

2020

## Newly Licensed Registered Nurse Generation Cohorts and Retention in First Registered Nurse Positions

Elizabeth S. Gizenski  
*Walden University*

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# Walden University

College of Health Sciences

This is to certify that the doctoral study by

Elizabeth S. Gizenski

has been found to be complete and satisfactory in all respects,  
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the review committee have been made.

## Review Committee

Dr. Suzanne Richins, Committee Chairperson, Health Sciences Faculty

Dr. Rabeh Hijazi, Committee Member, Health Sciences Faculty

Dr. Lloyd Ford, University Reviewer, Health Sciences Faculty

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

Walden University  
2020

Abstract

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Nurse Positions

by

Elizabeth S Gizenski

BSN, Pennsylvania College of Technology, 2015

MHA, King's College, 2013

BS, Pennsylvania College of Technology, 2007

RN, Pennsylvania College of Technology, 2004

CST, Pennsylvania College of Technology, 1999

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Healthcare Administration

Walden University

November 2020

## Abstract

The purpose of this quantitative study was to evaluate the association between newly licensed registered nurses (NLRN) generational cohorts and NLRN who plan to leave or have left their first nursing position. The research problem focused on the generational cohorts of NLRN and retention. The research questions addressed different generations of NLRN, their intent to stay in their first job, and whether poor orientation was a factor for those who already left their first nursing position. The theoretical foundation was Strauss–Howe’s generational theory explaining how each generation views the world based on what they experienced in their lifetime. Data retrieved from the New Nursing Cohort Survey, 2016 were analyzed using chi-square test of independence and multinomial logistic regression. The sample size included 1,171 nurses who were licensed between August 1, 2014 and July 31, 2015. Analysis determined that there is statistical evidence at the  $\alpha = .05$  that there is an association between generation cohort and NLRN intent to leave. Analysis determined that there is no statistical evidence at the  $\alpha = .05$  of an association between generational cohort of NLRN who left first nursing position due to poor orientation. Organizations struggling with poor NLRN retention may be able to predict intent to leave based on age group. Developing orientation programs based on generational preferences regarding technology, delivery of learning materials, and type of hands on instruction from which each age group would benefit the most, may contribute to increased retention of NLRN. This study contributes to positive social change by ensuring that competent nurses are in supply to provide effective, safe care, thereby improving the health and well-being of the community served.

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## Dedication

For my Twins, Charles and Vivian. May you always value education, recognize its many forms, and learn from every experience life provides you. To my mother, Susan who stood by my side through all of my educational journeys. To my husband, for his unconditional love and support.

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## Section 1: Foundation of the Study and Literature Review

### **Introduction**

New nurse retention is a major challenge in hospitals across the United States. According to the American Association of Colleges of Nursing (AACN) (2019), the United States is projected to experience a shortage of registered nurses (RN). The Bureau of Labor Statistics (BLS) (2020) projected the need for an additional 203,700 new registered nurses each year to fill newly created positions and to replace retiring nurses. Orientation plays a major role in how a novice nurse transitions from graduate to new RN. New nurses, who positively transcend this transitional phase, are more likely to remain in their primary RN position. Examination of the associations of different RN generation cohorts and orientation effectiveness related to retention in their first principal RN position may bolster the new nurses' abilities to transition from graduate nurse to the newly licensed registered nurse (NLRN) role. It may lead to increased retention rates of NLRN.

### **Problem Statement**

The practical skills of NLRN, coupled with the potential lack of proficiency in clinical and critical thinking skills, contribute to the difficult transition from student nurse to the NLRN. These new nurses who are unable to overcome these difficulties leave their positions, contributing to the nursing shortage (Greenway, Butt, & Walthall, 2019). Differences amongst the nursing generations, currently in practice, should be addressed as each represents a unique set of qualities and values based on their generational

experiences. Nurse generations in the workforce in the year 2020 include Baby Boomers ages 55 years and up, Generation X ages 40 to 55 years, Millennials ages 25 to 39 years, and Generation Z ages 8 to 24 years ("Generations X,Y, Z and the Others", 2019).

### **Purpose of the Study**

The purpose of this quantitative study was to evaluate the association between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, and who plan to leave or have left their first nursing position held up to the date of the survey. In this study I also examined associations between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, who are no longer working in their first RN job due to poor orientation. Analysis was conducted using data collected through the Newly Licensed Registered Nurse New Cohort 3 Survey, 2016. The independent variables for the study were NLRN generational cohorts and poor orientation. The dependent variables for the study were NLRN, who left or plan to leave their principal nursing position within three years, and NLRN, who are no longer working in their first nursing. The confounding variables were race and gender. The outcome of the NLRN generational cohort analysis will allow nurse orientation programs to implement, adjust, or direct orientation programs to ensure preceptors are providing the highest level of training with the purpose of increased NLRN. For this reason, it was important to investigate the association between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, and retention in first principal RN job. It was also important to examine associations between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, who are no longer working

in their first RN job because of poor orientation. Examination of the Newly Licensed Registered Nurse New Cohort 3 Survey (2016) provided evidence of differences in NLRN generational cohorts regarding retention in their first principal RN job and that orientation programs for graduate nurses may need to be tailored to the generation to which they belong.

### **Research Questions and Hypotheses**

RQ1: What is the association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and NLRN who left or plan to leave their first nursing position within three years?

*H<sub>0</sub> (null hypothesis):* There is no statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and NLRN who left or plan to leave their first nursing position within three years.

*H<sub>1</sub> (alternative hypothesis):* There is a statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and NLRN who left or plan to leave their first nursing position within three years.

RQ2: What is the association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and are no longer working in their first nursing position and poor orientation as reason for leaving?

*H<sub>0</sub> (null hypotheses):* There is no statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August

1, 2014 and July 31, 2015, and are no longer working in their first nursing position and poor orientation as reason for leaving.

