey responses could have occurred during late nights and interrupted sleep, potentially lending itself to a negative interaction. Newly licensed nurses may have been reluctant to provide negative information about their coworkers or supervisors because of loyalty to the employer and/ or coworkers. The direct and indirect costs of turnover is not quantified and are important to consider in strategizing an approach to turnover for newly licensed nurses.

Conclusions and Recommendations

The results of this study have implications for education, practice and policy at the unit, facility, and government level. Minority nurses in this study were less likely to have a

BSN and less likely to work in acute care or a specialty within acute care. The lack of a BSN has implications for the type of facility the new nurse can be hired into as well as her/his opportunities for advancement. If we are to achieve the Institute of Medicine goal of increased diversification of the workforce, we need to focus on equitable opportunities for nonwhite nurses and the issues of social justice that exist in our society. Further research to understand the barriers to nonwhite nurses achieving higher education in nursing is needed to inform policy to identify barriers to the bachelor's degree that exist so that those barriers can be eliminated. By eliminating those barriers, employment opportunities for nonwhite nurses who seek acute care employment can be expanded. Acute care hospitals seek bachelors prepared nurses. Reimbursement by CMS is tied to patient outcomes and there is strong and consistent evidence that ties higher education to patient outcomes (Aiken et al., 2014), therefore those nurses who hold less than a baccalaureate degree are afforded less employment options and may be considered less valuable to the employer. All nurses should have an equitable opportunity to secure desired workplace settings and be given the opportunity to seek the educational goals required to attain the desired employment.

The underrepresentation of nonwhite nurses at the bedside and the incivility experienced should be a focus for educators. Nursing curriculum should prepare nurses for the conflict they are likely to experience and provide new nurses with strategies to manage negative situations in order to allow them to optimize outcomes and to diminish the impact that repeated uncivil interactions may have on the physical and emotional well-being of the new nurse.

The diversification of the workforce to mirror the diversity of our population will decrease language barriers and improve cultural competence in healthcare. Conversations with racially and ethnically diverse students at both elementary and high school levels should occur to engage both males and females from diverse communities to pursue nursing as a profession. When considering the sample in this study, a higher proportion of black male nurses than white male nurses participated. No Hispanic males responded. This may indicate a shift in the composition of the profession in the coming years and should be considered in recruitment and management strategies. The interactions with new nurses should be respectful and supportive. Males reported being yelled at more frequently than females and nonwhites experienced higher incivility than whites. Leadership should educate managers to better respond to new nurses, regardless of gender, race or ethnicity.

The current push to population-based care within the home or community is an important consideration for policy initiatives. As the U.S. population ages and predictably will require more care, an increased need for nurses in those settings and the current workload of nurses in these settings should be addressed. Those nurses who are employed in non-acute care settings report higher AWS scores and higher number of patients assigned. Many of those nurses are nonwhite and experience incivility from patients and families in addition to other nurses, direct supervisors and physicians. As the need for such care increases and adds a higher workload to those providing care in those facilities, it is important to consider the impact of that workload on the staff and potential for increased turnover of newly licensed nurses.

Further evaluation of the cause of needlestick injuries in new nurses is needed to eliminate the risk of lifelong consequences due to blood borne pathogen exposure. Needlestick injuries in this study occurred later in the first year than documented in previous research which raises questions regarding other factors that contributed to those injuries. Further study is warranted to protect these nurses and identify the appropriate resources that would contribute to a decrease in needlesticks, such as education, simulation, skills development, or modified workload or patient assignment for new nurses.

Nurses of varied races and ethnicity should be included in conversation about policy in the workplace to ensure culturally competent policies are developed and implemented. Though little literature exists to address racial/ ethnic concordance in nursing mentoring relationships, lack of concordance has been found to be an obstacle to the mentee (Yehiz et al., 2014). Racial and ethnic concordance between new nurse and preceptor should be considered to facilitate the immersion of the new nurse in the environment. The environment and atmosphere of the workplace should respect racial and ethnic diversity and support of cultural competence. The tolerance of ill-mannered interactions between any nurse and others, including other nurses, physicians, direct supervisor, patients and family, reflects the priorities of the employer and should reflect the mission of healthcare, encouraging a respectful atmosphere. Those who engage in inappropriate jokes or comments about race, religion, or gender should be held accountable. In addition, managerial support for those nurses who are treated disrespectfully by other nurses, physicians, patients, families, and other employees should be an expectation and disrespectful behavior should be confronted. New and experienced nurses who are treated badly by patients and families should be

supported. It is incumbent for leadership within healthcare to support the staff and make clear an intolerance for inappropriate behavior by patients, families, and staff.

The assignments made for nurses in all workplaces should factor in the experience level and skills of the new nurse and the ability of the nurse to meet the needs of the patient. The new nurse must be allowed to develop competence, guided by experienced staff who can foster professional growth and mentorship. It is important to supply adequate resources to the novice nurse. The workload should accurately reflect their ability to provide safe care while ensuring the ability to meet their own personal needs of food, break from the bedside, and access to the restroom. If a continued shift in care provision toward outpatient and ambulatory settings continues, the workload in these settings must be assessed and modified to accurately match the capability and experience level of the nurse and facilitate professional growth while meeting the needs of the patient population, both as currently exists and as the demand increases. The richness of a diverse workforce should be appreciated and celebrated as a means to better meet the needs of the diverse patient population.

The conversation about race and ethnicity in the nurse workforce and the implications for turnover intention has begun and should continue. Qualitative research to understand the experience of a racially and ethnically diverse newly licensed nurses can further inform policy. Further research is needed to learn about the workplace experience of a diverse nursing workforce and the experiences and barriers of a nonwhite workforce that remain in the current job while reporting a hostile climate and negative environment The long-term implications on the physical and mental health of those nurses who remain in that situation

should be considered and optimized in order to retain a healthy and diverse workforce that reflects the racial and ethnic demographics of the community it serves.

APPENDIX A

Operational Definition of Turnover or Antecedent to Turnover or Turnover Intention in Analyzed Studies. Studies are listed according to rigor of study design, sampling size and methods, validity and reliability of instruments employed. Studies are listed in descending order.

Citation	Operational Definition or Antecedent to Turnover Studied	Sample Size
Brewer, Kovner, Greene, Tukov-Shuser, & Djukic (2012)	-Working as a nurse at Time 1 and Time 2 of data collection -Same or different position -Same or different employer -No data or clarification provided regarding voluntary or involuntary change in employment -Data regarding job satisfaction collected	n = 1653
Kovner, Brewer, Fetehi, & Jun (2014)	-Turnover rates reported for nurses in nursing jobs -All organizational turnover (voluntary and involuntary) -Position turnover for nurse remains in organization not included	<u>2005-2005 sample</u> n = 135 (all settings) n = n/a (hospitals only) <u>2007-2008 sample</u> n = 271 (all settings) n = 1,500 (hospitals only) <u>2010-2011 sample</u> n = 463 (all settings) n = 1,093 (hospitals only)

