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PREDICTING STUDENT SUCCESS: FACTORS INFLUENCING NCLEX-RN®
RATES IN AN URBAN UNIVERSITY'S PRE-LICENSURE PROGRAMS

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DEDICATION

This dissertation is dedicated to my mother and father, Ann and Edward Foley, who worked so very hard to insure I obtained a college degree. I hope your legacy will live on through your family and the lives we touch through Jesus our Hope.

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PREDICTING STUDENT SUCCESS: FACTORS INFLUENCING NCLEX-RN® PASS
RATES IN AN URBAN UNIVERSITY'S PRE-LICENSURE PROGRAMS

DAVID M. FOLEY

ABSTRACT

As the US population becomes more diverse, schools of nursing are faced with the formidable challenge of graduating diverse groups of competent students who will pass the NCLEX-RN® and serve an equally diverse public in the safest manner possible. Although institutions of higher learning have adopted plans to enhance diversity among nursing graduates, tension is created between these initiatives and the academic rigor required by nursing education.

In particular, schools of nursing in diverse urban metropolitan areas face unique challenges educating increasing number of men, minorities, and students for whom English is a second language (ESL). Stanton-Salazar's (2011) Social Capital Framework indicates academic success is impacted by the amount of social capital students bring to the educational setting. Nursing students from urban areas often bring less social capital, thus prompting nurse educators to closely examine and revise pedagogical methods.

This study identified and analyzed the predictive power of demographic and academic variables on students' success on the NCLEX-RN® at a large urban university's pre-licensure nursing programs. Linear logistic regression model results indicated GPA is an extraordinarily strong predictor. However, revised logistic regression models excluding GPA amplified the predictive power of the other variables including ESL status and ATI™ Comprehensive Predictor Examination score. ATI™ emerged as the

most robust predictor of success on the NCLEX-RN[®], demonstrating even a small increase in ATI[™] score significantly impacted students' likelihood to pass the NCLEX-RN[®]. Gender and minority status were not significant predictors of students success on the NCLEX-RN[®].

Attrition rates for male, minority, and ESL students averaged twice those of females, non-minorities, and native English speakers. Recommendations to promote success for these students included opportunities to enhance social capital, deeper investment in a holistic admissions process, pedagogical innovations, and full integration of ATI[™] formative and summative strategies into the nursing curriculum. By promoting success for all students, male, minority, and ESL scholars can be viewed not from a perspective of potential failure, but rather from that of rich potential for contributions to the profession of nursing.

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CHAPTER I

INTRODUCTION AND PURPOSE

For decades, nursing programs tailored their curricula and educational methods to homogeneous student bodies comprised primarily of young, Caucasian, middle-class women (Loftin, Newman, Gilden, Bond, & Dumas, 2013; Olson, 2012). Nursing graduates subsequently provided care within a narrowly prescribed cultural framework neatly bounded by a patriarchal medical establishment and model of care (Dela Cruz, Farr, Klakovich & Esslinger, 2013). Accordingly, traditional models of nursing education typically involved a didactic, autocratically led classroom; repetitive, skills-based instruction; and clinical field experiences, during which students integrated knowledge and skills in caring for actual patients (Billings & Halstead, 2012; Lange, Ingersoll, & Novotny, 2008).

However, regardless of the educational model or training program students experienced, upon successful completion of any registered nursing program in the United States, graduates must take the National Council Licensure Examination for Registered Nurses (NCLEX-RN®) in order to achieve licensure within their state. As developed and monitored by the National Council of State Boards of Nursing (NCSBN), the NCLEX-

RN[®] samples key domains of nursing knowledge such as medical-surgical, pediatric, obstetric, psychiatric, and pharmacology (NCLEX-RN[®] Test Plan NCSBN. 2013). Because it is used in all 50 states, first-time pass rates for the NCLEX-RN[®] have been viewed as the singular quality indicator of registered nursing programs for decades (Pennington & Spurlock, 2012; Penprase & Harris, 2013). The pressure on programs to maintain acceptable NCLEX-RN[®] pass rates often has resulted in tacit acknowledgement that students who may compromise a program's first-time NCLEX-RN[®] pass rate are removed through attrition by a variety of means—most notably, unsuccessful academic and/or clinical performance (Romeo, 2013; Simon, McGinniss, & Krauss, 2013).

In conflict with the tremendous importance of NCLEX-RN[®] outcomes are efforts put forth by schools of nursing to diversify the composition of their student bodies. According to the Institutes of Medicine (IOM, 2003, 2010), producing a diverse group of nursing graduates who can in turn provide culturally competent care to an increasingly diverse United States population is a national priority. Thus, like other institutions of learning across the United States, in 2010 a large, urban, publically funded midwestern university (hereafter referred to as “the University”) issued a global plan for diversity and inclusion. In response, the University's School of Nursing (hereafter referred to as “the SON”) applied IOM findings as a framework to recruit and retain higher numbers of underrepresented groups including males, ethnic minorities, and students for whom English is a second language (ESL). Nationally noted disparities in attrition rates among these same groups, however, highlight nursing faculty's thwarted efforts to promote success for these students (Bosch, Doshier, & Gess-Newsome, 2012; Breckenridge, Wolf, & Roszkowski, 2012).

Like other nursing programs across the United States, the SON carefully screens applicants as well as prepares students for the NCLEX-RN® through a comprehensive curriculum and wrap-around academic advising/support services including a number of adjunctive tools and pedagogical innovations (Cole & Adams, 2014). Despite a societal mandate and a top-down, University-wide directive for diversity and inclusion (Nuru-Holm, 2010), attrition rates for minority, ESL, and male students indeed remained disproportionately high in SON graduating classes for the academic years 2011-2015 (Commission on Collegiate Nursing Education Self Study, 2015). What factors deter minority, ESL, and male students in navigating the complexities of nursing education programs, and even more importantly, what can assist them in passing the NCLEX-RN® on the first attempt?

This study has attempted to answer this question by examining the predictive power of various demographic variables (i.e., ethnicity, English as a second language [ESL], and gender) and academic variables (i.e., GPA at program completion, Assessment Technologies Institute [ATI™] Comprehensive Predictor Examination score, and previous level of education) on the single dichotomous outcome variable of first-time National Council Licensure Examination-Registered Nurse (NCLEX-RN®) results for 2011-2015 graduates of the University's pre-licensure nursing programs.

The Evolving Face of Nursing Education

In an era in which a clinically competent, multicultural nursing workforce is needed to address the healthcare needs of an increasingly diverse society (IOM, 2003; 2010), high attrition rates for minority groups seem counter-productive, especially given nursing's gradual drift from a profession geared mostly to Caucasian women and rooted

in a model of autocratic leadership to one that is far more culturally inclusive and embraces principles of shared governance (Harris, Rosenberg, & O'Rourke, 2014; Lange, Ingersoll, & Novotny, 2008; American Nurse Credentialing Center, 2012). In response to these changes, nursing's educational meta-paradigm has evolved from a highly iterative, recursive process to one that utilizes innovative pedagogical strategies such as critical thinking exercises, simulations, and group work (Billings & Halstead, 2012; Iwasiw, Goldenberg, & Andruszsyn, 2009).

By the mid-1990s, the nexus of a protracted shortage of registered nurses and initiatives to increase cultural diversity among nursing graduates placed inexorable pressure on schools of nursing (Georges, 2012; Klisch, 2000; Memmer & Worth, 2014). Private and proprietary institutions reacted to acute marketplace demands by opportunistically offering nursing programs with less stringent admission criteria, rolling admission dates, highly flexible schedules, and no waiting lists. All of these features seemed attractive to minority students who were often deterred by the more rigorous standards at more established schools of nursing (Deming, Goldin, & Katz, 2013). Although tuition rates for these new programs have greatly exceeded those of publically-subsidized schools of nursing, questions about quality, educational rigor, and poor NCLEX-RN[®] pass rates have placed these newer programs under increased scrutiny by state boards of nursing and accrediting agencies such as the American Commission for Education in Nursing (ACEN) and the Commission on Collegiate Nursing Education (CCNE) (Wood & Urias, 2012).

Regardless of these challenges to nursing programs, by the 1990s the nursing shortage and subsequent unmet demand presented nursing as an attractive occupational

field ripe with opportunities for career, educational, and social advancement. These factors, concurrent with the ensuing economic downturn of 2008, made the profession even more attractive to “non-traditional” nursing students including men, minorities, ESL, and second-career students (Grady, Stewardson, & Hall, 2008; Selvam, 2013). At the same time, after decades of resistance, the US healthcare establishment finally acquiesced and acknowledged the existence of distinct healthcare disparities along various racial, ethnic, geographic, and economic variables (McGuire, Alegria, Cook, Wells, & Zaslavsky, 2006). Reports from the IOM (2003, 2010) reinforced the fact that large segments of US minority populations experience deeply rooted feelings of disenfranchisement from the healthcare system. These concerns are evidenced by a lack of insurance, inadequate access to care, and higher prevalence of certain pathologies among various minority groups.

The 2010 advent of the Affordable Care Act (ACA) highlighted nurses as a key component within the healthcare delivery system, especially given the entrée of millions of previously uninsured minority patients. Thus, a more holistic, inclusive model of nursing education was needed for schools of nursing to meet basic marketplace demand as well as graduate diverse groups of nursing students (Billings & Halstead, 2012; Keogh, Fourie, Watson, & Gay, 2013).

Challenges to Nursing Education

At the inception of their nursing education, students bring in tow the totality of their previous education, social experiences, and cultural backgrounds. A new group of students may therefore be admitted to the SON with similar GPAs and transcripts, but possess disparate amounts of social capital based on differences in their primary and

secondary school experiences, cultural backgrounds, and socioeconomic status (Stanton-Salazar, 2011). These students collectively represent the growing diversity within American society, most notably in urban areas. The direct result is that schools of nursing located in urban centers demonstrate an acute need for pedagogical and curricular enhancements to support and retain more diverse student populations (Dapremont, 2013, 2014; Shaha, et al., 2013).

The tension created between nursing program efforts to enhance diversity, maintain program quality, and sustain educational rigor despite the high-stakes nature of pass-fail outcomes on the NCLEX-RN® is noteworthy (Carrick, 2011; Fuller, 2012; Taylor, Loftin, & Reyes, 2014). Similar to documents developed by other institutions of higher education, the University's plan to recruit and retain diverse students may not fully capture some of nursing's unique academic needs. For example, the competing cognitive, affective, and psycho-motor demands of the nursing classroom, skills lab and clinical settings often collide with the challenges of creating the supportive academic milieu needed to increase numbers of minority, ESL, and male students (Colville, Cottom, Robinette, Wald, & Waters, 2015). This quandary is not unique to the University's surrounding metropolitan area, but in fact shares distinct socio-cultural roots in similar urban locales across the country (Berlin, 2010; McNamee & Miller, 2009).

The City in Profile

Positioned within a moderately-sized Midwestern industrial city (hereafter referred to as "the City") with a population of 396,697 residents and embedded within a county with noted diversity and a population of 1,280,109 (US Census Bureau State and County Quickfacts, 2010), the University logically incorporated principles of diversity

and inclusion as part of its strategic plan (Nuru-Holm, 2010). During the past century, the City transitioned from an overwhelmingly Caucasian, mostly European population to one that is nearly 60% African-American. In turn, the City's neighborhoods and inner-ring suburbs evolved from various European nationalities living in separate neighborhoods, to those that are predominantly African-American and Hispanic (Miller, 1991; US Census Bureau Profile of Selected Social Characteristics, 2010). As the City and surrounding metropolitan area comprise the University's primary catchment areas, a more in-depth examination of the factors that caused these changes will paint a clearer picture of the student population from which the SON draws.

Like many northern industrial cities, the City began the post-World War II era with a burgeoning yet overwhelmingly Caucasian population (US Census Bureau Profile of Selected Social Characteristics, 2010; US Census Bureau State and County Quickfacts, 2010). Unfortunately, Federal Housing Administration (FHA) "redlining" policies, a divisive interstate expansion program, and suburban tax incentives had a devastating impact on the City's urban core (Wilson, 2009). Once-thriving inner-city neighborhoods were left economically decimated, socially isolated, and under-served by financially challenged schools.