*H<sub>1</sub> (alternative hypothesis):* There is a statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and are no longer working in their first nursing position and poor orientation as reason for leaving.

Using SPSS, a Chi-Square Test for Independence and multinomial logistic regression statistical test was utilized to determine whether there is a statistically significant association between newly licensed registered nurses and retention in their first nursing position based on generational cohort. A Chi-Square Test for Independence was utilized to determine whether there is a statistical association between newly licensed registered nurses who are no longer working in their first nursing position and poor orientation.

### **Theoretical Foundation for the Study**

Strauss–Howe generational theory explained the manner with which each generation views the world based on what they experienced during their lifetime, which in turn shaped their world perspectives. This theory highlights the idea that generation cohorts share similar behaviors, attitudes, values, and beliefs based on their period in history (Strauss & Howe, 1998). Hampton and Welsh (2019) described Generation Z as possessing low expectations and modest demands and use knowledge to solve problems. According to Christensen, Wilson, and Edelman (2018), Generation X are self-directed and outcomes-oriented, whereas Millennials expect instant feedback and have a work



smarter, not harder attitude, followed by Boomers who work to live. These differences may influence how graduate nurses from various generations orient, adapt, and overcome the theory-practice gap, ultimately leading to NLRN retention their first nursing position, with no desire to leave. Statistical differences between generational cohorts may lead to further research with the potential to uncover what NLRN deem important enough to remain in their first nursing job (Kalleberg & Marsden, 2019). This theory relates to the study variables through the examination of four generations of NLRN currently practicing. Analysis of generational differences related to retention should assist organizations who employ graduate nurses, improve retention of NLRN through generational sensitive nurse orientation.

### **Nature of the Study**

The study consisted of a correlation in quantitative research design. The study was based on the use of a quantitative secondary dataset, Newly Licensed Registered Nurse New Cohort 3 Survey, 2016 (Kovner & Brewer, 2016). The objectives of this survey were to describe NLRN work patterns, compare educational background, work setting, and work satisfaction, and to describe training about patient safety of NLRN employed in hospitals. The sample design for the New Cohort study sampled new RNs residing in 20 metropolitan statistical areas (MSAs) and 1 rural county in 14 states across the country. Princeton Survey Research Associates International (PSRAI) determined the distribution of nurses by site needed. They assigned a random number to each nurse followed by organizing each of the 21 sites and sorted according to random numbers.

Using SPSS, a Chi-Square Test for Independence and multinomial logistic regression statistical test were utilized to determine whether there is a statistically significant association between the study variables. The independent variables for the study were NLRN generational cohorts and poor orientation. The dependent variables for the study were NLRN, who left or plan to leave their first nursing position within three years and NLRN, who are no longer working in their first nursing position.

### **Literature Search Strategy**

The search strategy utilized a comprehensive literature review that included keywords, phrases, and trends related to nurses, generations, and retention. The keywords and phrases utilized to conduct the library searches included *Preceptor, Residency, Orientation, Non-Traditional, Generation, Nurse, Nursing, Mentor, Perception, Differences, Diversity, Baby Boomer, Millennial, and Generation X*. The databases accessed through the Walden University library databases include the NCSBN Research Library, ProQuest Central, Thoreau, Sage Journals, CINAHL Plus, and Google Scholar. The search included peer-reviewed scholarly journals with a publication year of 2015 to 2020.

Articles collected provided information regarding the need and value for nurse residency programs, identified generational differences, transitioning the graduate nurse, and effectiveness of nurse orientation. Examination of the effectiveness of new nurse orientation practices by each generation will provide insight into retention strategies of new nurses. Retention of new nurses will allow time for the RN to practice skills, receive and evaluate feedback, and move forward from the novice role.

### **Literature Review Related to Key Variables and Concepts**

The literature review for this research study was conducted to examine the relationship between generational cohorts of newly licensed nurses and whether their rate of retention in their first nursing position was related to the generational cohort to which they belong. The review of recent literature supports the need for further research into generational differences related to new nurse orientation and retention. One limitation of the review is the limited number of studies published related to nurse generations and new nurse orientation. Hampton and Welsh (2019) acknowledged that the impact Generation Z will make in healthcare is yet to be determined. This generation has only been in the work force for a few years. Stevanin et al. (2020) recommended further studies to validate generational theory and provide a new perspective on generational cohorts. Quek, Ho, Hassan, Quek, and Shorey (2019) published a study of perceptions of preceptors among new nurses and preceptors that provided support in favor of the development of preceptorship programs as an additional measure to increase the job satisfaction and retention of new graduate nurses. They also determined it would be helpful to explore perceptions about preceptorship among preceptor-preceptee dyads of different generations.

Preceptors are experienced nurses, who are assigned to work with new nurses to provide guidance and to help ease the transition from student nurse to RN. Chan, So, Aboo, Sham, Fung, and Law (2019) examined the role of nurse preceptors in the acute hospital care setting found that nurses who are expected to function in the role of preceptor did not receive training to perform it effectively or correctly. They also

discussed nurse residencies and the need to examine the structure from the preceptor standpoint, to determine what type of support a preceptor needs to be effective. (Chan, So, Aboo, Sham, Fung, & Law, 2019). Dols, Chargualaf, and Martinez (2019) analyzed cultural and generational factors influencing nurse retention. They found that there are differences amongst generations and their intent to stay in their current nursing position and job satisfaction rate. They found that regardless of generation, factors influencing retention include pay, staffing, leadership, and support. Their recommendation to help improve generational relationships is to orient new nurses using a tailored orientation based on generation. This study did not include generation Z.