Citation	Operational Definition or Antecedent to Turnover Studied	Sample Size
Bowles & Candela (2005)	-Remain in first or second position, employed as a nurse -No data or clarification provided regarding voluntary or involuntary change in employment -Data collected regarding perceptions of job experience	n = 352
Citation	Operational Definition or Antecedent to Turnover Studied	Sample Size
Casey, Fink, Krugman, & Propst (2004)	-Job satisfaction measured by stresses and challenges of the job collected at specified times -No data collected regarding change in position	n = 270
Cho, Lee, Mark, & Yun (2012)	-Turnover categorized into leavers, stayers and dropouts (mortality from study) - No data or clarification provided regarding voluntary or involuntary change in employment -Job satisfaction and job dissatisfaction measured as assumption that negative attitude toward job would influence turnover decision more strongly than positive attitude	n = 351
Laschinger (2012)	-Turnover intention, career turnover intention -Job satisfaction measured including work life satisfaction, structural empowerment and authentic leadership	n = 342
Smith, Andrusyszyn, & Laschinger (2010)	-Organizational commitment, psychological empowerment and workplace incivility used to evaluate affective organizational commitment -No data collected regarding change in position	n = 117
Stam, Laschinger, Regan, & Wong (2015)	-No data collected regarding change in position -Focus on job satisfaction as a function of personal resources and structural resources	n = 392

Citation	Operational Definition or Antecedent to Turnover Studied	Sample Size
Tominaga & Miki (2010)	-Intention to leave measured and related to effect of stressful experiences in the work environment and over-commitment	n = 1364
Rhéaume, Clément, & LeBel (2011)	-Intention to leave measured on Likert-type scale "will definitely not leave current position" to "plan to seek work internationally" -Focus on Empowerment and work environment	n = 348

Citation	Operational Definition or Antecedent to Turnover Studied	Sample Size
Halfer & Graf (2006)	-No data collected regarding change in position -Focus on job satisfaction and experiences	n = 84
McCalla-Graham & DeGagne (2015)	-No data collected regarding change in position -Focus on job satisfaction and experiences	n = 10
Boychuk Duchscher (2001)	-No data collected regarding change in position -Focus on job satisfaction and experiences	n = 5

APPENDIX B

Variables Explored and Scales Utilized on Study Instrument

Variable of Interest	Operational Definition	Number of Survey Items	Relevant Survey Items	Type of Variable	Scale
Age	Self-report in years	1	Q5	Continuous	In years
Gender	Self-identified	1	Q8	Categorical	[0=Male; 1=Female; 2= some other way]
Marital status	Self-report	1	Q9	Categorical	[1=Single; 2=Married/ cohabitating; 3=Widowed; 4=Divorced 5=No response]
Race	Self-identified	1	Q13	Categorical recoded to binary white/ nonwhite for some analyses	[1=White; 2=Black/AA; 3=Asian 4=Native Hawaiian/PI; 5=AI/Alaska Native; 6=Other]
Hispanic ethnicity	Hispanic – any race	1	Q12	Binomial	[0=No; 1=Yes]
Highest Nursing degree	Earned degree	1	Q6	Categorical	[1= RN diploma; 2=ADN; 3= BSN; 4=Masters]
Highest non-Nursing degree	Earned degree	1	Q7	Categorical	[1=None; 2=AD; 3=Bachelors; 4=Masters; 5=Doctorate]
Primary language	Spoken at home	1	Q10	Categorical	[1=English; 2=Spanish 3=French; 4=Other]
Patient language	Primary language with family	1	Q11	Categorical	[1=English; 2=Spanish 3=French; 4=Other]
Patient language	Primary language with family	1	Q11	Categorical	[1=English; 2=Spanish 3=French; 4=Other]

Variable of Interest	Operational Definition	Number of Survey Items	Relevant Survey Items	Type of Variable	Scale
RN-Patient language concordance	Frequency RN called upon to translate	1	Q14	Categorical	[1=Never; 2=Rarely 3= Sometimes 4= Often]
Type of workplace	Self-report	1	Q16	Categorical, Collapsed into 5 categories	[1= Acute care hospital 2= Rehabilitation hospital 3= Residential long-term care 4= Physician/ provider office 5= Home healthcare 6= Outpatient care center 7= Elementary/ Secondary school 8= Public Health 9= Other]
Length of time in current position	Self-report (years/months) Screening for >3 yrs experience as RN	2	Q95, 96	Continuous, Years and months recoded to continuous-total months	[0-36 months]
Changed job/ Voluntary change	Self-report	6	Q 21-26	Binomial	[0=No 1=Yes]
	Self-report			Interval	[1=Once 2= twice 3= 3 or more times (abort)]

Variable of Interest	Operational Definition	Number of Survey Items	Relevant Survey Items	Type of Variable	Scale
Conditions of floating to another unit	Self-report Floated to another unit Refused to float Take an assignment Worked as an aide	4	Q 27-30	Binomial	[0= No 1=Yes]
Hospital size	Number of licensed beds	1	Q31	Continuous Recoded to Categorical	[0=unsure 1≤51 beds 2=51-100 beds 3=101-250 beds 4=251-499 beds 5=401-500 beds]
Unit Size	Number of patients on unit	1	Q32	Continuous recoded to categorical; entered into some analyses as continuous	[1=Less than 20] [2=20 or more patients]
On the job injury	Injury while working as an RN	3	Q34	Categorical	[0=No 1=Yes]
	Out of work due to injury		Q35	Categorical	[0=No 1=Yes]

Variable of Interest	Operational Definition	Number of Survey Items	Relevant Survey Items	Type of Variable	Scale
	Mechanism of injury		Q 36	Categorical	[1=Strain, 2=Trauma from being struck by a patient 3=Trauma from being struck by a family member 4=Needlestick 5=Body fluids splash 6=Fall while walking into or out of the workplace 7=Fall, unassociated with direct patient care 8=Other]
Turnover intention: Behavioral intention to leave the current employment position	Extent to which current job is satisfying	6	Q 42	Categorical recoded to composite continuous score	[1=Not at all 2=Small extent 3=Some extent 4=Great extent]
	How often are you frustrated at current job?		Q 43	Categorical	[1=Never 2=Once a month 3=More than once a month, but not every week 4= Once a week 5=Several times a week 6=Every day that I work

Variable of Interest	Operational Definition	Number of Survey Items	Relevant Survey Items	Type of Variable	Scale
	How often do you look forward to another day at work?		Q44	Categorical	[1=Never 2=Once a month 3=More than once a month, but not every week 4= Once a week 5=Several times a week 6=Every day that I work]
	How often do you dream about another job?		Q45	Categorical	[1=Never 2=Once a month 3=More than once a month, but not every week 4= Once a week 5=Several times a week 6=Every day that I work]
	How often have you considered leaving current job?		Q46	Categorical	[1=Never 2=Once a month 3=More than once a month, but not every week 4= Once a week 5=Several times a week 6=Every day that I work]
	Likely to accept another job		Q47	Categorical	[1=Very unlikely 2=Note likely 3=Somewhat likely 4=Very likely]

Variable of Interest	Operational Definition	Number of Survey Items	Relevant Survey Items	Type of Variable	Scale
Workload	Number of patients assigned	1	Q33	Discrete entered into analyses as continuous	Number of patients
	Job demands that exceed human limits; demands without adequate time	3	Q35, 39, 40	Categorical	[1= Never 2=About once/ mos 3= About once/ week 4= Several times/ week 5= Every day]
Confidence- the RN's own belief in his/ her capability to perform activities with skill	Confidence in ability to do the job		Q48	Categorical	[1= Not at all confident 2= A little confident 3= Somewhat confident 4= Very confident]
Incivility Differs according to the perpetrator Behavior includes: Hostile climate Inappropriate jokes Inappropriate behavior Gossip/ rumors	Workplace incivility is low intensity behavior that occurs with the intent to harm; it violates the norm of workplace mutual respect. It involves a power differential between the perpetrator and victim. The behavior is				