Furthermore, the policies of the City's Board of Education in the 1950s and 60s were often aimed at retarding the integration of the City's predominantly white schools, thus diverting resources from schools in racially transitioning areas which further exacerbated disparities in educational outcomes (Reed v. Rhodes, 1976). Generations of school children, the product of this new highly unbalanced urban-suburban schema of poverty and/privilege, spurred the inception of distinctive urban cultures, with

educational outcomes, social networks, and variations in social capital that were notably different than those of their suburban counterparts (Berlin, 2010; McNamee & Miller, 2009). The phenomenon has not been limited to the City itself; many inner and second ring suburbs within the surrounding county have remained highly segregated with school systems that are underperforming and fighting for financial survival (Berlin, 2010; Ohio School Report Card, 2015; US Census Bureau, 2010).

The City's rapid transition from a thriving, highly segregated but densely populated area in the early 1950s to a model of white flight, urban-suburban re-segregation, and suburban sprawl presents distinct challenges to the University. The heralded arrival of a new president to the University in 2009 spurred interest in transforming the University from a locally recognized commuter school drawing students from the struggling City and its inner ring suburban school systems to a nationally-recognized center for learning and research with a much wider catchment area. From the outset the University's new President, however, also emphasized the need to acknowledge the rich diversity of the surrounding urban area and thus commissioned a university-wide committee to draft a comprehensive, outcome-based Diversity Action Plan (DAP) (Nuru-Holm, 2010).

At first glance, the SON Diversity Action Plan appeared to dovetail philosophically with the call for diversity in nursing student bodies. However, how can the dual goals of increasing diversity and maintaining academic rigor be accomplished when the SON recruits from a pool of challenged urban students who inherited the legacy of historic patterns of segregation and social inequities and therefore often lack the academic prowess needed to compete with their suburban counterparts?

Demographic and Academic Challenges to SON Student Success

Although the University engaged in marketing campaigns during the past decade to attract students from a wider area, its placement within the City's urban core makes it an accessible, attractive offering to residents of the City and nearby suburbs, many of whom are immigrants from across the globe. In fact, since the 1990s, the City's greater metropolitan area has been the recipient of tens of thousands of immigrants who hail from Eastern Europe, Russia, the Middle East, Africa, and Asia, creating areas of regional linguistic diversity not seen since the beginning of the 20th century (Miller, 1991; Berlin, 2010). ESL students bring this linguistic diversity—and challenges—to the university setting and, notably, to nurse educators teaching in the SON's pre-licensure programs.

As part of its student selection process, the SON utilizes standardized admissions criteria, including both cumulative and pre-requisite grade point average (GPA), transcripts, letters of reference, and an admissions interview/essay. These screening tools are designed to evaluate an applicant's previous academic performance as well as their written and verbal communication skills. Despite these various methods of screening, however, the SON remains challenged with accurately assessing student ability to meet the competing demands of the nursing classroom, skills lab, and clinical settings. Within the confines of current practices, the SON Admissions Committee may have found it very difficult to proactively assess the effect of such factors as cultural background and ESL on academic performance and therefore historically relied on more traditional, quantifiable academic screening measures like pre-requisite and/or previous baccalaureate GPAs.

Unique Challenges Faced by Minority, ESL and Male Nursing Students

Despite modest inroads made into the nursing profession, ESL students in particular are often linguistically challenged by the concurrent demands of mastering English as well as the medical vocabulary required by nursing coursework (Olson, 2012; Bosher & Smalkowski, 2004). For example, although some ESL students quickly demonstrate technical proficiency in skills-based training, they struggle with verbal expression, particularly in terms of the highly nuanced aspects of nurse-client communication necessary to establish an effective therapeutic alliance in the clinical setting (Olson, 2012; Torregosa & Morin, 2012; Torregosa, Ynalvez, & Morin, 2015). Of equal concern is that many ESL students who are technically proficient in the clinical setting do not possess the degree of language proficiency required to pass classroom examinations, thus demonstrating another significant contributor to attrition in the SON.

Overcoming the widely held notion of nursing as a female profession has also presented significant challenges to men who seek full acknowledgement and acceptance (Grady, Stewardson, & Hall, 2008). As a long-heralded “feminine” profession (Meleis, 2007), many women historically did not believe men possessed the inherent traits that would allow them to care for and nurture patients. Such perceptions often called into question the masculinity of men entering the profession, thus causing many male nurses to self-select into more technical areas like critical care and emergency medicine and in turn avoid “softer” specialties such as maternal-fetal and pediatric nursing (Brown, Nolan, & Crawford, 2000; Harding, 2007).

Due to the robust nature of the city’s burgeoning healthcare systems, nursing has indeed been a popular career path for female graduates of local school systems for

decades. However, similar to trends found in other urban areas, the economic downturn of 2008 proved devastating for the city's manufacturing base, putting thousands of blue-collar workers out of work. The recession may have accelerated the entrée of non-traditional students into the SON's programs, including males, ethnic minorities, and students for whom English is a second language (Buerhaus, Auerbach, & Staiger, 2009). In keeping with national trends, many of these students likely did not cite nursing's highly idealized reputation as a "helping" profession when selecting their career choice; rather, they viewed nursing simply as a pathway to economic stability and social mobility, and thus may have a very different perspective of the profession than their Caucasian, largely female middle-class predecessors (Fuller, 2012; Klisch, 2000; Nutter, 2010).

Adequate representation of ethnic minorities, ESL students and male students is highly important in accomplishing the mission of graduating a diverse cadre of nurses who in turn will address the broader societal goal of addressing noted health disparities (IOM, 2003, 2010; Shaw, Asomugha, Conway, & Rein, 2014; Volansky, Harry, & Lichtin, 2013). However, the goal of completing a SON pre-licensure program presents significant academic and cultural challenges to these groups.

The SON in Profile

The SON offers two tracks in its pre-licensure nursing programs, both of which lead to the Bachelor's of Science in Nursing (BSN) degree: 1. a traditional four-year Basic Baccalaureate Nursing Program (BBSN) option, through which students complete prerequisite courses followed by admission into the nursing major in their sophomore year, and 2. an Accelerated Baccalaureate Nursing Program (ABSN) option, through

which students who already hold a bachelor's degree in another field can obtain a BSN through four consecutive semesters of nursing coursework.

Collectively, the annual enrollment in the SON pre-licensure programs averages approximately 350 (Ohio Board of Nursing Pre-Visit Survey Report, 2015), with new pre- and post-baccalaureate cohorts admitted in the fall and spring semesters, respectively. The SON notifies students of academic advising services, tutoring services, and other supportive services, some of which originate at the University level—namely, a writing center, ESL support services, and mental health counseling services (Nuru-Holm, 2010). Despite these supportive measures, minority students often perceive their nursing school experience as highly intense and anxiety-provoking and are often reluctant to access these University-level supportive services, thus emphasizing the need for accessible and culturally-sensitive wrap-around academic and advising support services within the SON itself (Melillo, Dowling, Abdallah, Findeisen, & Knight, 2013; Olson, 2012).

Most nursing students acknowledge that their primary goal is quite pragmatic—to simply pass the NCLEX-RN® examination and become a registered nurse; however, accomplishment of this goal requires knowledge attainment, skills acquisition, and critical thinking (Romeo, 2013; Simon, McGinniss, & Krauss, 2013; Wiggins, 2011). To help students achieve NCLEX-RN® success, the SON utilizes a program from the Assessment Technologies Institute (ATI™). This program consists of a series of supplemental books, videos, and learning exercises designed as formative and summative tools that increase in complexity throughout the nursing curriculum. An integral component of the ATI™ Program is a summative assessment of knowledge content

containing questions similar to those that may appear on the NCLEX-RN® (Killingsworth, Kimble, & Sudia, 2015). This final ATI™ summative assessment is a comprehensive examination that predicts the probability (expressed as a percentage) that students will pass the NCLEX-RN® on the first attempt. These scores are reported by ATI™ as highly accurate and based on aggregate results normed against thousands of students (ATI™ Score Explanation and Interpretation Group Experience Profile, Assessment Technologies Institute™, 2010). A SON requirement for successful completion of the nursing program is passing the ATI™ Comprehensive Examination at a level pre-determined by the SON. If students do not pass the ATI™ Comprehensive Predictor Examination on the first attempt, they are permitted to re-take the examination until a passing score is achieved. If they are ultimately unable to pass the examination, they must enroll in a supplemental NCLEX-RN® preparation program to achieve program completion.

The NCLEX-RN®

The National Council of State Boards of Nursing (NCSBN) allows each state to set its own minimum pass-rate threshold that must be met in order to retain program approval through the state's Board of Nursing. Falling below this threshold for three consecutive years may trigger an unannounced visit to the School from the state's Board of Nursing to determine the root cause(s) of the school's NCLEX-RN® under-performance followed by a plan for remediation (Ohio Board of Nursing, 2012). NCLEX-RN® statistics are posted on the NCSBN website and are accessible to potential students and employers (NCSBN, 2015). The pressure to maintain adequate NCLEX-RN® first-time pass rates is therefore quite high, causing program administrators and

educators to balance pedagogical rigor with efforts to promote diversity and inclusion (Carrick, 2011; Fuller, 2012; Hansen & Beaver, 2012).

The SON examined in this research is in a unique position both geographically and philosophically. The surrounding urban locale carries a legacy of systematic segregation, exclusion, and privilege. However, it also boasts a high level of rich ethnic and linguistic diversity as well as a robust, burgeoning healthcare industry, thus making nursing a highly attractive profession to many sub-groups within the population (Benson, 2012). As mandated by the University, the SON must counterbalance organizational goals for diversity and inclusion with its societal obligation to graduate competent graduates who are likely to pass the NCLEX-RN® and serve the public in a safe manner.

Purpose of the Study

The purpose of this longitudinal study was to determine the predictive power of various demographic and academic variables on first-time NCLEX-RN® pass rates, using graduates of the SON's Basic and Accelerated Nursing Programs for the 2011-2015 academic years. Primary variable analysis was accomplished using a multivariate technique known as linear logistic regression. Utilizing Stanton-Salazar's (2011) Social Capital Framework, subsequent analysis examined how the city and surrounding metropolitan area's sub-populations created variances in social and cultural capital which contributed to educational disparities that challenge the University's goals of recruiting and retaining a diverse student body.

Following data analysis, a secondary purpose for the study emerged—namely, to examine patterns in attrition and completion rates for various minority groups among SON graduates. This secondary analysis was conducted to determine whether observed

attrition and completion rates are consistent with those found in current research literature, which may in turn further elucidate how variations in social and cultural capital either contribute to or detract from student success. Resulting discussion provides potential recommendations for a more inclusive, innovative, and culturally sensitive curricula and pedagogical methods within the SON pre-licensure nursing programs; the results of these enhancements may in turn help other schools of nursing in similar urban settings graduate more diverse student bodies.

Significance of the Study

This longitudinal study is the first known attempt to utilize linear logistic regression as the method of multivariate analysis to determine the predictive power of demographic and academic variables on NCLEX-RN® first-time pass rates for a SON embedded within an a large urban university, taking into account the social strata and variations in the social/cultural capital of its student population. As a publically-funded urban university with a distinct focus on diversity, the University serves as an effective setting to discuss the challenges faced by nursing programs in similar urban settings. The results highlight the national challenge of educating competent and culturally diverse student bodies who can meet the needs of an increasingly diverse society.

Research Questions

The following research questions guided this study:

1. To what extent do demographic characteristics (i.e., gender, ethnicity, ESL status) and academic characteristics (cumulative GPA at program completion, ATI™ comprehensive predictor exam score, and previous level of educational attainment) predict success on the NCLEX-RN®

for 2011-2015 SON pre-licensure program graduates?

2. Which of the variables noted above is the most significant predictor of success on the NCLEX-RN® for 2011-2015 SON pre-licensure program graduates?

Limitations

The following limitations were considered when interpreting the results of this study:

1. Disproportionately high levels of program attrition for minority, ESL, and male students may skew the study's results.
2. Findings from this study are applicable to public universities with an urban focus but may not be generalizable to private, proprietary, or non-urban schools of nursing due to variations in student body composition, socio-political drivers, locale, and mission.

