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## Factors Affecting the Outcome of the National Council Licensure Examination among Nontraditional Learners from Associate Degree Nursing Programs

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FACTORS AFFECTING THE OUTCOME OF THE NATIONAL COUNCIL  
LICENSURE EXAMINATION AMONG NONTRADITIONAL LEARNERS FROM  
ASSOCIATE DEGREE NURSING PROGRAMS

Presented in Partial Fulfillment of the  
Requirements for the Degree of  
Doctor of Philosophy in Nursing Education

Nova Southeastern University

Angela C. Gaud

2019

**NOVA SOUTHEASTERN UNIVERSITY  
HEALTH PROFESSIONS DIVISION  
RON AND KATHY ASSAF COLLEGE OF NURSING**

This dissertation, written by Angela C. Gaud under direction of her Dissertation Committee, and approved by all of its members, has been presented and accepted in partial fulfillment of requirements for the degree of

**DOCTOR OF PHILOSOPHY IN NURSING EDUCATION**

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## **Abstract**

**Background.** The composition of student population in higher education is a reflection of a globalized society and current socioeconomic conditions. Characteristics of nontraditional adult learners have a significant impact in the achievement of their academic goals. A more diverse composition of students enrolled in nursing programs poses an important challenge to NCLEX-RN pass/fail outcomes. Studies that explore or predict the factors associated with NCLEX-RN performance amongst nontraditional adult learners after graduation are limited.

**Purpose.** This study analyzed how the demographic, social, and psychological factors observed in the characteristic profile of the nontraditional adult learner are related to NCLEX-RN performance for graduates of an associate degree nursing program.

**Theoretical framework.** The andragogy theory, as the theoretical framework, acknowledges four principles of the adult learning process. The assumptions explain the coping strategies of the adult learner to overcome challenges embedded in the demographic, social, and psychosocial factors of their characteristic profile.

**Methods.** A quantitative, non-experimental design, following a correlational and regression analysis, was employed to test the hypothesis. Participants were recruited through a convenience sample and asked to complete a demographic questionnaire. The SPA-R-2 tool was used to collect data about how supportive or restricted were the social and psychological factors to their NCLEX-RN outcomes.

**Results:** A statistically significant correlation was observed amongst various variables from the social and psychological factors with NCLEX-RN pass/fail outcomes. The regression model demonstrated the variables of employment responsibilities, nursing

professional events, and college library services to be statistically significant in the regression model as predictors for NCLEX-RN pass/fail outcomes.

**Conclusion:** The results from this study support the theoretical strands of the andragogy theory by confirming that the aspects of the behavioral response to learning is affected by non-academic factors embedded in the characteristic profile. The results allow for the development of educational strategies, strengthening of student support systems, and empirical information that can be used for the development of supplemental activities for nontraditional adult learners.

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## Chapter One

### **The Problem and Domain of Inquiry**

Nursing academia in the 21st century is facing a number of challenges produced by the effects of a globalized society and current socioeconomic conditions. The attainment of a college degree is imperative for meeting the high demands of a complex and diverse society. These challenges have produced a two-pronged effect within the landscape of nursing academia concerning the trends observed in the new composition of students and the efforts to maintaining a school's operational status as per the board of nursing (BON) or the different national nursing accrediting bodies.

The population of students pursuing further education has become much more diverse in terms of demographic, cultural, and ethnic aspects (National Center for Education Statistics, 2011). Hussar and Bailey (2016) reported that for the period of 1999 to 2013, 41% of the enrollments in higher education were students aged 25 to 34 years old who had a previous educational background, family responsibilities, and worked full time. Community colleges comprise 45% of all postsecondary enrollments in the United States, and a significant number of these enrollments represent a diverse student population and communities in terms of characteristic profile (American Association of Community Colleges, 2014). The National Center for Educational Statistics has projected an increase tendency of this phenomenon by 17% between 2013 and 2024.

Congruent to the increase of a more diverse student composition, there is an increasing number of new nursing programs in the state of Florida that can have a significant impact on enrollment and retention of students in nursing programs while also emphasizing the achievement of educational outcomes and program completion rates (Miller, 2013). The emphasis of these outcomes is determined by the state BON and enhanced by a national nursing accrediting body. These constitutions set forth the criteria and standards by which the programs will deliver, implement, and evaluate the curricular plan and standards for admission requirements and faculty qualifications, and they recommend approaches for quality improvement (Halstead, 2017). In the state of Florida, a nursing program must be approved by the state Board of Nursing and is required to abide by standards stated by the Commission for Independent Education (CIE) from the Florida Department of Education. A nursing educational program may seek an accrediting status as a voluntary, nongovernmental status in which the program undergoes an external peer review to promote quality and to follow a continuous improvement plan to achieve program success (Ard, Beasley, & Nunn-Ellison, 2017; Serembus, 2016). The National Council Licensure Examination for Registered Nurses (NCLEX-RN) success is being considered a significant challenge within the achievement of program goals because of the implications for the status of the program. Regardless of the approval or accreditation status of the nursing program, graduates from these programs are required to pass the NCLEX-RN to be able to perform as nurses. Nursing programs must maintain or exceed a determined passing rate of first-time takers to continue as approved programs or to retain their accreditation status. Currently, in the

state of Florida, 212 of the current nursing programs are approved by the Florida Board of Nursing (FBON). Of these, 142 are associate degree in nursing (ADN), and 70 are Bachelor of Science in nursing (BSN) levels; a total of 84 of these programs are also nationally accredited (44 are ADN and 40 are BSN levels) (Florida Board of Nursing, 2017).

The increasing demand for nursing professionals to meet the needs of the healthcare system (American Association of Colleges of Nursing, 2017), along with the effects and implications of the discussed trends in higher education (Heller, Oros, & Durney-Crowley, 2014; Tietjen-Smith, 2016) can bring changes and opportunities for nursing schools, which are responsible for preparing new and qualified graduates to enter the profession. As a response to this transformation, nursing educational programs have developed innovative educational models and teaching approaches to meet the learning needs of a more diverse student population. However, these efforts pose important challenges in meeting the students' educational needs. Some of these challenges respond to the integration of innovative educational methods and curricular models to engage students with different learning skills as well as to finding clinical placements for their experiential learning. Additionally, meeting programmatic outcomes, such as acceptable first-time NCLEX-RN passing rates, poses a challenge, especially for those nursing programs that are striving to maintain an approval and/or accreditation status, when the composition of the students served is considered to be nontraditional (Heller et al., 2014).

Nursing scholars have directed their research efforts to build solid and consistent evidence by exploring innovative interventions and identifying the factors that enhance

current knowledge about NCLEX-RN success amongst nursing graduates (Foley, 2016; Hyland, 2012; Thomas & Baker, 2011; Yeom, 2013). However, the literature is limited in regard to the number of studies that identify, describe, explore, or predict the factors associated with NCLEX-RN performance, specifically amongst nontraditional adult learners and their educational needs after graduation. Because of the diversity in the characteristics presented in this group of students, determining which factors encourage success or predict patterns of NCLEX-RN performance after graduation may be a challenging task for educational institutions that serve this population. Therefore, to understand the implication of the factors associated with their academic success, it is imperative to discuss the features embedded in the descriptors associated with the definition of nontraditional adult learners.

### **Nontraditional Adult Learners**

The term “nontraditional students” has been used to refer to adults in higher education who are over 25 years old, have completed high school or its equivalent, may or may not continue college studies, and have returned to continue further studies, who have family and work responsibilities and are affected by other non-academic factors that may hinder them from gaining an academic degree (Chen, 2014; Zerquera, Ziskin, & Torres, 2016). However, the latest report published by the National Center for Education Statistics (McFarland & Hussar, 2018) has excluded the “age” descriptor and identified the following seven traits that are common amongst nontraditional students: they do not pursue a college education immediately after high school graduation, attend college part-time, work an average of 35 hours per week, are financially independent, have children or

other dependents besides their spouse, are single parents, or have a GED school diploma (McFarland & Hussar, 2018). In nursing education, the nontraditional adult learner is also described in terms of their social and academic involvement, perception of the educational process, learning preferences, life experiences, age, cultural factors, and social factors (Grabowski, 2016). Other descriptors include psychosocial aspects of their educational experience, particularly attitudes and perceptions of their responsibilities in nursing school, persistence, and priorities and preferences (Archer, Chetty, & Prinsloo, 2014; Cotton, Nash, & Kneale, 2017; Murphy & Murphy, 2017; Stevens, 2014).

Adult learners may have specific and unique educational needs as well as preferences for learning, which are different from traditional students (Caruth, 2014). Research typically organizes the variables describing a nontraditional group of adult learners into three categories: (a) demographic, (b) social, and (c) psychological. These variables may have a positive or negative effect on an individual's chance of gaining his or her NCLEX-RN qualification (Beauvais, Stewart, DeNisco, & Beauvais, 2014; Lancia, Petrucci, Giorgi, Dante, and Cifone, 2013). Historically, the literature describes how demographic factors such as age, gender, race/ethnicity, language proficiency, level of education, time since last attendance at school, and prior educational experience have shifted the higher educational landscape in the country, as more adults return to college (Cillufo & Chon, 2017; National Center for Education Statistics, 2013). Social factors are described by the individual's family obligations (head of the household or single parent), employment responsibilities, and financial situation (Beauvais et al., 2014). Psychological factors include dispositional motivation, attitude toward the educational

process, self-directedness, and life goals (Davidson, Wesley, & Halbrook, 2014; Metofe, Gardiner, Walker, & Wedlow, 2014). The different characteristics and needs of this new population of students require new approaches to help these students achieve their educational and professional goals.

The terms “nontraditional student” and “adult learner” have been used in the literature interchangeably. The specific definition of each of these two terms was used to define the characteristics profile of the sample of subjects explored in this study. These included the demographic (including age), social, and psychological factors depicted in the definitions of both terms. For the purpose of this study, nontraditional students and adult learners are referred to as nontraditional adult learners, as a single criterion to address the population explored.

### **Academic and NCLEX-RN Performance and Nontraditional Students**

In the literature, the concepts of academic achievement and NCLEX-RN performance are used interchangeably to explain how academic and non-academic variables are related to student outcomes in order to predict academic and NCLEX-RN success (Beauvais et al., 2014; Foley, 2016; Kaddoura, Flint, Van Dyke, Yang, & Chiang, 2017; Lockie, Van Lannen, & McGannon; 2013). There is an extensive discussion in the literature regarding improvement plans, teaching and learning interventions, and curriculum innovations introduced by nursing scholars to enhance students’ academic success and meet the objectives laid down in the board of nursing’s statutes and by nursing accrediting organizations (Hyland, 2012; Koestler, 2015; Serembus, 2016). Other studies have described the experiences of graduates as they

prepare for state board exams (Horton, 2015). However, these studies mostly investigated graduates of baccalaureate nursing programs or accelerated nursing programs, using demographic and academic variables (e.g., age, gender, language spoken, grade point average [GPA], and learning style) to predict academic success in nursing programs (Kaddoura et al., 2017).

Determining the extent to which the characteristics of the nontraditional adult learner profile are related or can predict NCLEX-RN success would help nursing schools, whether they are approved or accredited, to evaluate and improve the overall performance of the population from the admission process through post-graduation, in an effort to ensure academic success as well as to maintain or achieve programmatic outcomes to meet regulatory or accrediting standards. More specifically, it would help with the design, development, and evaluation of new learning pathways and new forms of comprehensive academic support to improve students' learning and ensure that they are better prepared for the licensure examinations. Although the ultimate goal of teachers and institutions is to prepare nursing students to pass the NCLEX-RN, the differences between traditional and nontraditional students may be an important factor to address in the implementation and evaluation of the academic objectives, as well as predicting NCLEX-RN performance. Investigating the gap in knowledge about the relationship between the different characteristics of the different student populations and their relationship with NCLEX-RN performance is important, as the findings of earlier studies cannot be generalized to nontraditional adult students who graduate with an associate degree in nursing (ADN).

### **Historical Background to the Problem**

The overall landscape of the educational system in the United States has undergone numerous changes and transitions that have posed a series of challenges to educational leaders, faculty members, schools, policymakers, and the community in general (Crouch & Jiandani, 2012). Jones and Watson (1990, cited in Grabowski, 2016) traced these changes back to the 1960s, when myriad political, economic, and social changes resulted in the diversification of the traditional higher education population. Nowadays, these changes are more evident because of the socioeconomic trends in the country which have a direct effect on individuals' current socioeconomic status and push them to move forward in their careers to obtain job stability. Equally important, increases in ethnic minority populations, immigration factors, and increasing globalization have all played an important role in the transformation of the profile of nursing students (Choudaha, Chang, & Kono, 2013). Heller et al. (2014) suggested that the increasing demographic and ethnic diversity of students as well as social factors should be considered an important trend in nursing academia, and that they have important implications for both students and educational institutions. Hussar and Bailey (2016) documented that because of the increasing diversity of the higher education student population, nontraditional adult learners are becoming the new majority group in higher education (National Center for Education Statistics, 2013).

The Obama administration established an initiative in the United States that increased efforts to have the most college graduates in the world by the year 2020, with the objective of attaining the largest qualified workforce in the world (The White House,

2012). This argument also gained high importance at the international level when the Higher Education Quality Council of Ontario, Canada, presented a report recognizing the increase in nontraditional student enrollment in higher education (Rhijn, Lero, Bridge, & Fritz, 2016). However, it is important to understand that these initiatives bring challenges as well as opportunities to revamp the educational system and open the possibilities for students who are more mature and/or who face different needs and barriers not seen with traditional students.

In the state of Florida, nursing educational programs have continued to expand congruently with the growth of more diverse student bodies. A law enacted in 2009 allowed new and current educational institutions to open new nursing programs, without having to pass the scrutiny of the criteria usually followed by the Florida Board of Nursing. The Florida Legislature, in an effort to address the continuous shortage of nurses in the state, modified the regulatory authority of the Florida Board of Nursing to approve new educational programs. This resulted in an increase in the capacity of these new programs to enroll more students and thus increase the potential number of nursing graduates (OPPAGA, 2014). This action brought an expansion of new nursing educational programs, specifically in the South Florida region, considering that the state of Florida is the top state in the nation for higher education attainment (Florida Trend, 2017). This led to a 105% increase in nursing programs in the state of Florida since the law took effect in 2009 (OPPAGA, 2014). Nevertheless, in 2014, the Florida Legislature required all nursing programs to be accredited by a national nursing accrediting body by no later than July 2019. Regardless of the status of the nursing program, the parameters

used to measure compliance with the regulatory standards are associated with the goals set for both students and educational programs.

### **Trends in Higher Education**

Trends in the demographic makeup of the population of the United States have congruently led to trends in higher education that significantly impact the socioeconomic aspects of communities, which in turn affect tuition costs because of the expansion of educational opportunities specifically for nontraditional students. The effects of these forces, however, pose challenges in the academic landscape by the increasing needs of an adult student population in regard to technological advances, pursuit of academic success and thus professional's goals, and job placement (Tietjen-Smith, 2016). Staley and Trinkle (2011), on the other hand, suggest that the increase of educational institutions provides students with more opportunities to pursue their career goals and expands the current cultural environment and a competitive socioeconomic system. The result of these consequences is the development of factors that contribute to a rapid transformation of the educational landscape in the United States. Other authors agree that the increase of a more diverse student population has also contributed to the imminent transformation of higher education, not only in the United States but also around the world (Cillufo & Chon, 2017). Altbach, Reisberg, and Rumbley (2009) describe this force as the most "pervasive influence" on the academic environment over the past years, which is also affected by the perspective of economics, educational access, and differentiation of the higher educational system.

The increasingly diverse student population in educational programs has brought significant implications for the performance and achievement of student learning outcomes, the pursuit of educational quality, and the transformation of current teaching practices. In nursing academia, the aspects of persistence, retention, and success are used as the criteria to describe the desirable program outcomes. As nursing educational programs address their efforts to achieve their program goals, one question remains constant: how do nontraditional students entering nursing programs respond to these new approaches to achieve success? The discussion of implications, challenges, and opportunities that this shift in student population composition could bring to nursing academia is encompassed by the position held between accrediting and governing bodies. Therefore, it is imperative to discuss the effects of the increasing number of nontraditional students in nursing education.

### **Demographical Trends**

The United States is considered to be the third most populous country in the world, with an estimated 325.7 million people living in the country (United States Census Bureau, 2017), which represents 4.5% of the world's population, and it is forecast to increase continuously in density and diversity of the population composition (Shrestda & Heisler, 2011). As this increase continues, the population in the country will become more ethnically and culturally diverse and older, leading to important implications in the social and economic contexts of the country. These factors will require efforts to ensure the well-being of a rapidly changing and aging population. As the population in the United States continues to age, the number of individuals between the ages of 25 and 45

is forecast to increase for the next 20 years (Passel & Cohn, 2008; Shrestda & Heisler, 2011).

Historical data describe the changes in the population characteristics to be affected by socioeconomic factors like those that the economic recession experienced in the country from 1970 through 2009, which also had implications in the educational sector of the country (Wright, Ramdin, & Vaquez-Colina, 2013). During this period, characterized by different cycles of economic recession and short periods of growth, the country suffered from a decrease in the enrollment of traditional students (18 to 24 years old) into higher education because of the impact of rising inflation and unemployment rates. Many students had to drop out of school in response to the financial constraints within the family. As a result, a delay impact in college enrollment was then observed, with a corresponding expansion of the quantity and diversity of the student population in higher education by the beginning of 1996 (Wright et al., 2013).

The change in demographics of a more diverse composition of individuals in the country has been observed in public school classrooms (Crouch & Jiandani, 2012). Statistical data from 2015 show a significant transformation in the current student population, specifically in higher education, revealing an important change during the last decade. Congruently, the landscape of the educational system in the United States has been exposed to numerous changes and transitions that have led to debates amongst educational leaders, faculty members, schools, policymakers, and the community in general. The content of these debates responded to the public policy implications in

reference to equity, fairness, and effectiveness of the teaching process, with the goal of preparing new professionals to cope with the effects of a globalized economy.

The literature identifies several trends as the causes of the shift in the traditional composition of the general population in the country. Cillufo and Chon (2017) indicate that the emerging trends in the changing demographics of the United States are related to the shift of the mean age of the population, where the number of millennials (young adults from 18 to 38 years old) is predicted to continue to increase, and immigration factors, in which individuals falling into this demographic category make up almost half of the workforce of the country. Crouch and Jiandani (2012) confirmed these facts in a report presented to the Center for Public Education (CPE) and emphasized the educational implications that can be observed in the classroom, in which significant disparities by race and age are transforming the current pedagogical practices and the evaluation of educational policies. Shrestda and Heisler (2011) describe the immigration factor as the most important component of the shift in the demographics of the United States. The authors based their position on the consistently increasing net immigration rate over the years, where the number of persons from different countries of origin who move to the United States permanently exceeds the rate of individuals who leave. Age factors and density of the population have been greatly affected by these demographic trends, which affect all sectors of the community, especially education. These emerging events create significant challenges for administrators and faculty members, specifically in college enrollments.

## **College Enrollment Trends**

College enrollment in the United States also has been affected by the demographic transformations that are reflected in the changing demographics in the country. Kumar and Hurwitz (2015) attribute the patterns leading to this phenomenon to the significant increase in the number of high school students, by 27%, nationally from 1998 to 2010. However, according to the National Center for Education Statistics, this rate is expected to decline by 2% by 2023 (Hussar & Bailey, 2016), yet the number of college enrollments is expected to increase, but at a slower pace than in past years (Snyder & Dillow, 2016). This trend is believed to be caused by a marked number of foreign-born individuals, immigration factors, and high school dropouts, who must complete their high school requirements through equivalency programs or a general education diploma (GED). The trends in college enrollment are also driven by the changes in the diversity of the composition of the population. This shifts the student demographics to a more diverse race/ethnic- and age-related population. The number of students from different race/ethnic backgrounds has consistently increased from 1976 to 2014 in the United States; Asian/Islander Pacific students comprise the majority of high school completers (89%), followed by Whites (87%), Hispanics (76%), and Blacks (73%) (Kena et al., 2016).

In addition, a significant change in the age of students enrolled in postsecondary institutions was observed when statistics of 2004 and 2014 were compared (Snyder & Dillow, 2016). The number of students aged 25 years and older increased by 16%, predicting a consistent increase in this rate for the upcoming years. The changes in the

demographic context of the college student population are challenging higher education faculty and administrators with the demands presented by the current student population profile (Tietjen-Smith, 2016). The needs exhibited by a more diverse group of students differ significantly from traditional students and require a transformation of the current educational landscape in higher education. The continued diversification of higher education in the country is evidenced by the statistics presented in the college educational level context. The information collected from academic institutions across the country through the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS) reveals a consistent increase in the number of college enrollments in two-year degree granting institutions between 2002 and 2012, specifically with a more nontraditional composition of students (Kumar & Hurwitz, 2015). Kena et al. (2016) presented a report to the National Center for Statistics (NCS) that indicated an increasing trend with respect to race and ethnicity of more students completing their college degrees when compared to the rates observed between 2004 and 2014. They reported that 48% of the students from different races are enrolled in associate degree programs compared to 40% in four-year undergraduate programs. This is an increase of 51% of associate degrees conferred by educational institutions during the same observed period. More specifically, a consistent increase was observed in the rate of conferred degrees in health professions programs, from 63% in 2004 to 65% in 2014. This information is considered of significant importance for the purpose of this study since the forecasting of an increased number of nontraditional students in college enrollments echoes the need to

better understand how their characteristic profile affects the attainment of educational and professional goals.

### **Nontraditional Adult Learner Profiles in U.S. Nursing Educational Programs**

The Florida Center for Nursing (FCN) has released significant information that describes the trends in nursing education, including trends in the demographic and ethnic characteristics of nursing students in educational programs. The educational survey conducted revealed that 30% of nursing students enrolled in associate degree programs were between the ages of 31 and 40. This observation confirms the findings from Tietjen-Smith (2016) which indicate that adult learners in this age group have been increasing consistently for the past years. In addition, the collected information revealed an important shift in ethnic profile of nursing students enrolled in associate degree nursing programs between 2009 and 2016; the proportion of white students decreased from 60% to 32%, and the proportion of black or African American students fell from 19.3% to 13.4% (Florida Center for Nursing, 2017a). Conversely, the proportion of Hispanics enrolled in associate degree in nursing (ADN) programs increased significantly, from 13.4% in 2009 to 22% in 2016. There was also a slight increase in the proportion of students from other ethnic groups (Asian, American Indian, and Pacific Islander), from 0.1% to 2.0% over the same period. The shift toward a more mature student body in nursing programs creates a climate of opportunities for educational institutions to become more responsive to older students and sensitive to the implications of this demographic change.

Students' perceptions of what is important in their lives are strongly anchored to personal factors, life factors, experiences, and maturation, and all these can influence how motivated they are to achieve their goals (Martin, Galentino, & Townsend, 2014). Ross-Gordon (2011) explained that an important difference between traditional and nontraditional students is the meaning of learning process, which may be perceived as an abstract concept for young learners. Snyder and Dillow (2010) corroborated this argument in a report presented by the NCES which stated that 56% of students enrolled in postsecondary educational programs specified work as their top priority, and 26% stated education and employment were important.

The diversity of ages has also changed significantly within the traditional composition of students enrolled in nursing education. The mean age of nursing students has shifted from 18 years to 30.7 years (American Association of Colleges of Nursing [AACN], 2005). The AACN (2005) explained that the diversity in the age of nursing students in the United States reflected a twofold increase in the adult student population and in the number of degree-granting enrollments from 19% to 20%, respectively (National Center for Education Statistics, 2011). This trend is expected to continue until 2020, with an effect in the achievement of quality, specifically amongst nursing educational programs.

### **Pursuit of Quality in Nursing Education Programs: Approved vs. Accrediting Status**

As the number of students increases in nursing academia, the quest for quality as well as effectiveness in the delivery mode of nursing concepts increases to ensure the

preparation of highly competent nurses to meet the healthcare demands of a more complex population. Hence, the focus of the standards required for nursing educational programs will be to guarantee the quality of the teaching/learning process as well as to improve the ability of the students to achieve educational goals, including a successful performance on the NCLEX-RN (Kim & Kim, 2014). Approved and/or accredited nursing education programs are required to meet several criteria and standards in order to teach theoretical concepts and skills necessary to practice nursing. However, potential candidates and currently enrolled students may not completely understand the differences between approved and accredited schools as well as the implications that this status represents in their education. The differences between these two types of programs are in the compliance of the standards or criteria, which may recommend the inclusion of practices to rule the plan in which the program will perform (National Council for State Boards of Nursing, 2012). These standards lead to the development of practices relating to specific entrance requirements, student responsibilities throughout the program, policies and procedures related to academic progression, curriculum structure, and even the evaluation criteria to determine the minimum acceptable level for student performance to ensure positive programmatic outcomes.

It is important for a nursing educational program to be approved by the state BON, which rules the standard of the profession, but, at the same time, the program must comply with a set of academic parameters to ensure the overall effectiveness of the education provided in the school (dictated by the State Department of Education). An approved status indicates the program has met the minimum requirements set by the

state's nursing board and required ongoing evaluation of the performance of these standards (Florida Board of Nursing, 2017). A board of nursing approval status is granted to an educational program when specific standards have been met according to individual state law. However, these standards include basic requirements for the proper operations of a program such as the qualifications of the program's chair and faculty members, components of the nursing curriculum, and evaluation of the overall criteria for the achievement of programmatic outcomes. An approval status is mandatory for all nursing education programs, yet standards for operations might not be as scrutinized as in accredited programs.

Accreditation, on the other hand, is a voluntary, nongovernmental process, conferred by a national nursing accrediting organization, which is not directly associated with the board of nursing. Theoretically, an accreditation status provides and ensures quality standards for educational institutions, which are evaluated on a regular basis for adherence and improvement, to guarantee positive educational outcomes (National Council of State Boards of Nursing, 2012). Although the number of nontraditional students in higher education is well documented in the literature, there is limited information regarding the number of nontraditional students enrolled in undergraduate nursing programs that have an accredited status. The performance criteria followed by accredited programs tend to be more rigid than approved programs because of the high standards required by the accrediting body to maintain their status, making these types of programs less accessible for those students who must deal with other responsibilities in life and require other alternatives and support to accomplish their academic goals.