Free -riding (taking credit for work completed by someone else) Abusive supervision Displaced frustration Lack of respect	usually repetitive.				
	Other hospital employees as source of incivility	8	Q50-57	Categorical recoded to composite continuous score	[1= Never 2=About once/ mos 3= About once/ week 4= Several times/ week 5= Every day that I work]
	Other nurses as source of incivility	5	Q58-62	Categorical recoded to composite continuous score	[1= Never 2=About once/ mos 3= About once/ week 4= Several times/ week 5= Every day that I work]
	Direct supervisor as source of incivility	3	Q64-66	Categorical recoded to composite continuous score	[1= Never 2=About once/ mos 3= About once/ week 4= Several times/ week 5= Every day that I work]

Variable of Interest	Operational Definition	Number of Survey Items	Relevant Survey Items	Type of Variable	Scale
	Physician as source of incivility	4	Q68-72	Categorical recoded to composite continuous score	[1= Never 2=About once/ mos 3= About once/ week 4= Several times/ week 5= Every day that I work]
	Patient as source of incivility	6	Q74-77, 79-80	Categorical recoded to composite continuous score	[1= Never 2=About once/ mos 3= About once/ week 4= Several times/ week 5= Every day that I work]
	Patient family members as source of incivility	6	Q82-85, 87-88	Categorical recoded to composite continuous score	[1= Never 2=About once/ mos 3= About once/ week 4= Several times/ week 5= Every day that I work]

APPENDIX C

Distribution of Personal and Environmental Characteristics by Race and Ethnicity of the Study Sample.

		Non-Hispanic					
	n (%)	**White**	**Black**	**Asian**	**Multiracial**	**Hispanic, any race**	***p* value**
	183	112	30	13	13	15	
Age[°°]	31.2 (8.7)	30.8 (8.9)	34.4 (8.2)	29.3 (9.3)	31.7 (8.5)	29.5 (5.7)	0.39
Gender- self-identified							0.46
Male	17 (9.3)	8 (7.1)	4 (13.3)	2 (14.4)	3 (23.1)	0	0.14
Female	166 (90.7)	104 (92.9)	26 (86.7)	11 (84.6)	10 (76.9)	15 (100)	
Marital status	183						0.87[1]
Never	95 (51.9)	59 (52.7)	14 (46.6)	9 (69.2)	6 (46)	7 (46.7)	
Married/ Cohabitating	82 (44.8)	52 (46.4)	13 (43.3)	4 (30.8)	6 (46)	7 (46.7)	
Divorced	6 (3.3)	1 (0.9)	3 (10.0)	0	1 (7.7)	1 (6.7)	
Highest Nursing degree held	183						0.48[2]
Diploma in Nursing	3 (1.64)	3 (2.7)	0	0	0	0	
Associates of Science in Nursing	39 (21.3)	21 (18.8)	8 (26.7)	1 (7.8)	4 (30.8)	5 (33.3)	
Bachelor of Science in Nursing	132 (72.1)	83 (74.1)	20 (66.7)	11 (84.6)	8 (61.5)	10 (66.7)	
Master of Science in Nursing	9 (4.9)	5 (4.5)	2 (6.7)	1(7.7)	1 (7.7)	0	
Other non-Nursing degree held	183						0.13[3]
None	93 (50.8)	58 (51.8)	10 (33.3)	6 (46.2)	9 (69.2)	10 (66.7)	
Associates degree	15 (8.2)	12 (10.7)	2 (6.7)	0	0	1 (6.7)	
Bachelors degree	71 (38.8)	41 (36.6)	16 (53.3)	6 (46.2)	4 (30.8)	4 (26.7)	
Masters degree	4 (2.2)	1 (.9)	2 (6.7)	1 (7.7)	0	0	
Confident	179						.08
Not at all		2 (1.1)	0	0	0	0	
A little confident		2 (2.2)	0	2(16.7)	0	0	
Somewhat confident		59 (62.8)	15 (50)	3(25)	6 (46.2)	11 (73.3)	
Very confident		46 (58.2)	15 (50)	7 (58.3)	7 (53.9)	4 (26.7)	

		Non-Hispanic				
	n (%)	**White**	**Black**	**Asian**	**Multiracial**	**Hispanic, any race**	***p* value**
Primary language spoken at home	183						
English	166 (90.7)	109 (97.3)	23 (76.7)	10 (76.9)	13 (100)	11 (73.3)	.<.0001
Spanish	4 (2.2)	0	0	0	0	4 (26.7)	
French	1 (.6)	0	1 (3.3)	0	0	0	
Other	12 (6.6)	3(2.7)	6 (20.0)	3 (23.1)	0	0	
Language concordance							.003
Primary language of patients	183						
English	175 (95.6)	110 (98.2)	28 (93.3)	13 (100)	12 (92.3)	12 (80.0)	
Spanish	5 (2.7)	1 (0.9)	1 (3.3)	0	0	3 (20.0)	
Other	3 (1.6)	1 (0.9)	1(3.3)	0	1 (7.7)	0	
How often called to translate	10						0.22
Never	2 (20)	0	1 (33.3)	0	1 (100.0)	0	
Rarely	3 (30)	0	1 (33.3)	0	0	2 (50.0)	
Sometimes	1 (10)	0	1(33.3)	0	0	0	
Often	4 (40)	2 (100)	0	0	0	2 (50.0)	
Injured at work	183						0.76
Yes	28 (15.3)	16 (14.3)	4 (13.3)	3 (23.1)	3 (23.1)	2 (13.3)	
No	155 (84.7)	96 (85.7)	26 (86.7)	10 (76.9)	10 (76.9)	13 (86.7)	
Missed work due to injury	28						
Yes	5 (17.9)	3 (18.8)	0	0	2(66.7)	0	
No	23 (82.1)	13 (81.3)	4 (100.0)	3 (100.0)	1 (33.3)	2 (100.0)	
Perception of negative environment[a,b]							
General incivility[a,b]	6.6 (3.5)	6.2 (3.2)	7.1 (4.2)	6.3 (3.8)	6.5 (3.2)	8.7 (4.2)	0.02
Lack of respect[a,b]	20.5 (6.9)	20.6 (6.8)	18.9 (6.3)	18.1 (5.4)	22 (7.0)	23.4 (8.9)	0.48
Negative environment[a,b]	61.1 (17.9)	61.7 (17.8)	57.8 (19.2)	55.1 (15.6)	61.4 (14.1)	66.8 (20.4)	0.74
Hostile climate[a,b]	13.6 (5.7)	12.9 (4.6)	14.7 (6.9)	12.5 (4.5)	13.9 (4.5)	17.8 (8.8)	0.01
Inappropriate jokes[a,b]	5.4 (2.8)	4.9 (1.8)	6.1 (3.8)	5.2 (2.5)	5.8 (1.9)	7.5 (5.5)	0.01

	n (%)	Non-Hispanic				Hispanic, any race	*p* value
		White	Black	Asian	Multiracial		
Perception of negative environment (con't)[°°]							
Nurse as source of incivility[°°]	13.4 (5.7)	13.7 (5.4)	13.0 (6.6)	12.2 (5.3)	12.3 (4.8)	14.3 (6.8)	0.64
Direct supervisor as source of incivility[°°]	3.6 (1.3)	3.5 (1.1)	3.9 (1.9)	3.4 (1.2)	3.8 (1.5)	3.9 (1.8)	0.1
Physician as source of incivility[°°]	6.0 (2.4)	6.4 (2.5)	5.3 (2.4)	5.2 (1.3)	5.1 (1.3)	6.5 (2.6)	0.92
Turnover Intention[°°]	**19.3 (5.5)**	**18.8 (5.4)**	**20.0 (5.6)**	**18.3 (4.4)**	**19.7 (6.7)**	**21.5 (5.4)**	**0.39**

* Categorical variables reported as unweighted frequencies and percents for column proportions

°°Continuous variable reported as Mean (SD). Range included when appropriate.