The differences among the generations have been noted in the way they deal with conflict, overall work ethic, problem solving, use of technology, and more. Current research provides a limited number of studies published related to NLRN retention by generational cohort and NLRN retention compared to new nurse orientation. This indicates that researchers currently know relatively little about generational cohorts and differences in NLRN retention and orientation satisfaction. The experiences of each generation, such as world events, technology advancements, and economic changes, that shaped the way each view the world, navigate their day-to-day, and plan for their future. There are generalized trends as a result of these experiences. The Pew Research Center offers some detail of each generation. Baby Boomers are considered hardworking and work centric. They still enjoy reading print material, listening to the radio, and watching television. Generation X were not raised on technology but were introduced to it as the Worldwide Web was released. They are sometimes referred to as the “latchkey”

generation. Millennials were raised during a technology revolution and are sometimes referred to as the “look at me” or the “digital native” generation due to the introduction of social media (Dimock, 2019).

### **Definition of Key Terms**

The following terms are defined to provide clarification as they relate to this study:

*Baby Boomer:* Born 1946 through 1964. When surveyed in 2015, there age range was 51 to 69 years. In 2020 their age range is 56 to 74 years.

*First nursing position:* The first nursing position, a licensed graduate nurse accepts and begins working as a registered nurse.

*Generation Z:* Born 1996 through 2012. When surveyed in 2015, there age range was 3 to 19 years. In 2020 their age range is 8 to 24 years.

*Generation X:* Born 1965 through 1980. When surveyed in 2015, there age range was 35 to 50 years. In 2020 their age range is 40 to 55 years.

*Generational cohort:* The group to which a person belongs based on their birth year.

*Millennial:* Born 1981 through 1995. When surveyed in 2015, there age range was 20 to 34 years. In 2020, their age range is 25 to 39 years.

*Preceptor:* A practicing nurse who is assigned the role of teaching and instructing a newly hired nurse.

*Theory-Practice gap:* The difference between what a student nurse learns in the classroom and the actual use of skills in practice.

### **Assumptions**

Assumptions include testing theories deductively, building in protections against bias, controlling for alternative or counterfactual explanations, and being able to generalize and replicate the findings (Creswell, 2018). Research is based on assumptions, which the researcher holds true, but have not been proven. This study is generalizable and can be used to assess other groups of NLRN by generational cohort. The following assumptions for this study have been identified:

1. It is assumed that the identified differences between generational cohorts will be evident among NLRN in how they responded to the survey, that differences between them will be present upon testing.
2. It is assumed that the reported data was collected honestly and accurately.
3. It is assumed that the participants represent a true random sample.
4. It is assumed that the survey participants voluntarily responded to the survey honestly and accurately.
5. It is assumed that the participants in the study would be an appropriate representation of the NLRN population.

### **Scope and Delimitations**

The scope of this study was to analyze various generations of NLRN to determine whether there was a relationship between generation and retention in first nursing position. The literature was delimited to reflect the variables of the study (Creswell, 2018). The study delimitations include NLRN from the generational cohorts of Baby Boomers, Millennials, Generation X, and Generation Z, who recently graduated, were

licensed, and accepted a nursing position upon graduation. The last data collected using the survey was conducted in 2016.

### **Limitations**

Limitations include the accuracy of the data collected. The sample selected for the study were NLRN who were employed in their first nursing position. Of those employed, NLRN who left their first nursing position within the first three years were evaluated to determine if orientation was a factor, which may affect the sample size. The results from this study may not be applicable to NLRN in other countries. Survey participants may not be equally articulate or perceptive (Creswell, 2018). The survey participants were influenced by the time period in which they completed the survey, which differs from one survey group to another, based on current trends in society and healthcare.

### **Significance**

The Newly Licensed Registered Nurse New Cohort 3 Survey, 2016 data were analyzed to evaluate the association between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, and who plan to leave or left their first nursing position held up to the date of the survey. Data were analyzed to evaluate the association between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, who left or plan to leave their first nursing position within three years due to poor orientation. Examination of associations of different NLRN generation cohorts and orientation effectiveness related to retention in first nursing job, may bolster the NLRN ability to transition from graduate nurse to the NLRN role and may lead to increased retention rates of new nurses. Nurse leaders may benefit through better

understanding of the dynamic of the nursing department and development of specific department orientation practices. The significance of the study was to promote better educational programs, increase new nurse retention, and improve orientation program management. The analysis will guide organizations to make adjustments to their nurse orientation programs with the intent to enhance the experience for graduate nurses transitioning to the new RN role. Findings related to generational differences will be useful in developing evidence-based strategies for new nurse orientation programs. Results from the study will contribute to positive social change by ensuring that competent nurses are in supply to provide effective, safe care, thereby improving the health and well-being of the community served.

### **Summary**

There are documented differences between the various generations, however there is little published related to NLRN retention by generational cohort and NLRN retention compared to new nurse orientation. Future research could investigate the NLRN generation by degree type, gender, and culture. This could contribute to further identify generational differences, which could be addressed on a more specific level when attempting to orient and retain NLRN. Healthcare organizations will gain a better understanding of new nurse orientation and retention needs by taking time to recognize, analyze, and appreciate these generational differences. Generations in the workplace have been examined, but NLRN retention and orientation satisfaction have not been analyzed. Examination of the different views, perceptions, and values of each nurse generation entering the workforce will assist organizations in appropriately structuring their new



nurse orientation, mentor, and preceptor programs by connecting on a generational level with the intent to increase new nurse retention.

## Section 2: Research Design and Data Collection

### **Introduction**

The purpose of this quantitative study was to evaluate the association between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, and who plan to leave or have left their first nursing position held up to the date of the survey. The purpose also included examination of associations between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, who are no longer working in their first RN job due to poor orientation. The Strauss–Howe generational theory served as the basis for the study by providing the lens through which the relationship of the variables was examined. The manner with which each generation views the world based on what they experienced during their lifetime, which in turn shaped their world perspectives. This theory highlights the idea that generation cohorts share similar behaviors, attitudes, values, and beliefs based on their period in history (Strauss & Howe, 1998). Examination of associations of different NLRN generation cohorts and orientation effectiveness related to retention in first nursing job, may bolster the NLRN ability to transition from graduate nurse to the NLRN role and may lead to increased retention rates of new nurses. This section outlines the research design and rationale, methodology, sampling, threats to validity, and ethical procedures.