Definitions of Key Terms

The following definitions are provided to clarify the use of the terms in this study:

Academic Year: The portion of the calendar year during which the University offers classes--typically between August and August of each year.

Accelerated BSN Program (ABSN): A four-semester, accelerated Bachelor of Science in Nursing Program for students who already hold a bachelor's degree in another field.

Assessment Technologies Institute (ATI™): A corporate entity offering a wide variety of tools used to help students gain critical thinking skills for both NCLEX-RN® preparation and nursing practice (RN Comprehensive Predictor 2013 and NCLEX-RN®

Readiness, Assessment Technologies Institute™, 2014).

Assessment Technologies Institute (ATI™) Comprehensive Predictor

Examination: A summative and evaluative assessment tool designed and validated by ATI™ to predict success of nursing graduates on the NCLEX-RN® examination (RN Comprehensive Predictor 2013 and NCLEX-RN® Readiness, Assessment Technologies Institute™, 2014).

Attrition: “...generally...characterized as the departure from or delay in successful completion of program requirements” (Ascend Learning, LLC, 2012).

Bachelor of Science in Nursing Degree (BSN): An academic degree in the science and principles of nursing, granted by an accredited education provider. The course of study is typically three or four years.

Basic BSN Program (BBSN): The SON’s traditional, sophomore entry-level three year pre-licensure Bachelor of Science in Nursing Program.

Clinical Experience: One of the three key components of nursing education pedagogy involving activities “planned to meet course objectives or outcomes and to provide a nursing student with the opportunity to practice cognitive, psychomotor, and affective skills in the supervised delivery of nursing care to an individual or group of individuals who require nursing care” (Ohio Administrative Code for Nursing Education Programs, [OCA] 4723-5ohio).

Competence: A student’s demonstration of the appropriate level of skill, practice, behavior, attitudes, and knowledge matched to context-specific outcomes in the nursing classroom, nursing resource lab, or clinical setting (Billings & Halstead, 2012).

Didactic Classroom: One of the three key components of nursing education

typically provided in a formal setting during which nursing theory and practice are presented (Billings & Halstead, 2012).

Diversity: Conceptually defined as “...all aspects of human difference including, but not limited to: race, gender, age, sexual orientation, religion, disability, social-economic status, and status as a veteran (APLU/AASCU, 2005). Operationally defined by the University as an imperative not only to promote understanding of other cultures but also to actively recruit and retain representatives within faculty ranks and student bodies (Nuru-Holm, 2010).

English as a Second Language (ESL) Student: A non-native English speaking student.

Faculty: All individuals employed by the SON who teach students, whether in the classroom, nursing skills laboratory, or clinical setting.

Inclusion: Operationally defined by the University’s Office of Inclusion and Multicultural Engagement as: “To enhance programming and activities that build and nurture a broadly diverse campus community and to support the social and academic success of the University’s diverse student population” (Nuru-Holm, 2010).

Laboratory Experience: One of the three components of nursing education involving activities

planned to meet course objectives or outcomes and to provide a nursing student with the opportunity to practice cognitive, psychomotor, and affective skills in the performance of nursing activities or tasks in a simulated clinical environment, which may include the opportunity to practice nursing skills through the reproduction of life-like health care experiences using computerized models and

simulator programs (OAC, 4723-5).

National Council of State Boards of Nursing: An independent, not-for-profit organization through which state boards of nursing coalesce on matters concerning education, health, safety, and welfare, including issues surrounding the development and sustained implementation of the NCLEX-RN® (NCSBN, 2015).

The National Council Licensure Examination for Registered Nurses (NCLEX-RN®): Developed and owned by the NCSBN, the NCLEX-RN® is an examination administered to nursing program graduates who seek licensure in the United States, Canada, and four US territories: American Samoa, Guam, Northern Mariana Islands, and the Virgin Islands (NCSBN, 2015).

NCLEX-RN® First-Time Pass Rate: A statistic, calculated as the percentage of students who pass the NCLEX-RN® on their first attempt during a defined period of time of the total number of student taking the exam during that same period. This metric is a key quality indicator of nursing education and is calculated at the individual school, state, and national levels.

Nursing Resource Lab: The location where students receive instruction, practice, and are competency tested on nursing skills.

Private School of Nursing: A school supported by a private organization, endowment, or individuals rather than by public funds.

Proprietary School of Nursing: A private, non-public business enterprise owned by one person, a partnership, or a corporation.

Public School of Nursing: A school funded completely—or partially—by public funds.

CHAPTER II

REVIEW OF THE LITERATURE

During the past 20 years, the healthcare industry reverberated with concerns over a protracted shortage of registered nurses, eclipsed only by an even more acute shortage of nursing faculty (Benson, 2012; IOM, 2010). In fact, by 2025, the interplay between these two factors could result in the greatest shortage of registered nurses since the Vietnam conflict (Benson, 2012; Mason, Isaacs, & Colby, 2011).

Additional fiscal and service-delivery challenges presented by the impending full implementation of the Patient Protection and Affordable Care Act (ACA) have underscored the sheer need for more nurses to provide care to millions of previously uninsured Americans within an already stressed healthcare marketplace (Shaw, Asomugha, Conway, & Rein, 2014; Volansky, Harry, & Lichtin, 2013). Despite the promise of a new system rooted in wellness and systems efficiency, the challenge of providing healthcare to millions of consumers, many of whom are minorities with publically subsidized insurance, caused major healthcare industry leaders to engage in fiscal analysis and make deep, proactive budget cuts (Mathews, 2012). Nurses, especially those in advanced practice, have long been viewed as key to cost-effective healthcare

since the 1990s. The creation of the ACA solidified this notion, thus accelerating demand for nurses even further (Berg & Dickow, 2014; IOM, 2010).

In parallel, since the mid-1980s, a growing awareness of healthcare disparities, or noted differences in healthcare outcomes between minority and non-minority populations, slowly gained traction in the national psyche (IOM, 2003; McGuire, Alegria, Cook, Wells, & Zaslavsky, 2006; Smedley, Stith, & Nelson 2003). Partly due to the nursing shortage and increasing mindfulness of the profession's key role in re-tooling the American healthcare system, nurses have gained stature within a budding model of inter-professional education (IPE) based on a social model of care (IOM, 2003, 2010). In doing so, nursing's collective cultural lens widened as its previously held status as an altruistic career geared primarily to Caucasian women gradually faded (Brown, Nolan, & Crawford, 2000; Fuller, 2012; Grady, Stewardson, & Hall, 2008). A sustained lack of diversity among nursing students/graduates, however, has emerged as a national concern. To meet the needs of a rapidly diversifying population, schools of nursing must graduate diverse student bodies in order to serve the public in a culturally-competent competent manner (IOM, 2010).

The drastic economic downturn of 2008 accelerated the entry of non-traditional nursing students, including men, linguistically challenged immigrants, and ethnic minorities into the field, many of whom viewed the profession as a stable career choice and a pathway to social and economic mobility (Barrett-Landau & Henle, 2014; Buerhaus, Auerbach, & Staiger, 2009). These changing student demographics resulted not only in a higher level of diversity among nursing program applicants but also in disproportionately higher rates of attrition for these non-traditional students, many of

whom had little or no previous experience in healthcare or with higher education (Fuller, 2012; Olson, 2012; Penprase, 2013).

Trends in nursing toward increased student diversity present distinct challenges to nursing pedagogy, as the composition of nursing student bodies slowly evolves from primarily middle-class Caucasian females to those that more accurately reflect increasing ethnic, linguistic, and gender-based diversity (Christensen & Knight, 2014; Condon et al., 2013; Hansen & Beaver, 2012). Program completion is not the only formidable challenge for nursing students—they must also pass the National Council Licensure Exam for Registered Nurses (NCLEX-RN[®]) in order to become licensed professional nurses. Despite the hyper-turbulent nature of the healthcare industry, the NCLEX-RN[®] has remained a consistent method of validating the acquisition of the minimum required knowledge to demonstrate safe nursing practice and has often served as a key indicator of program quality. The longevity of the NCLEX-RN[®] within the paradigm of nursing education highlighted the need for a sustained analysis of the various demographic and academic variables that predict first-time NCLEX-RN[®] pass rates (Homard, 2013; Pennington & Spurlock 2012; Penprase & Harris, 2013).

A number of studies have successfully identified academic (grade point average [GPA], NCLEX-RN[®] comprehensive predictor examination score) and demographic (gender, ethnicity, ESL) factors that influence student NCLEX-RN[®] performance in nursing programs in various urban, rural, and suburban settings (Carrick, 2011; Pennington & Spurlock, 2012; Romeo, 2013; Simon & Augustus, 2009; Simon, McGinniss, & Krauss, 2013; Yearick, 2013). However, none of these studies have examined the social and cultural forces faced by schools of nursing located in large,

urban, metropolitan areas with noted diversity. Thus, this chapter also presents a broad view of the factors that shaped the metropolitan area's socio-cultural framework and invites analysis of the tensions between the critical need to graduate competent nursing students, a societal imperative for a diverse nursing workforce, and SON efforts to meet the University's directives for diversity and inclusion.

The University in Profile

The University is located a highly diverse, northern Midwest industrial city. During the University's planning stages, a furious debate erupted as to its ideal location; many local officials advocated for construction in the outlying suburbs. Post-war idealism prevailed (Kessinger, 2011) however, and the University was ultimately built in a prominent location within the City's downtown area. With a current student body of more than 17,000, the University's large urban campus offers diverse programs in science, education, the liberal arts, engineering, and various health sciences including nursing.

Due to increased marketplace demand for nurses, the SON expanded class sizes from approximately 35 to 80 between 2009 and 2011 and added an accelerated post-baccalaureate nursing (ABSN) pre-licensure program in 2002 for students with a bachelor's degree in another field (Commission on Collegiate Nursing Education Self Study, 2015). The SON's programs currently hold the status of "Full Approval" by the Ohio Board of Nursing (Registered Nursing Education Programs (Ohio Board of Nursing, 2015), a designation held continuously since the SON's first approval review. Finally, the SON expanded its Master of Science in Nursing (MSN) Program to include tracks in administration, education, and forensic nursing. Such sustained growth

contributed to the SON's establishment as an independent college within the University in 2010 (Commission on Collegiate Nursing Education Self Study, 2015).

The overwhelming majority of applications to the SON are received from students who live in the city's greater metropolitan region, the SON's primary catchment area. Like other nursing programs across the country, entry into the University's School of Nursing (SON) programs is quite competitive. Because the city's healthcare market is robust, successfully completing the nursing program and attaining licensure by passing the NCLEX-RN® often leads to full-time employment in a local healthcare system (Ohio 2020 Job Outlook, 2013). In response, over the past several decades hospital systems have emerged as one of the City's most sought after employers.

The SON instructs students in didactic classrooms, nursing resource labs, and clinical agencies, de rigueur for nursing programs across the country. These pedagogical approaches require students to not only meet rigorous academic standards but to also demonstrate proficiency in verbal and written expression (Billings & Halstead, 2012). The SON's downtown location offers the potential to recruit and graduate diverse student bodies. Doing so requires a balance between the rigorous pedagogy needed to achieve clinical competence concurrent with an affirming, inclusive, academic milieu (Condon et al., 2013; Fuller, 2012; Iwasiw, Goldenberg, & Andrusyszyn, 2009; Lange, Ingersoll, & Novotny, 2008).

The Impact of Primary and Secondary Educational Experiences on Nursing Education

Nursing programs historically emphasized a recursive, task-oriented approach to education based on philosophies that seemed highly congruent with the learning needs of

a homogenous, largely Caucasian population (Loftin, Newman, Gilden, Bond, & Dumas, 2013; Olson, 2012). Given resilient societal and professional norms that positioned nursing philosophy within a Caucasian, middle-class cultural framework, until recently little emphasis was placed on adapting nursing pedagogy for students' culturally-specific learning needs—the majority of which are deeply rooted in the nexus of students' previous educational experiences and culture (Billings & Halstead, 2012; Bosher & Smalkowski, 2004). In kind, nursing program administrators, who were often educated within autocratically-led classrooms, now search to utilize new leadership models, co-constructed with students via pedagogical methods that espouse critical thinking and shared governance (Aduddell & Dorman, 2010; O'Connor & Walker, 2003; Redmond, 1991).