[1] Chi-square test of married vs. never married or divorced

[2] Fischer's exact test of diploma or associate degree in nursing vs. bachelor's or Master degree in nursing

[3] Chi-square test of no other (non-nursing) degree vs. any degree in another field

APPENDIX D

Distribution of Workplace and Work Condition Characteristics by Race and Ethnicity of the Study Sample.

		Non-Hispanic					
	n (%)	**White**	**Black**	**Asian**	**Multiracial**	**Hispanic, any race**	***p* value**
Months at job[a,o]	16.2 (9.1)	18.3 (9.4)	15.6 (8.3)	12.4 (8.1)	15.2 (9.3)	13.1 (8.7)	
Range		0-35	4-32	1-28	2-30	1-32	
Employer-Type of Facility [1]							
Acute Care	106 (57.9)	75 (67.0)	11 (36.7)	7 (53.9)	9 (69.2)	4 (26.7)	0.003[2]
Rehabilitation/ Long-term care	29 (15.9)	16 (14.3)	5 (16.7)	2 (15.4)	3 (23.1)	3 (20.0)	
Office/ Outpatient	23 (12.6)	10 (8.9)	6 (20.0)	1 (7.7)	0	6 (40.0)	
Public Health/ School/ Visiting Nurse	10 (5.5)	3 (2.7)	4 (13.3)	1 (7.7)	1 (7.7)	1 (6.7)	
Other	15 (8.2)	8 (7.1)	4 (13.3)	2 (15.4)	0	1 (6.7)	
Hospital Size[b]	137						0.24[3]
Unsure	46 (25.1)	21 (18.8)	11 (36.7)	3 (23.1)	3 (23.1)	8 (53.3)	
<51 beds	19 (10.4)	8 (7.1)	4 (13.3)	3 (23.1)	3 (23.1)	1 (6.7)	
51-100 beds	23 (12.6)	14 (12.5)	4 (13.3)	2 (15.4)	2 (15.4)	1 (6.7)	
101-250 beds	42 (22.9)	29 (25.9)	5 (16.7)	3 (23.1)	3 (23.1)	2 (13.3)	
251-500 beds	25 (13.7)	17 (15.2)	3 (10.0)	2 (15.4)	2 (15.4)	1 (6.7)	
>500 beds	28 (15.3)	23 (20.5)	3 (10.0)	0	0	2 (13.3)	
Unit Type[ſ] **Acute Care, Hospital**	106						0.04[4]
Critical Care[∞] including NICU, PICU, Adult ICU	13 (12.2)	11 (14.5)	0	0	2 (22.2)	0	0.18
Adult Medical-Surgical	25 (23.4)	19 (25.0)	1 (9.1)	3 (42.9)	0	2 (50.0)	
Adult Telemetry	9 (8.4)	9 (11.8)	0	0	0	0	

		Non-Hispanic					
	n (%)	**White**	**Black**	**Asian**	**Multiracial**	**Hispanic, Any Race**	***p* value**
Unit Type[f]							
Acute Care, Hospital (con't)							
Adult Medical-Surgical and Telemetry Combined	34 (32.1)	19 (25.3)	8 (72.7)	2 (28.6)	0	1 (25.0)	
Maternal Child Health, including Labor and Delivery	5 (4.7)	4 (5.3)	1 (9.1)	0	4 (44.4)	0	
Pediatrics	5 (4.7)	3 (3.9)	0	1 (14.3)	0	1 (25.0)	
Operating Room	3 (2.8)	2 (2.3)	0	1 (14.3)	0	0	
Perioperative Care	2 (1.9)	2 (2.6)	0	0	0	0	
Emergency	5 (4.7)	4 (5.3)	1 (9.1)	0	0	0	
Mental Health	4 (3.8)	1 (1.3)	0	0	3 (33.3)	0	
Outpatient	1 (0.9)	1 (1.3)	0	0	0	0	
Unit Size[a,o]	18.5 (14.6)	19.4 (15.2)	16.8 (11.0)	16.6 (14.8)	16.2 (18.8)	19.3 (12.5)	0.37
Floated to another unit	104						0.73
Yes	67 (64.42)	48 (66.7)	8 (66.7)	4 (57.1)	4 (44.4)	3 (75.0)	
No	37 (35.6)	24 (33.3)	4 (33.3)	3 (42.9)	5 (55.6)	1 (25.0)	
		72	12	7	9	4	
Workload							
Number of Patients Assigned[a,o]	7.9 (9.5)	7.5 (9.5)	8.7 (7.8)	5.6 (6.1)	8.8 (8.2)	10.7 (8.8)	0.36
Area of Worklife Workload Subscale Score [a,o]	3.5 (1.0)	3.5 (1.0)	3.5 (0.8)	3.2 (1.1)	3.4 (1.0)	3.7 (1.2)	0.39

		Non-Hispanic					
	n(%)	**White**	**Black**	**Asian**	**Multiracial**	**Hispanic**	***p* value**
Staffing Adequacy							
Frequency- Have enough time to do the things that must be done	180						0.63
Never	20 (11.1)	9 (8.1)	5 (16.7)	2 (16.7)	2 (15.4)	2 (13.3)	
Monthly	38 (21.1)	27 (24.6)	5 (16.7)	0	4 (30.8)	2 (13.3)	
Weekly	39 (21.7)	26 (23.6)	7 (23.3)	4 (33.3)	0	2 (13.3)	
More than once a week	41 (22.8)	24 (21.8)	6 (20.0)	3 (25.0)	4 (30.8)	4 (26.7)	
Every day that I work	42 (23.3)	24 (21.8)	7 (23.3)	3 (25.0)	3 (23.1)	5 (33.3)	
Changed first job	183						
Yes	87 (47.5)	51 (45.5)	19 (63.3)	3 (23.1)	5 (38.5)	9 (60.0)	0.75
No	96 (52.3)	61 (54.5)	11 (36.7)	10 (76.9)	8 (61.5)	6 (40.0)	
Times changed jobs	132						0.2[4]
Once	110 (83.3)	66 (82.5)	20 (83.3)	8 (100.0)	9 (100.)	7 (63.6)	
Twice	22 (16.7)	14 (17.5)	4 (16.7)	0	0	4 (36.4)	
Stayed in same network/ healthcare system	87						
Yes	13 (14.9)	7 (13.7)	3 (15.8)	2 (66.7)	0	1 (11.1)	0.2
No	74 (85.1)	44 (86.3)	16 (84.2)	1 (33.3)	5 (100.0)	8 (88.9)	
		51	19	3	5	9	
	Mean (SD)						
Perception of negative environment							
Overall inappropriate jokes score[a,b]	5.4 (2.8)	4.9 (1.8)	6.1 (3.8)	5.2 (2.5)	5.8 (1.9)	7.5 (5.5)	0.01
Hostile climate[a,b]	13.6 (5.7)	12.9 (4.6)	14.7 (6.9)	12.5 (4.9)	13.9 (4.5)	17.8 (8.8)	0.01
			144				

		Non-Hispanic					
	n(%)	**White**	**Black**	**Asian**	**Multiracial**	**Hispanic**	***p* value**
Perception of negative environment, (con't)							
Hostility and rudeness°°	13.6 (5.7)	12.9 (4.6)	14.7 (6.9)	12.5 (4.9)	13.9 (4.5)	17.8 (8.8)	0.49
Patient as source of incivility°°	18.8 (6.4)	18.7 (6.5)	17.9 (6.2)	16.9 (6.4)	20.8 (6.7)	21.3 (5.6)	0.26
Family as source of incivility°°	11.1 (4.6)	11.3 (4.5)	10.2 (4.4)	9.2 (4.7)	10.9 (4.9)	12.9 (5.3)	0.22

* Categorical variables reported as unweighted frequencies and percents for column proportions

°°Continuous variable reported as Mean (SD)

⌂ Hospital size refers to the number of licensed beds within the acute care facility.