### **NCLEX-RN Performance in the State of Florida.**

From the historical facts and statistical data on higher education, it is evidenced that the demographic and ethnic transformation of nursing students has had significant effects on the outcomes of nursing education programs. As a result, and in an effort to improve the programs' educational outcomes, several nursing schools have shifted their approach to academic support and attempted to develop educational strategies and interventions to overcome identified barriers to content mastery and promote academic success amongst their students (Jaafarpour, Aazami, & Mozafari, 2016; Simon-Campbell & Phelan, 2016). However, despite the emergence of new ways of enhancing academic support, it is been reported that in Florida, at least one-third of students who graduated from approved nursing programs are struggling to pass their state boards (Dawson, 2015). This fact has been evidenced by a comparison of the number of students who take and pass their NCLEX-RN on the first attempt both nationally and regionally. The National Council for State Boards of Nursing (NCSBN) has reported a national mean for first-time takers of 84%, which has remained consistent since 2015. In Florida, the mean pass rate for first-time examinees from all approved and accredited nursing programs has decreased from 85.25% in 2014, to 72.84% in 2015, and 71.29% in 2016 (National Council for State Boards of Nursing, 2017). As a result of this phenomenon, in July 2015, the Office of Program Policy Analysis and Government Accountability (OPPAGA) released a report stating that approximately 36% of professional nursing educational programs in Florida that had been approved by the Florida Board of Nursing were being placed on probationary status because of NCLEX-RN scores below the state

requirements (OPPAGA, 2014). This trend in NCLEX-RN passing rates amongst nursing educational programs in the state of Florida is critical to determine quality of the program's instructional plans, since as per the Florida statute, they must maintain acceptable passing scores amongst their first-time takers to retain their approval status:

An approved program must achieve a graduate passage rate for first-time takers that is not more than ten (10) percentage points lower than the average passing rate during the same calendar year for graduates of comparable degree programs who are the United States educated. If an approved program's graduate passage rates do not equal or exceed the required passage rate for two consecutive years, the Board shall place the program on probationary status pursuant to chapter 120, as well as to present a remediation plan to improve NCLEX scores. Nurse Practice Act, XXXII Regulation of Profession and Occupation § 464.019 [section 5 para. (a) 1] (2016).

Researchers have discussed the benefits of transforming learning environments to promote academic success and meet the educational needs of students who are at risk of failure (Freeman & All, 2017), but there has been little research into the relationship between personal, social, and academic variables and academic success. There is a lack of evidence relating innovative approaches to learning to NCLEX-RN performance, especially in relation to the growing proportion of nontraditional students. There is also a gap in the literature on the process of preparing for NCLEX-RN after graduation (Horton, 2015), as well as differences between approved and accredited nursing programs.

### **Problem Statement**

The projections for the number of students entering higher education, specifically associate degree nursing programs, whether these programs are approved or accredited, reflect an imminent increase in the nontraditional student population. Research in education indicates that individuals aged 25 and older who pursue postsecondary studies present characteristics that are different from the traditional composition of students, with specific needs and different learning experiences and face important challenges that impede their progress on their educational journey, and, ultimately, on their career goals (Banks, 2017). Nontraditional adult learners comprise approximately 40% of the undergraduate and graduate community of students in the United States (Wyatt, 2011). The characteristics presented by this group of students are referred to as non-academic descriptors of their student profile, which are in addition to the descriptors for individual intelligence and/or cognitive abilities. Little is known about how the characteristics of nontraditional nursing graduates affect post-graduation performance (i.e., preparation for NCLEX-RN) (Davidson et al., 2014). Predicting NCLEX-RN outcomes amongst a diverse population of students heightens the urgency to analyze how their demographic, social, and psychological factors affect their preparation process for NCLEX-RN after graduation. This is important in nursing academia since the nontraditional students' attitudes to and perception of the process of preparing for NCLEX-RN may differ from those of traditional nursing students (Ledesma, 2012). Therefore, the problem addressed in this study was the need to examine the relationship and predictive effects of the

personal, social, and psychological factors presented in the characteristics of nontraditional adult graduates from various ADN programs in NCLEX-RN performance.

### **Purpose of the Study**

The characteristics of nontraditional students have been associated with the presence of barriers to achieving academic and professional goals (Grabowski, 2016; Zerquera et al., 2016) and may predict NCLEX-RN performance. It is important to examine what happens once a nontraditional student has successfully completed the required course work and graduates from an ADN program since, after graduation, students no longer receive academic guidance from or interaction with faculty members or interaction to help them prepare for the NCLEX-RN. Understanding and acknowledging the nontraditional students' learning needs and preferences after graduation could have a significantly positive impact on both the student and the educational program by increasing the chances of a successful outcome on state board exams as well as by making an important impact in their quality of their learning experience. The purpose of this study was, therefore, to quantitatively analyze how the personal, social, and psychological characteristics of nontraditional graduates of ADN programs are related and can predict NCLEX-RN performance.

### **Research Questions and Hypotheses**

The following research questions and hypotheses were established to measure the problem addressed in the study:

## **Research Questions**

The central questions formulated to answer the problem statement were as follows:

1. Is there any association between the non-academic factors observed in the characteristics profile of the nontraditional adult learners graduated from associate degree in nursing programs?
2. To what extent do the non-academic factors observed in the characteristic profile of the nontraditional adult learner graduated from associate degree in nursing programs predict NCLEX-RN performance?

## **Hypotheses**

The following hypotheses were tested in the study:

Research question 1:

H<sub>10</sub>: There will be no statistically significant association between the non-academic factors observed in the characteristic profile of the nontraditional adult learner graduated from an associate degree in nursing program and NCLEX-RN performance.

H<sub>1A</sub>: There will be a statistically significant association between the non-academic factors observed in the characteristic profile of the nontraditional adult learner graduated from an associate degree in nursing program and NCLEX-RN performance.

Research question 2:

H<sub>2</sub>0: There will be no statistically significant relationship between the non-academic factors observed in the characteristic profile of the nontraditional adult learner graduated from an associate degree in nursing program for predicting NCLEX-RN performance.

H<sub>2</sub>A: There will be a statistically significant relationship between the non-academic factors observed in the characteristic profile of the nontraditional adult learner graduated from an associate degree in nursing program for predicting NCLEX-RN performance.

### **Significance of the Study**

The National Center Statistics for Education (NCSE) has projected that the number of students over the age of 25 will increase throughout the 2010s (Hussar & Bailey, 2016). Nontraditional adult learners can make a valuable contribution to nursing academia and nursing practice because of their practical skills, motivation, and other personal characteristics, which, when combined, could help to improve the standards of the nursing profession. Nonetheless, understanding the extent to which their specific characteristics may hinder their attainment of academic goals is important for scholars as well as for administrators and policy makers to explore alternatives that could assist nontraditional adult learners to achieve their professional goals. From the theoretical viewpoint of andragogy, nontraditional adult learners have their own perception of what is necessary to succeed in life, which at the same time may be barriers for learning and achievement of professional goals (Beauvais et al., 2014). The intent of this study was to provide valuable observations that can be of benefit to (a) nontraditional adult students

who are pursuing a professional career in nursing, giving them information about factors associated with NCLEX-RN success; (b) nursing academic programs and scholars, by helping them to improve admission and retention strategies to increase NCLEX-RN success rates; (c) healthcare administrators, who will be able to employ competent and qualified nursing staff to meet their patients' needs; and (d) to provide empirical data to sustain a foundational revision of the current policies in academia and develop innovative approaches towards supporting nursing students from all characteristic profiles in their preparation process for state board examination.

### **Nursing Education**

The Institute of Medicine (IOM) has made important recommendations on how to increase the number of competent healthcare professionals, address complex health challenges, and make important improvements to practice. The Institute of Medicine's report *Who Will Keep the Public Healthy? Education Public Health Professionals for the 21st Century* recommends increasing the educational opportunities for enrollment in academic programs toward public health disciplines. This recommendation is projected to have a significant impact on the healthcare system by providing important contributions in the delivery of care and by meeting the complex healthcare demands of a more culturally and diverse demographic community (Institute of Medicine, 2002). In the nursing educational landscape, this recommendation may contribute to an increase in the number of students with different characteristic profiles; thus, faculty and educators must become proficient in understanding and managing the characteristics of a more mature student body with different learning needs. Ross-Gordon (2011) highlighted the

importance of developing teaching and learning strategies based on nontraditional models to achieve positive academic outcomes and, hence, NCLEX-RN success. The shift in student characteristics may, however, produce myriad challenges in the implementation of new models and approaches due to the lack of understanding of students' behavioral responses; this also has implications for first-time NCLEX-RN success (Heller et al., 2014). In regard to the standards and criteria to be followed by approved and accredited nursing programs, preparing and graduating competent nursing professionals have proved to be a daunting challenge for educators (Harris, Rosenberg, & O'Rourke, 2013). Innovative strategies are used in academia to enhance pedagogical skills; however, it is of the utmost importance to understand how well these new approaches meet the academic needs of students with particular profiles. Faculty members who are responsive to the needs of a diverse student body are best equipped to develop and implement teaching methods that meet the educational goals of their students, particularly when the community of learners is more diverse (Beard, 2014). On the other hand, attrition rates must be monitored carefully as the characteristics of nontraditional adult students may be important predictors of persistence in and completion of the nursing program (Jeffreys, 2007). The cultural competence of faculty members is the foundation for interaction between the students and serves as a role model for the students to follow in their own practice. The outcomes from this study have an important contribution to current knowledge of nursing education concerning the admission process, early identification of factors predicting academic success, program completion, and NCLEX-RN success.

## **Nursing Practice**

Although the nursing shortage continues to be primarily a concern of faculty, administrators, and governing bodies, Florida has seen a significant increase in the nursing workforce. The registered nurse (RN) workforce has increased by 8% during the period of 2012 to 2015; this is equivalent to 15,000 more nurses into the healthcare system, compared to 19,755 RNs in 2012 (Florida Center for Nursing, 2017b). As previously stated, this increase may be due to the expansion of nursing education programs, specifically ADN programs, in 2009. Nonetheless, there is a marked trend toward increasing age in the workforce; the nurse workforce is becoming older and more ethnically diverse. This study is of interest to the nursing profession since it may provide nursing schools with useful information about retention and successful program completion strategies as well as effective methods of providing educational support during preparation for the NCLEX-RN. As more graduates pass the NCLEX-RN, the diversity of the workforce will increase, and the shortage of nursing will decrease. The increasing diversity of the student body is recognized as a positive outcome, which can help to ensure high quality, provide efficient care, and overcome the challenges of caring for a more complex and diverse population (Bednarz, Schim, & Doorenbos, 2010). It is important for faculty and future educators to understand that the significance of work diversity in nursing practice is attached to the preparation of professionals that are able to understand the patients' view and health needs from the standpoint of their cultural norms and language, thus enhancing the quality of nursing care.

### **Nursing Research**

Although predictors of NCLEX-RN success have been widely studied, there is insufficient information about how the characteristics of nontraditional adult students are related to their NCLEX-RN performance. Nontraditional adult students have specific characteristics that may influence their academic achievement and hence their preparation for the NCLEX-RN (Jeffreys, 2007). Further research with a culturally and demographically diverse sample of nontraditional adult students is needed. The characteristics of nontraditional adult learners vary across many dimensions. It is possible to analyze demographic, social, and psychological factors that may predict NCLEX-RN performance. The results of this study contribute to enhancing the current knowledge about pre-admission preparedness, identification of factors that influence students' academic performance during and after successful completion of the course work, and their preparation for the NCLEX-RN. The results of this study can also stimulate further research, including exploration of post-graduation support for nontraditional students, and provide insights into factors associated with NCLEX-RN performance in a nontraditional student environment (Rayner, 2015).

### **Public Policy**

First-time success on the NCLEX-RN is considered an important construct in the paradigm of nursing education because of the assumptions of its effects on the program's performance as well as the prepositions for quality indicator (Taylor, Loftin, & Reyes, 2014). At the same time, the outcomes achieved from this examination are utilized by boards of nursing and nursing accreditation bodies to make important decisions about the

program's operation and evaluation of curricula, as well as to make updates in its current academic policies (Spurlock, 2013). However, in a mass system in which a more diverse group of students is consistently increasing along with a shift in their academic needs, achieving standards of quality may be a daunting process, which creates challenges for lobbyists, politicians, and policymakers to develop effective evaluation policies and improvement plans for successful teaching and learning (Gregson & Spedding, 2018). Proposals for revamping evaluation policies and the development of initiatives to improve current academic practice will require empirical and substantial evidence that supports the efforts of transforming the educational landscape to a system that matches the current academic trends.

The need for qualified, competent nurses to meet the healthcare demands, combined with the regulatory process to be followed by educational programs to prepare them, requires that educators become proficient in the elements to be incorporated in the teaching/learning process in the classroom, as well as to understand that success is directly related with other factors beyond individual intelligence. Therefore, in response to the needs of a more diverse nursing student population, more empirical and consistent evidence is required to assist academic and governing bodies to develop policies that meet the challenges observed in nursing academia.

Congruently, nursing programs' NCLEX-RN passing rates are a priority for approval and accreditation, which also pose an important political effect in the landscape of nursing education because of the state boards of nursing regulation processes (Torofino, 2013). The implications for schools that fail to meet these requirements affect

their ability to receive government funding and grants, as well as their reputation and ability to recruit students (Halstead, 2017). The difference between approved and accredited programs has been discussed explicitly in the literature in regard to how closely the process for accepting new students is followed, level of academic rigor, and the different approaches applied to maintain a low attrition rate amongst students (Ard, Beasley, & Nunn-Ellison, 2017). The standards established for both types of programs have an important implication in the overall operations of the nursing program to ensure student success throughout the curriculum as well as a combination of different quantitative and qualitative evaluation methods geared to assess potential for NCLEX-RN success.

The number of nursing graduates has increased dramatically across all nursing educational levels, which has also a significant effect in the NCLEX-RN passing rates amongst educational programs that offer associate degree in nursing (ADN) (Buerhaus, Auerbach, & Straiger, 2014). It is documented that ADN programs are preparing the largest number of nursing students for taking the NCLEX-RN, specifically those students from racial and multiple ethnical backgrounds (Torofino, 2013). This observation highlights an important discussion about developing and integrating approaches and strategies for predicting NCLEX-RN success in a diverse student population. The results obtained in this study can provide a foundation for the revision of the current policies and development of new strategies from the principles of adult learning theory and shift the interventions to a more learner-centered approach. The shift would benefit both traditional and nontraditional students as well as educational programs, whether

accredited or approved, that are responsible for preparing future nurses. The development of new policies designed to make it easier for a wider range of students to enter nursing education could also help to ensure students' well-being and the fairness of the admission process. New strategies for student motivation and retention and recommendations for an easier credit transfer process, multiple schedule options, more flexible leave policies, enhancement of current student services, and improved support for the completion of their educational progress, especially for those students with financial needs, are some of the possible themes used for the evaluation of the current policies in academia (Taylor et al., 2014). These innovative approaches may contribute to improving NCLEX-RN success rates for all students and speed up their integration into the profession.

### **Philosophical Underpinnings**

The philosophical assumptions about nontraditional adult students can be interpreted through the ontological and epistemological lenses of the positivism paradigm. Positivism is considered an important philosophical paradigm and has produced significant knowledge and scientific evidence in the educational domain (Bracken, 2010). Positivism emerged from logical positivism, which is based on logic and measurement, truth, absolute principles and prediction, and an understanding that reality cannot be completely known. Even though attempts have been made to measure its truth, this reality is beyond human comprehension (Aliyu, Bello, Kasim, & Martin, 2014).

The antecedents of positivism are assumed to have their roots in the belief that accurate knowledge is subject to verification, thus assuming the positive affirmation of theories can be ascertained only through the application of the scientific method (Crossan, 2013; Hasan, 2016; Scotland, 2012). Sociologist and philosopher Auguste Comte (1798–1857), in a series of seminal works first published in 1830, initiated the philosophical movement of positivism. However, the third volume of this work *A General View of Positivism* emphasized the classification of the positivism worldview as a social science, subject to observation for theory validation. The groundwork for this ideology was an objective approach to the study of the human being within society, which emphasized the importance of the senses to individual development (Fletcher & Barnes, 2017; Paquette, Beauregard, & Gunter, 2017). However, Comte (1830) had his own view of how the development of the human intellect changes over time, suggesting that it can be split into several phases: theological, metaphysical, and scientific (Hasan, 2016). Comte (1830) argued that in the theological phase, ancient society viewed the world and all phenomena occurring within it as an expression of the gods, who had a strong influence on people's lives by justifying the evolution of human thinking as the effects of supernatural or divine interventions of gods. In the metaphysical phase, the reality is explained in terms of essence, existence, and substance, which are capable of producing a phenomenon, whilst in the scientific phase, humanity began to examine these developed phenomena and its association with the reasoning process.

In ontological terms, the positivist worldview is referred to as a realist or commonsense view (Villiers & Fouché, 2015). Positivism's ontological realism relies on

a belief that the world exists independently of our knowledge and is objective and distinct from the researcher. The ontological assumptions about nontraditional students are better described by andragogy theory (Knowles, 1980). This theory describes an individual's behavioral response to learning in terms of his or her self-concept, experiences, readiness, orientation, and motivation (Knowles, Holton, & Swanson, 2015). This assumption is relevant to this study because it helps to reveal how the factors embedded in the characteristics of the nontraditional student profile can affect the achievement of their educational goals. Although the ontological perspectives could be interpreted differently through social reality, the interaction of the experiences of the adult learner may be independent of what is perceived to be. These factors are variables that fit the ontological assumptions of NLCEX-RN performance since they can be explained objectively through observation, measurement, and verification to demonstrate the views of the nontraditional student's reality.

Positivism, as the philosophical underpinning for this study, uses the scientific method to uncover new knowledge and general and abstract descriptions, which in turn can be used to predict patterns in the physical world (Weaven & Olson, 2005). From this epistemological perspective, the acquisition of scientific knowledge is a systematic process based on observable, empirical, and measured evidence. The positivism paradigm is viewed as an empirical form of knowledge gathering, through the formulation of deductive thinking through an inquiring process. The foundations of positivism are based on five (5) main principles, which posit that authentic knowledge is empirically verifiable: 1) logic inquiry is equal across all sciences (natural and social); 2)

the goal of inquiry is to explain and predict phenomena; 3) the research must be based on empirical data observable with the human senses and use of inductive logic to develop statements that can subsequently be tested; 4) objectivity must be maintained to decrease the chances of bias when trying to understand the world, even though we can explain and predict; and 5) science must be value-free, since the ultimate goal is to develop knowledge that is independent of the political, moral, or value aspects of the phenomenon being studied (Bracken, 2010). In this study, observations of the demographic, social, and psychological factors will be analyzed empirically to identify connections between the characteristics of nontraditional adult students, the understanding of which is derived from andragogy theories, and NCLEX-RN performance and conclusions will be drawn about their relationship.

### **Theoretical Framework**

In the 20th century, there was little interest in investigating how individual adult characteristics influence the learning process until 1970, when Knowles began to investigate adult learners in a more systematic way (Merriam, 2015). Based on observations of differences between the learning processes of adults and children, Knowles (1980) proposed a new theory of adult learning based more specifically on the observed characteristics of adult learners, based on assumptions constructed to explain the process of learning: need to know, self-concept, learner experience, readiness to learn, and learning orientation and motivation. The term andragogy, derived from the Greek words *andra*, meaning adult, and *agogus*, meaning leading, has been used to describe the adult learning process and assumptions about it. The theoretical strands of andragogy are

grounded in the European educational model and were utilized to differentiate the process of learning in children from adults (Merriam, 2015). Because andragogy is based on adult characteristics and their effects on the learning process, its principles and assumptions make it a suitable theoretical framework for this study to describe how the characteristics of nontraditional students are related to their NCLEX-RN performance.

### **Andragogy: Adult Learning Theory**

Merriam, Caffarella, and Baumgartner (2007) argued that there is no specific theory that explains or describes the process of adult learning. However, several assumptions about this phenomenon of adult learning were the basis for other models developed later that offer additional insights for understanding adult learning based on its behavior and social context. The foundations of andragogy include McKlusky's (1970) theory of margin, which posits that in adults, learning occurs in response to particular life situations; Illeris's (2002) three-dimensional learning model, which assumes that learning is a continuous interaction between cognition, emotions, and social context; and Jarvis's (1987) model proposing that adults learn as the result of social experiences (Chen, 2014). From a pragmatic standpoint of the andragogy theory, learning is assumed to be a teacher-facilitated process rather than teacher-centered because of the interactions between teachers and adult students, who are believed to be engaged and passionate regarding their own learning (Taylor & Korth, 2009).

To understand the relationship of the theoretical strands of andragogy and the purpose of this study, it is imperative to define an adult learner under the construct of nontraditional learner. The definition of an adult addresses the different context of the

human growth and development process and the biological, legal, and psychosocial aspects of the individual life. Taylor and Korth (2009) argued that adult status is not necessarily a matter of age but of social role (e.g., employment, family); adults are no longer full-time students. In this study, adult learner is considered as the antecedent variable since it is assumed to predict NCLEX-RN outcome. Individuals' experiences and social roles affect their ability to perform roles in the community, make decisions, and develop coping strategies to deal with life's problems (Merriam, 2015). In this study, the characteristics of the study population are related to the assumptions of andragogy theory.

Andragogy theory acknowledges four principles that adjust to the adult learner characteristic profile and are assumed to influence the learning capacity and coping abilities adopted to overcome the demographic, social, and psychological factors that exist in the nontraditional adult student's characteristic profile. These principles define the constructs used to describe nontraditional adult learners and their association with NCLEX-RN performance. The first principle is that adult learners should be involved in planning and evaluating their own learning. This principle is related to the nontraditional adult learner's ability to cope with their role in society and their responsibilities as a student. The constructs derived from this principle correspond to social factors that will be used to describe the nontraditional student: financial status, family responsibilities and support, and employment responsibilities. This principle is referred to as the capacity of the adult to be self-directed, to bring life experiences to learning experiences, goal orientation, the pragmatic approach of their experiences, and the likelihood to be

respected (Whitby, 2015). Secondly, nontraditional adult students make meaning of their learning process as their perspective of learning changes as they become more mature. This principle relates to psychological factors such as motivation, academic support, faculty advice, and personal study skills. Third, the learner's previous educational experience is the foundation for new learning and may promote academic success. Lastly, adult learners pay more attention to learning activities that have an immediate relevance to their personal life or career. For the purpose of this study, the latter two principles were associated with the demographic variables of the study: age, gender, ethnicity, and previous academic experience. In nursing academia, the principles of andragogy theory are related to the teacher's role as a facilitator of adults' learning and capacity for creative and innovative work (Draganov, Carvalho, Ribeiro, & Sanna, 2013). These principles were used to interpret the behavior and responses observed in a diverse community of students in nursing programs.

Andragogy theory deals with assumptions about how adults learn, which differs from the traditional pedagogical models (Bashir, Khan, & Fournier-Bonilla, 2016). Maturation promotes a shift toward being a self-directed human being. Self-direction is the ability and capacity, which adult learners have, to participate actively in the assessment of one's needs and to plan, intervene in, and evaluate one's learning experiences. An individual can be said to have made the transition from a dependent personality into an independent one once he or she is able to base decision-making on critical thinking and empirical observations; this capacity allows individuals to move forward in their lives. Individuals accumulate experiences as they mature, and these

experiences become an important learning resource. The ability to cope with the requirements of school is founded on a level of maturity acquired through life experiences, which contribute to an individual's psychological and psychosocial traits. This is greatly influenced by the increase in daily personal and professional responsibilities. Adult learners' orientation tends to have shifted from a subject-centered to a problem-centered approach. They focus on the immediate applications of learning, so material should be taught using approaches that make it applicable to their work, for example, by promoting an interactive environment in which learning depends on active participation. The distinction between internal and external motivation is fundamental and especially relevant to the adult learner. During maturation, adult learners have developed an internal motivation to learn, which is mostly described in terms of self-esteem, quality of life, or self-actualization (Merriam et al., 2007) and provides a rationale for choosing to study. Figure 1 depicts the process by which the theoretical strands of andragogy theory are applied to the nontraditional adult learner and how the four principles of this theory, believed to define their characteristics profile, have an influence in their NCLEX-RN outcome through the ability to cope with the demographic, social, and psychological factors during the readiness process for NCLEX-RN.