Such teaching methods seem incongruent with the challenges nurse graduates face in today's dynamic healthcare workplace. In turn, such rigid pedagogy does little to encourage critical thinking and teamwork, two concepts central to contemporary nursing education and practice but often not found in the curriculum taught in the lower/middle-class school systems found within the University's primary catchment area (Melillo, Dowling, Abdallah, Findeisen, & Knight, 2013).

Encouragingly, since the 1990s a pedagogical movement known as “flipping the nursing classroom” began to transform the didactic classroom into a far more interactive experience among students and facilitators (Billings & Halstead, 2012; Benner, Sutphen, Leonard, & Day, 2010; Keogh, Fourie, Watson, & Gay, 2013). Nursing education subsequently emphasized critical thinking, principles of shared governance, and interdisciplinary communication to prepare graduate nurses for practice in area hospitals that

value these principles. While these tenets are highly adaptive for future employment, they may appear unfamiliar to minority and other non-traditional students, who often require support from faculty members to successfully navigate structural and ideological barriers within schools of nursing. These barriers often have been more challenging than those presented by the nursing curriculum itself (Carr, 2011; Fuller, 2012; Tabi, Thornton, Garino, & Rushing, 2013).

Despite the growing national awareness of the need for diversity and inclusion in nursing education, the literature elucidates a distinct bias toward middle-class discourse and related social strategies. Public school systems throughout the city's greater metropolitan area indeed vary widely in terms of their ability to educate students and equip them with the required academic skills to achieve success in higher educational settings (Ohio School Report Cards, 2015). Based on financial and educational disparities brought about by school system inequities, minority students from urban school systems enter the college or university setting on a staggered starting line that is very different than their suburban, often non-minority counterparts (McNamee & Miller, 2009). Bourdieu (1986) asserted that resultant differences in social capital are clearly bounded by a highly valued set of resources that include social connections, language patterns, mannerisms, and style of dress as well as habitus (acquired patterns of thoughts and behavior). Stanton-Salazar (2011) expanded on Bourdieu's (1986) work and found that students, based on their race or socioeconomic status, often bring varying amounts of social capital in tow as they begin their college studies. Greater amounts of social capital inevitably have a positive impact on educational performance and, ultimately, job attainment (McNamee & Miller, 2009; Stanton-Salazar, 2011).

Variations in social and cultural capital present unique challenges to students entering a nursing pre-licensure program, as students from area lower- and even middle-class school systems find themselves challenged not only by the demands of nursing education, but also by the principles of personal autonomy and shared governance popular among local healthcare industry leaders (Melillo, Dowling, Abdallah, Findeisen, & Knight, 2013).

While many school systems across the nation have been fighting for financial survival, the dichotomy between academic outcomes in urban, lower/middle-class and suburban upper-class schools systems continues to widen (Laureau, 2003). As a requirement for funding, mastery of the Common Core Curriculum emphasizes test performance for students in lower/middle-class suburban school systems, but does not engage students through critical thinking, team-based self-governance activities, and practical application (Nielsen, 2013). Without social reinforcement of these practices in the home, students from urban lower/middle-class school systems may experience culture shock and intrapersonal stress when they encounter the early demands of prerequisite courses and, ultimately, the demands of the nursing classroom for the first time (Condon et al., 2013; Fuller, 2012).

Variations in Social Class and Parenting Styles

Laureau (2003) closely followed high school students from a spectrum of schools ranging from poor urban, lower middle-class schools to wealthier suburban, upper-class schools. In each school, Lareau found intentional and unintentional means which encouraged replication of the social class of the surrounding neighborhood. Lower-class schools, for example, encouraged direct, linear thinking, obedience to authority, and a

curriculum based on rote memorization—all of which seem highly discordant with the critical thinking and clinical thinking skills required by nursing pedagogy. On the other hand, upper-class schools espoused a curriculum that prompted teamwork, critical thinking, and personal autonomy—concepts that support critical thinking and principles of shared governance required both in nursing schools and the healthcare workplace.

The impact of these differences can be counterbalanced by effective nursing school administrators and faculty members acting as empowering agents (Stanton-Salazar, 2011) to create a culture within the SON that accommodates individual and group differences and assists students with accessing academic advising or faculty advising and other supportive services such as student clubs and social organizations (Dapremont, 2014; Hansen & Beaver, 2012; Memmer & Worth, 2014). Unfortunately, minority and ESL students may not feel comfortable accessing these valuable services and instead seek assistance from family or friends at home, many of whom have little or no experience in higher education.

Parenting Style and Student-Teacher Mismatch

A number of studies (Beeman & Waterhouse, 2001; Choi, 2005) have identified critical thinking skills and capacity for effective social interaction as highly important to successful nursing program completion. In a focused attempt to examine the cultural roots that may inhibit student success Laureau (2003) found that teachers from lower-middle-class schools often mirrored the discourse and parenting styles similar to that which children experienced in their home environments. For example, teachers from the urban/lower-class school systems allowed far more unstructured playtime than their suburban/upper-class counterparts. Similarly, parents from lower-class schools allowed

their children to structure their free time independently and interacted with them in a much more authoritarian manner. Left to their own devices, Lareau concluded children from these types of homes structured their free time around non-academic and peer-based social activities that did not encourage critical thinking.

Lareau (2003) in turn found that parents from upper-class schools were heavily involved in providing their children with quality leisure activities rooted in academia and the arts, and therefore engaged them with adult-like discourse. Teachers in upper-class school systems mirrored the discourse style of upper-class parents and taught critical thinking and team-building skills through conversations with their students that resembled adult peer interaction. Such social capital would prove adaptive for nursing students, who must rapidly learn skills of patient assessment, therapeutic communication, and interdisciplinary collaboration (Carrick, 2011; Fuller, 2012; Penprase & Harris, 2013). Lastly, students from upper-class neighborhoods predominantly have far more access to adults who have achieved educational and vocational success. These connections are invaluable to students as they self-define cultural and educational norms within the sphere of influence of educated professionals and therefore perpetuate a cultural legacy for success rooted in highly valuable social capital (Moje & Martinez, 2007; Stanton-Salazar, 2011).

Minority Students' Self-Identity, Cultural Expression, and Academic Performance

Often intimidated by school cultures, minority students self-define a “home front,” defined by Moje and Martinez (2007) as a safe space for cultural expression. The home front is not spatially defined but rather conceptualized in terms of trusted relationships with family members and friends who can assist students with cultivating

ethnic identity but may offer little assistance in developing academic skills. Within schools, however, “empowerment agents,” or educated, culturally matched adult professionals can give advice on navigating structural and ideological roadblocks to nurture academic success (Moje & Martinez, 2007). In the absence of culturally matched adults, informed faculty members and advisors can also make a substantial impact. Unfortunately, although minorities collectively comprise greater than 35% of the US population, they comprise only 19% of the registered nursing workforce and less than 5% of nursing faculty (Nursing Statistics, 2013). Furthermore, despite some modest gains, men still comprise only 9.6% of the total number of nurses and less than 2% of full-time nursing faculty (Enhancing Diversity in the Nursing Workforce, American Association of Colleges of Nursing, 2015), thus compromising the availability of empowering agents for men as well. Although students’ self-defined concept of “home front” may prove adaptive in terms of nurturing cultural identity, an absence of culturally matched teachers and educated professionals within students’ culture leaves a significant gap in resources to nurture academic prowess.

Variations in Narrative Strategies of Students

Similarly, Michaels (1981), as further researched by Michaels, O’Connor and Resnick (2007) and Manjarres, Roman, and Medzerian (2012), discussed teacher influence on elementary school students’ styles of discourse. Michaels (1981) found that Caucasian middle-class students presented recent events using a linear narrative arc, referred to as a “topic-centered” manner of discourse. In other words, they conveyed stories to the class in a far more adult-like direct manner with fewer digressions.

Michaels (1981) determined this topic-centered manner of discourse was the result of

stronger and more structured parental involvement and children interacting with their parents in a more adult-like manner.

In turn, students from working class or urban schools presented their stories using a more circular narrative arc, referred to as a “topic-associative” narrative style. Michaels (1981) and Manjarres, Roman, and Medzerian (2012) found these students, many of whom were of color and often from urban or lower-income families, were engaged far less frequently with adults outside of school. Their parents provided direction and structure in a more authoritarian manner but often did not elicit their children’s thought or opinion, thus resulting in children cultivating their style of discourse on the basis of peer interactions. Although these findings in themselves were interesting, the reaction of the teacher to these differences was even more compelling. Michaels found that students of color were interrupted far more frequently and offered redirection in their own style of discourse, resulting in a far less productive learning experience. In fact, given these frequent interruptions, the presentations provided by minority students were significantly shorter than those provided by their non-minority peers (Michaels, 1981).

Applications to Nursing

The relevance to these landmark studies—and others like them—to nursing education is noteworthy. Nursing instructors, like other educators, act in a sociocultural manner (Case, 1996) as they instruct students in each of the three nursing academic settings (i.e., classroom, skills lab, and clinical experience). Nurses often communicate patient demographic and medical information in a highly direct, linear manner (Billings & Halstead, 2012; Memmer & Worth, 2014; Olson, 2012). Nursing instructors model this style of discourse during presentations in the clinical area known as pre- and post-

conferences and may unwittingly discourage minority students who display alternative narrative styles from full participation in the learning experience (Hagey & Mackay, 1991). Clinical instructors who interrupt these students and offer tacit—or overt—criticism may thwart effective performance by minority students in the clinical setting (Sedgwick, Oosterbroek, & Ponomar, 2014).

Since the majority of students admitted to the SON were educated in a wide array of local public and private schools, they have understandably exemplified differences in social/cultural capital, narrative strategies, views of authority, and principles of autonomy/shared governance. The implications for such differences among students are enormous and influence student selection, attrition, and educational outcomes, not the least of which is achieving licensure by passing the NCLEX-RN®, preferably on the first attempt (Beeman & Waterhouse, 2001; Pennington & Spurlock, 2012). In turn, despite adequate aggregate performance on the NCLEX-RN®, schools of nursing located in economically challenged urban locations with increased diversity often reflect higher levels of attrition for minority and ESL students (Dapremont, 2014; Olson, 2012; White & Fulton, 2015).

The University's Metropolitan Area in Profile

As the University's primary student catchment area, the city and its surrounding suburbs are indeed rich in population diversity (Profile of Selected Social Characteristics, US Census Bureau, 2010); however, similar to urban areas across the US, the entire region also bears the burden of decades of covertly racist federal housing policies, resultant cycles of segregation-integration-resegregation, a decimated urban core, multiple failed attempts at school system reform, a sagging economy, and substantial

immigration (Berlin, 2010; Rumberger, 2011). Each of these historical factors has the potential to negatively impact nursing program effectiveness through individual and aggregate academic failures (Billings & Halstead, 2012; Carr, 2011). The interplay between nursing competence and organizational mandates for diverse, inclusive student bodies has proven to be very challenging for nursing program administration and faculty (Penprase & Harris, 2013). Although minority students often show much interest in the nursing, meeting admission criteria and then successfully navigating the challenges of the nursing curriculum often prove overwhelming (Dapremont, 2013; Lange, Ingersoll, & Novotny, 2008; Melillo, Dowling, Findeisen, & Knight, 2013).

The University's 2010 Diversity and Inclusion Plan (Nuru-Holm, 2010), a key tenet of which is to recruit and retain diverse student bodies, seems thwarted by the needs of students from the city and inner-ring suburbs, many of whom are minority or first-generation immigrants with lower socio-economic status (SES) who show interest in the nursing major but may lack the academic prowess to successfully navigate the nursing curriculum or pass the NCLEX-RN®. For example, the city's 2014 American College Testing® (ACT®) average composite score of 16 placed it far below the state's average of 22 and below the required 19 for admission to the University. Furthermore, the City's metropolitan school district's average composite score of 16 placed the district on the 23rd percentile for the ACT®'s national rankings, a significant concern for students seeking higher education in any field (National Ranks for Test Scores and Composite Score, American College Testing®, 2015).