∞ Critical care units include Intensive Care Units (ICU) defined by patient population- NICU neonatal; PICU- pediatric; ICU- adult

∫ Specialty Units include: critical care, maternal child health, operating room, emergency, mental health. All other units considered general.

[1]Acute Care indicates facility providing short term treatment of severe injury or episode if illness, or urgent medical condition.

Rehabilitation indicates facility that provides multidisciplinary rehabilitation services for recovery from a traumatic injury, illness, or medical event that no longer requires acute care treatment. Long term care indicates facility providing chronic care that cannot be provided in the home setting.

Office/Outpatient indicates episodic treatment location provided with onsite medical provider, such as a physician's office or community health center.

[2] Chi-square test of acute care facility versus non-acute setting

[3] Chi-sqaure test of hospital size based on 137 responses, less than 251 beds vs. 251 beds or larger. "Unsure" or no response not entered in analysis.

[4] Fischer's Exact test of specialty vs. non specialty unit.

APPENDIX E

Study Instrument

Workplace Experience of NLN

Start of Block: Default Question Block

Q92 Consent Form for waiver of written consent University of Massachusetts Boston College of Nursing and Health Sciences 100 Morrissey Boulevard Boston, MA. 02125-3393 "Do Race and Ethnicity Influence Turnover Intention in Newly Licensed Nurses?" You are asked to take part in a research project about the workplace experience of newly licensed nurses (less than 3 years of nursing experience). The researcher is Mary Sue Howlett, Doctoral Student in the College of Nursing and Health Sciences at the University of Massachusetts Boston working with faculty advisor Dr. Eileen Stuart-Shor. Please read this form and feel free to ask questions. If you have further questions later, Mary Sue will discuss them with you. Her telephone number is 978/273-6296. Dr. Eileen Stuart-Shor can be reached at 617/699-1232.

The purpose of this study is to understand the demographic and organizational influences on turnover intention in newly licensed registered nurses. Participation in this study will take approximately 18-21 minutes. If you decide to participant in this study, you will be asked to enter the 5-digit access code provided to you in your invitation letter and complete a one-time electronic survey. The code has been randomly assigned and will allow the investigator to maintain a randomly selected sample and eliminate duplicate entries from the same nurse. The small gift enclosed with the invitation is yours to keep, whether you complete the survey or not.

Risks or Discomforts: Participation in this research study poses minimal risk to participants. You may experience the emergence of negative or distressful work-related feelings in completing the research materials. You may speak with Mary Sue Howlett to discuss any distress or other issues related to study participation. While there are no direct benefits to you, the information from this study may inform future policy related to newly licensed nurses in the workplace and will contribute to nursing literature regarding newly licensed nurses and their integration into a new role as a licensed professional.

Confidentiality: Your part in this research is confidential. That is, the information gathered for this project will not be published or presented in a way that would allow anyone to identify you. Information gathered for this project will be stored in a locked file cabinet or password protected computer and only the research team will have access to the data. The 5-digit access code assigned to you and your name and the address used to invite you to participate will be kept separate from your responses in secure password protected files that are separate from each other. After you return the research materials, there will be no linkage of your identity to the data collected. Once data collection is complete, the link between personal identifying information (participant name and

mailing address) and 5-digit access code will be destroyed.
Voluntary participation: Your participation in voluntary and refusal to participate will involve no penalty or loss of benefits to you. You may discontinue participation at any time without penalty. If you wish to terminate participation, you should close the survey and notify the investigator via email, text or telephone. Whatever you decide will in no way penalize you or affect your status as a registered nurse. Rights: You have the right to ask questions about this research before you agree to be in this study and at any time during the study. You can reach Mary Sue Howlett at 978/273-6296 or her faculty advisor, Eileen Stuart-Shor, PhD, ANP-BC, FAHA, FAAN at 617/699-1232.
If you have any questions or concerns about your rights as a research participant, please contact a representative of the Institutional Review Board (IRB), at the University of Massachusetts, Boston, which oversees research involving human participants. The Institutional Review Board may be reached at the following address: IRB, Quinn Administration Building-2-080, University of Massachusetts Boston, 100 Morrissey Boulevard, Boston, MA 02125-3393. You can also contact the Board by telephone or e-mail at (617) 287-5374 or at human.subjects@umb.edu. Would you like to participate in the research?

○ Yes -Your affirmative will be considered as consent. Please keep a copy of this form for your records or if you need to contact the research team. (1) (4)

○ No (3)

Skip To: Q90 If Consent Form for waiver of written consent University of Massachusetts Boston College of Nurs... = Yes -Your affirmative will be considered as consent. Please keep a copy of this form for your records or if you need to contact the research team. (1)

Skip To: Q93 If Consent Form for waiver of written consent University of Massachusetts Boston College of Nurs... = No

*

Q93 Thank you for your time. Please enter the 5-digit access code included in the letter we sent to you so that we no longer contact you for a response.

_____

Skip To: End of Survey If Thank you for your time. Please enter the 5-digit access code included in the letter we sent to y... Is Not Empty

*

Q90 Thank you for your time. Please enter the 5-digit access code included in the letter we sent to you.

_____

Page Break

Q2 **These questions are related to you.**

Q3 Have you ever been licensed as a Licensed Practical Nurse (LPN)?

- Yes (1)
- No (2)

Skip To: End of Survey If Have you ever been licensed as a Licensed Practical Nurse (LPN)? = Yes

Q4 Have you been licensed as a registered nurse in another state (other than MA) or another country (other than the USA) in the past?

- Yes (1)
- No (2)

Skip To: End of Survey If Have you been licensed as a registered nurse in another state (other than MA) or another country... = Yes

Page Break

Q5 How old are you? Please enter a number.

_____

Q6 Please indicate the highest nursing degree you have completed:

- ○ RN diploma (1)
- ○ Associates degree (2)
- ○ Bachelors degree (3)
- ○ Masters degree (4)
- ○ Doctorate (5)

Q7 Please indicate the highest non-nursing degree you have completed:

- ○ I do not have another degree (1)
- ○ Associates degree (2)
- ○ Bachelors degree (3)
- ○ Masters degree (4)
- ○ Doctorate (5)

Page Break

Q8 How would you describe yourself?

- ○ Male (1)
- ○ Female (2)
- ○ Some other way (Please describe) (3) _____

Q9 What is your marital status?

- ○ Never married (1)
- ○ Married/ cohabitating with significant other (2)
- ○ Widowed (3)
- ○ Divorced (4)
- ○ Separated (5)

Q10 What language do you primarily speak at home?