### **Research Design and Rationale**

The variables included in this study are the NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer (independent) and NLRN who left or plan to leave their principal nursing position within three years (dependent) as

well as NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer independent and NLRN, who are no longer working in their first nursing position (dependent) due to poor orientation (independent). Analysis was conducted using data collected through the Newly Licensed Registered Nurse New Cohort 3 Survey, 2016. The independent variable for the study is NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer. The variables selected for this study were categorical. Multinomial logistic regression was selected as the predictor test and Chi-Square Test for Independence was selected to assess relationships between the variables.

The research design was not limited by time or resources. The secondary data set was readily available through the Inter-University Consortium for Political and Social Research (ICPSR). There was no cost associated with accessing or obtaining the data set.

### **Methodology**

Secondary quantitative data was collected from the Newly Licensed Registered Nurse New Cohort 3 Survey, 2016. The target population for this study were NLRN who obtained their first license to practice between August 1, 2014 and July 21, 2015. The final analytic sample included 1,171 responses. Data were retrieved from the ICPSR, a consortium of more than 750 academic institutions and research organizations.

### **Sampling**

The sample design for the New Nursing Cohort study sampled new RNs residing in 20 metropolitan statistical areas (MSAs) and 1 rural county in 14 states across the country. Princeton Survey Research Associates International (PSRAI) determined the

distribution of nurses by site needed. They assigned a random number to each nurse followed by organizing each of the 21 sites and sorted according to random numbers. The target population was identified followed by a power analysis to determine inclusion and exclusion criteria. A multinomial logistic regression model and a Chi-Square Test for Independence were the statistical tests selected to address the research questions. A priori analysis was conducted using G\*Power Version 3.1.9.6.(Faul, Erdfelder, Lang, & Buchner, 2007). A one tail test was selected, the level of power aspired at 0.95, effect size of 0.15, and the alpha level used in the calculation was 0.05. The total sample size was determined to be 74. Of the 1,159 participant responses, all responded to the question of are, 579 NLRN indicated that they left or plan to leave their first nursing position within 3 years, 186 participants responded to the questions of orientation being the primary reason for leaving their first nursing position.

### **Data Analysis Plan**

Using SPSS software, a chi-square test for independence and multinomial logistic regression were utilized to determine whether there is a statistically significant association between NLRN and retention in their first nursing position based on generational cohort. Chi-square test for independence was also utilized to determine whether there is a statistical association between newly licensed registered nurses who are no longer working in their first nursing position due to poor orientation. The confounding variables included in the analysis were race and gender. A determination was made as to whether the confounding variables influence the relationship of the independent and dependent variables. The data provided was cleaned prior to publication.

The data was further cleansed of the variables that were not pertinent to this study. Of the 1,159 participant responses, 579 NLRN indicated that they left or plan to leave their first nursing position within 3 years. Using these responses, testing was performed to determine the number participants indicated orientation as the primary reason for leaving, and to which generational cohort they belong.

### **Research Questions**

RQ1: What is the association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and NLRN who left or plan to leave their first nursing position within three years?

*H<sub>0</sub> (null hypothesis):* There is no statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and NLRN who left or plan to leave their first nursing position within three years.

*H<sub>1</sub> (alternative hypothesis):* There is a statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and NLRN who left or plan to leave their first nursing position within three years.

RQ2: What is the association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and are no longer working in their first nursing position and poor orientation as reason for leaving?

*H<sub>0</sub> (null hypotheses):* There is no statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August

1, 2014 and July 31, 2015, and are no longer working in their first nursing position and poor orientation as reason for leaving.

*H<sub>1</sub> (alternative hypothesis):* There is a statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and are no longer working in their first nursing position and poor orientation as reason for leaving.

### **Threats to Validity**

Threats to validity for this research were grouped as external, internal, and statistical conclusion. Identification of these threats contributed to the strength of the study.

External validity threats arise when experimenters draw incorrect inferences from the sample data to other persons, other settings, and past or future situations. (Creswell, 2018). The external threats to validity include the participant responses, on which the secondary data set is built. The third edition and distribution of the New Nursing Cohort Survey speaks to its reliability.

Internal validity threats are experimental procedures, treatments, or experiences of the participants that threaten the researcher's ability to draw correct inferences from the data about the population in an experiment (Creswell, 2018). The internal threats to validity include the time in which the survey was distributed. Participants may have experienced something unusual, which is out of the researcher's control.

Statistical conclusion validity arises when experimenters draw inaccurate inferences from the data because of inadequate statistical power or the violation of

statistical assumptions (Creswell, 2018). This study was based on adequate analysis of the data and statistical testing. The outcomes of the statistical testing demonstrate that relationships exist between variables.

### **Ethical Procedures**

The data were accessed through the Inter-University Consortium for Political and Social Research (ICPSR), a consortium of more than 750 academic institutions and research organizations and an open data-sharing service. ICPSR accepts data with identifying information but only with informed consent from the study participants. All data sets are reviewed to assess disclosure risk and will modify data to reduce risk. ICPSR limits their access to datasets based on risk and staff are trained on methods of disclosure, risk assessment, and mitigation (ICPSR Data Management & Curation, 2020). No ethical concerns were identified. Individual participant identifiers were removed from the data set prior to access.

A signed ICPSR Data User Agreement was obtained prior to release of the data for study 36821. A copy of this agreement is located under Appendix A. Institutional Review Board approval was secured from Walden's IRB prior to analysis of the data set obtained for this study. The approval number is located under Appendix B. Data were stored on an external hard drive and will be erased 5 years after the study is complete.