Similar to other urban universities with missions that promote diversity and inclusion, the University is located on the eastern edge of the city's downtown area and

maintains close affiliation with its metropolitan school district through a number of collaborative programs, not the least of which is a University-operated science, technology, engineering, and math (STEM) high school (Canfora, 2013). The STEM model's isolated success has been carefully nurtured and holds promise to prepare students for careers in technical fields and health sciences, in part to support the city's burgeoning research and healthcare industries.

A solid primary and secondary education is indeed necessary to navigate the complexities of nursing coursework. Nursing's pedagogical rigor is further evidenced by the work of competent graduates who achieve licensure and provide safe, highly competent nursing care to the community at large. The SON's mission is ultimately influenced by the State's Administrative Code related to nursing education (OAC 4723-5), a key tenet of which is satisfactorily meeting benchmarks for first-time program aggregate pass rates on the NCLEX-RN®. Meeting this requirement amid the complex cultural milieu of the city's greater metropolitan area is quite a challenge.

Social and Economic Forces Shaping the Greater Metropolitan Area

During the past century, social and economic forces shaped the City's metropolitan area and school systems, which in turn impacted the potential applicant pool from which the SON's student bodies are selected. These historic factors have created an interlocking system of urban-suburban social strata that offer inclusion for many and exclusion for others due to variances in access to resources that provide crucial academic skills and social preparation (Moje & Martinez, 2007; Stanton-Salazar, 2011). Stanton-Salazar further asserted that exclusion is then often perpetuated by resultant differences in academic performance and other forms of socio-cultural capital.

As the University's birthplace, the City's history during the past 75 years offers a rich illustration of the shifting population dynamics that permanently altered key social, cultural, and economic structures within its greater metropolitan area. Secondary to a dramatic urban-suburban population shift, the City, like other northern industrial regions, has been challenged by increased cultural and linguistic diversity, changing perspectives on social and professional roles for women, stronger economic competition, and a declining public school system (Rumberger, 2011; Wilson, 2009).

The Legacy of the Third Great Migration

During the last century, the City experienced a rapid diversification of its population when millions of African-Americans united in a Third Great Migration (Berlin, 2010) to flee overtly restrictive racist policies in the deep South and follow their dreams northward (Wilson, 2009; Berlin, 2010). Once they arrived in large, northern, industrial cities, however, they were denied equal access to housing and employment and thus found themselves trapped in decaying urban cores with highly segregated schools systems that offered few opportunities for economic opportunity and social advancement (Laurea, 2003; Oliver & Shapiro, 1995; Wilson, 2009).

By the mid-1970s, the City's greater metropolitan area was sharply divided by race, with the east side largely African-American and the west side mostly Caucasian (Profile of Selected Social Characteristics, US Census Bureau, 2010). Federal mortgage guidelines favored suburban, mostly Caucasian areas as desirable and worthy of continued investment (Berlin, 2010). As a result, property values soared in suburban areas, thus solidifying the financial futures of suburban school systems across the city's greater metropolitan area.

In parallel, the City's Board of Education (CBOE) scrambled to respond to mounting pressure from residents living in the city's west side and far eastside to maintain segregated schools (Reed v. Rhodes, 1976). From the 1950s through the mid-1970s, the CBOE essentially operated two separate school systems with noted disparities in funding, staffing, and resources, largely in favor of Caucasian students. Faculty members with advanced degrees, new equipment, and current textbooks were disproportionately placed in schools with white majorities. In turn, new school buildings were built in racially transitioning areas in an attempt to contain black migration, and by the 1970s, the City's Metropolitan School District (CMSD) was burdened with a costly, sprawling infrastructure with many under enrolled schools (Reed v. Rhodes, 1976).

African American residents organized *en masse* throughout the 1960s and 1970s and entered into litigation with the CMSD, resulting in a 1976 landmark desegregation order, a key tenet of which included mandatory bussing (Reed v. Rhodes, 1976). White flight quickly accelerated re-segregation of the city's neighborhood schools, further shifting the urban tax base to the suburbs and hastening the decline of the City's metropolitan school system.

Deprived of opportunity for decades, young African Americans, fueled by a mixture of anger and apathy, responded by creating an urban culture marked by distinctive styles of speech, dress and music (Berlin, 2010; Patterson, 2010; Wilson, 2009). New manners of linguistic and cultural expression became artifacts of distinct variances in social and cultural capital between the urban and suburban youth (Berlin, 2010; Stanton-Salazar, 2011). Concurrently, this urban-suburban shifting was underscored by an unequal state formula for funding school systems, spurring the

development of robust suburban school systems that produced superior educational outcomes and richer opportunities for social advancement. Stanton-Salazar's (2011) exploration of social capital exemplifies these interlocking systems of urban-suburban social stratification.

Organizing Framework: Stanton-Salazar's Social Capital Framework (2011)

Stanton-Salazar (2011) expanded Bourdieu's (1986) view of social capital as a primary mechanism for privilege and exclusion in American society. The Social Capital Framework emphasizes the durability of structures of inequality (i.e., differential access to economic and educational resources) as well as cultural responses, often evidenced as covertly racist public policies that support them. Stanton-Salazar (2011) described resultant deficits in social capital as a critical underpinning for minority youth. Both forms of capital involve the human connections, collective life experiences and acquired tastes possessed by suburban students that afford them distinct social, academic, and economic advantages. Stanton-Salazar further asserted that social capital is firmly embedded in hierarchical and socially reproductive structures such as educational systems. In doing so, the authors theorized that minority youth lacked many academic tools needed to foster success.

As part of their educational experience, Moje and Martinez (2007) noted a lack of "empowering agents," or educators and other authority figures that can assist students with negotiating systems of social stratification. Such figures are a natural part of a privileged youth's social network, as they naturally learn to negotiate social structures and develop scaffolding strategies to access opportunities for advancement. The success of nursing students who present with an upper or middle-class upbringing is typically not

dependent on the presence of empowering agents within the SON, since they often bring ample amounts of social capital in tow (McNamee & Miller, 2009).

The Social Capital Framework advocates educational equality through opportunity, empowerment, and full integration into the social structure (Sandel, 2009; Stanton-Salazar, 2011). Although this may be an unrealistic goal for urban and minority students, with appropriate faculty intervention, progress can be made. Only through careful examination of the factors leading to a person's social position can countervailing/restraining forces be understood (Oliver & Shapiro, 1995; McNamee & Miller, 2009; Stanton-Salazar, 2011; Wilson, 2009). According to Stanton-Salazar (2011), social status is based on interlocking subsystems of stratification including race, social class, gender, sexuality, ethnicity and age. The organic nature of the interactions between these factors often leads to oppression more often than equality based on the dominance of one group over others.

Scaffolding as a Strategy for Success

On a societal level, Stanton-Salazar (2011) asserted that educators can act collectively to achieve social justice and counter-stratification. They believed that biculturalism, or students' acute awareness of straddling a divide between worlds bounded by competing norms, expectations, and social agendas, can cause tension and stress that may further increase the likelihood of academic failure. Students who experience biculturalism must also develop relational strategies to negotiate between competing social roles in educational settings and avoid cultural conflict with nursing students and faculty members.

Despite their culture or upbringing, students can indeed be taught scaffolding

strategies (Stanton-Salazar, 2011) in order to maintain their cultural identity concurrently with the ability to perform within the socially accepted parameters of a formal educational setting. In order for minority, ESL, and male students to assume an academic identity, they need not leave their culture behind (Fuller, 2012; Memmer & Worth, 2014). They can remain a member of their own ‘in-group’ while learning the art of transitioning in and out of a nursing environment, a context within which they may feel marginalized. These skills, however, are not intuitive and must be taught, preferably by a faculty member who is also from the same minority group (Moje & Martinez, 2007).

Regardless of background, students may scaffold in order to adopt a more formal manner of behavior or discourse than they would typically use in what Moje and Martinez (2007) referred to as their “home front,” a comfort zone typically bounded by their own cultural and social norms, beliefs, and practices. In turn, their interaction with faculty in the academic setting “contact zone” is often more formal and thus markedly different than interactions with peers. Stanton-Salazar (2011) found that although a student’s friends and family members can assist greatly with the formation of social and ethnic identities, they are marginally effective in their ability to teach scaffolding or formal communication skills to promote social networking or academic success. In contrast, faculty members may inadvertently force students to engage in patterns of social interaction or discourse style that would cause them embarrassment in front of their cultural peer group, a phenomenon that is highly destructive to learning (Moje & Martinez, 2007).

Nursing Faculty as Empowering Agents

Nursing instructors have the capacity to act both as cultural mediators and

empowering agents to assist minority, linguistically challenged ESL, and male students to first understand the complexities of nursing education and then increase awareness of resources that will promote success. However, given the mandate to meet strict benchmarks for first-time NCLEX-RN® performance, minority, ESL, and male nursing students are often weeded out from the SON program due to various forms of academic failure (Condon et al., 2013; Melillo, Dowling, Abdallah, Findeisen, & Knight, 2013; Grady, Stewardson, & Hall, 2008). In turn, faculty shortages divert administrative effort toward simply filling staff vacancies and maintaining daily operations, thus diverting energy from value-added activities like student mentoring programs, curricular enhancements, or academic support programs (Billings & Halstead, 2012; Crooks, 2013; Payton, Howe, & Elaine, 2013). Stanton-Salazar (2011) stated that students are unaware of gaps in their social and cultural capital until a faculty member, mentor, advisor, or other empowering agent makes them aware of their own limitations, often after poor performance on an exam or other academic failure. Nursing faculty, advisors, and support staff can positively impact students' success early in their nursing program by guiding them toward mentors or other empowerment agents who can help to supplement deficits in social capital (Crooks, 2013; Payton, Howe, & Elaine, 2013).

Unfortunately, the pressure to maintain adequate NCLEX-RN® pass rates often undermines the intentions of well-meaning nursing faculty members, many of whom could act more effectively to assist at-risk students if they had the time or resources to do so (Corrigan-Magaldi, Colalillo, & Molloy, 2014). Despite far more diverse student bodies, NCLEX-RN® first-time pass rates have become the iconic representation of competing regulatory and cultural demands. Though well-intended, institutional plans for

diversity and inclusion often cause organizational tension between these social and organizational forces (Carr, 2011).

Organizational Mandates for Diversity

Universities nationwide have incorporated principles of diversity and inclusivity into their organizational missions and strategic plans. These principles of inclusive excellence encourage diversity across a framework bounded by instruction, research, scholarship, and creative activity across a wide spectrum of disciplines. Such initiatives are in part intended to recruit and retain diverse bodies of graduates who will lead productive, responsible lives by serving the public both at local and societal levels (Nuru-Holm, 2010).

In keeping with the University's urban location, senior University administration commissioned a task force in 2009 to draft a Diversity Action Plan (DAP) to engage students from diverse social and economic backgrounds. With this plan, the University followed national trends of openness and acceptance for diversity and inclusion. In keeping with the complimentary patterns of social awareness exemplified by Baby Boomers and young Millennials, (McNamee & Miller, 2009; Sandel, 2009) contemporary concepts of diversity are defined not only by composition of student bodies and faculty rolls but also in terms of less tangible concepts like tolerance and plurality of thought. Such acceptance and acknowledgement are powerful ingredients needed to gather support for necessary supportive structures to promote minority student success. The University's plan for diversity and inclusion stands in homage to the metropolitan area's legacy of segregation, failed educational reforms, and for many minority residents, a strong sense of disenfranchisement from the educational system (Berlin, 2010; Reed v.

Rhodes, 1976).