- ○ English (1)
- ○ Spanish (2)
- ○ French (3)
- ○ Other – please specify (4)

_____

Q11 What is the primary language of MOST of your patients?

- ○ English (1)
- ○ Spanish (2)
- ○ French (3)
- ○ Other- please specify (4)

_____

Q12 Are you of Hispanic or Latino origin or descent?

- ○ Yes (1)
- ○ No (2)

Q13 What is your race? Select all that apply

- ☐ White (1)
- ☐ Black or African American (2)
- ☐ Asian (3)
- ☐ Native Hawaiian or Pacific Islander (4)
- ☐ American Indian or Alaska Native (5)
- ☐ Some other race (Please describe) (6) _____

Display This Question:

If What is the primary language of MOST of your patients? != English

Q14 In most weeks, how often are you called upon to translate for others?

- ○ Never (1)
- ○ Rarely (less than once a week) (2)
- ○ Sometimes (About once a week) (3)
- ○ Often (More than once every week) (4)

Page Break

Q15 **Now think about your current workplace. These questions are related to your job as an RN.**

Q16 Which best describes your primary place of employment?

- ○ Acute care hospital (1)
- ○ Rehabilitation hospital (2)
- ○ Residential long term care (3)
- ○ Physician/ provider office (4)
- ○ Home healthcare (5)
- ○ Outpatient care center (6)
- ○ Elementary/ Secondary school (7)
- ○ Public Health (8)
- ○ Other (Please specify) (9)

Display This Question:

If Which best describes your primary place of employment? = Acute care hospital

Q17 Are you a float nurse?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Which best describes your primary place of employment? = Acute care hospital

Q18 Which best describes your primary unit:

- ○ Critical care (1)
- ○ Adult Medical/ surgical (2)
- ○ Adult Telemetry (3)
- ○ Adults- Some medical /surgical patients and some telemetry patients (4)
- ○ Maternal/Child health (5)
- ○ Pediatrics (6)
- ○ Operating room (7)
- ○ Pre or post operative care (8)
- ○ Emergency (9)
- ○ Mental health (10)
- ○ Outpatient care (11)

Display This Question:

If Which best describes your primary unit: = Critical care

Q19 Which BEST describes your unit?

- ○ Adult Critical care (1)
- ○ Pediatric critical care (2)
- ○ Neonatal critical care (3)
- ○ Mixed adult and pediatric critical care (4)

Q95 How long have you been at your current job?

	Years?	Months
How many... (1)	▼ 0 (1 ... 3 (4)	▼ 0 (1 ... 11 (12)

Q21 Think about your first RN job. Have you changed nursing jobs since that first job as an RN?

- ○ Yes (1)
- ○ No (2)

Skip To: Q22 If Think about your first RN job. Have you changed nursing jobs since that first job as an RN? = Yes

Q22 How many times have you changed jobs?

- ○ Once (1)
- ○ Twice (2)
- ○ 3 or more times (3)

Skip To: End of Survey If How many times have you changed jobs? = 3 or more times

Display This Question:

If Think about your first RN job. Have you changed nursing jobs since that first job as an RN? = Yes

Q23 Did you voluntarily leave that job?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If How many times have you changed jobs? = Twice

Q24 Did you voluntarily leave your second job?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Think about your first RN job. Have you changed nursing jobs since that first job as an RN? = Yes

Q25 Did you change jobs to another one within the same facility or hospital network/ system?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Think about your first RN job. Have you changed nursing jobs since that first job as an RN? = Yes

Q26 Did your new employer require an RN license?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Are you a float nurse? = No

Q27 Have you been "floated" to another unit to work? By floated, we mean assigned to a unit (that is not your primary unit) to work for a shift?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Have you been "floated" to another unit to work? By floated, we mean assigned to a unit (that is... = Yes

Q28 Did you refuse to float?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Have you been "floated" to another unit to work? By floated, we mean assigned to a unit (that is... = Yes

Q29 Did you work as an RN on that other unit?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Did you work as an RN on that other unit? = No

Q30 Did you work on the other unit as an aide/ assistant? By this we mean you did not take an assignment as an RN but helped out on the unit.

- ○ Yes (1)
- ○ No (2)

Q31 How many licensed beds does your hospital have? Please enter a number.

_____

Q32 How many patients are on your regularly assigned unit on most days during your shift? Please enter a number.

_____

Q33 How many patients are assigned to you at one time on most days? Please enter a number

_____

Q34 Have you yourself experienced an injury while at work as an RN?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Have you yourself experienced an injury while at work as an RN? = Yes

Q35 Other than the initial treatment (such as in Occupational Health or the Emergency department) did the injury require you to stay out of work for any length of time?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Have you yourself experienced an injury while at work as an RN? = Yes

Q36 Please indicate all that apply to your work related injury:

- ☐ Strain, including back strain or other muscle strain, from lifting or moving patients or equipment (1)
- ☐ Trauma from being struck by a patient (2)
- ☐ Trauma from being struck by a family member (3)
- ☐ Needlestick (4)
- ☐ Body fluids splash (5)
- ☐ Fall while walking into or out of the workplace (6)
- ☐ Fall, unassociated with direct patient care (7)
- ☐ Other (Please indicate other injury and mechanism if possible) (8)

Q37 These questions relate to the work that you do as an RN.
Think about your time at work over the past month (4 weeks).

Q38 How often do you find that you don’t have time to do the work that must be done?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q39 How often do you feel stressed at work?

- ○ Never (1)
- ○ About once a month (2)
- ○ More than once a month, but not every week (3)
- ○ Once a week (4)
- ○ Several times a week (5)
- ○ Every day that I work (6)

Q40 How often are you able to leave the stress at work rather than taking it home?

- ○ Never (1)
- ○ About once a month (2)
- ○ More than once a month, but not every week (3)
- ○ Once a week (4)
- ○ Several times a week (5)
- ○ Every day that I work (6)

Q41 These questions are related to how satisfied you are in your current job, including scheduling, compensation, home/ work- life balance, interpersonal relationships, etc in the past 4 weeks.

Q42 To what extent is your current job satisfying to you?

- ○ Not at all (1)
- ○ To a small extent (2)
- ○ To some extent (3)
- ○ To a great extent (4)

Q43 How often are you frustrated at your current job?

- Never (1)
- About once a month (2)
- More than once a month, but not every week (3)
- Once a week (4)
- Several times a week (5)
- Every day that I work (6)

Q44 How often do you look forward to another day at work?

- Never (1)
- About once a month (2)
- More than once a month, but not every week (3)
- Once a week (4)
- Several times a week (5)
- Every day that I work (6)

Q45 How often do dream about getting another job that will better suit your personal needs?

- Never (1)
- About once a month (2)
- More than once a month, but not every week (3)
- Once a week (4)
- Several times a week (5)
- Every day that I work (6)

Q46 How often have you considered leaving your job?

- Never (1)
- About once a month (2)
- More than once a month, but not every week (3)
- Once a week (4)
- Several times a week (5)
- Every day that I work (6)

Q47 If you were offered another job at the same pay you earn now, how likely are you to accept it?

- ○ Very unlikely (1)
- ○ Not likely (2)
- ○ Somewhat likely (3)
- ○ Very likely (4)

Q48 How confident are you in your ability to do your job?

- ○ Not at all confident (1)
- ○ A little confident (2)
- ○ Somewhat confident (3)
- ○ Very confident (4)

Q49 These questions relate to the people you have interacted with at work **in the past 4 weeks**.