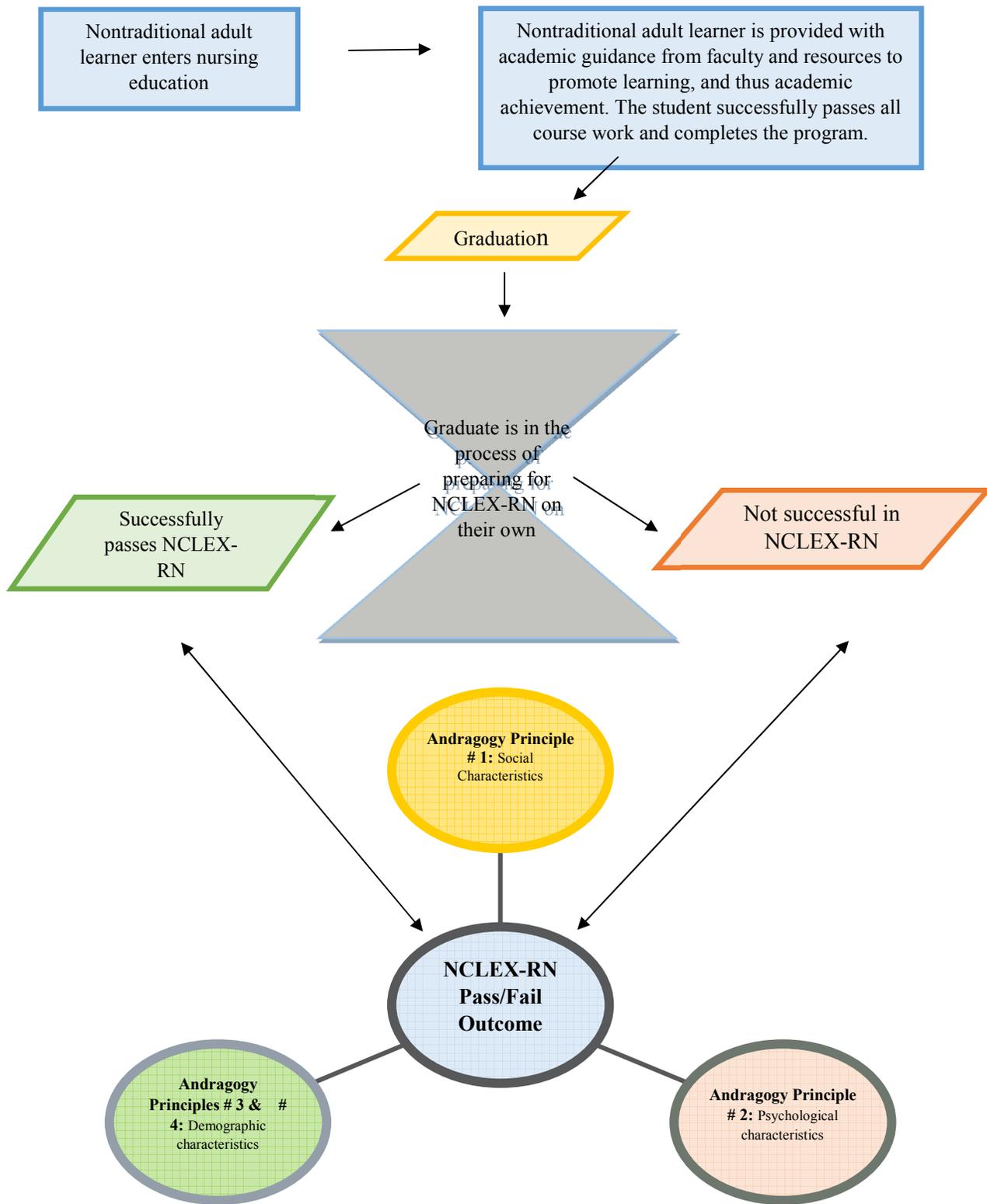


Figure 1. Conceptual model of andragogy applied to the characteristics of nontraditional adult graduates as predictor of NCLEX-RN performance.

## **Definition of Terms**

The following terms were used throughout the discussion of the study. This section includes the theoretical definition of each concept and the operational definition applied in the study.

### **Nontraditional Adult Learners**

**Theoretical definition.** Nontraditional adult learners are referred as to individuals whose observed characteristics are used as descriptors of their role in the educational setting (Cotton et al., 2017). The literature identifies this group as individuals aged 25 years and older who did not pursue higher education immediately after graduating from high school, who attend college on a part-time basis, work full-time or part-time, are financially independent, have children or dependents other than a spouse, are single parents, are head of the household, or have earned a general education diploma (GED) (Peterson 2017; Ross-Gordon, 2011).

**Operational definition.** The descriptors used to categorize nontraditional adult learners are congruent with the theoretical strands of andragogy and the literature as well as with the evidence from the literature. Hence, for the purpose of this study, nontraditional adult learners were considered those subjects who had at least one of the following constructs: age 25 years and older, are financially independent, employed full-time or part-time, responsible for dependents other than a spouse, have earned a general educational degree, have a previous educational background, or are individuals for whom English is not their first language.

### **Adult Learner**

**Theoretical definition.** Andragogy defines an adult learner as an individual who is actively seeking opportunities to expand his or her knowledge; it assumes that an adult learner is mature, experienced, and ready to continue learning and internally motivated to do so (Chen, 2014).

**Operational definition.** In this study, adult learners were defined as the subset of the study population aged 25 years and older. This variable was considered within the demographic factors of the characteristic of the nontraditional adult student. Therefore, the concept adult learners were used to refer to individuals older than 25.

### **NCLEX-RN Outcome**

**Theoretical definition.** Student educational outcomes in nursing programs are measured by the successful passing of the state board examination on the first attempt. An educational program's success is quantified as the number of students who sit for the National Council Licensure Examination for Registered Nurses (NCLEX-RN) and pass on their first attempt (Taylor et al., 2014).

**Operational definition.** In this study, students' NCLEX-RN pass/fail scores were referred as to their performance.

### **Demographic Factors**

**Theoretical definition.** Demographic factors are the characteristics observed in a group of individuals that make it different from another group in regard to age, gender, and ethnic and cultural background (National Center for Education Statistics, 2013).

Demographic information is used by governments, organizations, and institutions to evaluate their current services and develop ways of improving them.

**Operational definition.** In the study, the demographic variables measured were the following: age when enrolled in the program, previous educational background, primary language, children living with them, and working while in the program.

### **Social Factors**

**Theoretical definition.** Social factors are external elements or contingencies that can affect, negatively or positively, the process by which an individual accomplishes something in life (Peterson, 2017).

**Operational definition.** The social factors assessed in this study were as follows: personal study skills, financial status, class schedule, hours of employment, personal study hours, college library services, nursing professional events, employment responsibilities, living arrangements, membership in nursing club organization, financial aid or scholarships, child care arrangements, and family financial support.

### **Psychological Factors**

**Theoretical definition.** Learning theories explain the behavioral response to learning in adult learners by describing several psychological factors such as thoughts, perceptions, feelings, or other cognitive characteristics which have an effect in the behavioral response of the individual to cope with life situations as well as their ability to make decisions (Metofe et al., 2014). The individual's support system also plays an important role in the psychological factors embedded in the nontraditional adult learner characteristic profile.

**Operational definition.** In the study, the psychological factors assessed within the nontraditional adult students were faculty advisement and helpfulness, nursing student peer mentoring and tutoring, family emotional support, family crisis, nursing student support services, family crisis, nursing student support services, college tutoring services, college counseling services, family responsibilities, and encouragement by friends outside and within classes.

### **Chapter Summary**

The shift in nursing programs toward a diverse student community, combined with the predicted shortage of nurses, has transformed the traditional population of nursing school into a heterogeneous group. The “new” students are known as nontraditional students as they have specific characteristics, namely being older than 25, financial independence, delayed higher education enrollment, and—as a group—culturally and ethnically diverse. Adult learning theory (Knowles, 1980) provides a framework for explaining the nontraditional adult student’s behavior and ability to thrive in school. Since nontraditional students tend to be more mature in regard to the skills necessary for educational success and tend to have a different understanding of the world, their perceptions of the barriers to learning over the course of their nursing education may be different from the those of traditional students (Horton, 2015).

## Chapter Two

### Literature Review

Nontraditional students in nursing education is a widely occurring yet minimally explored phenomenon. Because of the limited number of studies addressing this occurrence, and for the purpose of this study, the literature review was performed from different resources including articles, peer review, and dissertation work available within an unlimited period. This allowed for the exploration of all information available on the topic of interest. Search engines addressed toward nursing practice and nursing education were utilized, including MEDLINE, CINAHL, ProQuest Education, Journals @Ovid, and Science Direct. After the evaluation of the inclusion and exclusion criteria, the articles found to be related to the topic of interest dated from 1980 to present. Inclusion criteria from research studies were factors embedded in the nontraditional student's characteristic profile, which may be related to academic success and NCLEX-RN success, undergraduate nursing student, perceived barriers to academic success, and NCLEX-RN preparation process. Exclusion criteria were those studies not related to academic success in nursing from undergraduate programs. To find relationships between the main topic and the variables of the study, Boolean operators "and" and "or" were used, combined and separately, to expand the categories mentioned above. The operator "not" was not used in this process since the objective is to explore the factors that may affect, positively or negatively, performance on the NCLEX-RN for nontraditional students.

The behavioral responses and coping mechanisms of nontraditional students in higher education are believed to have an important relationship with the epistemological and ontological assumptions of andragogy theory. Demographic, social, and personal factors comprise the foundations for the analyses of any relationship between the characteristics observed in the nontraditional student profile and are thought to have a significant impact on the student's performance in NCLEX-RN. The literature on academic success in nursing education is mostly discussed among a group of nursing students from baccalaureate levels, from the perspectives of students' academic performance during the program which include grade point average (GPA), relationship between admission requirements and academic achievement, learning styles, and requirements for program completion. The criterion for student characteristics based on program level is minimally explored in most of the works available regarding this phenomenon. The available literature that describes and explores factors contributing to academic success among nontraditional students is filtered through the lens of other variables that are beyond the cognitive ability or intelligence of the student. Therefore, in order to understand the student's behavioral response towards the psychological, demographic, and personal factors of their characteristic, it is imperative to first discuss the concept of nontraditional students in education.

### **Nontraditional Adult Learner Profile in Nursing Education**

In nursing academia, the increasing demands of competent healthcare practitioners to meet the needs of the new healthcare system have led to individuals' returning to school later in their life, seeking career changes that can improve their socioeconomic status (Phillips, Beverly, Turnbull, & He, 2015). As previously discussed, adult students aged between 30 and 41 years old have increased to nearly 30% of the total enrollments in associate degree in nursing programs (Florida Center for Nursing, 2017b). Age and other non-academic factors presented in the literature are characteristics used to describe the new composition of students entering nursing academia and that are believed to have important effects in the students' educational outcomes. These non-academic variables are sought to involve the personal, social, and psychological aspects of the individual. Therefore, to understand the implications of this new trend of students in nursing education, it is important to discuss the information available in the literature relating to its effect at the academic and programmatic levels.

From the different definitions described in the literature, we may conclude that nontraditional students are a heterogeneous group, influenced by diverse factors described in their characteristic profile that are believed to have important effects on their educational development. The increase of a more diverse composition of students, specifically nontraditional students in nursing education, raises important considerations regarding the factors or variables that could hinder or promote success in their academic goals, which include success in the state board of nursing examination. At a programmatic level, nursing educational programs are required to meet specific standards

and criteria from governing and accrediting bodies in order to achieve programmatic goals, which are mostly referred to as NCLEX-RN success. First-time NCLEX-RN success is an important indicator for program reputation and quality outcomes of the program because they can affect the recruitment of new students as well as the program's reputation (Torofino, 2013). Hence, the admission criteria required by most educational programs, specifically by accredited programs, as well as class schedule availability may be important challenges for program completion and NCLEX-RN success for nontraditional learners.

From an academic standpoint, accredited and approved nursing programs follow different admission criteria to ensure student success in the program. The admission criteria may vary by the standards required for program operation and those set forth by the accrediting and governing nursing bodies. However, because of the expansion of a more diverse student population in higher education, educational institutions are providing nontraditional adult students with innovative academic tracks to assist them in completing their academic endeavors; thus, the admission requirements may vary by degree program. Olin (2011) notes that the educational goals for nontraditional students have shifted to a nontraditional pathway in which student success is the driver for the implementation of new and innovative approaches. This position is affirmed by the annual surveys conducted by the Department of Health and Human Services, in which the average age of nurses entering the profession is 31 years old (considerable older than 24 years old in 1984), suggesting that the nursing profession has become a "second career" option because of previous educational background (Salamonson et al., 2011). The effect

produced by this phenomenon has led to the development of innovative educational programs (e.g., accelerated programs) to increase the number of new applicants, as well as to assist this new population of students in achieving their academic and professional goals. The common goal of these efforts is to assist a new generation of healthcare professionals to achieve educational goals. However, other factors embedded in their characteristic profile need to be examined because they are much different from traditional students. In 1996, Youssef and Goodrich examined the differences between nontraditional students enrolled in an associate degree in nursing program regarding their stress level, critical thinking skills, and academic performance in the program. The study concluded that nontraditional students are more prone to higher levels of stress, even though their grade average was observed to be higher than that of traditional students. Although the study was performed more than 10 years ago, its results are significant for the assessment of nontraditional prospective students into nursing programs because of the effects on the program's attrition rates or students' persistence in the program as well as for understanding other factors beyond academic intelligence. In addition, the standards by governing and national nursing accrediting bodies to ensure successful program completion along with dense and extensive curriculum content may aggravate the implications of the behavioral response of the students.

**Perceived Issues Contributing to Academic Success in the Associate Degree in  
Nursing Program, but not in the NCLEX-RN**

Academic success in nursing educational programs is a phenomenon that has gained significance in the community of nursing educators, scholars, and researchers

(Banuelos & Lovitos, 2013). The factors that are sought to affect the achievement of academic success explored in the literature posit the recognition of a behavioral pattern described in philosophical strands of adult learning theory (Knowles, 1980). For the purpose of this study, the term “factors” was used to indicate barriers to the achievement of academic or professional goals. The factors identified and described in the literature are congruent with the criteria adopted by the definitions described by educational organizations to categorize nontraditional students. The factors explored and identified in the literature about academic success are mainly grouped into two categories, academic and non-academic variables, which are related to the student’s academic success while in the program.

#### **Academic Factors Leading to Success.**

Most studies available in the literature that explore academic success proposed a broad spectrum of variables that are defined to have a significant effect, not only in the completion of the program but also as a predictor of NCLEX-RN performance. Students’ grade point averages (GPAs) (Kaddoura et al., 2017), the relationship between academic outcomes and academic factors in determined subjects (Yeom, 2013), and students’ learning styles and exit exams (Johnson, Sanderson, Wang, & Parker, 2017) are some of the variables discussed in the literature to describe any relationships with the students’ NCLEX-RN pass/fail outcomes.

However, further research is necessary to effectively generalize these findings within the different composition of students in higher education, specifically in nursing programs. As discussed in the philosophical strands of the andragogy theory (Knowles,

1980), adult students' learning responses may be different from younger students because of the past experiences that affect the adult student's perception and motivation for learning. Further studies addressing nontraditional students in nursing education may contribute to enhancing the application of previous research findings, by discovering new ways for implementing innovative strategies that could effectively ensure a satisfactory progression, specifically after graduation and prior to NCLEX-RN. It is important to highlight that most of the factors discussed in the research work available are considered while the student is in school. From a pragmatic view of this outcome, and regardless of the academic program and composition of students enrolled in the program, if these factors are not overcome, they may continue to play a role after graduation and may pose significant challenges during NCLEX-RN preparation because the postgraduate student is less likely to be under a direct academic guidance.

Academic factors, perceived barriers, and student characteristics have been explored and assessed to understand student behavior and to draw conclusions regarding methods that could aim faculty and institutions to improve first-time NCLEX-RN success among their graduates. Although the criterion reference of academic success has been explored independently among a sample of nontraditional students, there is a need to obtain new knowledge regarding non-academic factors described within the characteristics of the nontraditional student's profile and their effects on NCLEX-RN performance.

### **Non-academic Factors**

Non-academic factors are part of the characteristics profile of the nontraditional student as well as to have a significant impact in the student's personal and academic life (Jeffreys, 2007). The transition to higher education represents a major challenge for every student but especially for adult students because it involves such variables as modifying learning styles, adjusting to the academic environment, and developing a social and academic identity as well as coping skills to manage their other responsibilities in life (Southall, Wason, & Avery, 2016). Congruently, other non-academic factors have been noted to affect the achievement of educational and professional goals. Loftin, Newman, Dumas, Gilden, and Bond (2012) identified several barriers encountered by a group of underrepresented minorities and associated them with the unsuccessful completion of the nursing program. The outcomes of their study revealed a positive relationship between academic achievement and financial support, emotional support, isolation and loneliness, discrimination, family issues, and lack of academic support, socialization, and mentoring. The results of the study are congruent with those of Murray (2015), who identified perceived barriers experienced by entry-level students of different ethnic backgrounds as related to factors having a significant effect on their academic success. Other studies have examined the subjective aspect of this phenomenon by exploring the student's own learning needs and preferences (Banks, 2017), traits of their individual personal life such as family responsibilities and financial matters (Gonglave & Trunk, 2014), and perception of academic support (Donahue & Goldstein, 2013). Motivation is another important and valuable concept among the previously mentioned

factors because it is believed to significantly influence the learner's capacity to persist and achieve academic goals, as proposed by the andragogy theory (Knowles, 1980).

These factors have been addressed mostly regarding the student's performance while are enrolled in the program and, more specifically, during the time the student is receiving academic guidance. However, what occurs after the student has completed the required course work has not been explored in depth, nor has enough evidence been presented to conclude the factors or variables affecting NCLEX- RN performance, specifically in relation to nontraditional students.

### **Factors Affecting First-Time Passing of the NCLEX-RN for Nontraditional Students**

The factors believed to have a significant relationship on students' NCLEX-RN success are widely explored within the literature; however, the relationship with nontraditional students after graduation is still very limited. Research addressing these descriptors dates to the 1980s, yet the facts and assumptions geared to explore this phenomenon are congruent with the information available currently. From the available research that explores the factors for first-time NCLEX-RN success, it has been observed that several variables related to the student's characteristic profiles are believed to have a predictor effect on the student's NCLEX-RN outcome. Pabst, Strom, and Reiss (2010) and March and Ambrose (2010) concluded in their seminal work that nontraditional students face several challenges, mostly related to non-academic factors rather than academic factors, which have a significant effect on their first-time NCLEX-RN success. Some of the barriers they identified were related to anxiety reactions to NCLEX-RN

testing, different beliefs about preparation and success, awareness of the possibility of having to retake the exam, the readiness for NCLEX-RN success, lack of knowledge about the risk of failure, the perception that faculty only care about the passing rate instead of student success, loss of a study group, and financial issues related to finding a new job. Kemsley, McCausland, Feigebaum, and Riegle (2011) confirmed these findings by affirming that the perceived level of satisfaction among nursing students was associated with the preparation provided throughout the program to pass the NCLEX-RN. Congruently, through a descriptive correlational study, Arathuzik and Aber (1998) explained how the internal and external factors led to the success of a group of senior nursing students from a public institution. The composition of the group of students for this study varied in terms of age, primary language spoken, ethnicity, and social status as well as their educational background. The authors found that internal and external blocks to NCLEX-RN success were associated with the characteristics used to describe the nontraditional adult learner profile from the andragogy theory. The ways in which students respond to the strategies applied during the program to overcome some of the identified barriers and their variations after completion of the nursing program still need to be examined. This phenomenon could be considered an important quality aspect in nursing academia because of the implications for the program's overall NCLEX-RN performance amongst its students (Taylor et al., 2014). Findings from new research regarding nontraditional students could be applied to make important changes to nursing programs, including the evaluation of curricula and established policies (Spurlock, 2013).

Nursing accrediting bodies are periodically increasing their standards to ensure quality of education in nursing programs. Thus, nurse educators are challenged to apply innovative educational approaches to meet the academic goals as part of the criteria that are required to ensure acceptable passing rates (Serembus, 2016; Taylor et al., 2014). These trends in nursing education require more research to explore and create effective methods to meet educational demands and ensure quality in education. However, the literature is scarce about the nontraditional student's perceptions of the NCLEX-RN preparation and experiences after graduation. Hence, empirical analysis of nontraditional students from the perspectives of demographics, social, and psychological aspects of their student characteristic profile could reveal important information about NCLEX-RN success as well as validate the information currently available.

### **Demographic Factors**

Demographic factors are defined as the socioeconomic descriptors of an individual, described in terms of statistics (Pitt, Powis, Levett-Jones, & Hunter, 2012). Although this construct is not explored extensively, nursing scholars agree that multiple demographic factors have a significant effect on the level of attrition and academic success and, ultimately, on the achievement of professional goals, mostly in undergraduate programs (Beauvais et al., 2014; Faws, 2017; Hayden, Jeong, & Norton, 2016). The criteria used to address demographic factors in these studies are related to age, gender, family responsibility, language, and student educational background.

**Gender and Family Responsibilities.** The literature presents little evidence that demographic factors such as age, gender, and ethnicity have a significant effect on a

student's academic achievement, success, and even persistence in higher education. However, when these variables are examined from the construct of nontraditional students, they can provide valuable insights into the behavioral responses in the different aspects of their different learning processes. Based on the theoretical perspectives of role theory (Linton, 1936), Markle (2015) examined the factors influencing persistence in a group of nontraditional students. In this study, age was utilized as the single criterion to define the group of participants. The results indicated that factors which influence persistence among males were confidence and grade point average. In women, factors that predisposed them to consider withdrawal from the program were related to classification of program, schedule (part-time vs. full-time), school workload–family conflict, and satisfaction with the university student services and resources available. The findings of this study are significant for the purpose of the present study because statistical data reveal that nursing is a profession studied mostly by females (Florida Center for Nursing, 2017a). Family roles in the country have changed throughout the years, and there has been a significant increase in the number of single parents in the workforce. Hence, gender continues to be less significant than other variables, yet it is important to highlight that the role of women in society and women's performance in higher education have shifted.

Balancing aspects of work, family, and financial obligations with school responsibilities seems to be an important emerging trend in higher education as the number of nontraditional students continues to increase. The role adopted by either the man or woman in society is highly influenced by cultural and ethnic backgrounds

(Baptista, 2011). This observation is of importance in this study because it is expected that most of the graduates sampled will be from different cultural and ethnic backgrounds. In the Latino culture, for instance, the concept of *familismo* (family first) highly influences women's domestic responsibilities and obligations, which burdens women from this ethnic background with domestic tasks of the house and taking care of children, siblings, or parents in addition to contributing financially to the family (Sy & Romero, 2008). Sy and Romero (2008) examined the types of responsibilities among Latina college students and the extent to which the responsibilities affected their college experience. Three interesting themes which provide an understanding of the purpose of the study emerged from the interviews performed. The first was self-sufficiency. Contrary to the basic definition of becoming aware of the responsibility for one's self, the women interviewed referred to this concept as the means to be applied in life to help their family. Another theme was related to the pressure of financially assisting their family, which was a decision made voluntarily. The participants also emphasized their caregiving role versus the family understanding of what it takes to be successful in college. Rafnsdóttir and Heistra (2013) corroborated this finding in a qualitative study conducted with a sample of students in Iceland, in which men and women were interviewed about the gender differences between balancing aspects of work and family. The study showed that although work schedule is equal for both men and women, the time to fulfill family obligations is more constricted in women because of the domestic tasks and caring aspects of family (e.g., taking care of children). It is important to

highlight that the socioeconomic system in the United States is described as one in which the financial stability of an individual depends on a stable job.

**English as a Second Language (ESL).** Based on the assumptions and principles discussed in andragogy theory (Knowles, 1980), the acquisition of a new language is directly associated with the perspective of the individual's orientation for learning, which will be centered in the application of their personal life and career experiences. Moving from another country implies the learning of new cultural behaviors, which in most cases entails learning a new language, necessary to cope with the responsibilities adopted in the community. Literature is consistent with the different implications this aspect brings to education as well as for professional practice, by sustaining that in nursing education, the implications of language proficiency is paramount for NCLEX-RN success. The expansion of a more culturally diverse student population in nursing educational programs is also reflected by the spoken language from their cultural background. The implications, as previously discussed, are significant for the nursing profession for nurses to be able to provide competent care in a culturally diverse health system, especially in the United States. However, the challenges faced by these students are of major concern for all stakeholders. Crawford and Candling (2013) performed a comprehensive literature review about this phenomenon and identified several challenges encountered by English as second language (ESL) students that can hinder their academic progress. Difficulties with the technical aspects of the English language such as phonology, semantics, pragmatics, and syntax are believed to significantly affect the individual's communication process and thus affect their ability to understand medical terms. An

important aspect that was observed with the research work available in the literature is that the difficulty with the technical aspects of the English language impedes understanding of the medical terminology presented in the curriculum and comprehension of the medical concepts which is paramount for safe and effective nursing practice. Shakya and Horsfall (cited in Crawford and Candling, 2013) explain that attrition rates are significantly affected by the inability of students to demonstrate minimum English language proficiency requirements to perform effectively in class and clinical activities. The challenges encountered in adjusting to language and culture are important themes emerged from the previously cited excerpt. The results highlighted the fact that ESL students find it difficult to understand the language because of the speed of lectures and the vocabulary used. This brings stress and anxiety, which usually result in demotivation of the student to continue with their goals. Therefore, the changing population in the country has brought a new perspective to the discussion of support programs for ESL students (McGee, Waworth, & MacIntrye, 2014). Several educational institutions have developed support programs to encourage continuous learning and improvement of speaking and writing skills. Baik and Grieg (cited in Crawford & Candling, 2013) quantitatively examined an ESL tutorial program and found that it positively affected the attendees' future academic performance.

Although ESL is not presented as a variable to describe the characteristics of a nontraditional student, the literature describes ESL as the single most common barrier faced by nursing students (Olson, 2012). In addition to these influences in the student's profile, Bednarz et al. (2010) explained that because of the trends in higher education,

language has been considered an important descriptor of the characteristics included in the nontraditional student's profile. Amaro, Abriam-Yago, and Yoder (2006) identified issues with communication process and language and cultural needs, in addition to socioeconomic issues and academic needs, as major barriers to students' academic process. This factor is of utmost importance in nursing educational programs because of its implications in the attainment of academic achievement and success. Documentation highlights language proficiency as a significant barrier to the achievement of educational outcomes. This assumption was validated in a study examining BSN students' retention in a nursing program which showed a significant relationship between the student's language (ESL) and his or her persistence in continuing in the program (Jeffreys, 2007). Bosh, Doshier, and Gess-Newsome (2012) sought to determine the characteristics exhibited by bilingual applicants for Spanish-English nursing education programs that are predictive for success. In the study, the concept of success was measured in terms of program persistence and NCLEX-RN performance. The characteristics assessed in the study were GPA, number of credits in mathematics and science upon entering the program, and previous educational background or number of credits taken prior to enrolling in the nursing program. The results indicated that a student's GPA correlates positively with persistence and NCLEX-RN passing results, which indicates that the more proficient the student is in the language, the better the outcomes. When the findings of this study are compared with those of previous studies, a significant difference can be observed amongst the population of ESL students examined.

**Student's Prior Educational Experience.** The literature describes an abrupt evolution in the composition of the student body in higher education over the past several years, mostly influenced by immigration and socioeconomic factors. Some of the characteristics embedded in the profile of these students are ESL and foreign-educated professionals (Garrido, Simon, Purnell, Scisney-Matlock, & Pontious, 2016). Congruent with other studies about the cultural andragogies of ESL nursing students, previous educational background is an important factor in the student's academic success (Garrido et al., 2016). Learning new concepts depends on factors holistically embedded in the educational environment in which the learning process occurs. Nonetheless, when the student already has an educational background, it is most likely that this student will be successful in learning new information (Marzano, 2018). Research that explores the relationship between previous educational knowledge and academic achievement in higher education was performed mostly in the 1980s and 1990s; however, findings have a positive correlation in this phenomenon (Duran, 1983; Schibeci & Riley, 1986; Zeitoun, 1989; Zhan et al., 2016).