Predictors of NCLEX-RN® Success

The remainder of this literature review examines the demographic and academic variables that influence the ability of SON students to achieve NCLEX-RN® success and in turn analyze the tension created by the University's attempts to promote diversity concurrent with the SON's efforts to maintain accreditation. Although much nursing literature attempts to identify various demographic and academic predictive factors for NCLEX-RN® success (Carrick, 2011; Fuller, 2012; Hansen & Beaver, 2012; Klisch, 2000; Lange, Ingersoll, & Novotny, 2008; Pennington & Spurlock, 2012; Romeo, 2013; Simon & Augustus, 2009; Simon, McGinniss, & Krauss, 2013; Yearick, 2013), none has done so against the backdrop of conflict created by mandates for diversity and inclusion of students within a community defined by a social strata with long-standing disparities in social capital (Stanton-Salazar, 2011).

Demographic Predictors

The following section presents an overview of the demographic predictors used in this study.

Minority Status: Increased ethnic and cultural diversity. Despite comprising 35% of the US population, minority students, especially students of color, comprise less than 8% of the nursing workforce and only 11% of nursing student body membership (Nurse Statistics, 2015). Numerous reports issued by the Institutes of Medicine (IOM, 2003, 2010) have indicated the need for a culturally diverse healthcare workforce in order to address persistent—and growing—health disparities among ethnic minorities. A more diverse nursing workforce would help to ameliorate these disparities through the

provision of culturally competent nursing care (IOM, 2010).

Despite these assertions, minority nursing students often face distinct challenges upon admission to nursing school—most notably a lack of minority faculty members and mentors who can assist with the complex process of developing an academic and professional identity within the parameters of their cultural framework (Crooks, 2013). Faculty can assist students in facing these challenges by coaching them to embrace new academic and communication skills as well as new concepts like shared governance (Dapremont, 2013).

Due to variations in educational experiences and social capital-cultural capital, minority students may also require assistance negotiating actual or perceived barriers to academic success and are therefore at greater risk of failure than their non-minority counterparts. As defined by Moje and Martinez (2007), their home front may not encompass any family members or close friends who have successfully completed a nursing program or any type of formal education. The experience of entering nursing school may therefore prove to be highly stressful, both from academic and social perspectives (Moje & Martinez, 2007; Stanton-Salazar, 2011).

Consequently, high attrition rates among minority students have demonstrated the need for further analysis in order to provide early identification and prompt intervention. However, many schools of nursing lack the financial and human resources to make the necessary programmatic and structural enhancements to promote their success (Dapremont, 2013).

English-as-a-second-language (ESL) Status: Increased linguistic diversity. To complicate matters further, a dramatic increase in linguistically challenged first and

second generation immigrants has also presented significant challenges to nursing programs nationwide (Choi, 2005; Fuller, 2012; Olson, 2012). A similar wave of immigrants, mostly of European origin in the late 19th century and early 20th century prompted a societal outcry that resulted in a cultural imperative for rapid assimilation and swift command of the English language (Berlin, 2010). Although the city's population was overwhelmingly Caucasian during the early and mid-20th century, a wave of European immigrants transformed the city by creating neighborhoods with highly durable ethnic identities. So strong were the socio-cultural forces toward assimilation, however, that these areas began to disappear by the 1950s as noted urban ethnic enclaves were displaced by African-American migration (Miller, 1991).

On a national level, resistance to immigration from non-Caucasian areas resulted in a series of overtly racist laws marked by strict racial immigration quotas, the last of which was repealed as late as 1954. However, more subtly racist federal immigration laws remained in place that were designed to limit population diversity by restricting immigration from such targeted areas as Asia, the Middle East, and Africa (Berlin, 2010). Immigration subsequently slowed to a trickle until the passage of the Federal Immigration Act of 1968, after which tens of millions of people from the Middle East, Asia, Africa, Eastern Europe, and Russia continued to add both ethnic and linguistic diversity to the city's greater metropolitan area. In contrast to the city's urban and inner-ring suburban population, these new immigrants were often highly educated and brought with them extensive experience in higher education from their home countries. However, they often struggled with mastery of English—a challenge which, until resolved, can impede success and upward mobility (Berlin, 2010; Sirin & Fine, 2007).

Although nursing is a desirable, economically stable career choice for 21st century immigrants, students for whom English is a second language (ESL) are often highly linguistically challenged and less successful than their native English-speaking counterparts in the nursing classroom (Olson, 2012). In contrast to individuals in the late 19th and early 20th centuries, today's first and second generation immigrants have not been encouraged to assimilate and master English as quickly—the result of a much higher levels of native language resilience (Dowdy, 2002; Choi, 2005). Subsequently, children who hail from homes in which English is neither socially nor linguistically reinforced remain at higher risk for academic failure. A number of first and second generation immigrants also acquired English as a second language during elementary school in the United States and therefore speak with little or no accent but still present to the nursing classroom with a higher risk for academic failure (Choi, 2005). Deficits in academic performance for these students are far less obvious and may not be detected until midway through the students' crucial first semester. Students may have acceptable skills of verbal expression but become quickly overwhelmed with the dual linguistic challenges of mastering English concurrently with a deluge of nursing vocabulary. Supportive systems need to be in place to encourage these students to recognize their needs and seek assistance as soon as possible (Olson, 2012; San Miguel, Rogan, Kilstoff, & Brown, 2006).

Admission into a nursing program is often a personal victory for immigrant ESL students, many of whom may be the first person in their family to attend college in the United States. However, classroom assignments, skills lab requirements, and clinical experiences quickly present distinct and sometimes overwhelming challenges (Olson,

2012). Prowess in both verbal and written expression is also needed to generate care plans and other complex documents and develop skills of reading comprehension and concept integration required to pass classroom examinations (Choi, 2005; Olson, 2012).

Many ESL students appear highly competent during the SON admissions process but quickly buckle under the pressure required by the academic and linguistic mastery needed to perform in the nursing program (Choi, 2005; Olson, 2012). In keeping with national trends (Corrigan-Magaldi, Colalillo, & Molloy, 2014), the SON has thus developed some supportive structures for ESL students, including academic tutoring and skills remediation. However, at-risk students may not be referred until after they have been unsuccessful in passing their mid-semester examinations, placing them under acute pressure to remediate concurrently with mastering new content required for final examinations. A culturally-based reluctance of many ESL students to ask for assistance also often detracts from their success. (Hansen & Beaver, 2012; Reinhardt, Keller, Summers, & Schultz, 2012).

Some instructors at schools of nursing across the country have identified and incorporated a number of innovative teaching strategies to promote success for ESL students such as substituting smaller, more frequent examinations and other forms of summative assessments in nursing classes. For example, classroom case studies and clinical simulations provide opportunities to integrate theory and clinical knowledge through critical thinking, thus allowing students to demonstrate their competence in formats other than high-stakes written exams (Choi, 2005; Olson, 2012).

Many schools of nursing have assumed a far more proactive approach to cultivating Stanton-Salazar's (2011) vision of empowerment agents through peer and

faculty mentoring programs as well as close academic monitoring from the beginning of the nursing program (Crooks, 2013; Payton, Howe, Timmons, & Richardson, 2013). ESL students who were successful in a nursing program typically did not fail due to a lack of motivation to succeed. According to Pang, Han, and Pang (2011), immigrant students often seek to cultivate areas of academic or professional expertise to increase their status in society. Pang, Han, and Pang further identified structural functionalism as the historical means ESL students used to pursue economically viable career options. Reinforcement of the principles of structural functionalism often has occurred within the student's home front, the family unit that places an overwhelmingly strong emphasis on economic security rather than personal academic or career aspirations. Despite the family unit's powerfully supportive role, Pang, Han, and Pang further acquiesced that mastery of the English language and lack of supportive structures in school programs remain significant barriers to success for immigrant ESL students.

Men in Nursing. The dominance of women in nursing is an obvious yet quietly overlooked aspect of the discipline. Viewed from the perspective of feminism as a dominant force in nursing, such supremacy is far from a professional underpinning; it is rather a cultural imperative that drives nursing practice, research, and theory. For more than a century, nursing has been portrayed as the profession of caring. Thus, highly resilient cultural norms evolved that promoted nursing as a profession best suited for women based on a perceived inherent ability to engage in nurturing behaviors based on differences in temperament and upbringing (Meleis, 2007). Acculturated with such a perspective, nursing instructors often injected gender bias into the educational experience of male nursing students, albeit in rather nuanced ways (Brown, Nolan, & Crawford,

2000).

Because traits such as gentleness, compassion, and caring were historically viewed as innate to the female psyche, nursing in the western hemisphere evolved accordingly (Meleis, 2007). Regrettably, as reported in Brown, Nolan, and Crawford (2000), even Florence Nightingale did not support male nurses and strongly asserted that their "...hard... hands were not fitted to touch, bathe, and dress wounded limbs, ...". Nightingale's belief that men were inherently incapable of effective nursing practice quickly took root and laid a highly resilient foundation of enduring, gender-biased educational practices.

Consequently, men's efforts at caring often have been negated through labeling, tracking, and linguistic isolation; they often have been referred to as "male nurses" while females typically have been referred to simply as "nurses." Such exceptionalizing, or labeling male nurses as exotic, will continue until men have been sufficiently represented within the nursing profession to create a new norm of gender equality (Cowan, Week, & Wicks, 2015; Grady, Stewardson, & Hall, 2008).

With the absence of empowerment agents (Moje & Martinez, 2007), men, who currently comprise less than 6% of the nursing workforce—and even a smaller percentage of nursing faculty members—often lack social support during their nursing studies and understandably self-select into technical or crisis-oriented nursing specialties such as emergency medicine or critical care (Kouta & Kaite, 2011).

From the perspective of male social-cultural capital in nursing, some provocative issues are evident. For example, does a newly-emerged feminist nursing perspective protect the profession's status as a female bastion of opportunity, or is it possible to fully

embrace gender equality and acculturate males into the profession? According to Brooks and Silverstein (1995), enduring stereotypes of men as impulsive, violent, abusive, and non-nurturing have in turn represented the implied counterpoint to the same perspective.

Male nursing students may experience acute gender bias from the inception of their nursing education, since men are a minority within the profession of nursing and an even greater minority among nursing faculty members (Kouta & Kiate, 2011). As female nursing faculty themselves have been educated under these tenets, they may subtly steer men from fully exploring certain nursing specialties such as obstetrics and pediatrics, disciplines traditionally considered appropriate only for females (Kouta & Kaite, 2011). Perhaps through such covert misandry, male students will continue to self-select into more technical, crisis-oriented and therefore more “masculine” aspects of the nursing profession, or of even greater concern, change to another course of study altogether.

Academic Predictors

The following section presents an overview of the academic predictors used in this study.

Previous Level of Education. The popularity of nursing education programs among adults who hold a previous baccalaureate (or higher) degree has been growing steadily since the late 1990s (Benson, 2012). These accelerated programs typically allow students to complete the requirements for a Bachelor of Science in Nursing (BSN) degree in as little as 14 months. Based on SON admission criteria, applicants to the ABSN program must have, at a minimum, earned a bachelor’s degree in another field. On rare occasions, applicants may have achieved a degree that exceeds these expectations, namely a master’s degree, Ph.D., or other terminal degree.

Although a previous Bachelor's (or higher) degree may not have direct application to nursing, it may have a powerful influence on student performance, especially since students with this credential already may have valuable experience with navigating academic, ideological, and structural roadblocks within institutions of higher learning (Penprase & Harris, 2013) . Specifically, a previous baccalaureate (or higher) degree may indicate students have experience with didactic lectures, written coursework and classroom presentations, as well as an enhanced network of social and professional connections. Although the trifecta of the nursing classroom, skills lab, and clinical setting may still present a formidable challenges to students who hold a previous degree, they enter nursing school with academic experience and increased social and cultural capital that may potentially grant them an advantage over their counterparts who have no previous experience with higher education (Payne, Giaspie & Rosser, 2014).

Assessment Technologies Institute (ATI™) Comprehensive Predictor

Examination Score. The ATI™ program is comprised of an array of paper and electronic resources from which schools of nursing choose to best support student progress. As a program requirement, pre-licensure SON students pay fees, after which they receive a hardcopy boxed set of ATI™ books and access to other electronic resources intended as formative tools for use throughout their course of study. The books cover the expected spectrum of nursing coursework including nursing fundamentals, adult medical-surgical, pharmacology, pediatrics, obstetrics, mental health, leadership, nutrition, and community health (Content Mastery Series®, Assessment Technologies Institute™, 2013). After each course, students are given a summative, non-proctored examination to assess their command of the material.