Q50 How often do employees at your place of employment shout or yell?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q51 How often do people blame others for their mistakes?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q52 How often do basic disagreements turn into personal verbal attacks?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q53 How often do people make jokes about minority groups?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q54 How often do people make jokes about religious groups?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q55 How often do employees make inappropriate remarks about race?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q56 How often do employees make inappropriate remarks about gender?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q57 How often do employees display offensive body language (e.g. crossed arms, body posture)?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q58 How often do other nurses on your unit gossip about one another?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q59 How often do other nurses on your unit gossip about their supervisor while at work?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q60 How often do other nurses on your unit bad-mouth co-workers while at work?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q61 How often do other nurses on your unit spread rumors around the workplace?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q62 How often do other nurses on your unit take credit for what they did not do?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q63 Now think about your **direct supervisor** (i.e. the person you report to most frequently, such as the Nurse Manager or shift supervisor) **in the past 4 weeks**.

Q64 How often is your direct supervisor (i.e. the person you report to most frequently) verbally abusive?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q65 How often does your direct supervisor (i.e. the person you report to most frequently) yell at you?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q66 How often is your direct supervisor (i.e. the person you report to most frequently) condescending toward you?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q67 **Now think about how the physicians who you work with have interacted with the nurses on your unit in the past 4 weeks.**

Q68 How often is a physician that you work with verbally abusive?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q69 How often does a physician yell at nurses?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q70 Now think about how those physicians have interacted with **you in the past 4 weeks**.

Q71 How often do physicians yell or shout at you?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q72 How often are physicians condescending toward you?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q73 **Now think about the patients who you have interacted with in the past 4 weeks.**

Q74 How often do patients show that they are irritated or impatient?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q75 How often do patients question the information you give them?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q76 How often are patients condescending toward you?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q77 How often do patients place unreasonable demands on you?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q78 For the next 2 questions, think about how patients have interacted with the nurses on your unit in the past 4 weeks.

Q79 How often do patients take out their frustrations on nurses?

- Never (1)
- About once a month (2)
- About once a week (3)
- More than once a week but not every day (4)
- Every day that I work (5)

Q80 How often do patients make insulting comments to nurses?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q81 **Now think about patient's family members that you have interacted with in the past 4 weeks.**

Q82 How often do patient's family members show that they are irritated or impatient?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q83 How often do patient's family members question the information you give them?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q84 How often are patient's family members condescending toward you?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q85 How often do patient's family members place unreasonable demands on you?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q86 **For the next 2 questions, think about how patient's family members have interacted with the nurses on your unit in the past 4 weeks.**

Q87 How often do patient's family members take out their frustrations on nurses?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q88 How often do patient's family members make insulting comments to nurses?

- ○ Never (1)
- ○ About once a month (2)
- ○ About once a week (3)
- ○ More than once a week but not every day (4)
- ○ Every day that I work (5)

Q89 Is there anything else you would like to tell us about your workplace experience?

_____

_____

_____

_____

APPENDIX F

Eric J. Williams, DNP, RN, CNE
President
National Black Nurses Association Inc
8630 Fenton Street, #910
Silver Spring, MD 20910
October 5, 2017

Dear Dr. Williams,

My name is Mary Sue Howlett. I am a doctoral candidate in the College of Nursing at the University of Massachusetts Boston working with faculty advisor Dr. Eileen Stuart-Shor.
I am writing to you as President of the National Black Nurses Association for your organization's endorsement of my research study on the workplace experience of newly licensed nurses (less than 3 years of nursing experience). I am asking for your help because we do not know very much about the demographic and organizational influences on turnover intention in newly licensed registered nurses. Despite calls to increase the diversity of the healthcare workforce, none of the current literature published has looked specifically at an ethnically and racially diverse sample to determine between and within group differences. I am specifically seeking a diverse sample to identify the experiences of racially and ethnically diverse nurses.

The purpose of this study is to examine the association between personal characteristics including self-identified race, ethnicity, gender, age, marital status, physical injury, self-confidence, clinical experience, feelings of competence, and perceived race concordance within the workplace and turnover intention of newly licensed registered nurses within the first 3 years of nursing practice and to examine the association between workplace characteristics including type of facility (acute care, long term care, rehabilitation hospital, residential long term care, physician/ provider office, home healthcare, outpatient care center, elementary/ Secondary school, Public Health or other) hospital size, hospital location, unit type and size, workload, workplace incivility and turnover intention among newly licensed registered nurses within the first 3 years of nursing practice. The proposed study will utilize a quantitative cross-sectional survey design. Data collection will take place using electronic survey.

The electronic survey requires about 15-20 minutes to complete. An invitation to participate will be sent to a random sample within Massachusetts. I would like your permission to include your endorsement of the study in an effort to increase participation and diminish non-response.

If you have questions, please contact me at mary.howlett@umb.edu or via telephone at 978/273-6296. I look forward to hearing from you.
Sincerely,

Mary Sue Howlett, PhD(c), MS, RN/ FNP-BC, CEN

APPENDIX G

Anabell Castro-Thompson, MSN, RN, ANP-C, FAAN
President
National Association of Hispanic Nurses
1500 Sunday Drive, Suite 102
Raleigh, NC 27607
October 4, 2017
Dear Anabell,
My name is Mary Sue Howlett. I am a doctoral candidate in the College of Nursing at the University of Massachusetts Boston working with faculty advisor Dr. Eileen Stuart-Shor.
I am writing to you as President of the National Association of Hispanic Nurses for your organization's endorsement of my research study on the workplace experience of newly licensed nurses (less than 3 years of nursing experience). I am asking for your help because we do not know very much about the demographic and organizational influences on turnover intention in newly licensed registered nurses. Despite calls to increase the diversity of the healthcare workforce, none of the current literature published has looked specifically at an ethnically and racially diverse sample to determine between and within group differences. I am specifically seeking a diverse sample to identify the experiences of racially and ethnically diverse nurses.
The purpose of this study is to examine the association between personal characteristics including self-identified race, ethnicity, gender, age, marital status, physical injury, self-confidence, clinical experience, feelings of competence, and perceived race concordance within the workplace and turnover intention of newly licensed registered nurses within the first 3 years of nursing practice and to examine the association between workplace characteristics including type of facility (acute care, long term care, rehabilitation hospital, residential long term care, physician/ provider office, home healthcare, outpatient care center, elementary/ Secondary school, Public Health or other) hospital size, hospital location, unit type and size, workload, workplace incivility and turnover intention among newly licensed registered nurses within the first 3 years of nursing practice. The proposed study will utilize a quantitative cross-sectional survey design. Data collection will take place using electronic survey.
The electronic survey requires about 15-20 minutes to complete. An invitation to participate will be sent to a random sample within Massachusetts. I would like your permission to include your endorsement of the study in an effort to increase participation and diminish non-response.
If you have questions, please contact me at mary.howlett@umb.edu or via telephone at 978/273-6296. I look forward to hearing from you.
Sincerely,

Mary Sue Howlett, PhD(c), MS, RN/ FNP-BC, CEN

APPENDIX H

National Association of Hispanic Nurses
Western Massachusetts Chapter
Ruth Amador, MSN, RN, President
Via email: NAHN.WMASS@gmail.com