Students' background characteristics and their experiences significantly affect their learning success, which also leads to decisions to persist or drop out of school (Chen & Hossler, 2017; Selvig, Holaday, Purkiss, & Hortsch, 2014). Tinto (1975) examined students' responses in higher education through concepts that are embedded in the students' characteristics, which included family background, motivation, relationship with peers and faculty, and prior educational experience and skills. The model addressed the perspective of academic failure rather than success, exploring social and academic

interactions regarding the students' intentions and commitment to remain in the program. Ferrell, DeCrane, Edwards, Fili, and Tennant (2016) referred to this model as the conceptual framework of their study to explore and understand the factors embedded in minority and ethnically diverse students. From the variables explored in this study, students agreed that previous educational experience, like pre-admission programs (65%), were helpful in completing their educational degree.

Assessing minority students' academic performance should not be limited to demographic characteristics such as language, ethnic background, and personal responsibilities. The criteria for admission to a nursing program, set by governing and nursing accrediting bodies, should be an active process in which new approaches to expose the talent of a candidate, examined individually, and at the same time discover new approaches to increase the likelihood of success (Ferrell et al., 2016). As observed in previous studies about demographic factors and academic success, the ability of nontraditional students to complete a nursing degree and to be successful on the NCLEX-RN might be associated with factors present in their life and with multiple roles that are believed to be related to social factors. It is imperative that these variables be examined individually because the experiences obtained may be reflected in the individual's coping mechanism towards stressors present from the student role.

### **Social Factors**

Nontraditional students are also referred to as "mature" students who face a variety of obstacles in their lives that are most likely not perceived by administrators or faculty members yet are believed to have a direct impact on the achievement of their

academic and professional goals. These obstacles have been found to be associated with social factors that traditional students are less likely to face, such as the student's financial pressure, personal responsibilities, head-of-household roles, and family and job responsibilities. The experiences acquired by nontraditional students are reflected in their relationships with peers and faculty members, which at the same time have a significant impact on their academic success (Rhijn et al., 2016). The numbers of students who are returning to school after completing an educational degree and/or starting a family are increasing and comprise approximately 40% of the total student community in postsecondary educational institutions (Bell, 2012). This shift in student composition in higher education brings opportunities as well as challenges for administrators and faculty members to assist students in balancing their multiple roles in life and the schools' responsibilities to increase the odds of successful completion of their academic endeavors and first-time NCLEX-RN success.

**Financial Constraints and Performing Multiple Roles.** Research conducted to describe perceived barriers by nontraditional students lacks suggestions or recommendations that could enhance the current body of knowledge about nursing education. Literature is scarce in providing ways for communication improvement, advising, and providing academic support to students with specific social factors, which can assist them in overcoming these challenges and provide a better understanding of the different perspectives and needs of a diverse community of students. Rhijn et al. (2016) explored the perceived needs and challenges of a group of nontraditional students and found that accessibility of support resources and balancing multiple personal roles were

the most relevant themes perceived by the population examined. The individual's work and life responsibilities could interfere with the available class schedule options that would permit them to attend college on a regular basis. The surveyed students perceived that the institution and some faculty members do not consider these situational barriers. Several themes which provided a more consistent definition of the barriers experienced by nontraditional students emerged from the study. The lack of financial assistance, which can lower the financial burden while studying, was defined as one of the greatest challenges to completing studies. In addition, "competing roles" was the term used to define students' attempts to combine personal, family, and student roles; the struggle to combine roles has a negative impact on their well-being and thus affects their academic outcomes. Social exclusion was related to the challenges presented by the college experiences (e.g., extracurricular activities, student services) and socialization with traditional students.

The increasing number of nontraditional students in higher education poses an important question about the students' ability to persist and achieve their educational goals. Scholars have attributed this phenomenon to be associated with the financial constraints experienced mostly by nontraditional students because of the lack of personal financial resources to pay for their tuition. In the United States, there are several types of financial aid which depend upon the personal and financial status of the individual. Federal funds that are available include grants and student loans, tuition reimbursements, and scholarships. Nevertheless, despite the financial assistance that might be available to finance the cost of attending school, Chen and Hossler (2017) found that nontraditional

students were most likely to give up their educational goals at some point during the program, especially during their third year of college enrollment. The consequences are detrimental for the federal financial aid system because a student who receives this aid, commonly through student loans, will end up with a debt that must be paid off, even if he or she has not achieved an academic degree. It is important to understand the motivational factors that lead an individual to re-enter school to pursue an academic degree. Several models have been developed to explain how the financial factors have an important impact on the decisions made by students in college. Long (2007) proposed a justification for this inquiry by suggesting that higher education among nontraditional students is viewed as an investment that will reap some type of benefits, specifically, the cost of that investment. This description corresponds to the suggestion of the human capital model. Therefore, the results of this study echo the need to explore in more depth the other factors embedded in the nontraditional student's characteristics in order to design and implement models addressed to overcome challenges nontraditional students face.

**Employment status and academic responsibilities.** As the number of nontraditional adult students increases in nursing education, the factors that affect student academic achievement increase as well. The socioeconomic status of the country has led individuals to seek better job opportunities by advancing in their professional careers while striving to comply with their financial and family responsibilities. One of the features describing the nontraditional student profile is the employment status of the individual, which depends on the personal role played by the student in society and their

responsibilities in life (e.g., head of the household, single parent, low income, or inability to pay for their tuition). Employment during higher education has been proven to have important effects on the student's academic progress and outcomes such as increasing the risk of dropping out of the program, achieving lower grades, or delaying the time of graduation (Pruett & Abshner, 2015; Triventi, 2014). Empirical studies that explore the effect of student employment and academic progression in higher education identify a marked variability in the effects between part-time and full-time status. Darolia (2014) examined the effects of a heterogeneous group of students in higher education and the relationship between working and academic performance. The results of the study revealed no relationship effects among the overall concept of employment and academic achievement; however, the author observed a significant correlation between those students who had full-time jobs and delays in completion time during college. The findings of this study are congruent with the research by Triventi (2014), in which a negative effect was observed in the academic progression of those students who work, either full-time or part-time, while in school.

Creed, French, and Hood (2015) explored the psychological aspect of employment during college and students' level of well-being and engagement and determined that there is a positive relationship with the employment status of the student. In this study, the concept of well-being was defined as the ability of the student to have positive relationships with peers and self-acceptance, and engagement was defined as the student's resources for problem solving, sense of belonging, and participation in extracurricular activities. An explanation of this effect can be found in the theoretical

principles of adult learning theory (Knowles, 1980), in which the experiences acquired throughout an individual's life allow them to develop skills to comply with responsibilities in life as maturation occurs. However, this explanation may have its exceptions for some individuals because of their situational aspects. The presence of other situations mostly observed in the nontraditional student may contribute to either the development or constraint of competencies that could assist them in managing the allotted time for studying, especially after graduation. For example, a student who is head of a household and is responsible for a family will most likely find it difficult to attend school full-time, comply with the academic requirements of the program, and prepare for the NCLEX-RN.

### **Psychological Factors**

The adult learning process, according to Knowles' (1980) theory of learning, is founded in intrinsic and extrinsic motivation incentives, which are associated with the psychological construct of the individual's personality. Academic self-concept, socialization, feelings of belonging, emotional intelligence, and motivation are some of the themes discussed in the literature that have a significant effect on the student's academic success. All of these are also related to the support provided by stakeholders in the program and the individual's perception and coping strategies with their personal obligations in life.

**Academic Self-Concept.** Academic self-concept is referred to as the student's beliefs, attitudes, and perception of their own intellectual academic competencies and performance (Khalaila, 2015). This concept in nursing academia has been related to

variables leading to self-esteem as a key to academic success (Torabizadeh, Dokoohaki, Rambod, & Raeiskarimian, 2016). The construct academic self-concept is closely related to the factors leading to intrinsic and extrinsic motivation amongst individuals. From the theoretical strands of adult learning theory, the factors leading to motivation are set forth from the individual's previous experiences in which personal and social factors have played a significant role in the development of secondary characteristics defining the behavioral response of the adult learner. This assumption is supported through the application of two models used to describe the relationship between self-concept and academic achievement: the reciprocal-effect model and the internal/external frame-of-reference model. Chen, Yeh, Hwang, and Lin (2013) concluded that a reciprocal effect caused a decrease in academic achievement, whereas academic self-concept increases with age, suggesting a significant development trend among students. In nursing education, this construct has been assessed through exploring any significant relationship between its effects in academic achievement. Khalaila (2015) explored this relationship by examining the role of the intrinsic motivator. Through a correlational descriptive study, the author found that academic self-concept was significantly associated with academic achievement in which intrinsic motivators of the students were an important mediator in this relationship. Guay, Ratelle, Roy, and Litalen (2010) explain this phenomenon through the description of conceptual models that explain the relationship between the academic self-concept and academic success. The mediation model for autonomous academic motivation, the mediation model of academic self-concept, and the additive model are congruent in describing that students must perceive themselves as

competent and autonomously motivated in order to achieve academic success (evidenced by satisfactorily good grades). March (2007) (cited in Chen et al., 2013) explains that motivating students to improve their grades is paramount for the development of a positive and strong academic self-concept. Therefore, the role of the faculty in the students' achievement of academic success, overall, is imperative in the achievement of learning goals.

**Socialization.** The concept of socialization is described as a lifelong process in which the individual prepares to perform his or her role in society (Lee & Sheared, 2002). This process allows the individual to inherit and disseminate norms, customs, and ideologies that will allow them to participate within their environment (Kim & Sax, 2014). Interaction with faculty members in higher education has been described as the most common institutional practice towards academic success and is considered an important aspect of the adult learning process (Kim & Sax, 2014). Faculty interaction is a form of social interaction amongst students because it leads to learning by means of continuous interactions between cognition and emotions. Chen and Lo (2015) support this fact through the results of their work, which revealed that students who are involved in both the social and academic environments in the college setting are most likely to be successful. The effects of this process bring positive outcomes to the student's learning process and satisfaction, thus producing a greater integration in academics and, hence, persistence. Yet this interactive process could be affected or enhanced by factors or circumstances embedded in the student's interpersonal interactions acquired or learned throughout their lifespan and shared values, which are mostly culturally based.

Using a cross-classified multilevel model, Kim and Sax (2014) attempted to quantitatively explore the relationship between the student's academic self-concept and the student-faculty interaction. The study utilized as its theoretical framework Holland's theory of career choice, which is based on the ability of the individual to work with different environments and personalities to explain that the interaction between individuals and their environment mold their behaviors. From a sample of more than 14,000 undergraduate baccalaureate students from different academic institutions and disciplines, the authors found the strength of the student-faculty relationship varies according to the different aspects embedded in the student's academic climate and cultural and ethnic background. The results showed a significant relationship between students from liberal arts, language, and literature academic disciplines to be most likely to seek the professor after class for academic advice, participate in class by means of challenging questions, and to receive faculty tutoring more often than other academic disciplines.

Cultural and ethnic aspects of the individual are considered by the literature as descriptors used to define the concept of nontraditional students. However, with the emergence of new knowledge about academic success and nontraditional students, there is a significant need for knowledge that describes how psychological factors impact the social performance of the individual. Formal and informal socialization amongst nontraditional students who are culturally and ethnically diverse poses a challenge on their academic self-concept as well as in their participation in society (Lee & Sheared, 2002). As the number of diverse students continues to increase, faculty members should

consider becoming more culturally competent regarding the learning differences of students with different characteristics profiles. This argument is confirmed by the National Survey of Student Engagement (NSSE), which makes an interesting distinction among the socialization response of nontraditional students. In 2006, the NSSE Advisory Board reported that part-time students who have job responsibilities are less likely to have faculty-student interactions and be involved in academic activities (e.g., tutoring) which could enhance their learning process (Kuh, 2007). The report also highlights the concept of socialization as one of the variances sought to affect the students' learning experience regarding their expectations of learning outcomes and self-perception as a learner. This finding is important for the purpose of this proposed study because nontraditional graduates, because of their personal responsibilities, are less likely to seek instructional guidance after graduation.

**Minority nursing students' sense of belonging.** Nursing education is part of the academic domain of arts, which requires very strong interpersonal skills. As discussed in previous studies, it could be assumed, because of the nontraditional adult learner personality traits, that the sense of belonging is paramount for their personal and professional development across the life span. Sedgwick, Oosterbroek, and Ponomar (2014) applied a mixed-method approach to explore factors that are believed to influence the sense of belonging for minority students during their clinical experience. In the study, minority students were identified as those from a cultural and ethnic background other than Caucasian. The findings revealed a series of factors that are significantly correlated with the concept of belonging in minority students. These factors are linked to

peer support as well as emotional and family support and social interactions between faculty and students who are mostly white.

From the principles discussed in adult learning theory, it is believed that the individual brings to his or her education an array of knowledge that is acquired by means of the interactions and experiences throughout the life journey (Baptista, 2011). The clinical experience in a nursing program provides the experiences needed not only to improve academically but also to mold the required competence to perform effectively in their practice. Sedgwick et al. (2014) explored the factors that significantly influence minority nursing students during their clinical experience. The authors of the study observed that the sense of belonging amongst nontraditional students is dependent on the interactions with the nursing staff, instructors, and peers, and positive experiences enhance the sense of belonging amongst them. The authors concluded that instructors have the potential to make a significant impact on the student's sense of belonging by applying transformative learning approaches.

The sense of belonging has been viewed as a fundamental aspect of human need, and the literature has evidenced a positive effect in the nontraditional adult learner process for learning as well as the development of motivation and confidence (Groebecker, 2016). Borrott, Day, Sedwick, and Levet-Jones (2016) examined this assumption from the perspective of a sample of third-year nursing students regarding their work satisfaction while in a clinical rotation. The results of the study confirmed that participants seek support and acceptance in their workplace, making nursing a considerable job for them. The evidence presented in the literature continues to confirm

the philosophical principles of adult learning theory (Knowles, 1980) by sustaining the importance of past experiences, which leads to the development of intrinsic and extrinsic motivators and at the same time enhances their sense of belonging, which is directly associated with their academic and professional goals.

**Motivation.** Several studies about academic success are related to the concept of motivation. At the same time, this concept is associated with other socio-cognitive and supporting factors that are believed to have an important effect on motivational levels in the individual. For nontraditional adult learners, motivation develops as they mature. According to the strands of andragogy theory, the development of motivation to learn occurs as an internal aspect of the individual. Ross, Perkins, and Bodey (2016) examine the relationship between information literacy and self-efficacy and the development of motivational level of undergraduate students. Although this study was conducted with students from other professional disciplines, motivation is an important construct for lifelong learning. The results of the study confirmed the assumptions stated by the andragogy theory regarding motivation: as the adult learner matures, his or her value meaning for learning become more valuable. The authors observed that internal motivation is associated with the development of self-efficacy, which is a construct described within the principles of andragogy.

According to adult learner theory, intrinsic and extrinsic motivational factors are important forces that are closely related to the capacity of self-actualization and self-esteem of the individual. Gonglave and Trunk (2014) proposed that the socialization aspect of this process in the individual, which is most likely to be motivated by a

perceived collaboration with faculty members, increases the effect of positive outcomes in the individual. This assumption led the authors to conduct an exploratory qualitative research study to identify barriers faced by nontraditional students that can hinder or impede their academic success. Their interviews of ten nontraditional students who attended a small private college revealed the presence of the following themes: isolation, inattention to their educational needs, inflexibility from the administration, and the lack of organizational representation of the student community. Brown (2016) conducted a cross-sectional correlational study of baccalaureate nursing students to explore the students' autonomous support environment and autonomous motivation. The study revealed that supportive learning environments are conducive to the development of the students' autonomous motivation, meaning that faculty members have an important role to develop supportive and favorable learning environments conducive to effective learning.

The evidence presented in the literature regarding this phenomenon highlights the importance of authority figures such as faculty members for the development and enhancement of motivation among students. Although nontraditional adult students may come with a set of lived experiences and values toward their learning goals, faculty members are paramount to promote and enhance the current intrinsic and extrinsic motivators through the application of supporting measures during the learning process. At the same time, faculty may collaborate with the student by identifying positive motivational factors in order to improve their attitudes and commitment toward the profession.

**Stress.** When life events of nontraditional and adult students are compared with those of traditional students, nontraditional students are most likely to have multiple roles. This has an important impact on their life events, causing instability in their current coping mechanisms (Dill & Henley, 1998). Stress in nursing education has been associated with a number of factors regarding the individual's mental health characteristics, such as effective stress management skills and self-concept (Bartlett, Taylor, & Nelson, 2016), and psychological factors such as anxiety, due in part to academic load, work-life balance, sense of belonging, and self-concept, which are significantly correlated with a negative impact on learning and attrition increase (Turner & McCarthy, 2017). The literature presents limited sources of evidence, specifically regarding the effect of stress amongst nontraditional students that supports these findings to propose a sustainable conclusion, which leads to the need for further empirical work to develop effective approaches that enhance the current coping mechanisms applied by nursing students.

Scholars, in general, have devoted their efforts to exploring factors that affect traditional and nontraditional student performance in college, where stress is a common factor within the experiences of life events and academic success (Dill & Henley, 1998; Hamaideh & Hamdam-Mansour, 2014). It is important to discuss these studies because the trend of a new composition of students in U.S. college classrooms is increasing, and a deep understanding of this phenomenon is needed if we want to have a generation of working professionals performing with the competencies and knowledge required for the job. Kirk and Dorfman (1983) explored the level of satisfaction of nontraditional

students, specifically woman in higher education. They found that psychological support for women re-entering in higher education significantly enhanced their level of satisfaction. Congruently, with the study conducted by Sy and Romero (2008), the findings presented in Kirk and Dorfman (1983) are related to the fact that women tend to have more time constraints and role conflicts because of their family and household responsibilities, which, along with their educational responsibilities, can increase their anxiety and stress levels.

Financial stress was another factor examined in relationship with academic success (Lim, Heckman, Montalto, & Letkiewicz, 2014). The results of this logistic regression study revealed that ethnic background plays an important role in the development of stress in college and the need to seek financial assistance. The authors describe how debt, loans, and other financial matters negatively affect the progress and performance of the ethnically and culturally diverse student in college because of their inability to pay for the cost of their education and their concerns about having a higher amount of debt after graduation. In nursing education, this is a big concern for graduates. The situation becomes a challenging one for them because they must pass their NCLEX-RN in order to start earning to pay for these loans. The financial hardship observed in some of the nontraditional adult learners who need to work to meet their family responsibilities augments their stress levels because of the limited amount of time they must devote to studying for the state boards.

## Chapter Summary

Demographic, social, and psychological factors are believed to have a significant relationship with the individual's academic success and, one can assume, with NCLEX-RN pass/fail outcomes. However, the adult learning process, studied under the construct of nontraditional students, has been examined from different perspectives applied to several academic models, each of which has proven to have a significant relationship with the philosophical strands discussed in the andragogy theory (Knowles, 1980). Research addressed to these descriptors dates to the 1980s, yet the evidence obtained from the literature that explores this phenomenon is congruent with the information available and observed currently.

## Chapter Three

### **Methodology**

The intent of this study was to examine how the demographic, social, and psychological factors observed in the nontraditional adult learner characteristics profile are associated to NCLEX-RN performance amongst graduates from an ADN program. An important gap is observed in the literature regarding what occurs once the nontraditional adult learner graduates from a nursing program. After graduation, the student is no longer receiving academic guidance from faculty members or any other type of support that can help them to prepare for the NCLEX-RN, such as providing strategies to manage and cope with demographic, social, or psychological factors that can have a significant effect on the graduate's NCLEX-RN pass/fail outcomes. The psychological and social variables, as described in the operational definition section of this study, were measured using the Student Perception Appraisal-Revised 2 (SPAR-R-2) (Jeffreys, 2007) (see Appendix A). Variables such as NCLEX-RN pass/fail outcomes, age when enrolled in the program, previous educational background, primary language, children living with them, and working while in the program were collected using a researcher-developed questionnaire (see Appendix B).

Because the readiness process for NCLEX-RN varies according to the student's ability to cope and manage the different factors surrounding his or her life, the design of this study provided to examine which of these factors has a significant impact on NCLEX-RN performance. Therefore, two research questions were established for the purpose of the study:

1. Is there any association between the non-academic factors observed in the characteristics profile of nontraditional adult learners graduated from associate degree in nursing programs?
2. To what extent do the non-academic factors observed in the characteristic profile of the nontraditional adult learner graduated from associate degree in nursing programs predict NCLEX-RN performance?

### **Research Design**

The study followed a quantitative method and utilized a correlation and regression analysis model to test the hypothesis questions. The design chosen for this study allowed for examining any correlation and predictability effects amongst the demographics, social, and psychological factors (independent variables) of the nontraditional adult learner who graduates from an ADN program and NCLEX-RN pass/fail outcomes (dependent variable) (Polit & Beck, 2012). Regression analysis has been found to be the preferred data analysis procedure to examine predictors' effects in different research studies (Foley, 2016).

### **Research Assumptions**

Several underlying assumptions with respect to the research model, instrumentation, and participants support the theoretical foundations used as the framework for the study. Andragogy (Knowles, 1980), as the conceptual framework of the study, explains the behavioral responses of adult learners that are assumed to affect the achievement of educational goals, specifically NCLEX-RN scores. The variables were measured through the administration of a demographic questionnaire, a research tool that has been applied

in similar studies and which has been proven to be valid and reliable. The statistical data obtained from the Student's Perception Appraisal—Revised (SPA-R) questionnaire (Jeffreys, 2015) is assumed to be a true measure of each participant's demographic, social, and psychological factors plus or minus some error, which was explained by the instrument itself.

The participants of the study were assumed to understand the survey questions as well as the instructions to follow in order to complete the survey in an accurate and honest manner. The sample of nontraditional adult graduates recruited in this dissertation study was assumed to be representative of the number of ADN graduated students from the participating schools regarding the characteristics observed in a nontraditional student profile. Thus, the answers obtained were expected to portray the truthful perception of their experiences. Any observed error may be due to the instrument applied, the participant understanding and comprehension, as well as the instruction provided, or the environment in which it was completed in terms of the history of similar experiences and the psychological maturity of the subject.

### **Setting**

The setting in which this study was conducted was an associate degree, pre-licensure registered nurse program. Two (2) educational institutions who offer the associate degree in nursing agreed to participate in this dissertation study. The educational programs are currently located within a geographical area of 50 miles in Miami-Dade County, Florida. Both institutions hold an approved status by the Florida Board of Nursing, yet not an accrediting status from any national accrediting nursing

organization. Within the population of students served, it was expected to obtain a representative sample of participants who fit the description of nontraditional adult graduates. Approved-only nursing programs are more likely to follow less stringent admission requirements and to offer a variety of schedule accommodations to permit nontraditional students to complete the programs (Ard et al., 2017). The estimated timeframe for completing an ADN program in these institutions is between 18 and 24 months, depending on the pace followed by the student to complete the required academic work and the required courses to be taken for program completion. Therefore, the population of the participating institutions was from approved pre-licensure programs because such programs are likely to have students who match the characteristics observed in the nontraditional student profile.

### **Sampling Plan**

#### **Sampling**

The population of the study was limited to nontraditional adult graduates who were enrolled in an ADN program during the academic years 2016-2018 from two (2) different educational institutions located within the geographical area of Miami-Dade County in South Florida. A convenience sampling method was used to recruit the participants for the study. A sample of 128 subjects was necessary for the analysis of the demographic, social, and psychological variables and NCLEX-RN pass/fail outcomes. Another advantage of this method is that convenience sampling allowed participants to volunteer to be included in the sample of subjects assessed in the study (Howell, 2007). The strategy fits the purpose of the study because the set of subjects to be investigated

happens to be available in the study setting, allowing a more feasible process of obtaining the desired sample (Leedy & Ormord, 2013). To reduce sampling bias in this study, it was imperative to ensure that the target population was clearly and properly defined and matched the sample frame as closely as possible.

### **Eligibility Criteria**

The expansion of the eligibility criteria utilized to accept new nursing students, as observed in newly approved nursing programs, has changed the composition of students entering nursing programs. The sample of subjects expected to voluntarily participate in the proposed study was comprised of graduates from an approved ADN program between January 2016 and August 2018 and who had taken the NCLEX-RN.

**Inclusion criteria.** The populations of interest for this study were nontraditional adult learners whose characteristics profile is described in the operational definition of nontraditional students discussed in Chapter One. The inclusion consisted of graduates from an approved pre-licensure ADN program and who were expected to meet at least one of the inclusion criteria determined for the study: age 25 years and older, are financially independent, employed full-time or part-time, responsible for dependents other than a spouse, have earned a general educational degree, have previous educational experience, or not have English as their primary spoken language. The participants of this study must have graduated from the nursing program between January 2016 and August 2018 and must have already taken the NCLEX-RN.

**Exclusion criteria.** Graduates who do not meet the inclusion criteria for the study were not considered part of the sample collected, even though they were graduates

from an ADN program. Any missing or incomplete data warranted exclusion from the study. If the educational institution that offered the ADN offers advanced placement for licensed vocational/practical nurses (LVN/LPN), these graduates were not included in the population sample examined even though these students may exhibit the characteristics of a nontraditional student because of the impact of their previous experience in the licensure examination process.