### **Summary**

The study is based on data collected from the most recent Newly Licensed Registered Nurse New Cohort 3 Survey, 2016 retrieved through the ICPSR. The research design, procedures, sample size, data analysis plan, threats to validity, and ethical

procedures were described. The results and findings will be presented and interpreted in the following chapter.



### Section 3: Presentation of the Results and Findings

#### **Introduction**

The purpose of this quantitative research study was to evaluate the association between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, and who plan to leave or have left their first nursing position held up to the date of the survey. This study also examined associations between NLRN generational cohorts, Generation Z, Millennial, Generation X, and Baby Boomer, who are no longer working in their first RN job due to poor orientation. The following research questions and hypothesis provided the base for the study:

RQ1: What is the association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and NLRN who left or plan to leave their first nursing position within three years?

*H<sub>0</sub> (null hypothesis):* There is no statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and NLRN who left or plan to leave their first nursing position within three years.

*H<sub>1</sub> (alternative hypothesis):* There is a statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and NLRN who left or plan to leave their first nursing position within three years.

RQ2: What is the association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and are no longer working in their first nursing position and poor orientation as reason for leaving?

*H<sub>0</sub> (null hypotheses):* There is no statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and are no longer working in their first nursing position and poor orientation as reason for leaving.

*H<sub>1</sub> (alternative hypothesis):* There is a statistically significant association between generational cohorts of NLRN, who obtained their first nursing license between August 1, 2014 and July 31, 2015, and are no longer working in their first nursing position and poor orientation as reason for leaving.

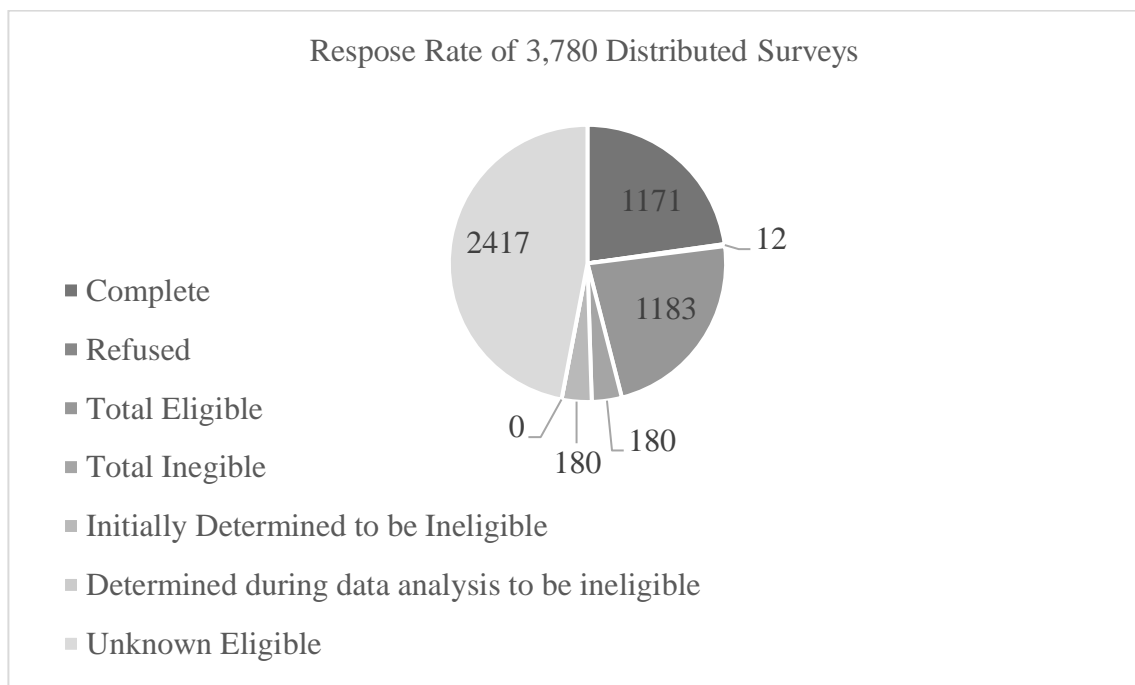
Chi-Square Test for Independence will be executed to determine relationships between the dependent and independent variables. Multinomial logistic regression will be used to predict the value of the dependent variables NLRN who left or plan to leave their first nursing position with three years, based on NLRN generation cohort. The statistical test will determine the appropriate action, fail to reject or reject the null hypothesis.

Section three describes the selected secondary data set, descriptive statistics, and the statistical tests selected to address the research questions. Presentation of results from the analysis, hypothesis testing, and level of association between variables are also included in the section, along with the discussion of rejection or failure to reject the null hypothesis.

De-identified data were retrieved from the ICPSR. The ICPSR will accept data with identifying information, but only with informed consent from the study participants. All data sets are reviewed to assess disclosure risk and data is modified to reduce risk. The ICPSR limits their access to datasets based on risk and staff are trained on methods of disclosure, risk assessment, and mitigation (ICPSR Data Management & Curation, 2020). This data set was analyzed to explore the relationship between the identified variables of NLRN, generational cohorts, left or plan to leave first nursing position, and NLRN orientation.

### **Data Collection of Secondary Data Set**

The time frame for data collection was one year. The data were collected using the most recent distribution of the Newly Licensed Registered Nurse New Cohort Survey, of which there are three to date. The survey response rate was calculated using the number of completed surveys, total number of eligible surveys, number of surveys where eligibility is unknown, and estimated eligibility rate. Using these factors, the survey response rate was calculated at 36%. There were no discrepancies identified with the secondary data set compared to the plan presented in Section II. The response rates based on total cases is presented in Figure 1.



*Figure 1.* Response rate.

## Results

Survey participants were predominately female, under the age of 29 years, and White Non-Hispanic. At least half of the participants indicated that they left or plan to leave their first RN position within three years. Baseline descriptive and demographic characteristics of the sample are reported in Table 1.