Dear Ruth,
My name is Mary Sue Howlett. I am a doctoral candidate in the College of Nursing at the University of Massachusetts Boston working with faculty advisor Dr. Eileen Stuart-Shor.
I am writing to you as President of the Western Massachusetts chapter of the National Association of Hispanic Nurses for your organization's endorsement of my research study on the workplace experience of newly licensed nurses (less than 3 years of nursing experience). I am asking for your help because we do not know very much about the demographic and organizational influences on turnover intention in newly licensed registered nurses. Despite calls to increase the diversity of the healthcare workforce, none of the current literature published has looked specifically at an ethnically and racially diverse sample to determine between and within group differences. I am specifically seeking a diverse sample to identify the experiences of racially and ethnically diverse nurses.
The purpose of this study is to examine the association between personal characteristics including self-identified race, ethnicity, gender, age, marital status, physical injury, self-confidence, clinical experience, feelings of competence, and perceived race concordance within the workplace and turnover intention of newly licensed registered nurses within the first 3 years of nursing practice and to examine the association between workplace characteristics including type of facility (acute care, long term care, rehabilitation hospital, residential long term care, physician/ provider office, home healthcare, outpatient care center, elementary/ Secondary school, Public Health or other) hospital size, hospital location, unit type and size, workload, workplace incivility and turnover intention among newly licensed registered nurses within the first 3 years of nursing practice. The proposed study will utilize a quantitative cross-sectional survey design. Data collection will take place using electronic survey.
The electronic survey requires about 15-20 minutes to complete. An invitation to participate will be sent to a random sample within Massachusetts. I would like your permission to include your endorsement of the study in an effort to increase participation and diminish non-response.
If you have questions, please contact me at mary.howlett@umb.edu or via telephone at 978/273-6296. I look forward to hearing from you.
Sincerely,

Mary Sue Howlett, PhD(c), MS, RN/ FNP-BC, CEN

APPENDIX I

Tarma Johnson, MSN, FNP-BC, President
New England Regional Black Nurses, Inc.
Post Office Box 190690
Roxbury, MA 02119

Dear Tarma,

My name is Mary Sue Howlett. I am a doctoral candidate in the College of Nursing at the University of Massachusetts Boston working with faculty advisor Dr. Eileen Stuart-Shor.
I am writing to you as President of the New England Regional Black Nurses Association for your organization's endorsement of my research study on the workplace experience of newly licensed nurses (less than 3 years of nursing experience). I am asking for your help because we do not know very much about the demographic and organizational influences on turnover intention in newly licensed registered nurses. Despite calls to increase the diversity of the healthcare workforce, none of the current literature published has looked specifically at an ethnically and racially diverse sample to determine between and within group differences. I am specifically seeking a diverse sample to identify the experiences of racially and ethnically diverse nurses.

The purpose of this study is to examine the association between personal characteristics including self-identified race, ethnicity, gender, age, marital status, physical injury, self-confidence, clinical experience, feelings of competence, and perceived race concordance within the workplace and turnover intention of newly licensed registered nurses within the first 3 years of nursing practice and to examine the association between workplace characteristics including type of facility (acute care, long term care, rehabilitation hospital, residential long term care, physician/ provider office, home healthcare, outpatient care center, elementary/ Secondary school, Public Health or other) hospital size, hospital location, unit type and size, workload, workplace incivility and turnover intention among newly licensed registered nurses within the first 3 years of nursing practice. The proposed study will utilize a quantitative cross-sectional survey design. Data collection will take place using electronic survey.

The electronic survey requires about 15-20 minutes to complete. An invitation to participate will be sent to a random sample within Massachusetts. I would like your permission to include your endorsement of the study in an effort to increase participation and diminish non-response.
If you have questions, please contact me at mary.howlett@umb.edu or via telephone at 978/273-6296. I look forward to hearing from you.

Sincerely,

Mary Sue Howlett, PhD(c), MS, RN/ FNP-BC, CEN

APPENDIX J

University of Massachusetts Boston
Department of Nursing
100 Morrissey Boulevard
Boston, MA 02125

(date)

Dear [Nurse's Name]

The workplace experience of newly licensed nurses in the first 3 years of practice influences the nurse's longevity in the profession. Some days go better than others but every day is different. We don't know very much about the demographic and organizational influences on turnover intention in newly licensed registered nurses.

I am writing to ask you to participate in a research study to help in understanding what the workplace is like for nurses in the first 3 years after passing that NCLEX exam and obtaining a license in Massachusetts.

We hope to hear from a diverse group of nurses, so we are asking you to complete an online survey at this link [survey link]. You will be asked to include this unique access *code* . *Your participation is voluntary and will be kept confidential. Your answers will never be associated with the code or your mailing address. Your employer or the BORN will not know if you are part of this study. We will group your answers to these questions together with answers from other nurses.*

If you have any questions, please contact Mary Sue Howlett by telephone at 9781273-6296 or email at mary.how/ett@umb.edu

We have enclosed a small token of appreciation as a way of saying thank you for your help. By taking a few minutes, you will be adding greatly to the understanding of the experience of new nurses in the workplace. /look forward to receiving your response!

Sincerely,

(Blue Ink Signature)
Mary Sue Howlett
Principal investigator
Doctoral Student, University of Massachusetts Boston
College of Nursing and Health Sciences

APPENDIX K

Dear [Nurses Name] Access Code# _____

A couple of weeks ago we sent you the link to a survey, asking for your participation in a research study on the ***Workplace Experience of Newly Licensed Nurses*** *(less than 3 years of nursing experience). We are asking you because we do not know very much about the demographic and organizational influences on turnover intention in newly licensed registered nurses. While there are no direct benefits to you for taking part in the study, the findings may inform future policy related to newly licensed nurses in the workplace and contribute to nursing literature regarding newly licensed nurses and the integration into a new role as a licensed professional.*

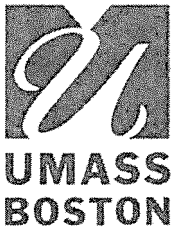
If you have already completed and submitted the survey, thank you for your participation. If not, and you want to participate, please complete the survey [link to survey], and submit your responses by(date 1 week later). Your responses are much appreciated.

If you have any questions, please contact the researcher at mary.howlett@umb.edu or by phone at 9781273-6296.
Sincerely,

(Blue Ink Signature)
Maty Sue Howlett
Principal Investigator
Doctoral Student, University of Massachusetts Boston
College of Nursing and Health Sciences

APPENDIX L

reminder letter to be mailed with paper copy of survey, 3 weeks after postcard reminder (6 WEEKS AFTER INITIAL MAILING)



University of Massachusetts Boston
Depm1ment of Nursing
100 Morrissey Boulevard
Boston, MA 02125

Dear {Nurse's Name], Access Code#

A few weeks ago we sent a survey request for your participation in a research study asking about your workplace experience as a new nurse. We are asking you because we do not know very much about the demographic and organizational influences on turnover intention in newly licensed registered nurses. As the US population ages and more people demand more healthcare, it is important for us to understand the impact on the workforce. You are an important part of that workforce.

This will be our last letter about the study. If you want to participate, please complete the survey within the next 5 days.

Simply log onto the survey website [survey link] or complete the enclosed paper copy and return it in the self-addressed envelope within the next 5 days. You will be asked for the access code provided above. It will only take a few minutes of your time.

If you have any questions about the survey, please contact Mary Sue Howlett at mary.howlett@umb.edu or 9781273-6296. Thank you very much.

Sincerely,
(Blue Ink Signature)

Mary Sue Howlett
Principal Investigator
Doctoral Student, University of Massachusetts Boston
College of Nursing and Health Sciences

REFERENCE LIST

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