Near program completion, students take the ATI™ RN Comprehensive Predictor Examination Version 3.0, a comprehensive summative assessment examination intended to predict the likelihood of passing the NCLEX-RN® on the first attempt (RN Comprehensive Predictor™ 2013 and NCLEX-RN® Readiness, Assessment Technologies Institute™, 2014). In both the SON's basic and accelerated pre-licensure programs, the ATI™ Comprehensive Predictor Examination is administered during the last semester. This high-stakes comprehensive exam places students in one of four categories Level III (high likelihood of passing the NCLEX-RN® on the first attempt, Level II (moderate likelihood of passing the NCLEX-RN® on the first attempt), Level I (minimal likelihood of passing the NCLEX-RN® on the first attempt), and Less than Level I (very low likelihood of passing the NCLEX-RN® on the first attempt) (ATI™ Score Explanation and Interpretation Group Experience Profile, Assessment Technologies Institute™, 2010).

Students must pass the examination with a score that places them at a Level II. If students are unsuccessful in meeting this goal, they must complete a remediation module and then schedule appointments to re-take the exam on an individually proctored basis until a score placing them at Level II is attained. Although students who are unsuccessful at achieving a Level II on the Comprehensive Predictor Exam are permitted to graduate, they must complete an NCLEX-RN® review course in order to enhance their success. Despite the rather high stakes nature of the ATI™ Comprehensive Predictor Examination, the totality of the ATI™ formative and summative assessment tools have demonstrated high levels of efficacy and therefore remain in wide use in nursing programs throughout the country (Phelan, 2014).

Grade Point Average (GPA) at Nursing Program Completion. A number of studies have utilized nursing program entry grade point averages as a predictor of passing the NCLEX-RN® on the first attempt (McCarthy, Harris, & Tracz, 2014; Silvestri, Clark, & Moonie, 2013). However, far fewer studies have examined GPA just prior to graduation as a predictor, the reasons for which are many. Most notably, there is an underlying assumption that mere program completion may ensure mastery of basic nursing curriculum. Since GPA is in turn a summation of performance in the classroom, nursing skills lab, and clinical setting, it has been understood that students whose GPA is in range with graduation requirements have achieved basic competence and are therefore viewed as at least minimally prepared to take the NCLEX-RN®.

However, the usefulness of GPA just prior to graduation as a predictor of NCLEX-RN® performance has been lately challenged out of concerns of poor classroom test construction, grade inflation, and lack of faculty inter-rater reliability (King-Jones & Mitchell, 2012; Scanlon & Care, 2008). The majority of nursing programs assign students grades for work completed in the classroom, Nursing Resource Lab (NRL), and sometimes in the clinical setting. Due to the shortage of nursing faculty members, adjunct faculty members, many of whom lack any formal training in educational methods, are frequently used to fill vacancies both in the classroom and clinical settings. As a result, grade distributions are often skewed based on grade inflation, low inter-rater reliability, and poor test construction with the majority of students therefore receiving an “A.” This grade inflation has led to student frustration in that other faculty members, later in students’ nursing school experience, may grade students more stringently and provide them with feedback that more appropriately capture their performance (King-Jones &

Mitchell, 2012, Scanlan & Care, 2008).

In particular, poor test construction is of great concern, particular in terms of NCLEX-RN® preparation. Effective exam questions should be written in a manner that promotes critical thinking through the same types of questions that will be encountered on the NCLEX-RN® exam (Billings & Halstead, 2012). Unfortunately, many exam questions are written in straightforward multiple-choice format that may insure higher grades, but prove insufficient in challenging students for either the ATI™ Comprehensive Predictor Examination or the NCLEX-RN®.

Consequently, schools of nursing frequently encounter students who have cultivated high GPAs but lack the critical thinking skills necessary to pass either the a comprehensive predictor examination or the NCLEX-RN® (Brodersen & Mills, 2014; Romeo, 2013). Students who experience this quandary may become very frustrated, especially if they received high grades in their coursework and thus a high GPA.

Conclusion

The need for schools of nursing to graduate diverse student bodies is key to providing culturally competent care to a population rapidly increasing in cultural diversity (IOM, 2003; Klisch, 2000). The path to program completion and licensure, however, is often difficult for many nursing students who lack the social or cultural capital of their colleagues. Three distinct educational settings—namely the didactic classroom, the nursing resource lab, and clinical experiences—require rapid knowledge assimilation and the capacity to communicate effectively, often in highly nuanced ways (Lange, Ingersoll, & Novotny, 2008). Such challenges have placed some students at greater risk for academic failure—namely students from cultures and socioeconomic

status remarkably different from a traditional Caucasian middle-class perspective (Stanton-Salazar, 2011).

Internal academic referral and support systems for SON students who fall outside this narrow cultural framework can help students identify resources (i.e., empowering agents) to address barriers to academic success, particularly in terms of cultivating appropriate scaffolding techniques. However, given that minority, ESL, and male students frequently lack the social capital of their colleagues, success often remains elusive (McNamee & Miller, 2009; Moje & Martinez, 2007; Schooley & Kuhn, 2013; Stanton-Salazar, 2011).

First-time NCLEX-RN[®] pass rates are highly important as a key indicator of nursing program quality (Claussen, 2012). Although the SON meets first-time NCLEX-RN[®] benchmarks, is this snapshot the only indicator of program quality, or do disproportionately higher attrition rates for minority, male and ESL students point to needed areas of curricular and pedagogical enhancements? Resultant analysis and discussion may suggest additional improvements to cultivate diverse student bodies, which upon graduation and successful completion of the NCLEX-RN[®] will provide safe, competent care to the residents of the City's greater metropolitan area and beyond.

CHAPTER III

METHODOLOGY

The purpose of this exploratory study was to examine the predictive power of various demographic and academic variables on the single dichotomous outcome variable of first time pass rates for the National Council Licensure Examination (NCLEX-RN[®]) taken by students during a 5-year period in the SON's pre-licensure programs. A secondary purpose for the study was to analyze patterns in attrition and completion rates for minority groups among SON graduates to determine whether observed rates are consistent with those found in current literature, which often indicates that variations in social and cultural capital either contribute to or detract from student success.

Research Design

The study utilized a quantitative non-experimental design. After careful review of the literature, a variety of academic and demographic independent variables were identified, namely gender, ethnicity, ESL status, previous level of education, cumulative GPA at program completion, and ATI[™] comprehensive exam predictor score. The single dependent variable was outcome on the NCLEX-RN[®], with success defined as passing the examination on the first attempt. As this dependent variable is dichotomous

in nature, it was coded as 1=successful/passed the NCLEX-RN® on the first attempt and 0=unsuccessful/failed the NCLEX-RN® on the first attempt.

Research Questions

The questions for which this research sought answers were:

1. To what extent do demographic characteristics (i.e. gender, ethnicity, ESL status) and academic characteristics (cumulative GPA at program completion, ATI™ comprehensive predictor exam score, and previous level of educational attainment) predict success on the NCLEX-RN® for 2011-2015 SON pre-licensure program graduates.
2. Which of the variables noted above is the most significant predictor of success on the NCLEX-RN® for 2011-2015 SON pre-licensure program graduates?

Participants

A convenience sample was comprised of all students who completed a pre-licensure BSN in the SON from May, 2011-May, 2015. In addition to encompassing the most current student data available, the timeframe of 2011-2015 was selected in that there were no significant changes to NCLEX-RN® testing methodology or to the SON curriculum during that time period. In fact, the last significant change to the NCLEX-RN® was in 2011, meaning 2011-2015 graduates were given NCLEX-RN® examinations with a similar testing methodology. In turn, the only change to the SON curriculum during this same time period was a very minor adjustment in the number of clinical and laboratory hours for two clinical courses (Ohio Board of Nursing Pre-Visit Survey Summary Report, 2015).

There were 586 student cases in the study, with nearly even representation from

both the pre-licensure BBSN and ABSN programs. Each program admitted approximately 80 students annually, varying by cohort from a high of 88 to a low of 72. This variation in class sizes was due to last-minute applicant withdrawals and student attrition. Consistent with expected demographic patterns in nursing programs nationwide, female participants significantly outnumbered male participants. In addition, the SON has historically maintained an average of 10-20% minority and ESL students and thus a similar percentage was observed within the study sample.

Data Collection Procedures

Data for this study were derived from two principle secondary sources. First, data were retrieved from participants' demographic profiles and transcript information provided by students during the University's admissions process. This secondary data, including gender, ethnicity, English as a second language status, and previous level of education were in turn supplied by the Office of Institutional Research (OIR) to the SON Assistant Director of Student Services, who insured all data were properly de-identified before presenting it to the researcher. Additional de-identified academic data, namely final grade point average (GPA) at program completion and final ATI™ comprehensive predictor examination scores, were retrieved directly by the School's Assistant Director of Student Enrollment Services from the students' electronic records.

Next, a report provided by the Ohio Board of Nursing consisting of public data housed on the National Council of State Boards of Nursing (NCSBN) and the Ohio Board of Nursing websites were obtained and carefully reviewed by the School's Assistant Director of Student Services to determine whether each student passed the NCLEX-RN® on the first attempt. The Ohio Board of Nursing was the direct provider of information

for greater than 90% of the participants in the study sample. The NCSBN national database in turn provided results for students who relocated after graduation and took the NCLEX-RN® in another state.

All data classified as categorical (gender, minority status, ESL status, previous level of education, and NCLEX-RN® pass/fail) was coded using a dichotomous scale of 0 and 1. For the purposes of this study, significance will be determined by $p < .05$.

Institutional Review Board Procedures and Ethical Considerations

Prior to initiation of this study, the researcher sought approval from the University's Institutional Review Board (IRB). As the study used de-identified student data, the true identity of all study participants remained unknown to the researcher at all times. Since no direct or indirect risks to students within the sample group was anticipated, the study was determined to be exempt from further review by the University's IRB (IRB #FY2016-85). Student data were provided by the University's Office of Institutional Research (OIR) to the SON's Assistant Director of Program Services, who in turn insured the data were carefully de-identified, meaning each student was assigned an identifying number that was used throughout the study. Data have been maintained in a secure location throughout the course of this study and will be properly destroyed upon the completion of the research study.

Variables and Measures

The study utilized multiple independent variables, derived from data that captured both student academic achievement and demographic information.

Academic Achievement Independent Variables

The following section presents an overview of the academic achievement

independent variables.

Previous level of educational attainment. Based on SON admission criteria, applicants to the Basic Program must have, at a minimum, a high school diploma or equivalent (i.e. GED). In contrast, applicants to the Accelerated Program must have, at a minimum, earned a Bachelor's Degree in another field. Occasionally, applicants have achieved a degree that exceeds these expectations (i.e. some applicants to the Basic Program may have a Bachelor's degree—or higher—in another field, or applicants to the Accelerated Option Program may have a Master's Degree, PhD, or other terminal degree). Accordingly, regardless of enrollment in either the BBSN or ABSN Program, participants were coded according to the following categories: 0=no Bachelor's degree (or higher) or 1=Bachelor's degree (or higher).

Cumulative Grade point average (GPA) at nursing program completion. A student's final GPA is defined as their cumulative University GPA at program completion and is used as an indicator of overall academic performance while enrolled at the University. For the purposes of this study, Grade Point Average (GPA) was viewed as a continuous variable and calculated as the total number of grade points received over a given period divided by the total number of credits awarded. GPA was captured on an absolute continuous scale from 0.00 (lowest achievement) to 4.00 (highest achievement), rounded to the nearest hundredth.

ATI™ comprehensive predictor examination score. Students take a summative, comprehensive ATI™ examination near program completion. The purpose of this examination is to indicate the probability (expressed in percentage form) that a student will pass the NCLEX-RN® on the first attempt. According to SON Policy,

students must achieve a score of 65% on the ATI™ Comprehensive Predictor Examination, which, as stated on the ATI™ RN Comprehensive Predictor 2010 Expectancy Table, maps to an 81-82% predicted probability of passing the NCLEX-RN® on the first attempt (ATI™ Score Explanation and Interpretation Group Experience Profile, 2010). Students who are not successful in achieving an individual score of 65% (predicts a strong likelihood of NCLEX-RN® passage) are asked to re-take the examination until a passing score is achieved. If the benchmark is not reached, the student is permitted to graduate but may also be required to take an external NCLEX-RN® preparatory course.