The dependent variable, NLRN intent to leave first nursing position, consisted of five response groups. These were recoded to form three groups. The first three groups: (a) 1, Yes, have left; (b) 2, Yes, will leave within the next 12 months; and (c) 3, Yes, will leave in 1 year to 3 years, were combined into one group and labeled “left or will leave within three years.” The survey included questions regarding race (ethnicity). The categories were American Indian or Alaska Native, Asian, Black or African American,

Native Hawaiian or Other Pacific Islander, White, and Other or Mixed race. An additional question asked whether the participant was Latino or Hispanic ethnicity. Prior to release, these were combined into two groups, White Non-Hispanic and all other. Gender remained unchanged. After receiving the data set, the independent variable of age was recoded from four groups to three. The group “50 or more years” only captured 51 (4.4%) of survey participants. It was combined with the group “40 – 49 years,” which consisted of 153 (13%) of responses. Together, the group totaled 204 (17.4%) responses.

Table 1

*Descriptive and Demographic Characteristics of Survey Participants*

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	1001	85.5	86.4	86.4
	Male	158	13.5	13.6	100
	Total	1159	99	100	
Missing	System	12	1		
Total		1171	100		

Age		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 29	637	54.4	55	55
	30-39	318	27.2	27.4	82.4
	40 and higher	204	17.4	17.6	100
	Total	1159	99	100	
Missing	System	12	1		
Total		1171	100		

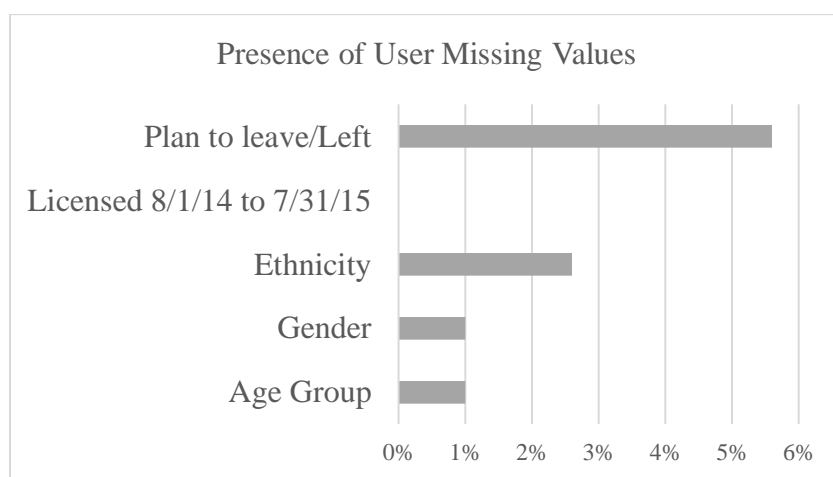
  

Intent to Leave		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Left or will leave in 3 years	584	49.9	52.8	52.8
	No plans to leave	387	33	35	87.8
	Undecided	135	11.5	12.2	100
	Total	1106	94.4	100	
Missing	System	65	5.6		
Total		1171	100		

Ethnicity		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	All Other	299	25.5	26.2	26.2
	White Non- Hispanic	841	71.8	73.8	100
	Total	1140	97.4	100	
Missing	System	31	2.6		
Total		1171	100		

Data were entered into the SPSS software and unique identifiers were confirmed, meaning each value only occurred once within the data set. Data were then evaluated for undesirable variable types and all were confirmed as numeric. Data were then scanned for the presence of user missing values. Based on the low percentage of missing values, all selected variables were eligible for inclusion in the analysis. Figure 2 depicts the study variables by missing values.



*Figure 2.* Presence of user missing values.

### **Research Question 1**

The first research question examined whether there was a relationship between generational cohorts of NLRN and their intent to leave their first nursing position with three years. Testing included chi-square test of independence and multinomial linear regression.

#### **Chi-Square Test of Independence**

A chi-square test of independence was performed to examine relationships between the variables. Results from the chi-square tests are reported in table 2.

Based on the chi-square test of independence for NLRN intent to leave and age, the null is rejected. There is statistically significant evidence at the  $\alpha = .05$  to show that  $H_0$  is false, meaning there appears to be a relationship between age and NLRN intent to leave.

Based on the chi-square test of independence for NLRN intent to leave and ethnicity, the null is rejected. There is statistically significant evidence at the  $\alpha = .05$  to show that  $H_0$  is false, meaning there appears to be a relationship between ethnicity and NLRN intent to leave. Based on the chi-square test of independence for NLRN intent to leave and gender, we fail to reject the null. There is no statistically significant evidence at the  $\alpha = .05$  to show that  $H_0$  is false, meaning there does not appear to be a relationship between gender and NLRN intent to leave.



Table 2

*Chi-Square Results of Baseline Characteristics of Variables*

Characteristic	Overall Sample	Left or plan to leave in 3 years	No plans to leave	Undecided	Chi square tests of independence
<b>Age in years</b>					
<29	591	348	201	64	$X^2(4) = 1094$
30-39	288	147	106	38	$p=.02$
>40	166	84	75	31	Value=11.26 N=1094
<b>Ethnicity</b>					
White Non-Hispanic	790	410	296	92	$X^2(2) = 1075$
All Other	275	161	76	40	$p=.01$ Value=8.72 N=1075
<b>Gender</b>					
Female	921	497	333	117	$X^2(2), 1094$
Male	144	83	49	15	$p=.61$ Value=.99 N=1094

**Multinomial Logistic Regression**

A multinomial logistic regression model was used to predict whether the nominal independent variables of age, gender or ethnicity influenced the nominal dependent variable of NLRN who left or plan to leave their first nursing position. This model was the most appropriate to answer Research Question 1.