### **Determination of Sample Size: Power Analysis**

The statistical plan designed for the study intended to measure that the assumptions from the sample's non-academic factors observed in their characteristic profile do not affect their NCLEX-RN pass/fail outcomes, thus avoiding the probability of a type I error. The effect of producing these types of error is based on the relationship between the four quantities used for statistical inferences: statistical significance ( $\alpha$ -level), power, sample size, and the population effect size (Plichta & Kelvin, 2013). The statistical significance for the results of this study was determined to be at a 95% confidence level ( $\alpha = .05$ ). G\*Power version 3.1.2 was used to determine a sample size of  $n = 128$  subjects, in order to attain an 80% power with a 95% of confidentiality index. Because of the limited number of research studies available about NCLEX-RN performance amongst nontraditional students after graduation and its significant contribution to nursing academia, a medium size effect for power analysis was applied with the intent to obtain more realistic sample size requirements for subjects participating in the study, thus obtaining more realistic results (Christensen, Johnson, & Turner, 2011). Therefore, from the criteria established for determining the sample size, the design of the

study recommended a 20% increase in the determined sample size to account for the nonresponse rate of subjects invited to participate in the study.

### **Protection of Human Subjects**

A research proposal to the Nova Southeastern University Institutional Review Board (NSU IRB) was submitted prior to the start of this study to ensure all aspects of the protection of human subjects were covered and aligned with the institution's and College of Nursing department requirement. After the revision of the application and documents submitted, approval was granted by the NSU IRB Board to proceed with the data collection process. The study did not require the participation of students who are actively enrolled in a nursing program. Therefore, email addresses of the students who graduated between January 2016 and August 2018 were requested from these nursing programs. A representative from each nursing program was asked to complete and sign an acknowledgment for information release (see Appendix C), which states the method in which this information will be obtained. This procedure ensured that no harm or risk would be incurred by providing this type of information for the research process.

To safeguard the well-being, respect, and privacy of the participants in the study, ethical principles of benefit and beneficence was documented in the form of informed consent (see Appendix D) and applied consistently throughout the data collection and analysis processes. First, respect for the participants was encouraged by promoting voluntary participation validated by the participant's signature on the consent form, acknowledgment that the information obtained would be confidential and anonymous, and the participant's right to know that he/she was free to drop out of the study at any

time. The informed consent was used as well to advise the participants of the purpose of the study; the risks and benefits of participating in the study; procedures, activities for data collection, measures for the protection of the participants' privacy and confidentiality; and the dissemination of results. This procedure guaranteed the development of trust and promoted the integrity of the research process by safeguarding the participants against any misconduct that could lead to challenging issues (Creswell, 2014). At the same time, respect for the context of the participants' responses was maintained equally in all perspectives in order to present an impartial interpretation of findings and the authenticity of their experiences. Confidentiality of the information collected and analyzed was assured using password-protected documents related to this study, which will be saved on the principal investigator's personal computer and stored in a locked filing cabinet at the researcher's home office. Data were kept confidential and anonymous and shared only with those who are part of the research committee and who had received research ethics training.

**Risks and benefits of participation.** The risk of harm or discomfort by the subjects participating in the proposed research study was none to minimal. Primarily, the proposed study provided for voluntary participation in which subjects were advised that they may refuse to participate in or withdraw from the study at any time without any penalty. No compensation for participation in the study was offered. The design of the proposed study promoted the application of a detailed protocol to be followed in order to ensure the well-being of the participants by minimizing any threats against them. This protocol was documented and followed the ethical principles of benefit and beneficence

discussed in the informed consent and applied throughout the process of data collection, analysis of results, and the dissemination of the results to protect the confidentiality of the participants. The plan was explicitly described in the consent form, thus developing reassurance and confidence amongst the participant and minimizing any risk.

Graduates who are profiled as nontraditional adult learners may feel some type of short-term psychological discomfort because of the content of the questions included in the questionnaire, which might produce feelings of stress, embarrassment, or guilt for the outcomes obtained in their state board examination results. This inconvenience may lead to “false” responses to any of the questions presented. To avoid this and with the intent to minimize as much as possible any harm to the subjects’ integrity, the questionnaire was required to be completed anonymously. Dissemination of the results followed a strict confidentiality process by referring to results in the form of group averages in aggregate form.

**Data storage.** To protect the confidentiality of the data collected from the subjects, the principal investigator had exclusive access to the electronic reports from surveys, encoding keys, and flash drives with the proposed research documentation and notebooks. The demographic and survey questions collected for the study were available through the Survey Monkey® web platform. The responses were obtained from this electronic resource and securely managed by the principal investigator through the use of a password. In addition, the anonymous responses feature of the survey was activated, thus avoiding the inclusion of any personal identifiers (name, email address, and/or IP address). A password-protected computer held all electronic documents, which were

password-protected as well. This allowed only the principal investigator to access electronic information as well as to manage the data collected for analysis and interpretation of results. The computer used to manage all the information presented in this study was stored in a locked file cabinet at the researcher's home, as established by the ethical and confidentiality protocol previously discussed. This process warrants the integrity and confidentiality of information throughout the study process. The principal investigator will maintain all the collected data for a period of 36 months. After that, all documentation, both physical and electronic, will be destroyed (shredded) and permanently erased from any electronic device or file used to store the information.

### **Procedures**

This study did not require the inclusion of subjects who are actively enrolled in the nursing program, only those who have graduated and taken the NCLEX-RN. Therefore, no names or any other personal information were required to contact the desired sample of subjects. After contacting the program representatives from the nursing educational institutions who agreed to participate in this study, the acknowledgment for information release form was completed (see Appendix E) to determine the method in which the graduates' email addresses would be obtained. This document ensured that no risk would be incurred by providing this type of information for research purposes. After this document was discussed and signed, the representative from each nursing program provided to the principal investigator the list of email addresses of students who graduated from their programs within the period of January 2016 and August 2018.

After receiving approval from the Nova Southeastern University Institutional Review Board (IRB) on September 4, 2018, the principal investigator proceeded to contact the graduates through the emails obtained from the educational nursing programs. The content of this email served as the invitation letter (see Appendix F), which provided graduates a brief description of the purpose of the study and the reason they had been contacted. The content of the email message guided the participant through the steps to be followed if they agreed to participate in the study. A link that connected the participant to the Survey Monkey® portal directed the participant to an introductory page to access the consent for voluntary participation. The web link remained open for 90 days after the dissemination of the invitation letter to the contacted graduates. After the initial email was sent, follow-up emails were sent on a weekly basis for re-dissemination of the information previously sent. The informed consent was used to advise the participants of the purpose of the study; the risks and benefits of participating in the study; procedures, activities for data collection, and measures for the protection of the participants' privacy and confidentiality; and the dissemination of results. The principal investigator's contact information was provided within the informed consent for any inquiry on behalf of the participant about understanding the nature of the proposed study before making a voluntary decision to participate. As proof of acceptance to participate in the study and in order to move forward to the survey section, all participants who completed the survey answered "yes" as their consent to voluntarily participate in the study. Participants who answered "no" did not continue to the survey section and were automatically disqualified from the study. After the participants consented to participate,

they were directed to the questionnaires for data collection. The first questionnaire was a 13-item questionnaire to gather demographic information. The second section consisted of a 27-item questionnaire to measure and evaluate how restrictive or supportive the academic, social, and psychological variables influenced their performance on the NCLEX-RN. The average time for completion of the entire survey was six minutes and fifteen seconds.

After the participant agreed to participate in the study, the procedure for data collection began by following a designed protocol to ensure that the purpose of the research was met. The protocol included ethical considerations as well as the trustworthiness of the results. Respect for the participants was encouraged by promoting voluntary participation validated by the participant's signature and the acknowledgment that the participant is free to drop out of the study at any time.

Data were collected directly from the Survey Monkey® secured server, and the information collected was downloaded into Statistical Package for the Social Science® (SPSS) version 25 software. The anonymous responses feature was activated; thus any personal identifiers (IP address, names, and email addresses) were excluded from the data collected in the survey. Because of the probability that there were participants who do not meet the inclusion criteria, the data obtained were examined and cleaned to ensure that only data of participants who met the inclusion criteria were used for the research. Once the information was cleaned, the data were exported through coding into SPSS® Version 25 for analysis. A number was assigned to each participant's response to ensure privacy

and anonymity. Confidentiality of the information was assured using a password for any information stored on the computer and the utilization of a locked filing cabinet.

### **Instrumentation**

The Student's Perception Appraisal—Revised 2 (SPA-R-2) (Jeffreys, 2007) and a researcher-developed demographic questionnaire were the research instruments utilized in this study. Authorization for the use of the SPA-R-2 tool was obtained through the purchase of a license that permits the use of the instrument for investigation purposes (see Appendix G). The SPA-R-2 is a 27-item survey developed under a retention and success model that is utilized to measure and evaluate how supportive or restrictive the environmental, professional integration, and socialization variables are in influencing the decision of the student to persist in the nursing courses, as perceived at the end of the course or semester (Jeffreys, 2015). A demographic questionnaire was designed by the principal investigator to collect specific demographic data which included the descriptors of inclusive criteria each participant must present. These descriptors were age, full-time or part-time employment, responsibility for dependents other than a spouse, previous educational experience or GED, and primarily spoken language. In addition, this demographic questionnaire included questions regarding the participant's NCLEX-RN test outcome: pass or fail, number of attempts, and time between graduation and test results. The questions included in both questionnaires were combined into one instrument and presented to the participant as a single questionnaire.

**Instrument 1- Nontraditional Adult Learner Demographic Questionnaire**

A demographic questionnaire (see Appendix B) was developed by the principal investigator to obtain relevant information from the participants about the inclusion criteria of the participants. The questionnaire included questions that provided demographic data such as age, gender (male or female), social demographic status (married, single, single parent), work status (full-time, part-time), first language spoken, and prior level of education completed before entering nursing school. In addition to these questions, within the demographic tool, a section to obtain information about the graduate's NCLEX-RN performance outcomes was included. The content of the questions presented in the tool allowed for gathering data about the graduate's performance on the NCLEX-RN and the number of times the test was taken before passing. The information gathered from the demographic tool provided the researcher with descriptive information about the sample population as well as allowed for the creation of a comparative statistical analysis. The questionnaire was consolidated with the SPA-R-2 tool and distributed using email correspondence, which included a link to the Survey Monkey® web platform. This web-based instrument was chosen to allow the target population easy access from any electronic device. The data were available for completion for a period of 90 days.

**Instrument 2 – Student's Perception Appraisal—Revised 2 (SPA-R-2)**

Jeffreys (2007) explains that trends in the nursing educational landscape are caused mainly by the expansion of a more culturally and ethnically diverse group of individuals that has led to new immigration patterns, drastic changes in mid-life career

changes as a result of a more globalized society, and the development of a more complex and demanding healthcare system. From this, the community of nursing students nowadays represents a great diversity in characteristics, which are believed to have a significant impact on the students' retention and persistence in college. This community of students, identified as nontraditional, is perceived to present a higher level of attrition in nursing schools, thus placing educators in a challenging position of having to develop and implement innovative approaches to positively influence these students to complete the program. Jeffreys (2007) developed a model that would empirically appraise the extent to which these students may be at risk of withdrawal from the program by identifying factors within the nontraditional student's characteristic profile. The purpose of the nursing undergraduate retention and success (NURS) model was to identify descriptors within the student's characteristic profile that are related to affective factors, such as academic and psychological outcomes, and social and professional factors that are commonly observed with nontraditional undergraduate students (Jeffreys, 2007). The conceptual framework of this model was established from previous studies about nontraditional students and the synthesis of the literature. The main concept addressed in this model is referred to as the professional integration of the nursing student, which is considered as the principal factors for deciding whether to drop out of the program or persist.

From the insights obtained through the employment of this model amongst nontraditional nursing students, new and valuable perceptions regarding other important factors observed in the students' characteristics highlight the need to measure retention

and persistence from the perspective of social factors. These social factors are external from the student's academic process and may have a significant influence in the student's persistence in the program (Chen, 2014). The Student's Perception Appraisal (SPA) emerged to identify the non-academic factors that could be perceived as a pathway to success by nontraditional students. The SPA tool, developed from the NURS model, was originally a 21-item questionnaire, which was then revised into SPA-R-1 (pre-test) and then SPA-R-2, used as a post-test. Both versions of the tool were developed to measure the student's perceptions regarding the level of restrictiveness or supportiveness of selected variables in regard to persistence (Jeffreys, 2007). For the purpose of this study, the SPA-R-2 (see Appendix A) was used to collect the data from participants to identify social and psychological factors observed in the characteristic profile of the nontraditional adult learners, as having a significant influence on their performance on the NCLEX-RN. Permission to utilize this tool was obtained by purchasing a license fee that will be valid for a year (see Appendix G).

**Validity.** The assessment of the characteristics of nontraditional students and its relationship with academic outcomes has been explored through the application of different research methodologies. The statistical strategies used for these studies required a variety of approaches to examine aspects of the students' learning behavior: self-directed learning, persistence and program completion, and the performance of systematic reviews (Chung, Turnbull, & Chur-Hansen, 2014; Marrero, 2013; Phillips et al., 2015). Hence, different instrumentations and approaches were used to collect the required information, which may not necessarily reflect the main construct of the study.

The SPA-R-2 instrument has been used in some studies to measure and assess retention and persistence amongst nontraditional nursing students and to describe the concepts of academic success in regard to self-efficacy, environmental variables, student perceptions, and the impact of the different instructional delivery approaches (Billman, 2008; Jeffreys, 2015; Mills-Wisneski, 2005). Therefore, the instrument to be used in this study meets the criteria for content and construct validity because its questions echo the domain content of the descriptions for nontraditional students by evenly portraying the characteristics observed and discussed in the literature; doing so is considered central for the definition of this student population. This instrument, however, can be used as well with traditional students.

The content validity of this study was performed and determined by two subject experts in academic support and student retention who have experience with nontraditional students from ADN programs and who possess a doctoral degree and are content experts in the subject matter; this also provides for the validity of the instrument (Jeffreys, 2007). From the SPA original form (1993 version), these experts recommended the addition of four variables which were conceptualized from the NURS model and SPA tool as well as captured from the literature review: professional integration, socialization, nursing skills laboratory, and living arrangements (Jeffreys, 2007). The additional added items thus created the 27-item SPA-R-2. This revised version of the tool indicated a content validity index of 1.0, which indicates the appropriateness of the tool to measure the variables under study and which provides criterion validity of the tool.

**Reliability.** Kimberlin and Winterstein (2008) emphasize that measuring a construct utilizing questionnaires involves a certain degree of subjectivity over the collected data, thus allowing potential sources of error in the measurement of such a construct. Stability and internal consistency are the two measures used to determine the reliability of the instrument to be used. The SPA tool, when first developed, consisted of 21 items. Later this tool was revised into SPA-1 pre-test and SPA-2 post-test. The stability of the tool was measured, and it was noted that the SPA-1 pre-test ranged from .72 (alpha-coefficient) and .77 (split-half). SPA-2 was noted to have an alpha-coefficient of .89 and a split-half of .88, indicating a more reliable result of the constructs measured in the semester (Jeffreys, 2007). Cronbach's alpha for internal consistency ( $\alpha$ .82) suggests that the tool will provide reliable and dependable results. Therefore, the conditions for reliability expected from this tool fulfilled the requirements for this study.

**Scoring.** The instrument to be used in the study addressed the constructs identified to be measured amongst the sample population. The questions in the questionnaire were grouped into the three categories (social, personal, and psychological) which describe the factors associated with the student's NCLEX-RN performance after graduation. The 27 questions of the survey describe the factors that are associated with the student's social, psychological influences, and college resources. The questions were measured through a Likert-type scale which included the following options for answering: 1—did not apply, 2—severely restricted, 3—moderately restricted, 4—did not restrict or support, 5—moderate supported, and 6—greatly supported. The scores of each questionnaire were calculated by summing the value of the responses for a composite

ranging from 27 to 162, indicating a high level of supportiveness of the construct. This produces an ordinal level of measurement of the questions in the survey.

### **General Statistical Strategy**

The SPA-R-2 and the demographic questionnaire were consolidated to be used in the study. The merge of these two instruments into one provided a feasible way for the participant to complete the questions stated in the questionnaire. The responses obtained from the questionnaire were exported from the web-based Survey Monkey® platform and uploaded into SPSS ® version 25. A descriptive analysis of the data collected was examined through the application of inferential statistics. This process allowed for the analysis of the probability that the characteristics observed in the sample of nontraditional adult graduates from an ADN program can predict NCLEX-RN performance.

Descriptive statistics was used to quantitatively describe the features of the variables, presenting the characteristics of nontraditional adult graduates in a manageable form by providing a summary of the sample and its measures as well as identifying possible outliers or skewing in the data (Plichta & Kelvin, 2013). A parametric test was used to analyze the variables in the study since the data to be collected were expected to meet the basic assumptions of a normal distribution: normality and homogeneity of variance, linearity, and independence. Frequency distribution tables were employed to organize and sort the descriptive statistics in a logical order and to support the assumptions of a normal distribution (Polit & Beck, 2012). The collected data were evaluated for errors. Normality was established from the distribution of the data collected from the sample that participated in the study. Homogeneity was concluded from the equal variance in the

scores obtained from the independent variables. Linearity was assessed by examining the relationship between the independent and dependent variables. Lastly, independence was confirmed through the analysis of the values of the independent variables related to the dependent variables.

### **Data Cleaning**

Data cleaning is a crucial part of the data analysis, specifically when these data will be strictly managed by the principal investigator, in order to protect and maintain the well-being of the participants and protect their privacy. Data collected from the questionnaires were manually examined in a qualitative and quantitative manner for appropriateness of completion before being entered into the statistical analysis program. Additionally, code cleaning was performed to ensure the code assigned for each answer appears in the data file (Crossman, 2017). To ensure that the process was performed correctly, after the data were completely entered, the data were verified utilizing the data cleaning feature available in the SPSS ® Version 25 program.

Possible outliers observed in the collected data could be due to the responses obtained from demographic data in which the participant may have had a different perception or interpretation of the question (Howell, 2007). Therefore, a contingency cleaning method was used to ensure that the logical structure of the data fit the limit of the responses on certain variables (Crossman, 2017). This approach was helpful in decreasing the impact of outliers on the data set.

## **Descriptive**

A descriptive analysis of the frequency of the data provided a summary and definition of the data collected in relation to the magnitude of the relationship amongst the variables (Plichta & Kelvin, 2013). Descriptive statistics was applied to describe the set of data collected from nontraditional adult learners who participated in the study. Measures for the mean, central tendency, and normal distribution of the data collected assisted in describing and analyzing the data in a meaningful way such that emerging patterns amongst the variables could be identified (Creswell, 2014). A summary of this analysis was presented using a tabulated description of the values obtained, followed by a discussion of the results.

## **Reliability Testing**

The internal consistency of the questions presented in the questionnaire used in the study was analyzed utilizing Cronbach's alpha, since it is considered a measure for item homogeneity (Creswell, 2014). This analysis was performed utilizing SPSS® 25 software. The values utilized to determine reliability range from 0.0 to 1.0 (Plichta & Kelvin, 2013), where 1.0 indicates a high consistency in the items presented in the instrument. In this study and in alignment with the information presented in the literature about the SPA-R-2 instruments, a Cronbach's alpha of .7 with a statistical significance of  $\alpha \leq 0.05$  would be acceptable to determine internal consistency between the items of the instrument. This value is significant to minimize the risk of a type I error (Polit & Beck, 2012). A full-scale reliability coefficient alpha of .926 was found after this test was run, indicating an excellent reliability score of the questions available in the questionnaire.

## Hypothesis Testing

After the data were entered into SPSS ® version 25, statistical measure of the data was followed by applying regression analysis to explore the level of predictability of the independent variables over the dependent variables under study. The specific hypotheses tested are shown below in null form and were tested at a minimum of the .05 level of significance ( $\alpha = .05$ ), under the assumption that the data from the sample are normally distributed.

**Hypothesis 1. There will be no statistically significant association between the non-academic factors observed in the characteristic profile of the nontraditional adult learner graduated from an associate degree in nursing program and NCLEX-RN performance.** Testing of this hypothesis was measured by means of a correlation analysis to examine the relationship between the independent variables (personal, social, and psychological factors), also known as predictor variables, and the NCLEX-RN pass/fail outcome (dependent variable). The strength of this relationship determined by means of the range for the Pearson  $r$  value (0.00 to 1.00) obtained by the analysis of the dependent and independent variables. Correlation coefficients are the values that can explain the extent of association of one variable with another (Polit & Beck, 2012). Thus, for the purpose of this study, a correlation with an alpha ( $\alpha$ ) value less than 0.05 was considered significant. In addition, it is important to evaluate the proportion of variance accounted for by the characteristics of nontraditional adult graduates to verify the level that is significant to NCLEX-RN performance. This correlation coefficient,

represented as Pearson  $r$ , was expressed as well as the value used to determine the strength and direction between variables.

**Hypothesis 2. There will be no statistically significant relationship between the non-academic factors observed in the characteristic profile of the nontraditional adult learner graduated from an associate degree in nursing program for predicting NCLEX-RN performance.** To predict the value of the dependent variables from the demographical, social, and psychological factors (independent variables) of the nontraditional adult learners, a simple linear regression model was followed. This model allows for analysis of the odds of probability for NCLEX-RN success (dependent variable). The linear regression statistical model also allows us to determine how much of the variation of the dependent variable is explained by the independent variables, to understand the magnitude of the relationship amongst them (Laerd Statistics, 2015). The significance of this model applied to the variables examined in this proposed study will be determined by  $\alpha$  value less than .05 ( $p \leq .05$ ). Therefore,  $\alpha$  value less than .05 ( $p \leq .05$ ) will indicate that demographic, social, and psychological factors are significantly associated with a predictive effect for NCLEX-RN outcomes.

### **Limitations**

Generalization of the results obtained by the proposed study are subject to the level of internal and external validity of the project (Leedy & Ormond, 2013). The study design held certain threats to the ability to accurately generalize and provide meaningfulness and credibility of the findings obtained from the analysis of the data over the population of nontraditional adult learners.

### **Threats to Internal Validity**

The threats to the internal validity of this study were related to the extent to which the variables that describe the characteristics of nontraditional adult graduates can cause an effect in their NCLEX-RN performance. Some of the basic threats discussed in the literature may affect the interpretation and generalization of the results. Historical aspects of the phenomenon of study can pose a threat to the internal validity of the findings when the population of nontraditional adult graduates experiences an event in which the perception of NCLEX-RN success shifts from an observed trend in NCLEX-RN performance amongst their former classmates. Maturation is another form of threat, in which graduates who have been successful in NCLEX-RN after several attempts may demonstrate a different reaction over the questions about factors that could hinder or promote successful performance on state board examinations.

Another threat to the internal validity was the convenience sampling method chosen to select the population to be examined. A disadvantage of using this type of sampling is that although the population selected might be available in the study setting, the results obtained from the survey might not necessarily represent the perceptions of the entire community of nontraditional adult graduates because this type of sampling requires voluntary participation (Etikan, Musa, & Alkassim, 2016). This limitation may dictate a risk of bias in the answers provided by the participants. Sampling bias may occur because of an over-representation or under-representation with respect to the true distribution of the variables (Panzeri, Magri, & Carraro 2008).

The research design of the study responded to an observational or measurement approach, in which the data collected were performed under a controlled environment (Leedy & Ormond, 2013). The administration of a survey with specific questions to be answered provides the means to minimize, as much as possible, the emergence of confounding outcomes that can lead to erroneous interpretations of the findings. Like a controlled laboratory study, the environmental conditions provided by this data collection approach may provide confidence to the principal investigator to carefully regulate these conditions by ensuring that the findings from the results will be warranted from the data collected.

### **Threats to External Validity**

The variables in this study were measured to the extent to which the findings can be applied to situations or circumstances beyond the sake of the study itself. However, threats to the external validity of the results were carefully measured to ensure the consistency of the findings. The environmental conditions in which the study was conducted were real-life (natural) settings in which the survey questions are answered. This is, the participants were exposed to an environment in which they may feel pressure or intimidation because of the responses of the survey.

### **Chapter Summary**

Inferential statistics were applied to examine the demographic characteristics of the sample population participating in the study to make inferences about the parameters used to describe the characteristics of nontraditional graduates and performance on the NCLEX-RN. These sets of measurement tools tested the established hypotheses of the

study. A convenience sampling method was used to collect the data, and a statistic plan was designed to answer the proposed research questions. A strict plan for protecting human subjects was followed and documented prior to the beginning of the data collection. Ethical aspects of the study were depicted. Threats to internal validity and external validity were discussed as well as the strategies to avoid them.

## Chapter Four

### Results

This dissertation study was designed to quantitatively measure how personal, social, and psychological factors of nontraditional graduates of ADN programs may predict NCLEX-RN performance. The characteristics of nontraditional adult learners have been associated with barriers (variables) to achieving academic and professional goals (Grabowski, 2016; Zerquera et al., 2016). The information available in the literature describes how these factors can potentially affect the accomplishment of academic goals while nontraditional adult learners are enrolled in an academic program. This quantitative study aimed to examine if these variables continued to be present after graduation when the student is in preparing for the licensure exam. Under the assumption that after graduation students are no longer receiving academic guidance from a faculty member who can provide them with guidance to better prepare for the NCLEX-RN, the research questions aimed to examine this event were developed.

Immediately after IRB approval by the Nova Southeastern University IRB (see Appendix H), the data collection process was initiated. Two research questions were examined based on a quantitative, non-experimental study design, which followed a correlational and regression model. The dissertation study did not require the participation of students who were actively enrolled in a nursing program, only those who had graduated and had taken the NCLEX-RN. Students graduated from two nursing programs who offer the associate degree in nursing were invited to participate in the study. Authorization from the respective nursing programs dean or director was

requested through email message to obtain the graduate's email address. An acknowledgment for information release (see Appendix E) was completed by the school representative to ensure no harm or risk would occur by providing this type of information for research purposes. After this document was completed and signed, a list of graduates from these programs was provided to the principal investigator. The study population consisted of graduates from an associate degree in nursing program who met at least one of the following inclusion criteria for the study: 25 years of age or older, financially independent, employed full-time or part-time, responsible for dependents other than a spouse, has had previous educational experience, or speaks English as a second language. Two instruments were used to collect the data for hypothesis testing. The demographic questionnaire and the SPA-R-2 (Jeffrey, 2007) tool were consolidated into one single questionnaire to gather data about participants' demographic, social, and psychological variables from their characteristic profile.

After the email invitation to participate in the study was sent to the graduated students, a total of 128 subjects responded to the invitation to participate in the study. A total of 111 subjects agreed to participate by answering "yes" to the consent form and by answering all questions from the questionnaire utilized to collect the data. This resulted in a response rate of 86.7% for this study.