Table 3

*Case Processing Summary*

		N	Marginal Percentage
Plan to Leave	Left or Will leave in 3 years	567	53.20%
	No plans to leave	368	34.60%
	Undecided	130	12.20%
Age	Less than 29	591	55.50%
	30-39	288	27.00%
	40 and higher	186	17.50%
Ethnicity	All Other	275	25.80%
	White Non-Hispanic	790	74.20%
Gender	Female	921	86.50%
	Male	144	13.50%
Valid		1065	100.00%
Missing		106	
Total		1171	
Subpopulation		12	

Table 3 contains the dependent variable and independent variables. Focusing on the dependent variable, the number of valid observations in the model totals 1,065 distributed among the ten categories. The proportion of valid responses for each category are listed under marginal percentage. Model fitting information located in Table 4 indicates that the significance of the final model is  $p=.01$  indicating rejection of the null, meaning the final model is a good fit.

Table 4

*Model Fitting Information*

Model	Model Fitting Criteria -2 Log Likelihood	Likelihood Ratio Tests		
		Chi-Square	df	Sig.
Intercept Only	127.059			
Final	104.397	22.662	8	0.004

Table 5 depicts the goodness-of-fit and Pseudo R-Square. The goodness of fit is greater than  $p=.05$  indicating we reject the null that the model is not a good fit.

Table 5

*Goodness-of-Fit*

	Chi-Square	df	Sig.
Pearson	13.376	14	0.497
Deviance	12.749	14	0.546

Pseudo R-Square

Cox and Snell	0.021
Nagelkerke	0.025
McFadden	0.011

The likelihood ratio tests indicated that age  $p=.01$  and ethnicity  $p=.01$  have a significant impact on the dependent variable of NLRN intent to leave. Gender returned a p-value of  $p=.53$  indicating no impact on the dependent variable.

Table 6

*Parameter Estimates*

NLRN Intent to Leave		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
No plans to leave	Intercept	-0.104	0.24	0.19	1	0.663			
	Less than 29 years	-0.508	0.187	7.421	1	0.006	0.602	0.417	0.867
	30 - 39 years	-0.215	0.207	1.083	1	0.298	0.806	0.537	1.21
	40 and more years	0b	.	.	0	.	.	.	.
	White Non- Hispanic	-0.489	0.162	9.15	1	0.002	0.613	0.447	0.842
	All other	0b	.	.	0	.	.	.	.
	Female	0.153	0.199	0.595	1	0.441	1.165	0.79	1.72
	Male	0b	.	.	0	.	.	.	.
	Undecided	Intercept	-1.288	0.349	13.651	1	0		
Less than 29 years		-0.681	0.256	7.071	1	0.008	0.506	0.307	0.836
30 - 39 years		-0.313	0.281	1.239	1	0.266	0.732	0.422	1.269
40 and more years		0b	.	.	0	.	.	.	.
White Non- Hispanic		0.042	0.215	0.039	1	0.844	1.043	0.685	1.589
All other		0b	.	.	0	.	.	.	.
Female		0.292	0.302	0.937	1	0.333	1.34	0.741	2.422
Male		0b	.	.	0	.	.	.	.

a The reference category is: Left or Will leave in 3 years.

b This parameter is set to zero because it is redundant.

The parameter estimates located in Table 6 compare NLRN who left or plan to leave to NLRN who answered they have no plans to leave and NLRN who responded as undecided. Analysis showed statistical significance at the  $\alpha = .05$  that NLRN less than 29

years of age were less likely to stay in their first nursing job compared to left or plan to leave their first nursing job within three years ( $p=.01$ ). Analysis showed statistical significance at the  $\alpha = .05$  that NLRN who indicated they were white, non-Hispanic were less likely to stay in their first nursing job compared to left or plan to leave their first nursing job within three years ( $p=.01$ ).

### **Research Question 2**

The second research question examined whether a relationship between different generational cohorts of NLRN who were no longer working in their primary nursing position at the time of the survey and if these participants indicated that orientation was the reason for leaving.

#### **Chi-Square Test for Independence**

Participants who selected no when asked if they still working in their first principle nursing position, were directed by the survey to indicate the reason why they left. These 193 participants were provided 24 possible responses and then instructed to select all that apply. The selected responses totaled 834. The responses were categorized into two groups, other personal and other professional. There were 6 options provided for personal and 18 provided for professional. Figure 3 shows the total response rate from most selected group to least. Participants were filtered by those who selected orientation as one of the reasons. The variable “orientation” was selected leaving only 46 participants who indicated orientation as a reason for leaving. These participants were, then, crosschecked for association, using chi-square test of independence by age, gender, and ethnicity. Results are located in Table 6. Pearson’s chi-square returned a p-value greater

than .05 for all variables. There is statistically significant evidence at the  $\alpha = .05$  to show that  $H_0$  is true, the null is accepted. There is no significant relationship between age, ethnicity, or gender and leaving first nursing position due to poor orientation.

Table 7.

*Chi-square results of baseline characteristics of variables*

Orientation	Overall Sample	Not Circled	Circled	Chi square tests of independence
<b>Age in years</b>				
<29	89	64	25	$X^2 (2, 140) = 2.91$ p=.23
30-39	56	41	15	
>40	41	35	6	
<b>Ethnicity</b>				
White Non-Hispanic	119	90	29	$X^2 (1, 181) = 0.05$ p=.83
All Other	62	46	16	
<b>Gender</b>				
Female	169	124	45	$X^2 (1, 185) = 3.25$ p=.07
Male	16	15	1	



*Figure 5.* Response rate for reason for leaving.

### **Summary**

Statistical testing was implemented in an attempt to predict NLRN intent to leave their first nursing position based on the generation cohort to which they belonged.

Testing was also performed to assess relationships between poor orientation and age of NLRN who left their first nursing position. The results from the multinomial logistic regression model were reviewed and it was determined that the model was fit for the

variable data according to the statistical definitions. The chi-square tests for independence demonstrated that there is a relationship between age and ethnicity, and NLRN intent to leave. The results from the multinomial logistic regression supports these findings. The significance of the model fitting information and goodness of fit offers support that the model is a good fit. The likelihood ratio test also supports the relationship of age and ethnicity and NLRN intent to leave and the lack of relationship between gender and NLRN intent to leave.