### **Data Cleaning**

The data analysis for this study followed a systematic process in which the scores from the two instruments were collected, analyzed, and synthesized for interpretation. First, the data were extracted from the Survey Monkey ® platform used to collect the

responses from the participants and then transferred to an Excel spreadsheet. Given that the information might be prone to errors, a quality check was performed prior to being transferred to SPSS Version 25 (IBM, 2017). Visual scan of the surveys was performed to ensure all data entries were accurate and complete. From the 128 responses received, 17 submissions were missing data from both the demographic questionnaire and SPA-R-2 tool; therefore, these incomplete responses were deleted from the data sheet for a total of 111 complete submissions. After this procedure was performed, the data of 111 participants were then transferred to SPSS version 25.0 (IBM, 2017). Code-cleaning was performed to ensure each code appears in the data file. For this process, the feature for data cleaning available in the SPSS® program was utilized to ensure this manual process was performed correctly. All 111 cases met the criteria for nontraditional students. There were no incorrect values or missing values found after running frequency tables on all the variables observed; missing or incorrect values can alter the outcome of the analysis to be performed (Osborne, 2013).

## **Descriptive Statistics**

### **Description of the Sample**

The setting in which the proposed study was conducted was an associate degree, pre-licensure registered nurse program which holds an approved status by the Florida Board of Nursing. The sample was limited to graduates who met the study's inclusion criteria enrolled in an ADN program during the academic years 2016-2018 from one of two (2) different educational institutions located within the geographical area of Miami-Dade County in South Florida. A convenience sampling method was used as the

sampling strategy in the study because the subjects under study were part of the population of graduates from the ADN program who are participating in the study.

The study respondent composition was predominantly female ( $n = 87$ ), comprising 78% of the sample. The age group with the most frequency observed (28.8%) was 25-29 ( $n = 32$ ), as observed in Table 1.

Table 1

*Demographic of the Sample*

Variable	Frequency (f)	Percent (%)
Gender		
Female	87	78.4
Male	24	21.6
Age		
18-24	23	20.7
25-29	32	28.8
30-34	17	15.3
35-39	19	17.1
40-44	4	3.6
45-49	11	9.9
50-54	3	2.7
55-59	2	1.8

*Note:*  $N = 111$

Within the participants' demographic information, there were other variables examined in this study that were self-reported by the participant and which are included in the nontraditional adult learner characteristic profile operational definition. Participants were asked about their previous level of education when they enrolled in the program. Most participants, 66.7%, reported to hold a U.S. high school diploma ( $n = 74$ ) as their previous educational background (see Table 2).

Table 2

*What is your Prior Educational Background?*

	Frequency (f)	Percent (%)
GED	9	8.1
US High School	74	66.7
Foreign HS diploma	9	8.1
Foreign college degree	19	17.1

*Note:*  $N = 111$

As discussed in the literature, language is not considered a characteristic of the nontraditional adult learner, however, due to the geographical area in which this study was conducted, it was important to measure the participant's primary language. When participants were asked about their primary spoken language, it was observed that the distribution of individuals whose English is their first language was balanced amongst those who indicated been English not their first language (Table 3).

Table 3

*Is English your First Language?*

	Frequency (f)	Percent (%)
Yes	48	43.2
No	63	56.8

*Note:*  $N = 111$

The participants were asked about other responsibilities in life other than a spouse. This question was addressed specifically to identify whether participants have children living with them while in the program. A significant number of participants, 62.2%, reported having children living with them ( $n = 69$ ).

Although employment status is mostly referred to as a social factor, this variable is considered one of the characteristics observed in the nontraditional adult learner profile. From the population examined in this study, a significant number of subjects (84.7%) reported working while in the program ( $n = 94$ ). From those subjects who reported to be working while in the program, 34.2% ( $n = 38$ ) worked over 40 hours per week, as presented in Table 4.

Table 4

*How many hours per week did you work while attending the program?*

	Frequency	Percent
1 to 10	5	4.5
11 to 20	17	15.3
21 to 30	21	18.9
31 to 39	19	17.1
Over 40 hours	38	34.2
Didn't work while attending the program	11	9.9

*Note: N = 111*

Data regarding the participant's NCLEX-RN pass/fail outcome was examined using the demographic questionnaire. A total of 61.3% of the participants ( $n = 68$ ) reported having passed their NCLEX-RN. From the participants who reported they have passed their NCLEX-RN, 82.3% ( $n = 56$ ) passed on their first attempt; 11.7% ( $n = 8$ ) passed on their second attempt; 4.1% ( $n = 3$ ) passed on their third attempt; and 1.4% ( $n = 1$ ) passed on the fourth attempt or after.

## Responses to the Measurements

A researcher-developed questionnaire was used to collect information about participant demographics and self-reported socio-demographic profile as well as the participants' NCLEX-RN pass/fail outcomes. The Student's Perception Appraisal—Revised 2 (SPA-R-2) (Jeffreys, 2007) was utilized to collect information about social and psychological factors observed amongst the characteristic of nontraditional adult learners. Participants were asked to identify how restrictive or supportive variables from the social and psychological factors were after they graduated from the program and while preparing for NCLEX-RN. The responses obtained were scored based on a six-point Likert-type scale where 1 = *did not apply*, 2 = *severely restricted*, 3 = *moderately restricted*, 4 = *did not restrict or support*, 5 = *moderately supported*, and 6 = *greatly supported*. Table 5 depicts the variables examined on each questionnaire utilized to collect the data examined in this study.

Table 5

### *Classification of Variables per Demographic, Social, and Psychological Factors*

	Demographic Questionnaire	SPA-R-2 Tool (Jeffreys, 2007)	
	Demographic Factors	Social Factors	Psychological Factors
Variables	Age	Personal study skills	Faculty advisement and helpfulness
	Employment status	Financial status	Family emotional support
	Hours of employment	Class schedule	Family crisis
	Responsible for dependents other than spouse	Family financial support	Nursing student support services
	Previous educational background	Personal study hours	College tutoring services
	ESL	College library services	
		Nursing professional events	

NCLEX-RN pass/fail outcome	Employment responsibilities Family responsibilities Membership nursing club/organization Financial aid/ scholarship Childcare arrangement	College counseling services Encouragement by friends outside school Encouragement by friends within classes
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Table 6 (see Appendix I) displays the range values for standard deviation (*SD*) and mean (*M*) scores of the participants' responses to each of the items on the SPA-R-2 tool (Jeffreys, 2007).

### Reliability Testing

Internal consistency was examined by calculating Cronbach's alpha reliability coefficient for the SPA-R-2 tool. The assessment revealed a full-scale reliability coefficient alpha of .926 when reliability testing was assessed to all items in the tool prior to analyzing the data (see Table 7).

Table 7

#### *Overall SPA-R-2 Reliability Testing*

$\alpha$	N/Items	Cases
.926	27	111

This value indicates excellent reliability of the instrument. The testing was performed utilizing the reliability analysis feature in the SPSS Version 25 software. The results were better than found in Kimberlin and Winterstein (2008), where the SPA-R-2 was noted to have an internal alpha-coefficient of .89, indicating a more reliable result of

the constructs measured in the semester (Jeffreys, 2007). Table 8 (see Appendix I) provides further data results regarding each item-total reliability and alpha if the item were to be deleted; no item could be removed to increase reliability above the alpha coefficient found of .926.

### **Hypothesis Testing**

Because the readiness process for NCLEX-RN varies according to the student's ability to cope and manage the different factors surrounding his or her life, this dissertation study quantitatively examined which of these factors had a significant impact, positively or negatively, on NCLEX-RN performance. Therefore, for the purpose of this study, two research hypotheses were tested to examine any statistical significance with NCLEX-RN outcome.

#### **Research Hypothesis One**

Amongst nontraditional students who graduated from an ADN program, there will be no relationship between the factors observed in their characteristic profile and their NCLEX-RN pass/fail outcome. A Spearman rank-order correlation was performed to determine the relationships between the variables within the demographic, social, and psychological factors observed in the characteristic profile of the nontraditional adult learner graduated from an associate degree in nursing program. Significant correlations were identified if above the threshold defined by Pearson's critical correlation coefficient ( $p < 0.05$ ). Based on this rule, statistical significance was not observed when the demographic variables were examined for correlation effects with NCLEX-RN pass/fail

outcomes. However, no statistically significant correlation was observed amongst the demographic variables examined and NCLEX-RN outcomes as displayed in Table 9.

Table 9

*Spearman's rho Correlations Amongst Demographic Variables*

Measure	1	2	3	4	5
1. How old were you when you enrolled in the nursing program?	1.000				
2. What is your prior educational background?	.249**	1.000			
3. Is English your first language?	-.045	.309**	1.000		
4. Do you have children living with you?	-.238*	.022	.306**	1.000	
5. Were you working while in the program?	.079	-.034	-.033	-.125	1.000

*Note:* \*Correlation significant at the 0.05 level (2-tailed). \*\*Correlation significant at the 0.01 level (2-tailed).

Spearman rank-order correlation analysis for social factors and NCLEX-RN pass/fail outcome revealed a statistically significant correlation with some of the social variables examined. Statistically significant negative correlations was found in the variables study skills ( $r_s = .259$ ,  $p = .006$ ) and employment responsibilities ( $r_s = .231$ ,  $p = .015$ ) at the 0.05 level. The variables college library utilization ( $r_s = .315$ ,  $p = .001$ ), nursing professional events ( $r_s = .326$ ,  $p = .000$ ), and membership in club organizations ( $r_s = -.288$ ,  $p = .002$ ) were also observed to have a statistically significant correlation at the 0.01 level (see Table 10).

Table 10

*Hypothesis 1: Spearman's rho Correlation of Social Factors and NCLEX-RN Pass/Fail Outcome*

		Did you pass your NCLEX-RN
Personal Study Skills	Correlation Coefficient	.259*
	Sig. (2-tailed)	.006
College Library Services	Correlation Coefficient	.315**
	Sig. (2-tailed)	.001
Nursing Professional Events	Correlation Coefficient	.326**
	Sig. (2-tailed)	.000
Employment Responsibilities	Correlation Coefficient	.231*
	Sig. (2-tailed)	.015
Membership in Nursing Club or Organization	Correlation Coefficient	.288**
	Sig. (2-tailed)	.002
Academic Performance	Correlation Coefficient	.122
	Sig. (2-tailed)	.204
Family Responsibilities	Correlation Coefficient	.544
	Sig. (2-tailed)	.271
Financial Support	Correlation Coefficient	.068
	Sig. (2-tailed)	.477

*Note:* \*Correlation significant at the 0.05 level (2-tailed). \*\*Correlation significant at the 0.01 level (2-tailed).

\*N=111

However, the degree to which these variables are negatively correlated could vary because of the effects of external variables, causing a negative effect in these results (Laerd, 2015). In this study, when each independent variable from the social factor was examined against each other, it was observed that a positive strong correlation exists between each other.

The same occurrence is noted when the correlation analysis was performed between the psychological factors and NCLEX-RN pass/fail outcomes. A statistically

significant correlation was also observed amongst each of the psychological factor variables. However, the variable faculty advisement helpfulness shows a statistically significant negative correlation ( $r = -.188^*$ ,  $p = .049$ ) at the 0.05 level, with NCLEX-RN outcome (see Table 11).

Table 11

*Hypothesis 1: Spearman's rho Correlation of Psychological Factors and NCLEX-RN*

*Pass/Fail Outcome*

		Did you pass your NCLEX-RN
Faculty advisement and helpfulness	Correlation Coefficient	.188*
	Sig. (2-tailed)	.049
Faculty	Correlation Coefficient	.059
	Sig. (2-tailed)	.540
Encouragement by friend within class	Correlation Coefficient	.010
	Sig. (2-tailed)	.916

*Note:*\*.Correlation significant at the 0.05 level (2-tailed). \*.Correlation significant at the 0.01 level (2-tailed)

## Research Hypothesis Two

Amongst nontraditional students who graduated from an ADN program, the non-academic factors did not predict their NCLEX-RN performance. A simple linear regression model was applied to assess the linear relationship between the variables showed to have a statistically significant correlation with NCLEX-RN outcomes. The regression model determined if there was any statistically significant regression, variation, direction, and magnitude of any observed relationship, as well as predict the values of these variables on the likelihood that participants will pass or fail their NCLEX-

RN (Laerd, 2015). As established in chapter three, the criterion for statistical significance was that an  $\alpha$  value less than 0.05 would be considered statistically significant.

The linear regression model used to test personal study skills and employment responsibilities (see Table 12) yielded a moderate  $F(2,108) = 5.02, p = 0.022, R^2 = .085$ , accounting for 29% of the variation in the variables assessed with an adjusted 8.5%, indicating that there is a statistically significant effect to NCLEX-RN outcomes.

Table 12

*Model Summary: Personal Study Skills and Employment Responsibilities*

Model	R	R <sup>2</sup>	F Change	Sig. F change
1	.292 <sup>a</sup>	.085	5.022	.008 <sup>b</sup>

a. Predictors: (Constant), Employment Responsibilities, Personal Study Skills

b. Dependent variable: Did you pass your NCLEX-RN?

The simple regression model applied to test the assumptions for hypothesis number two also examined the relationship between the variables tested. As observed in Table 13, the independent variable employment responsibilities did contribute significantly to the model ( $t = -2.10, p = .037$ ). The results indicate that employment responsibilities in the nontraditional adult learner significantly predict NCLEX-RN outcomes.

Table 13

*Coefficients<sup>a</sup>: Personal Study Skills and Employment Responsibilities*

Model		T	Sig.
1	(Constant)	10.445	.000
	Personal Study Skills	1.882	.062
	Employment Responsibilities	2.11	.037

a. Dependent variable: Did you pass your NCLEX-RN?

Nursing professional events and membership in nursing club or organization were variables that were significant to the model (see Table 14),  $F(2,108) = 8.41, p = .000$ ,  $R^2 = .135$ , when examined. The model suggested that 36% of the variance amongst the variables examined can explain NCLEX-RN pass/fail outcomes.

Table 14

*Model Summary: Nursing Professional Events and Membership of Nursing Club or Organization*

Model	R	R <sup>2</sup>	F Change	Sig. F change
1	.367 <sup>a</sup>	.135	8.416	.000 <sup>b</sup>

a. Predictors: (Constant), Nursing professional events and membership of nursing club or organization

b. Dependent variable: Did you pass your NCLEX-RN?

When both variables were analyzed for any predictability effect, the regression model suggested a statistically significant effect of the nursing professional event over NCLEX-RN outcomes. Table 15 shows that the variable nursing professional events did contribute significantly to the model ( $t = -2.53, p = .013$ ), meaning that this variable can significantly predict NCLEX-RN outcomes.

Table 15

*Coefficients<sup>a</sup>: Nursing Professional Events and Membership of Nursing Club or*

*Organization*

Model		T	Sig.
1	(Constant)	17.410	.000
	Nursing professional events	2.539	.013
	Membership of nursing club or organization	1.85	.067

a. Dependent variable: Did you pass your NCLEX-RN?

Linear regression was also applied to analyze the variables faculty advisement and helpfulness and utilization of college library services as predictors to NCLEX-RN outcomes. The model (see Table 16) was shown to be statically significant,  $F(2,108) = 6.34$ ,  $p = .002$ ,  $R^2 = .089$ , and accounting for 32% of variance for the cases examined.

Table 16

*Model Summary: Faculty Advisement and Helpfulness and College Library Services*

Model	R	R <sup>2</sup>	F Change	Sig. F change
1	.324 <sup>a</sup>	.105	6.348	.002 <sup>b</sup>

a. Predictors: (Constant), Faculty advisement and helpfulness, and college library services

b. Dependent variable: Did you pass your NCLEX-RN?

In terms of individual relationship between the dependent variable and independent variables examined, Table 17 illustrates the variable college library services as a statistically significant contributor to the model ( $t = -3.04$ ,  $p = .003$ ). The results indicate that the utilization of college library services did pose a statistically significant effect in the student's NCLEX-RN outcomes.

Table 17

*Coefficients<sup>a</sup>: Faculty advisement and helpfulness, and college library services*

Model		T	Sig.
1	(Constant)	11.761	.000
	College library services	3.047	.003
	Faculty advisement and helpfulness	.562	.575

a. Dependent variable: Did you pass your NCLEX-RN?

## Chapter Summary

This research study quantitatively analyzed how the variables in the demographic, social, and psychological factors observed in the nontraditional adult learner are related or can predict NCLEX-RN performance. Two research instruments were utilized: a researcher-developed demographic questionnaire and the Student Perception Appraisal—Revised-2 (SPA-R-2) (Jeffreys, 2007). The instruments gathered the data from the demographic, social, and psychological factors in a sample of nontraditional adult learners graduated from an associate degree in nursing program. Spearman rank-order correlation analysis and a logistic regression model were used to explore any statistical significance between the variables examined. To test hypothesis one, significant correlations were identified if above the threshold defined by Pearson's critical correlation coefficient ( $p < 0.05$ ). From this, it was observed a statistically significant negative correlation between NCLEX-RN pass/fail outcomes with some variables examined under the social and psychological factors. Hypothesis number two was tested utilizing a linear regression model, which showed to be statistically significant the factors of employment responsibilities, nursing professional events, and college library services and that those factors contributed significantly to the model as predictor of NCLEX-RN pass/fail outcome. For the two hypothesis questions established for this study, the null hypothesis is rejected; thus, the alternate hypothesis is accepted.

## Chapter Five

### **Discussion**

As the increasingly diverse composition of students pursuing a professional nursing degree continues to be a significant trend in nursing academia, the demand for new nursing care professionals to meet the expectations of a more complex and diverse healthcare environment also continues. Associate degree nursing programs have become the most accessible programs to meet the strong demand for new nurses and are the preferred means, especially for nontraditional students, to obtain a nursing professional degree (Penprase, Harris, & Qu, 2013). The current average of first-time pass rates for takers of the NCLEX-RN from associate degree in nursing program graduates in the state of Florida is 71.45% (FBON, 2017). This represents a challenge for educators and administrators in their efforts to meet the different academic and professional demands, especially on nontraditional adult learners which can be greatly affected by non-academic factors embedded in their student characteristic profile. Therefore, to explore how these factors are related or to predict NCLEX-RN success can be of essential value for educators, scholars, and administrators. Hence, the purpose of this research study was to analyze how the non-academic factors, categorized as demographic, social, and psychological factors observed in the nontraditional adult learner characteristics profile, are related or can predict NCLEX-RN performance amongst graduates from associate degree in nursing programs in South Florida.

This study was built upon the theoretical strands of the andragogy theory (Knowles, 1980), which acknowledges four principles of the process of adult learning

embedded in all aspects of life: growth and development, biological, legal, and psychosocial aspects. Knowles's assumptions of adult learning were chosen for this study as the theoretical framework because the principles proposed in the theory are aligned with the adult learner characteristic profile. These principles are assumed to have an influence on the learning skills and coping abilities adopted by the individual to overcome challenges from their demographic, social, and psychological factors. The andragogy theory (Knowles, 1980) also addresses the assumptions of learning in adults according to the individuals' self-concept, experiences, readiness and orientation to learn, and their motivation (Merriam, Caffarella, & Baumgartner, 2007).

### **Summary of Findings**

The aim of this dissertation was to analyze how the demographic, social, and psychological factors observed in the characteristic profile of the nontraditional adult learner from an associate degree in nursing program are associated and can predict NCLEX-RN outcomes. The participants of this study were graduates from an associate degree program whose characteristic profile matches this study's operational definition of nontraditional adult learners. The data from the factors embedded in their characteristic profile were obtained from an online questionnaire about demographic information as well as how supportive and restrictive were the demographic, social, and psychological factors while preparing for the NCLEX-RN. Two research questions were developed to answer if there were any association between the variables of these factors as well as to examine any predictability effect with NCLEX-RN outcomes.

Research question one attempted to examine any association from the demographic, social, and psychological variables and NCLEX-RN outcomes. The results obtained from the correlation analysis demonstrated an association with some of the social and psychological variables with NCLEX-RN outcomes; however, a direct relationship between each of the variables examined was also observed. The social variables study skills, employment responsibilities, and memberships in club organization were found to have a negative correlation with NCLEX-RN pass/fail outcomes. This same outcome is observed when the variable faculty advisement helpfulness from the psychological factors was analyzed for correlation with NCLEX-RN pass/fail outcome. The analysis between the social factors and NCLEX-RN outcome seems to be associated, meaning that amongst the sample of non-traditional learners examined in this dissertation study, the greater the support perceived from the learner study skills, utilization of college library services, attending nursing professional events, the support perceived by employers to meet their employment responsibilities, and membership of a nursing club organization, the better the outcome on NCLEX-RN. However, the perception of study skills by a nontraditional adult learner may be subject to the individuals' previous educational experiences, especially if these experiences are related to the individual's academic history (Chen & Hossler, 2017). Situational barriers such as study hours, employment responsibilities, or family responsibilities are other variables which have a significant influence on the students' study skills, thus producing an impact on academic success (Rhijn et al., 2016). The same inference is applied if the student is an ESL student. The language proficiency may cause a significant effect on the student's ability

to successfully apply study skills because of the challenges in understanding the concepts being taught (Diaz, Cochran, & Karlin, 2016). Employment responsibilities suggests that the burden of their responsibilities at work poses an impact on the time the student has for studying. It is worth mentioning that this observation can be validated in this study when a significant number of participants responded that they worked over 40 hours per week while enrolled in the program. For the nontraditional adult learners examined in this study, this observation could explain the rationale of why students were not able to attend tutoring sessions or develop the appropriate study skills to be successful on the licensure exam. The vast majority of the nontraditional adult learners attended school part-time for numerous reasons directly related to the financial and/or family responsibilities, thus affecting the ability of the learner to allocate the appropriate time for study, attend tutoring or any other supportive activity, or become a member of a nursing club or organization (Rhijn et al., 2016). Therefore, it is most likely that nontraditional adult learners tend to focus on investing their time left for studying to enhance their learning experience on their own. However, because of their personal perception of learning, shaped by previous experiences, the approaches and skills utilized to enhance these experiences might not be suitable to meet their learning needs or help them to be successful in their courses.

Regarding the predictive effect amongst demographic, social, and psychological factors with NCLEX-RN outcomes, as supposed in research question two, it was observed that the variables employment responsibilities, nursing professional events, and utilization of college library services have a significant role in the model used to predict

NCLEX-RN outcomes. The variance in the observations made from the variables examined was meant to predict NCLEX-RN performance. When each of the variables assessed for statistical significance was measured, it is been observed that the level of implication was significant to determine a predictive effect. The data obtained from these variables provided substantial information to strengthen the current knowledge about the effect of these non-academic factors in the achievement of academic goals of a nontraditional adult learner. The assumptions made from the theoretical strands of the andragogy theory (Knowles, 1980) and the observations made in this study are congruent with the available literature as well as observed amongst the population examined in this study of nontraditional adult learners.

Nontraditional adult learners, as mature individuals, face more challenges and/or negative experiences which are reflected in their relationship with peers and faculty (Rhijn et al., 2016). In addition, the nontraditional adult learner's pressure to balance his or her responsibilities in life adds a great amount of emotional anxiety which can lead to a lack of motivation and willingness to utilize and take advantage of the support systems available (Chen & Hossler, 2017; Markle, 2015). The implication is that the advice or help received from the faculty members will be subjective to the student's coping mechanisms applied to overcome non-academic challenges, including the faculty perception of help, in which academic assistance can be interpreted as an obligation from the faculty or the school to provide what is necessary to pass the course. Internal motivation, as one of the key assumptions of the andragogy theory (Knowles, 1980), provides the rationale to understand how meaningful and influential these resources could

be to achieve academic success (Chen & Hossler, 2017). The extent to which the characteristics of nontraditional adult learners have an impact in their academic success can also explain the challenges of a student to juggle between school responsibilities with academic and social involvement and with their other responsibilities in life.

### **Integration of the Findings with Previous Literature**

Exploring factors leading to NCLEX-RN performance is becoming a more common practice amongst nursing programs because of the implications of their first-time pass/fail scores on the NCLEX-RN (Mathew & Aktan, 2018). The literature available regarding describing what could potentially affect NCLEX-RN outcomes provides valuable information about this concept; however, the examined sample of nursing students were from baccalaureate levels while still enrolled in the program. Understanding the relationship of a variety of factors with academic success and predicting NCLEX-RN success have been an upward trend amongst scholars and educators for over the past 30 years (Sears, Othman, & Mahoney, 2015). The results from this study were observed to have a similarity to those from other studies as evidenced from the review of the literature about NCLEX-RN factors for success, nontraditional students in nursing education, and certain characteristics that have been associated with these variables.

### **Factors Affecting First Time Passing on NCLEX-RN for Nontraditional Adult Learners.**

The understanding of the differences between academic factors and non-academic factors was strongly discussed for many years now; however, attention to its implication

in the accomplishment of academic goals was not evident until discussion about the increasing diversity in student population was observed nowadays. In 1990, Dell and Valine published an article identifying the need for further studies to understand and explain the rationale of why many students continue to fail their NCLEX-RN even though curricula have been studied for many years. In their excerpt, the authors highlight several research studies to evidence that non-academic factors were shown as weak predictors for NCLEX-RN success. Although the research study conducted by Dell and Valine (1990) demonstrated that the student's grade point average accounts for most of the variance in NCLEX-RN scores, the authors recognized that other non-academic factors, such as self-esteem, are also significant indicators for NCLEX-RN outcomes. In this dissertation study, the findings observed amongst the variables examined and NCLEX-RN outcomes are mostly congruent with the currently available literature.