## Section 4: Application to Professional Practice and Implications for Social Change

### **Introduction**

This quantitative study employed chi-square test for independence and multinomial logistic regression to determine if a relationship existed between the dependent variable of NLRN who left or plan to leave their first nursing position within three years and the independent variable of age group. In this study I also examined the relationship between NLRN who left their first nursing position and whether orientation was the primary reason. The results of the chi-square test for independence determined that there is a relationship between age and NLRN intent to leave and ethnicity and NLRN intent to leave. The multinomial logistic regression model found that the variable of age can be used to predict whether a NLRN will leave their first nursing position within the first three years. Looking at NLRN who left their first nursing position, it appears that poor orientation was not a contributing factor.

### **Interpretation of the Findings**

This study was developed to investigate nursing retention, specifically new nurse retention from a generational perspective. NLRN are expected to graduate and begin their training based on what they learned in the educational environment and specific organization education provided through an orientation process. Difficulty or inability to transition to the NLRN role leads to nurse attrition contributing to the nursing shortage (Greenway et al., 2019). An approach to the NLRN retention from a generational standpoint provided a different perspective of the NLRN transition. Differences amongst

the nursing generations, including race and gender, were addressed as each represents a unique set of qualities and values. Chi-square test for independence determined that a relationship exists between NLRN who intend to leave their first nursing position and age and ethnicity. The multinomial logistic regression model further supports this association indicating that the NLRN intent to leave can be predicted based on age and ethnicity. There was no statistical evidence that gender was associated with intent to leave. Using additional chi-square testing, poor orientation was crosschecked as a factor for NLRN leaving; however, it was determined that poor orientation was not associated with the reason for leaving. Analysis was conducted using data collected through the Newly Licensed Registered Nurse New Cohort 3 Survey, 2016. Creation of or tailoring NLRN orientation programs to specific age groups may be beneficial in increasing retention of NLRN.

### **Limitations of the Study**

The data obtained for this study were clear, however combination of variable groups prior to release generalized the different ethnic groups, limiting the ability further investigate specific ethnicities.

### **Recommendations**

Using this study as a base, additional research could include assessment of the learning styles and preferences of NLRN prior to starting their first nursing job. Multiple delivery methods of orientation materials, department specific information, and organizational onboarding should be considered when hiring NLRN. NLRN may prefer one type of delivery to another, therefore, affecting the overall perception, positive or

negative, of the transition period. Based on the response rate of the NLRN who left their first nursing position, poor management should be further investigated to determine if different age, ethnicity, and gender groups view management as a primary reason for leaving their first nursing position. Orientation periods should include multiple survey points scheduled throughout the NLRN orientation period through one year of employment to help ascertain the point at which NLRN experience negative emotions towards their employment. When developing orientation programs, educators should take care to understand the differences in use of technology, preferred delivery of learning materials, and type of hands on instruction from which each age group would benefit the most.

### **Implications for Professional Practice and Social Change**

The shortage of nurses is and will continue to be critical. Replacing nurses is expensive, takes time, and resources. The 2020 NSI National Health Care Retention and RN Staffing Report stated, “A clear indicator of the RN staffing crisis is the rising vacancy rate. Currently, this stands at 9%, up a full point from last year” (NSI Nursing Solutions, 2019). This rate of turnover directly affects patient care quality and safety of the community served. Experienced nurses play an important role in training NLRN. Failure to retain nurses will lead to a loss of valuable knowledge that comes with experience, which is critical to the growth of new nurses as they train with experienced nursing staff. Patricia Benner’s theory of nursing development proposes that all nurses begin as novice, then through experience, move through the different stages until they become an expert. It is the proficient nurse, with least three years of practice and the

expert nurse who have skills and experience needed to effectively train NLRN. The NLRN, then, begins their journey towards expert, completing the cycle (Ozdemir, 2019). From a social change standpoint, assurance that competent nurses are in supply to provide effective, safe care, will improve the health and well-being of the community served.

### **Conclusion**

This study evaluated NLRN retention from a generational perspective. Any effort to increase nurse retention is a step in the right direction. Nurse retention is obviously the solution, but until the root-cause of poor retention is identified, we will continue to experience high rates of NLRN turnover. With age identified as a factor in NLRN retention, organizations who employ nurses have additional information to use in their fight for nurse retention.

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## Appendix A: Terms of Use

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- If the confidentiality of human subjects has been violated, the case may be reported to the Federal Office for Human Research Protections. This may result in an investigation of the user's institution, which can result in institution-wide sanctions including the suspension of all research grants.
- A court may award the payment of damages to any individual(s)/organization(s) harmed by the breach of the agreement.

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A faculty member, staff member, or student at a member institution

**ICPSR**

Intra-university Consortium for Political and Social Research

**member institution**

An institutional member of ICPSR

**Official/Designated Representative**

An individual appointed to represent a university's interests in ICPSR. This individual is also charged with providing user support to campus users.

**promise of confidentiality**

A promise to a respondent or research participant that the information the respondent provides will not be disseminated without the permission of the respondent; that the fact that the respondent participated in the study will not be disclosed; and that disseminated information will include no linkages to the identity of the respondent. Such a promise encompasses traditional notions of both confidentiality and anonymity. Names and other identifying information regarding respondents, proxies, or other persons on whom the respondent or proxy provides information, are presumed to be confidential.

**research subject**

A person or organization observed for purposes of research. Also called a respondent. A respondent is generally a survey respondent or informant, experimental or observational subject, focus group participant, or any other person providing information to a study or on whose behalf a proxy provides information.

Appendix B: Walden IRB Approval Number

The Walden IRB approval number for the study is 06-17-20-0668729.