**Demographic Factors.** Although the demographic factors observed in the nontraditional adult learner did not demonstrate a statistical significance correlation or predictability effect with NCLEX-RN pass/fail outcomes, it is important to highlight that these characteristics are linked with the social and psychological factors and can have a significant impact on the achievement of nontraditional adult learners' academic and professional goals. Furthermore, when these factors are examined individually, it is observed they produced a ripple effect in the social or psychological areas of academic experience because of the implications each of these variables have in the life of the individual. The roles of the nontraditional student learner in the community are mostly influenced by cultural backgrounds; the roles adopted by women in society are almost

congruent with those performed by males. For instance, balancing the aspects of work, childcare arrangements, housing and domestic responsibilities, especially for a female nontraditional adult learner, may have a significant impact on the ability to balance school responsibilities. In a study conducted by Nikstaitis, Park, and Mark (2018), the authors investigated the factors which have an influence on NCLEX-RN pass rates amongst a population of BSN students and found a different perspective of what is perceived in regards to the gender role in society when the statistical analysis revealed that female students were more than 2.5 times more likely to pass the NCLEX-RN than males. However, there are several debates about whether gender can be considered a significant indicator for NCLEX-RN success (Sears, Othman, & Mahoney, 2015). Special consideration must be taken in the generalization of the results because of confounding factors such as the sample size and characteristic of the sample been investigated.

***Previous Educational Background.*** Although the student's previous educational background or prior educational experience is congruent with the increase in the demographic composition of students in higher education, this variable was found to be not associated with the nontraditional adult learner's NCLEX-RN pass/fail outcome. However, this variable was observed to have a strong association with other variables within the demographic factor examined in this study. Interestingly, and as opposed to this dissertation study findings, in a study conducted by Nikstaitis et al. (2018), the analysis of the demographic variables revealed that students with a second bachelor's degree are 8.8 times more likely to be successful in their NCLEX-RN than those who

pursue a nursing degree as their first degree. Nontraditional adult learners tend to be more mature learners and consider their previous academic experiences in their process of achieving further academic goals. This assumption, discussed in the andragogy theory, must be considered when examining the collaborative efforts for recruiting and retaining students. A previous educational background amongst nontraditional adult learners can be an advantage in the student's characteristic profile because of a strong influence on the performance in the program. Such students' valuable experience in lectures, course work, assignments, and social and professional connections can increase their likelihood of success in their nursing licensure examination (Foley, 2016).

The literature also associated the nontraditional adult learner ethno-cultural background with the individual's previous educational experience (Garrido et al., 2016). Garrido et al. (2016) affirms that foreign-educated professionals are most likely to be individuals from diverse ethno-cultural backgrounds for whom English is not their first language. The statistical data observed in this study are congruent with Garrido's assumption, in which the learner's educational background is strongly associated with English as their second language.

***English as a Second Language.*** The findings in the literature regarding English as a second language provide strong evidence to determine that language is a factor that could have a significant effect on the student's NCLEX-RN performance. Although in this study no statistical significance between English as the first language and NCLEX-RN pass/fail outcomes was observed, this is an aspect to be taken into account when providing academic guidance or support since it poses a significant effect in other areas

of the student's academic journey. The evidence presented from previous scholarly works strongly highlights the importance of understanding the challenges faced by students whose primary language is not English, who are from diverse cultural and ethnical backgrounds, and who are pursuing a degree that requires proficiency in the English language (Denham et al., 2018; Foley, 2016). For instance, Bosh et al. (2012) explained that bilingual students are less likely to be successful in these programs if they do not have a strong base of courses in science and math. These are courses which require a higher level of analytical thinking by which the comprehension of terms is paramount to accomplish success. According to the studies found in the literature, language factors have other implications in the student's academic progress, which are also believed to have significant effects in college students such as attrition rates, especially for individuals who exhibit characteristics of nontraditional students (Agirdag & Vanlaar, 2018; Hodara, 2015; Rodriguez, Bohn, Hill, & Brooks, 2019). In this dissertation study, a statistically significant correlation was observed between demographic variables such as age enrolled in the program and children living with them, which can explain why these students might face numerous challenges to being successful in their NCLEX-RN.

**Social Factors.** The social factors that affect the academic performance of a nontraditional adult learner are also associated with the principles of the andragogy theory (Knowles, 1980). Consistently with the assumptions of maturation defined in the andragogy theory (Knowles, 1980), the social factors embedded in the nontraditional adult learner's profile contribute to the development of relationships with peers and

faculty members, which has an important effect in their academic success. As observed in the findings of this study, the social variables explored play an important role in the student's academic performance and thus their NCLEX-RN outcome. The association found amongst each of the social variables is significant to understand why after successfully completing their course work, these students are not successful on the NCLEX-RN. The performance of multiple roles, as described in the literature, poses a significant effect on the student's ability to meet school obligations and to balance these roles effectively (Rhijn et al., 2016). On the other hand, one of the principles discussed in the andragogy theory explains that the individual's previous experiences are the foundation for the development of new skills to promote academic success. The concept of resilience, defined as the ability of the individual to adapt or cope with a risk situation despite the challenges or circumstances (Garmezy & Masten, 1991), can also be related to NCLEX-RN success. Jackson (2018) explored the process of resilience for nursing students in graduate programs. The results from this study revealed that resilience was developed within this group of students through managing challenges faced during school, facilitated by the direct support received, and their sense of accomplishment for success.

***Employment Responsibilities.*** Financial difficulties and family responsibilities are factors which lead nontraditional students to work while they are pursuing a professional degree (Nuñez & Sansone, 2016). The consequences of trying to balance work with school and family responsibilities are well documented in the literature. In their study, Curl and Benner (2017) found that working may pose an important challenge

by constraining the available time for studying, completing, and maintaining a schedule that could help them become successful in the course. These challenges may be associated with other factors which are descriptors of the nontraditional learner profile and which may have an important effect on NCLEX-RN outcomes. In this study, the analysis for predictability effect between the demographic, social, and psychological factors and NCLEX-RN outcomes revealed that employment responsibilities did contribute significantly to predict NCLEX-RN outcomes. These findings support the current evidence in the literature regarding the negative effects of this variable with their academic progress and success (Pruett & Abshner, 2015; Triventi, 2014). This fact is also aligned with the possibility of the student to participate in nursing professional events, persistence to continue in the program, and delaying of degree completion (Darolia, 2014).

**Psychological Factors.** The psychological factors that affect the academic performance of a nontraditional adult learner are also strongly anchored with the principles of the andragogy theory (Knowles, 1980). The principles explain that adult learners make meaning of their own learning process leading to self-motivation, which is strictly linked to anxiety levels when challenges cannot be overcome. The experiences acquired by this group of learners in higher education are reflected in their ability to cope with the different responsibilities in life and to develop coping mechanisms to support their academic endeavors, thus making them mature individuals. Maturation plays an important role in the development of strategies or skills to cope with school requirements, thus developing resilience. Additionally, these principles are founded from the intrinsic

and extrinsic motivations of the learner, in which the concepts of socialization are discussed to have a significant impact on the student's academic success and, consequently, on NCLEX-RN outcome. In this dissertation study, the concept of socialization in academia was related to the interaction of the faculty members with students, which is also described as the most common form of socialization followed by college students because it allows learning through a continuous interaction between cognition, emotions, and support (Kim & Sax, 2014). The correlational analysis performed in this study revealed that faculty advisement and help, as a variable of the psychological factor in the nontraditional adult learner, is negatively correlated with NCLEX-RN. However, as explained by Chen and Lo (2015), this interaction can be affected by other factors and circumstances in the student's personal life, support systems, or other interpersonal interaction that can determine how supportive or restrictive faculty advisement and help is for the student. Other studies regarding the socialization concept in adult learners related this interaction to language communication experiences (Ciriza, Shappeck, & Arxer, 2016; Duff, 2019). In another study, Kim and Lundberg (2016), found that amongst a sample of over 5,000 students, the student-faculty interactions are related to classroom engagement which led to the development of cognitive skills, as well as the self of belonging because of faculty interaction and classroom engagement.

Nontraditional adult learners can be considered a minority group, in which their sense of belonging is paramount for their professional and personal development. Sense of belonging can be linked to the support from family and peers and was examined in this

study by how restrictive or supportive this aspect was for the learner while in the program. The variable faculty advisement helpfulness, from the psychological factors, was observed to have a statistically significant negative correlation with NLCEX-RN. Nonetheless, as described by Sedgwick et al. (2014), the student's perception of belonging is dependent on the outcomes of those experiences from the interactions with peers, friends, and faculty, which will determine how supportive or restrictive being part of an organization or nursing club and attending nursing professional events could be contributed to NCLEX-RN pass/fail outcomes. Garcia, Garza, and Yeaton-Hromada (2019) explored the sense of belonging of international students and found that the socio-academic interaction amongst faculty and peers in the classroom to be paramount for sense of belonging among a sample of international students. The authors concluded that faculty and staff interactions will be developed at a stronger level when it is related to international students. In this study, the variance for predictability effect represented by the variables faculty advisement, nursing professional events, and utilization of college library are predictive of NCLEX-RN outcomes. This observation affirms the current evidence available in the literature regarding the significant effect of these supportive variables on the student's learning process and thus on NCLEX-RN success.

### **Implications of the Findings**

First-time success on the National Council Licensure Examination for Registered Nurses (NCLEX-RN) is considered an important phenomenon in nursing education because of the implications for a program's performance as well as for being an indicator of program quality (Taylor, Loftin, & Reyes, 2014). The preparation of qualified nurses

to provide competent and safe care is a shared task which follows a hierarchy of events with its foundation in academia. Consistently, the implications of this occurrence pose challenges for the academic sector regarding the recruitment and retention of qualified students, which produce a ripple effect on the areas of nursing practice, research, and nursing policy. However, scholarly work geared to explore and explain the aspect embedded in these areas seems to be intertwined with providing a valuable contribution to the standards of the nursing profession. Although the results presented in this dissertation study cannot be generalized to the entire population of nontraditional learners, the implications these results can pose to the different areas of the nursing domain are valuable.

### **Implications for Nursing Education**

The increase of a more demographically diverse group of students along with the IOM recommendations for increasing the number of newly registered nurses allow for opportunities for educational programs to expand their academic support with special attention to the non-academic needs of the nontraditional learner which can allow for identifying learning gaps and promoting effective learning of critical concepts in the nursing curriculum (e.g., safety). The analysis of the results from this dissertation study provides important information for nursing programs concerning the effects of the different social and psychological variables observed in the nontraditional adult learner's profile. The information this study provides offers valuable insights to the current knowledge in nursing academia and helps to reinforce and reaffirm the need to develop innovative pedagogical approaches to meet the academic needs of a population of

students no longer traditional. Congruently, it provides a valuable reference to the nursing faculty and educational program to understand and develop supporting models that could assist and meet academic needs of the demographic trends observed in higher education, as well as to integrate best practices to ensure success not only in the programs but also on the NCLEX-RN. An example of these supportive models is the implementation of tutoring programs to assist in the improvement of academic performance. Guerra-Martin, Lima-Serrano, and Lima-Rodriguez (2017), evaluated the effectiveness of a tutoring model implemented to assist high-risk students enrolled in a nursing program. The results of this experimental study revealed that students who received tutoring assistance were found to have improved information about their courses, improvement in information comprehension, and positive progress in the strategies applied to improve academic performance. Tutoring and mentoring throughout the program and even before taking the NCLEX-RN can assist students with their study skills and provide support and helpfulness, as indicated by the participants in this study as a supportive factor for NCLEX-RN success.

Attrition rates are also part of the challenges foreseen with this shift in student's characteristic profile. Completion of a nursing program could represent a challenge for any student. However, for students whose English is not their first language, have family and financial obligations, and those who work a considerable number of hours while studying, the challenges could be more difficult to overcome than for those who are not. For instance, students with challenges such as limited time for studying due to family, employment, financial responsibilities, or language need are most likely to develop

anxiety and demotivation, which can lead to issues with progressing in the program, thus hindering the possibility to be successful in the NCLEX-RN. The results presented in this dissertation study can combine with the current evidence observed in the literature to promote strengthening the available resources to enhance student learning and thus persistence in the program. Nursing programs could benefit from this information by effectively leveraging the library resources available for their students.

The integration of an assessment and interventions program is an important implication for nursing education, one which could provide substantive data for nursing programs for identifying challenges amongst students with demographic, psychological, and social factors. The integration of a comprehensive plan within the nursing program may include the following:

1. Assessments to forecast and support student success, both during the program and during NCLEX-RN preparation, which can include the measurement of non-academic index from students' characteristic profile.
2. Identify areas of opportunities in regard to each student's characteristic profile, geared to meet the student's non-academic needs during and after the completion of the program.
3. Develop supportive resources and approaches to promote academic literacy amongst students with difficulty in following through with their academic responsibilities.
4. Develop or enhance faculty perceptions about ESL students regarding how the student's language proficiency level influences the student's communication,

comprehension, and behavioral response, which can also be associated as a predictor for academic success.

### **Implications for Nursing Practice**

As the demographics of the nontraditional adult learners entering nursing academia continue to increase and become more culturally and ethnically diverse, the community of demographically diverse clients seeking healthcare assistance increases as well. This occurrence continues to be an upward trend in the healthcare landscape as well as the need for more qualified, culturally, and ethnically competent healthcare professionals to meet the complex demands of a changing population. The outcomes observed in this study as well as those available in the literature provide valuable information for the development and enhancement of the strategies currently in place for the recruiting of newly graduated registered nurses who can be suitable for the demands of the healthcare industry. Although the discussion of the nursing shortage continues to be a primary concern amongst stakeholders in this area of practice, there are a vast number of opportunities available to expand the nursing workforce from a standpoint of cultural diversity, which at the same time provides opportunities to healthcare workers to expand their role in the nursing profession. It is important to highlight that as the needs of the community become more complex and diverse, the need for healthcare practitioners who can assist these individuals in meeting other important aspects of their care such as communication and cultural sensitivity increases. This will promote the transformation of a body of healthcare professionals with the competencies to meet the demands of a more complex and diverse community.

The global health workforce labor market predicts that for 2030, the healthcare landscape will suffer from a lack of skilled healthcare professionals to deliver these services to the community (Liu, Goryakin, Maeda, Bruckner, & Scheffler, 2017). The authors make an important remark in their excerpt by stating that the increasing demand for healthcare workers will be due to two important factors affecting the community within a consistently changing society: economic and population growth vs. aging. However, the authors highlight an important area of opportunity to meet the increasing demand of these workers. The nontraditional adult learners with a previous educational background who are now pursuing a professional career in nursing are significantly important to address sustainability issues of the nursing professional workforce. McCabe (2012) concurred with the predications of Liu et al. (2017) and adds an important fact to this observation by denoting that this increase is parallel with the increase of foreign-born healthcare workers observed between 2006 and 2010. In her publication, McCabe (2012) explains that the number of immigrants who work in the healthcare industry account for 16% of the total number of workers, of which a vast majority came to the United States with a previous educational background and are seeking new opportunities for their professional development. Consequently, the efforts implemented to promote the retention of these adult learners in their workplace must be on congruence with the efforts in place by educational programs, starting with the level of academic support to overcome academic challenges and offering alternative pathways for program completion such as residency programs available in the practice setting (Tower, Cooke, Watson, Buys, & Wilson, 2015).

Socialization is a construct highly discussed in the process of the transition into practice, which is also linked to the development of critical thinking skills for the professional clinical practice for those students who hold a previous academic background (Jefferies et al., 2017). De La Cruz, Farr, Klakovich, and Esslinger (2013) enhance this assumption by suggesting the facilitation of their transition to the nursing program by the incorporation of socialization skills into the knowledge of the profession and behaviors that strengthen nursing's goals and values.

As more nontraditional adult nursing students graduate and pass the NCLEX-RN, the diversity of the workforce will increase, thus collaborating to meet the needs of healthcare workers and ensuring that the community's needs are met. Administrators, nursing leaders, faculty, and all stakeholders who directly collaborate to ensure that community healthcare needs are met should consider the integration of nontraditional approaches to ensure newly licensed nurses remain in practice and those foreign-born healthcare workers enhance their professional practice by pursuing a role in the nursing profession. As observed in the results from this dissertation study, the support provided by employers to meet the individual's responsibilities plays a significant role in the NCLEX-RN outcomes. The implications of the results observed in this study for nursing practice are that stakeholders involved in this arena will have an understanding of how these non-academic factors pose a significant effect, with the goal of developing strategic approaches to support and promote successful completion of the program and of the NCLEX-RN.

## **Implications for Nursing Research**

As the increase of nontraditional students continues to be a significant trend amongst this group of learners in nursing academia, educators, scholars, practitioners, and policymakers will benefit from the emerging knowledge from current and future research like the one observed from the results of this study. Congruently, these results will explain, describe, and affirm the current observations, which are founded in the epistemological and ontological strands of the nursing paradigms. More specifically, the results observed from this dissertation study provide important implications for understanding the extent to which the non-academic variables examined have significance in regard to NCLEX-RN outcomes. For instance, explore the frequency of the utilization of the college library resources or if holding a leadership position in a nursing club or organization can contribute significantly to these outcomes. The results obtained from further research studies will contribute to the development of innovating nontraditional educational strategies, strengthening of student support systems which promote high-quality education, and motivating students to sustain their commitment to success and lifelong learning.

Nontraditional students are characterized as being self-directed with extensive experience in life which contributes to the development of self-identity (Kenner & Weinerman, 2011). However, their multiple roles in life have a significant impact on the allocation of time for their academic responsibilities and balance with their personal responsibilities, thus hindering the completion of their academic and professional goals (Ross-Gordon, 2011). The purpose of knowing how nontraditional students think, feel,

and act in a learning milieu may provide opportunities for the development of innovative ways for facilitating learning in an environment which is no longer traditional (Rayner, 2015). Therefore, the implications of this research work in nursing research is to gain a comprehensive understanding of the aspects embedded in the nontraditional adult learner characteristic profile to support their progress after graduation and to explore more in depth the extent of their effect on the nontraditional graduate's NCLEX-RN outcomes. To this end, it is necessary to empirically correlate the factors identified to be present during the program and that have a significant impact on the students' characteristics and aptitudes which define progress throughout their educational journey and performance.

### **Implication for Public Policy**

Performance on the NCLEX-RN, as a paramount paradigm in nursing academia, continues to be the principal discussion in the development of innovative strategies and the enhancement of current approaches undertaken to improve the preparation of qualified nurses to perform safely and effectively. The changes in the composition of students entering nursing programs, along with the increase in more nursing academic programs, have led to important challenges involving the academic, professional practice, and public policy sectors. These are important factors which require an extensive evaluation of the current policies to maintain stability and fairness in the processes of recruiting new nursing students, delivering a student-centered nursing curriculum, providing support for NCLEX-RN success, and recruiting new nurses to meet healthcare demands. The implications for nursing public policy are entrenched in a hierarchy of events, intertwined amongst all areas of the nursing practice. The proposals made to re-

evaluate the current policies and curricular activities to improve the academic practice require empirical and substantial evidence in regard to the current academic trends and student needs. Accredited and approved nursing programs play an important role in the pursuit of quality in nursing education by ensuring that programs examine and enhance on a regular basis their current criteria for operation and evaluation of their nursing curriculum. Although no research studies are available to describe or explore students' NCLEX-RN outcomes between these two types of programs, it is imperative that all nursing programs utilize the evidence-based information to periodically enhance their standard criteria of the program to develop best practices that could ensure quality and NCLEX-RN success amongst their students. The results observed from this study can combine with the evidence needed to support these proposals by affirming that the current nursing curriculum is in need of more effective strategies to support nontraditional students as well as flexibility in opportunities for program completion to those students who must work while in the program.

The shift in the demographic composition of students brings also a shift in the student's personal responsibilities, which are considered a vital part of their characteristics profile. Nontraditional adult learners are more likely to suffer from financial pressure because of family responsibilities and roles in the society (Chen & Hossler, 2017), and this pressure makes them work a great number of hours to meet their financial burdens. As observed in the literature as well as in the results of this study, these factors pose a significant effect on the student's ability to complete an academic degree or be successful on the NCLEX-RN. The literature describes many approaches to

assisting students in making the right decision for re-entering school to pursue academic goals. Nurse educators, administrators, and policy makers must be well informed of the implications this can cause and are highly encouraged to become knowledgeable about what factors lead to motivate the students, the complexity of their academic needs, how their educational background can help during this process, and the financial implications.

Along with the characteristics previously described, the augment of students entering nursing programs with a former educational background is also a matter for discussion when policies regarding admission criteria into academia and practice expectations are revised. The development of seamless pathways for students who have previous educational experience provides opportunities to meet the needs of the workforce. Accrediting bodies play an important role in the revision of these current policies, thus expanding the academic opportunities for students who are different from the norm yet pose important qualities to succeed in an academic program and on the NCLEX-RN.

### **Limitations**

Internal and external threats were identified as possible limitations of the study. However, despite the efforts and measures taken to conduct a meaningful and rigorous process, these threats will always be present. The internal and external threats were examined during the processes of data collection as well as during the analysis of results performed in this study.

### **Threats to Internal Validity**

The threats to the internal validity identified in the methodology design were related to the extent to which the variables that describe the characteristics of nontraditional adult graduates as well as the social and psychological factors explored can cause an effect on their NCLEX-RN performance. The interpretation and generalization of the graduate's experience on the NCLEX-RN can pose a threat to the internal validity of the data collection process by shifting the subject's own experience to the experience of a former classmate. The process of maturation was also observed to have a significant effect on the responses collected, and this can be related to a manifestation of a halo effect caused by the individual's perceptions of his or her own learning experiences. For instance, graduates who have been successful on the NCLEX-RN after several attempts may demonstrate a different reaction over the questions about factors that could hinder or promote successful performance on state board examinations. It is important to highlight that the graduates who participated in this study are from nursing programs in the South Florida region, located in areas which are predominantly from different ethical and cultural backgrounds and for which English not their first language. The concentration of a multi-cultural population of this geographical zone is increasing at a fast pace, and this is observed in the number of responses obtained regarding English as a first language. In addition, the cultural influences may also have an important significance in the social factors that define the population of the study. Therefore, the concept of *familismo* plays an important role in the decision-making process of the individual, mostly Hispanic, as

well as in their relationship with family and friends, so that the interpretation of the questions presented, and the responses may have been biased.

The sample size and the design of the demographic questionnaire might pose a threat to the internal validity of the results. After the data cleaning of the responses gathered from the survey link sent to potential participants, there were a low number of responses to be analyzed. The design of this questionnaire should have been more aligned with the conditions or assumptions required for the statistical test chosen to be performed. This also could provide the subject a clearer understanding of the question, thus obtaining a greater number of responses.

### **Threats to External Validity**

The environmental conditions in which the study was conducted was at real-life (natural) setting to allow the participant with a non-threatening environment to collect non-biased responses as much as possible. However, although the design of this study was conducive to an observational approach, the collection of data was not performed in a controlled environment. This observation poses a threat to the external validity of the responses collected in the study. A controlled environment allows the researcher with the opportunity to minimize, as much as possible, the emergence of confounding interpretation of the questions by the participant, which can lead to erroneous interpretations of the questions presented in the survey (Leedy & Ormond, 2013). This observation can also explain why some participants who answer “yes” to the informed consent did not move forward with the questionnaire, but instead skipped the questions and did not complete the survey.

### **Recommendations for Future Research**

Several recommendations are proposed as a result of this study. First, replication of this study following a different statistical approach is recommended to obtain more specific information regarding how the demographic, social, and psychological factors have an impact on the nontraditional adult learner's preparation for NCLEX-RN. It is important to highlight that once the student has finished the program and graduated, the probability of continuing to remain in contact with faculty is minimal. As experienced in this study, to get in contact with a determined number of students who already graduated turned out to be a challenging process. This led to a significant challenge in the accomplishment of statistically significant results, thus the generalization of findings. Therefore, it is recommended to utilize a phenomenological approach, which can explore the lived experiences of this population to understand their perception about the factors that support or hinder them during their NCLEX-RN readiness process. The method applied in this type of study may require a limited number of participants to avoid saturation of the data. The themes and observations gathered from this study could provide important information to support findings from a quantitative research study.

Second, it is highly recommended to replicate this study outside the geographical area in which this study was conducted. The increase of nontraditional students in the country is not limited to the South Florida region, and it would be thought-provoking to examine if the variables identified in this study are congruent with those observed with nontraditional students from a different geographical area in the country.

Third, because this work has been completed at an associate degree level, it would be interesting to extend this analysis into a bachelor's level (BSN). As the number of registered nurses with a bachelor's degree is required for the practice, the results would be of great benefit for nursing stakeholders to better understand the relationship between the demographic, social, and psychological factors in the student's preparation for NCLEX-RN after graduation. Fourth, additional research is needed to examine the student's progress throughout the program and after graduation. It would be interesting to collect these data through the application of a longitudinal approach to compare the presence of these factors throughout the curriculum and after graduation, specifically while they are preparing for the licensure exam. The data would be of great interest to examine, whether the presence of these factors is effectively overcome because of support received throughout the program or not. These results may complement the development of comprehensive strategies which can support the students to cope with challenges from these factors throughout the program as well as to reinforce study skills or strategies which can be also used for NCLEX-RN readiness.

Finally, as the number of students entering nursing academia continues to expand to a more diverse composition, research is significant to explore the climate in which nursing education is evolving. The research studies geared to explore how the demographic, social, and psychological factors are related to the student's academic and professional success may help faculty, administrators, leaders, and policymakers as they continue to define and expand the role of the professional nurse within a more complex and diverse community of clients seeking healthcare services. The highly anticipated

nursing shortage is an important matter for all stakeholders responsible for preparing and hiring qualified nurses to meet the demands of a highly changing society. It is paramount for these stakeholders to be acquainted with these trends in the preparation and hiring of new nurses in order to apply best practices that align with the healthcare demands of a more complex community.

### **Summary**

In this study, the non-academic factors observed in the characteristic profile of nontraditional adult learners graduated from an ADN program were examined to assess association between their demographic, social, and psychological factors with their NCLEX-RN performance. The outcomes of this research work support the current knowledge about this occurrence in nursing academia as well as contribute with empirical information to develop innovative approaches that could aid faculty and academic institutions to improve first-time NCLEX-RN pass/fail outcomes. The final findings from this study demonstrated a statistical significance amongst some of the variables observed in the nontraditional adult learner characteristic profile that could support the relationship of these theoretical principles with the NCLEX-RN performance. Implications from the results obtained in this study were discussed regarding the benefit for the attainment of individual and programmatic goals. Threats to internal validity may be associated with the cultural aspects, which have a significant influence in their interpretation of the questions as well as in the process of maturity, as stated in the andragogy theory (Knowles, 1980). Threats for external validity were identified to be related with the uncontrolled environment available for the participant, which can lead to

erroneous interpretation of the question. Recommendations for future research regarding the concept of nontraditional learners and the factors associated with their NCLEX-RN performance were discussed.

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## Appendix A

### Student Perception Appraisal-Revised-2 (SPA-R-2)

**Instructions:** Going to school is one part of your life. Certain factors may have restricted or supported YOUR successful achievement of your goal. Evaluate each item in terms of how it affected YOUR ability to be successful in your NCLEX-RN. Using the scale below, choose a number from (1) to (6) and mark your response accordingly.

1 = Did Not Apply  
2 = Severely Restricted  
3 = Moderately Restricted  
4 = Did Not Restrict or Support  
5 = Moderately Supported  
6 = Greatly Supported

1) Personal study skills	①	②	③	④	⑤	⑥
2) Faculty advisement and helpfulness	①	②	③	④	⑤	⑥
3) Transportation arrangements	①	②	③	④	⑤	⑥
4) Financial status	①	②	③	④	⑤	⑥
5) Class schedule	①	②	③	④	⑤	⑥
6) Family financial support for school	①	②	③	④	⑤	⑥
7) Nursing student peer mentoring and tutoring	①	②	③	④	⑤	⑥
8) Hours of employment	①	②	③	④	⑤	⑥
9) Personal study hours	①	②	③	④	⑤	⑥
10) College library services	①	②	③	④	⑤	⑥
11) Nursing skills laboratory	①	②	③	④	⑤	⑥
12) Family emotional support	①	②	③	④	⑤	⑥
13) Family crisis	①	②	③	④	⑤	⑥
14) Nursing professional events	①	②	③	④	⑤	⑥
15) Employment responsibilities	①	②	③	④	⑤	⑥
16) Nursing student support services	①	②	③	④	⑤	⑥
17) College tutoring services	①	②	③	④	⑤	⑥
18) College counseling services	①	②	③	④	⑤	⑥
19) Living arrangements	①	②	③	④	⑤	⑥
20) Family responsibilities	①	②	③	④	⑤	⑥
21) Membership in nursing club or organization	①	②	③	④	⑤	⑥
22) Financial aid and/or scholarship	①	②	③	④	⑤	⑥
23) Academic performance	①	②	③	④	⑤	⑥
24) Encouragement by friends outside of school	①	②	③	④	⑤	⑥
25) Encouragement by friends within classes	①	②	③	④	⑤	⑥
26) College computer laboratory service	①	②	③	④	⑤	⑥
27) Child-care arrangements	①	②	③	④	⑤	⑥

Jeffreys, M. R. (2007). Nontraditional students' perceptions of variables influencing retention: A multisite study. *Nurse Educator*, 32(4), 161-167.

## Appendix B

### Nontraditional Adult Learner Demographic Questionnaire

**Instructions:** Please answer the following questions regarding your demographic information and profile. Your feedback is important to gain more knowledge in regards to nursing education. Thank you for taking the time to participate in this survey.

1. How old were you when you enrolled in the nursing program?
  - a. 18-24 years old
  - b. 25-29 years old
  - c. 30-34 years old
  - d. 35-39 years old
  - e. 40-44 years old
  - f. 45-49 years old
  - g. 50-54 years old
  - h. 55-59 years old
  - i. 60 years old and over
2. What is your gender?
  - a. Female
  - b. Male
3. What is your prior educational background?
  - a. General Education Diploma (GED)
  - b. U.S. high school
  - c. Foreign high school diploma
  - d. Foreign college degree
4. Is English your first language?
  - a. Yes
  - b. No
5. What is your marital status?
  - a. Single living alone
  - b. Married
  - c. Single living with parents
  - d. Divorced
  - e. Widowed
6. Do you have children living with you?
  - a. Yes
  - b. No
7. Which support method helped to take care of your children while you were in school?
  - a. Private child-care
  - b. Family members provide childcare
  - c. I didn't need childcare services
  - d. Didn't had any support
  - e. Didn't had children living with me
8. Were you working while in the program?
  - a. Yes
  - b. No
9. How many hours per week did you work while attending the program?
  - a. 1 to 10 hours
  - b. 11 to 20 hours
  - c. 21 to 30 hours
  - d. 31 to 39 hours
  - e. Over 40 hours
  - f. Didn't work while attending the program
10. In which extracurricular activities did you participate during nursing school? *Select all that apply:*
  - a. Student organization
  - b. Tutoring with faculty
  - c. Study groups with other peers
  - d. I did not participate in any school related activities
11. How long after graduation was it when you took the NCLEX?
  - a. One month after graduation
  - b. Two months after graduation
  - c. Three months after graduation
  - d. Between four and six months after graduation
  - e. More than six months after graduation
12. Did you pass your NCLEX-RN?
  - a. Yes
  - b. No
13. On which attempt did you pass the NCLEX-RN? Please include all attempts including those in the State of Florida as well as in another state.
  - a. First
  - b. Second
  - c. Third
  - d. After my fourth attempt
  - e. Didn't pass my boards yet

## Appendix C

### Acknowledgment for Information Release

**Title of the study: FACTORS AFFECTING THE OUTCOME OF THE NATIONAL COUNCIL LICENSURE EXAMINATION FOR REGISTERED NURSES AMONG NONTRADITIONAL LEARNERS FROM ASSOCIATE DEGREE PROGRAMS.**

Principal Investigator: Angela C. Gaud, MSN, RN

Faculty Advisor/Dissertation Chair: Luvencia Connor, Ed.D., MSN, RN

This document serves to acknowledge, that *[name of the institution]* follows a confidentiality policy regarding the release of student's personal information. This policy establishes that personal information, such as name, phone number, address, social security and/ or any personal and/or financial information, that could potentially affect the wellbeing of the students, will not be released unless otherwise the student consent. However, student's email addresses are not considered of potential harm for the student and are not included in the list of personal information. The school has the right to release the student's email information as long as the intentions of the individual/entity receiving such information do not cause any harm to the student wellbeing. *[Name of the institution]*, has discussed with the Principal Investigator the purpose of the proposed research work, thus, will collaborate with the recruitment of participants as follow: *(Please, check one)*:

( ) Graduate's email address will be released to the Principal Investigator, *Angela Gaud*, for the purposes of her research work. The school will provide a list of email addressed from students who graduated from the nursing program between January 2016 and August 2018.

( ) The school will obtain the information (inform consent, and questionnaire link) from the Principal Investigator and will send this information to all their graduates between January 2016 and August 2018.

\_\_\_\_\_  
[School representative]  
[Name of the Institution]

\_\_\_\_\_  
Date

\_\_\_\_\_  
Angela C. Gaud, RN MSN  
Principal Investigator

\_\_\_\_\_  
Date

## Appendix D

### Informed Consent Form



#### General Consent Form

***Title of the study:* FACTORS AFFECTING THE OUTCOME OF THE NATIONAL COUNCIL LICENSURE EXAMINATION FOR REGISTERED NURSES AMONG NONTRADITIONAL LEARNERS FROM ASSOCIATE DEGREE PROGRAMS**

**Who is doing this research study?**

College: Nova Southeastern University, Ron and Kathy Assaf College of Nursing

Principal Investigator: Angela C. Gaud, MSN, RN

Faculty Advisor/Dissertation Chair: Luvencia Connor, Ed.D., MSN, RN

Co-Investigator(s): N/A

Site Information: N/A

Funding: This study is unfunded.

**What is this study about?** This is a research study designed to test and create new ideas that other people can use. The purpose of this study is to quantitatively describe how the personal, social, and psychological characteristics of the nontraditional graduated from an Associate Degree in Nursing program predict NCLEX-RN performance.

Nontraditional adult learners can make a valuable contribution to nursing academia and nursing practice due to their practical skills, motivation, and other personal characteristics that, when combined, could help to improve outcomes in the nursing profession. Nonetheless, understanding the extent to which their characteristics may hinder their attainment of academic and professional goals is important for scholars as well as for administrators and policy makers for several reasons: to understand the root of the cause for not meeting the proposed outcomes and to developing interventions that could assist nontraditional students/graduates to achieve their professional goals.

Research organizes the variables describing a nontraditional group of adult students into three categories: (a) demographic, (b) social, and (c) psychological, which are believed to have a positive or negative effect on an individual's chance of passing the NCLEX-RN. The literature describes demographic factors as age, gender, language proficiency, level of education, time since last attendance at school, and prior educational experience (high school or other educational degree at the associate degree level or higher). Social factors are described by the individual's family obligations (head of household or single parent), employment

responsibilities, and financial situation. Psychological factors include dispositional motivation, attitude to the educational process, self-directedness, and goals in life.

**Why are you asking me to be in this research study?** You are being asked to be in this research study because as a past graduate from a nursing educational program, you are an ideal candidate to provide valuable first-hand information that can capture your experience and perspectives on being one who took the NCLEX-RN examination.

This study will include about 159 people.

**What will I be doing if I agree to be in this research study?** While you are taking part in this research study, you will be asked to complete an online questionnaire divided into two consecutive sessions. The first is a 13-item questionnaire to gather demographic information from participants who graduated from a nursing program, which is expected to be completed in 10 minutes or less. The second session consists of a 27-item questionnaire to measure and evaluate how restrictive or supportive the academic, social, and psychological variables influenced your performance on the NCLEX-RN. This session is expected to be completed in approximately 10 minutes or less.

**Research Study Procedures.** As a participant, this is what you will be doing:

As a graduate of a nursing educational program, an invitation to participate in the study will be sent to the email address obtained from the school that you graduated from. The letter of invitation will contain the information about the purpose of the study, as well as the instructions to follow if you agree to participate. A consent form will provide information about the study, such as the setting in which this study will be conducted, eligibility criteria, risks and benefits of participating in this study, your rights as a participant in the study, management and protection of the information provided in the questionnaires, and contact information of the private investigator in case you have any questions. An electronic signature will be obtained as proof of acceptance to participate in the study. After that, you will be directed to the study's questionnaires via a secure link supported by Survey Monkey®, which will record all your answers. The principal investigator, Angela Gaud, will have exclusive access to this information for analysis purposes.

The eligibility criteria for the study are nursing graduates whose characteristics profiles fit the definition of nontraditional students. The participant is expected to meet at least one of the following characteristics: age 25 years or older, financially independent, employed full-time or part-time, responsible for dependents other than a spouse, previous educational experience, and/or non-English speakers or ESL. The inclusion criteria for participants who voluntarily agree to participate in the study is that they must have graduated from an approved undergraduate Associate Degree in Nursing program between of 2016 and 2018 and have taken their NCLEX-RN, regardless their outcomes. Graduates from an advanced placement program (LPN to RN) will not be included in the sample of participants to be examined.

Participants do not need to be physically present at any site to complete the questionnaires provided. The total expected time for completion of these questionnaires is 20 minutes or less.

**Are there possible risks and discomforts to me?** This research study involves minimal risk to you. To the best of our knowledge, the things you will be doing have no more risk of harm than you would have in everyday life.

Below is a list of possible risks associated with the process of data management and collection and the level of impact to the participant's well-being. These risks are categorized into minimal, moderate, and severe based on the procedure to be applied throughout the study to minimize or avoid such risk.

Type of risk	Associated to:	Level of impact based on the study protocol
Physical risks	Disclosure of information	Minimal
Psychological risks	Content of questions presented	Minimal
Privacy risks	Disclosure of information	Minimal
Legal risks	Disclosure of information	Minimal
Social risks	Content of questions presented	Minimal
Economic risks	N/A	None
Group or community risks	N/A	None

**What happens if I do not wish to participate in this research study?** You have the right to leave this research study at any time or refuse to be in it. If you decide to leave or you do not want to be in the study anymore, you will not be penalized or lose any services you have a right to get. If you choose to stop being in the study before it is over, any information about you that was collected **before** the date you leave the study will be kept in the research records for 36 months from the end of the study and may be used as a part of the research.

**What if there is new information learned during the study that may affect my decision to remain in the study?** If significant new information relating to the study becomes available that may relate to whether you want to remain in this study, this information will be given to you by the principal investigator, Angela Gaud. You may be asked to sign a new Informed Consent Form, if the information is given to you after you have joined the study.

**Are there any benefits for taking part in this research study?** There are no direct benefits from being in this research study. However, we hope the information learned from this study will provide valuable and important information about your lifelong learning process in the nursing profession, as well as for educators and administrators to enhance current approaches utilized to assist and support nontraditional students in nursing education.

**Will I be paid or given compensation for being in the study?** You will not be given any payments or compensation for being in this research study.

**Will it cost me anything?** There are no costs to you for being in this research study.

**How will you keep my information private?** Information we learn about you in this research study will be handled in a confidential manner, within the limits of the law, and will be limited to people who have a need to review this information. Protection of participant privacy will be ensured by following a strict protocol that only allows access to any information regarding the identity of the participant to the principal investigator, Angela Gaud. This study does not require that students be currently active in the program, but that they have graduated and taken the NCLEX between January 2016 and August 2018. Therefore, for the purposes of this study, the researcher will only need the email of students who have graduated from the nursing program within this time period. Confidentiality of the information collected and analyzed will be assured through the use of password-protected documents related to this study, which will be saved in the personal computer used by the principal investigator and stored in a locked filing cabinet at the researcher's home office. In addition, the anonymous responses feature from the survey will be activated, thus avoiding the inclusion of any personal identifiers (name, email address and/or IP address). Therefore, data will be confidential and anonymous. These data will be available to the researcher, the Institutional Review Board and other representatives of this institution, and any regulatory and granting agencies (if applicable). If we publish the results of the study in a scientific journal or book, we will not identify you or the educational institutions the sample of participants graduated from. All confidential data will be kept securely saved in

the principal investigator's personal computer and stored at her home office, in a locked file cabinet. All data will be kept for 36 months, destroyed (shredded) and permanently erased from any electronic device or file used to store the information after that time by the principal investigator.

**Whom can I contact if I have questions, concerns, comments, or complaints?** If you have questions now, feel free to ask us. If you have more questions about the research, your research rights, or have a research-related injury, please contact:

Primary contact:

Angela C. Gaud, RN MSN

### **Research Participants Rights**

For questions/concerns regarding your research rights, please contact:

### **Institutional Review Board**

Nova Southeastern University

Visit the NSU IRB website at [www.nova.edu/irb/information-for-research-participants](http://www.nova.edu/irb/information-for-research-participants) for further information regarding your rights as a research participant.

## **Research Consent & Authorization Signature Section**

**Voluntary Participation** — You are not required to participate in this study. In the event you do participate, you may leave this research study at any time. If you leave this research study before it is completed, there will be no penalty to you, and you will not lose any benefits to which you are entitled.

If you agree to participate in this research study, click YES to the question below. You may request a signed copy of this form to keep for your records. You do not waive any of your legal rights by signing this form.

**CLICK YES OR NO TO THE FOLLOWING QUESTIONS IF THE STATEMENTS LISTED BELOW ARE TRUE:**

- You have read the above information.
- Your questions have been answered to your satisfaction about the research.

**Do you agree to the above terms? By clicking YES from the options below, you consent that you are willing to answer the questions in this survey.**

# Appendix E

## Acknowledgment for Information Release

### Forms Completed from Educational Program Representatives

1

ACKNOWLEDGEMENT FOR INFORMATION RELEASE

*Title of the study: THE NON-TRADITIONAL ADULT LEARNER: ANALYSIS OF THE NON-ACADEMIC FACTORS IDENTIFIED IN THE CHARACTERISTICS OF THEIR STUDENT PROFILE, AND NCLEX-RN PERFORMANCE.*

College: [REDACTED] Nursing Program

Principal Investigator: Angela C. Gaud, RN MSN

Faculty Advisor/Dissertation Chair: Dr. Luvencia Connor, RN, MSN, Ed.

This document serves to acknowledge, that [REDACTED] follows a confidentiality policy regarding the release of student's personal information. This policy establishes that personal information, such as name, phone number, address, social security and/ or any personal and/or financial information, that could potentially affect the wellbeing of the students, will not be released unless otherwise the student consent. However, student's email addresses are not considered of potential harm for the student and are not included in the list of personal information. The school has the right to release the student's email information as long as the intentions of the individual/entity receiving such information do not cause any harm to the student wellbeing. [REDACTED] has discussed with the Principal Investigator the purpose of the proposed research work, thus, will collaborate with the recruitment of participants as follow.

*(Please, check one):*

Graduate's email address will be released to the Principal Investigator, *Angela Gaud*, for the purposes of her research work. The school will provide a list of email addressed from students who graduated from the nursing program between January 2016 and August 2018.

The school will obtain the information (inform consent, and questionnaire link) from the Principal Investigator and will send this information to all their graduates between January 2016 and August 2018.

[REDACTED] \_\_\_\_\_  
 [REDACTED] Dean of Academic Affairs

6/19/18  
 \_\_\_\_\_  
 Date

Angela C. Gaud  
 Angela C. Gaud, RN MSN  
 Principal Investigator

6/19/2018  
 \_\_\_\_\_  
 Date

ACKNOWLEDGEMENT FOR INFORMATION RELEASE

Title of the study: THE NON-TRADITIONAL ADULT LEARNER: ANALYSIS OF THE NON-ACADEMIC FACTORS IDENTIFIED IN THE CHARACTERISTICS OF THEIR STUDENT PROFILE, AND NCLEX-RN PERFORMANCE.

College: [redacted] Nursing Program

Principal Investigator: Angela C. Gaud, RN MSN

Faculty Advisor/Dissertation Chair: Dr. Luvencia Connor, RN, MSN, Ed.

This document serves to acknowledge, that [redacted] follows a confidentiality policy regarding the release of student's personal information. This policy establishes that personal information, such as name, phone number, address, social security and/ or any personal and/or financial information, that could potentially affect the wellbeing of the students, will not be released unless otherwise the student consent. However, student's email addresses are not considered of potential harm for the student and are not included in the list of personal information. The school has the right to release the student's email information as long as the intentions of the individual/entity receiving such information do not cause any harm to the student wellbeing. [redacted] has discussed with the Principal Investigator the purpose of the proposed research work, thus, will collaborate with the recruitment of participants as follow:

(Please, check one):

( X ) Graduate's email address will be released to the Principal Investigator, Angela Gaud, for the purposes of her research work. The school will provide a list of email addressed from students who graduated from the nursing program between January 2016 and August 2018.

( ) The school will obtain the information (inform consent, and questionnaire link) from the Principal Investigator and will send this information to all their graduates between January 2016 and August 2018.

[redacted] Dean  
[redacted] School of Nursing

[Signature]

Angela C. Gaud, RN MSN  
Principal Investigator

[Signature] 4/17/2018  
Date

[Signature] 4/17/2018  
Date

## Appendix F

### Student invitation letter to participate in research project

**Name of the study: Nontraditional Adult Learners: Non-Academic Factors, and Pass/Fail Outcomes in the National Council Licensure Examination for Registered Nurses amongst Graduates from an Associate Degree Nursing Program**

**Dear Graduate:**

My Name is Angela C. Gaud, MSN, RN, and I am conducting a research study to explore the relationship between non-academic factors and pass/fail outcomes in the National Council Licensure Examination for Registered Nurses (NCLEX-RN) amongst nontraditional adult learners. “Nontraditional adult learners” are individuals who are pursuing an academic degree in higher education who are over 25 years old, who have a previous educational background, have family responsibilities, and/or work either full or part time.

This study does not require that students be active in the program, but that they have graduated and taken the NCLEX between 2016 and 2018. As a former student from a nursing educational program, you are an ideal candidate to provide valuable first-hand information from your own perspective. This study will require that you complete an online questionnaire to capture your experience and perspectives on taking the NCLEX-RN examination. No names or another identifying information such as contact information or IP address are required, nor will the names of the participating schools be disclosed in the study. Your responses to the questions will be kept anonymous and confidential. Each completed questionnaire will be assigned a number code to help ensure that the students’ personal identifiers are not revealed during the analysis and write-up of the findings. Your participation will be a valuable addition to the research, and the findings could lead to a greater understanding of student’s non-academic factors that affect students’ preparation for the NCLEX-RN examination.

If you agree to participate in my study, please click on the following link to access the inform consent at <https://www.surveymonkey.com/r/7QKLBZ> or click the "Take Survey" link below. Read it carefully and answer the question at the end of the document, which will be your consent to answer the questions in the survey. By answering “yes” to these questions, you will be automatically directed to the online questionnaire. This process should take no more than 20 minutes. If you have any questions or concerns, please do not hesitate to contact me.

Thanks for your time and collaboration in this study.

Regards,

Angela C. Gaud, MSN, RN

# Appendix G

## SPAR-2 Purchased Confirmation Receipt

1

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## Appendix H

### IRB Exempt Letter

1



MEMORANDUM

To: Angela C Gaud, BSN, MSN

From: [REDACTED]  
Center Representative, Institutional Review Board

Date: September 4, 2018

Re: IRB #: 2018-443; Title, "Non Traditional Adult Learners: Non Academic Factors, and Pass/Fail Outcomes in the National Council Licensure Examination for Registered Nurses amongst Graduates from an Associate Degree Nursing Program."

I have reviewed the above-referenced research protocol at the center level. Based on the information provided, I have determined that this study is exempt from further IRB review under **45 CFR 46.101(b) (Exempt 2: Interviews, surveys, focus groups, observations of public behavior, and other similar methodologies)**. You may proceed with your study as described to the IRB. As principal investigator, you must adhere to the following requirements:

- 1) CONSENT: If recruitment procedures include consent forms, they must be obtained in such a manner that they are clearly understood by the subjects and the process affords subjects the opportunity to ask questions, obtain detailed answers from those directly involved in the research, and have sufficient time to consider their participation after they have been provided this information. The subjects must be given a copy of the signed consent document, and a copy must be placed in a secure file separate from de-identified participant information. Record of informed consent must be retained for a minimum of three years from the conclusion of the study.
- 2) ADVERSE EVENTS/UNANTICIPATED PROBLEMS: The principal investigator is required to notify the IRB chair and me [REDACTED] of any adverse reactions or unanticipated events that may develop as a result of this study. Reactions or events may include, but are not limited to, injury, depression as a result of participation in the study, life-threatening situation, death, or loss of confidentiality/anonymity of subject. Approval may be withdrawn if the problem is serious.
- 3) AMENDMENTS: Any changes in the study (e.g., procedures, number or types of subjects, consent forms, investigators, etc.) must be approved by the IRB prior to implementation. Please be advised that changes in a study may require further review depending on the nature of the change. Please contact me with any questions regarding amendments or changes to your study.

The NSU IRB is in compliance with the requirements for the protection of human subjects prescribed in Part 46 of Title 45 of the Code of Federal Regulations (45 CFR 46) revised June 18, 1991.

[REDACTED]

## Appendix I

### Tables

Table 6. *Observed Means and Standard Deviations for each item SPAR-2R (Jeffrey, 2007) Instrument.*

	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Personal study skills	5	1	6	4.82	1.302	-1.245	1.008
Faculty advisement and helpfulness	5	1	6	4.57	1.481	-1.083	.202
Financial status	5	1	6	3.69	1.554	-.244	-1.179
Class schedule	5	1	6	4.35	1.431	-.490	-.885
Family financial support for school	5	1	6	3.95	1.838	-.402	-1.312
Nursing student peer mentoring and tutoring	5	1	6	4.03	1.729	-.687	-.909
Hours of employment	5	1	6	3.50	1.793	-.055	-1.363
Personal study hours	5	1	6	4.64	1.426	-.968	.088
College library services	5	1	6	3.48	1.887	-.163	-1.472

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Family emotional support	5	1	6	5.27	1.111	-1.890	3.653
Family crisis	5	1	6	3.32	1.898	-.015	-1.563
Nursing professional events	5	1	6	3.64	1.843	-.324	-1.349
Employment responsibilities	5	1	6	3.72	1.820	-.229	-1.320
Nursing student support services	5	1	6	4.10	1.809	-.676	-1.011
College tutoring services	5	1	6	4.04	1.814	-.650	-1.029
College counseling services	5	1	6	3.81	1.861	-.373	-1.328
Living arrangements	5	1	6	4.23	1.824	-.813	-.788
Family responsibilities	5	1	6	4.41	1.564	-.790	-.372
Membership in nursing club or organization	5	1	6	2.75	1.942	.432	-1.499
Financial aid and/or scholarship	5	1	6	4.42	1.654	-.862	-.470
Encouragement by friends outside of school	5	1	6	4.83	1.501	-1.543	1.485

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Encouragement by friends within classes	5	1	6	4.82	1.497	-1.425	1.160
Child-care arrangements	5	1	6	3.17	2.084	.142	-1.690

Table 8. SPA-R-2 Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
Personal study skills	106.44	813.795	.384	.925
Faculty advisement and helpfulness	106.96	775.806	.655	.921
Transportation arrangements	107.07	799.302	.356	.927
Financial status	107.22	799.872	.454	.924
Class schedule	106.52	795.413	.565	.923
Family financial support for school	106.44	790.487	.586	.923
Nursing student peer mentoring and tutoring	107.41	770.174	.661	.921
Hours of employment	107.74	807.584	.344	.926
Personal study hours	106.41	793.020	.588	.923
College library services	108.04	775.037	.592	.922
Nursing skills laboratory	107.07	771.225	.693	.921
Family emotional support	105.85	796.439	.651	.922
Family crisis	107.70	793.755	.408	.926
Nursing professional events	107.78	767.795	.665	.921
Employment responsibilities	107.33	788.846	.475	.924
Nursing student support services	107.26	769.507	.699	.921
College tutoring services	107.44	767.872	.674	.921
College counseling services	107.26	762.584	.727	.920
Living arrangements	107.00	789.308	.478	.924
Family responsibilities	106.44	794.949	.629	.922
Membership in nursing club or organization	108.56	798.333	.412	.925
Financial aid and/or scholarship	106.04	808.114	.488	.924
Academic performance	106.59	790.943	.568	.923
Encouragement by friends outside of school	106.44	795.564	.486	.924
Encouragement by friends within classes	106.37	801.473	.485	.924

College computer laboratory service	106.96	777.729	.668	.921	193
Child-care arrangements	107.48	796.490	.394	.926	

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