For the purposes of this study, ATI™ Comprehensive Predictor Examination scores were coded as a continuous variable and captured on an absolute scale from 0.0-100.0%, rounded to the nearest tenth. Individual student results were obtained by the SON Assistant Director of Student Services from an ad hoc report produced by the ATI™ software program, and were in turn properly de-identified before presentation to the researcher.

Demographic Independent Variables

The following section presents an overview of the demographic independent variables.

Gender. As a dichotomous variable, gender was coded as 0=male and 1=female. Gender status was provided by the OIR from the University's electronic student records system based on information provided by students, who selected one of two available categories (i.e. male or female) on the University's application for admission.

Minority Status. Race or ethnicity status was provided by the OIR from data

retrieved from the University's electronic student records based on information provided by the student during the University's admissions process. As will be reviewed in Chapter IV, although there were a number of categories for race and ethnicity on the University's application for admission, data for this categorical variable were coded as 0=Minority and 1=Non-minority.

ESL Status. English as a second language status was provided by the OIR from data retrieved from the University's electronic student records as well as by information housed in the student's SON advising records. ESL status was treated as a categorical variable and coded as 0= ESL student, 1=Non-ESL student.

Dependent Variable

The dependent variable was defined as the outcome of each student's first attempt on the NCLEX-RN[®]. Due to the dichotomous nature of this dependent variable, results were coded as 0=fail and 1=pass. Success was equated with passing the exam on the first attempt and was coded accordingly as 1.

Data Analysis and Procedures

The Statistical Product and Service Solutions[®] (SPSS) Version 22.0 Program (IBM Corporation, 2013) was utilized for analysis of all data. Basic descriptive statistical analyses including percentages, frequency counts, and cross tabulation were used for cursory analysis of the data. Means and standard deviations were also used for more in-depth analysis. Biserial and Pearson's *r* correlations were then used to determine the strength of the relationship between the demographic and academic independent variables.

A linear logistic regression model, though not commonly used, was utilized next

to combine categorical and continuous variables in a model to predict the outcome of NCLEX-RN® first attempt success or failure. Although logistic regression has some similarities with other forms of discriminant analysis, it has a distinct advantage in that it is less affected and remains more robust when normality of the independent variables is not met. As it is therefore limited to predicting only dichotomous outcome/dependent variables, it was suitable for the purposes of this study.

Model Specification Detail

Logistic regression is a generalized linear model (GLM) that accommodates the use of both categorical and continuous independent variables and a single dichotomous outcome variable. “Just as with multiple regression, logistic regression predicts a metric dependent variable, in this case probability values constrained to the range between 0 and 1” (Hair, Black, Babin, Anderson, & Tatham, 2010). Furthermore, logistic regression affords the opportunity to concisely present the logit value or odds ratio as the probability of the two possible outcomes of the dependent variable (i.e. first-time NCLEX-RN® pass rate) as between 0 and 1. Logistic regression will therefore produce an estimate of the probability of first-attempt success on the NCLEX-RN® exam based on the various academic and demographic predictor variables by restating probability as an odds ratio; namely the logistic model presents the estimation of the probability of achieving success, which in this study is passing the NCLEX-RN® on the first attempt and subsequently coded as 1.

Graphically the linear logistic regression model is described by the mathematical function:

$$f(y) = \frac{1}{1+e^{-y}}, -\infty < y < \infty$$

and where:

$$y_i = \beta_0 + \beta_1(ETHNICITY_i) + \beta_2(ESL STATUS_i) + \beta_3(GENDER_i) + \beta_4(GPA_i) + \beta_5(ATI SCORE_i) + \beta_6(PREVIOUS EDUCATION_i) + \varepsilon_i$$

Since logistic regression is rooted in probabilities, $f(y)$ falls within a range of 0 to 1 in a monotonically increasing manner as y increases from $-\infty$ to ∞ . Logistic regression makes no assumptions about the distribution of the independent variables. More importantly, logistic regression lends itself to dichotomous outcome variables that are categorical in nature. Therefore, there is no need for the variables to be normally distributed, linearly related or of equal variance.

Odds ratios and logistic regression. An odds ratio (OR) is defined as the numerical representation of exposure to an identified variable and the resultant outcome; in particular, the OR is a measurement of the association between an exposure and the related outcome. The OR therefore represents the odds of the outcome's occurrence given a particular exposure, as compared to the odds of that occurrence in the absence of that same exposure. When formulating a logistic regression, the regression coefficients (β) are viewed in terms of the estimated increase or decrease in the log odds of the identified outcome per an associated per unit increase or decrease in the value of the exposure. Similarly, the regression coefficient (β) is viewed in the odds ratio that represents a one-unit change (increase or decrease) in the exposure. In this study, the odds ratios were used to determine the relative odds of the outcome of interest (i.e. passing the NCLEX-RN® on the first attempt), given exposure to a number of variables of independent interest (i.e. gender, ethnicity, ESL status, GPA at graduation, Comprehensive ATI™ Predictor Exam score, or previous level of educational attainment). The odds ratios were also useful in determining whether exposure to a particular variable of interest increased

the likelihood of the identified outcome, as compared to the other variables identified.

For the purposes of this study, the values of the various odds ratios were interpreted as:

- OR=1 Exposure does not affect the odds of passing the NCLEX-RN® on the first attempt
- OR>1 Exposure is associated with higher odds of passing the NCLEX-RN® on the first attempt
- OR<1 Exposure is associated with lower odds of passing the NCLEX-RN® on the first attempt

Summary

Chapter III describes the proposed study's research methodology as well as presents logistic regression as the principal technique for multivariate data analysis. The chapter further described the sources of primary and secondary data used in the study, namely student demographic and academic data, and the characteristics and coding of the various independent and dependent variables.

CHAPTER IV

RESULTS

Chapters I to III provided an introduction to the study, a review of the literature, and the research methodology, respectively. Chapter IV presents the results of the study, which are divided into three sections. The first section is an overview and analysis of the study sample as well as a description of the independent variables and dependent variable. Descriptive statistics of the independent variables include frequency distributions, means, and standard deviations as appropriate for categorical and continuous study variables, respectively, followed by a preliminary review of correlations between the independent variables. The second section reviews the study's research questions in light of the predictive power of the various demographic and academic independent variables using linear logistic regression, the study's method of bivariate analysis. To explore the efficacy of the independent variables, the third section presents the global, cohort-specific, and independent variable-specific attrition rates. Statistical analysis was accomplished using the SPSS® 22.0 software (IBM Corporation, 2013).

Descriptive Statistics

The following section presents a review of the descriptive statistics of the study's sample, independent variables, and dependent variable.

Description of the Study Sample

The study sample was drawn from the 586 graduates of a large urban university's 2011-2015 SON graduating classes and included only students who successfully completed their respective nursing program and took the NCLEX-RN® with obtainable results. Two students in the sample completed their nursing program, but despite exhaustive efforts, their NCLEX-RN® results could not be retrieved and they were excluded from the study. Three recent nursing graduates had not yet registered to take the NCLEX-RN® and were also not included. With the exclusion of these five students, the study analyzed data for 581 students.

Graduating classes were further separated into cohorts as indicated by their course of study, namely the Basic (BBSN) or Accelerated (ABSN) nursing programs. The frequency of students in each class (aggregate of ABSN and BBSN students for each year) and the frequency of students in each cohort (i.e. ABSN or BBSN for each year) is shown in Table 1. Cohorts 2011 ABSN and 2011 BBSN are significantly smaller (i.e. 38 and 35, respectively) because the SON transitioned to larger class sizes during the 2011-2012 academic year; thus, the 2011 graduating class was the last year to reflect smaller class sizes. As further reflected in Table 1, the remaining cohorts ranged from a low of 49 for the 2012 BBSN cohort to a high of 73 for the 2014 BBSN cohort.

Description of Independent Variables

The independent variables used in the study were divided into two categories, namely demographic and academic. The majority of the independent variable data in the study was provided by the University's Office of Institutional Research (OIR) to the SON's Assistant Director of Student Services, who properly de-identified it before giving

it to the researcher.

Table 1: Class and Cohort Sizes 2011-2015 (N=581)

Class	ABSN		BBSN		All	
	#	% Total	#	% Total	#	% Total
2011	38	6.54	35	6.03	73	12.56
2012	63	10.84	49	8.43	112	19.28
2013	62	10.70	71	12.22	133	22.89
2014	63	10.84	73	12.56	136	23.40
2015	60	10.33	67	11.53	127	21.86
Total	286	49.25	295	50.77	581	100.0*

*Percentages do not add up to 100% due to rounding

Demographic independent variables. Table 2 presents a summary of both the sample and class-specific frequencies and percentages for each of the demographic independent variables followed by a more detailed narrative description of each individual variable. The concepts of social capital (Bourdieu, 1986; Stanton-Salazar, 2011) were taken into account when coding the demographic independent variables, with “0” assigned to the group perceived to have less social and cultural capital and “1” assigned to the group perceived to have greater social or cultural capital.

Gender. Gender was dichotomously coded as 0=male and 1=female based on data provided by students to the University as part of the initial university admissions process. Only male and female are listed as options for gender self-report on the University’s application for admission; all students in the sample selected one of these two options and were coded accordingly. The majority of the students in the sample (82.3%, $n=478$) reported their gender as female, while 17.7% ($n=103$) of the participants reported their gender as male. The proportions of females and males across the 2011-2015 classes displayed some variation, ranging from 21.9% male ($n=16$) and 78.1% female ($n=57$) for

the 2011 class to 14.3% ($n=19$) male and 85.7% ($n=114$) female for the 2013 class.

Minority Status. Student race/ethnicity was dichotomously coded as 0=minority and 1=non-minority based on data provided by students to the University during the initial university admissions process. Self-reporting options available to students on the University's admissions application included: 1. Ethnicity: Hispanic/Latino, 2. Race: A. American Indian or Alaska Native, B. Asian, C. Black or African American, D. Native Hawaiian/Other Pacific Islander, or E. White. The instructions on the application for admission requested that students provide information on their ethnicity or race, with no requirement to check only one box; thus several students indicated more than one option and were subsequently listed by the OIR as "More than one race." These students, along with Asian, Black/African-American, and Hispanic/Latino were coded as minority=0. Only students who indicated their race as White were coded as non-minority=1. No students identified themselves American Indian/Alaska Native or Native American/Other Pacific Islander.

Immediately following the question about ethnicity or race on the University's application for admission, non-US citizen students are also asked to indicate their citizenship status and list themselves, if applicable, as either

1. Permanent U.S. resident
2. Registered alien

For six students, one of these designations was listed as their race in the data received by the University's OIR. The SON Assistant Director of Student Services carefully reviewed archived SON admission and advising notes for these students to determine appropriate coding for minority/non-minority status.

Table 2: Frequency of Demographic Independent Variables per Class 2011-2015

Variable	Labels	2011 (n=73)		2012 (n=112)		2013 (n=133)		2014 (n=136)		2015 (n=127)		N (N=581)	
		#	%	#	%	#	%	#	%	#	%	#	%
Gender	Male	16	21.9	19	17	19	14.3	21	17.6	25	19.7	103	17.7
	Female	57	78.1	93	83	114	85.7	112	82.4	102	80.3	478	82.3
Minority Status	Minority	11	15.1	24	21.4	12.0	9.0	34.0	25.0	22.0	17.3	103	17.7
	Non-Minority	62	84.9	88	78.6	121	91.0	102	75.0	105	82.7	478	82.3
ESL Status	ESL	2	2.7	4	3.6	2	1.5	12	8.8	10	7.9	30	5.2
	Non-ESL	71	97.3	108	96.4	131	98.5	124	91.2	117	92.1	551	94.8
Education	Previous Degree	38	52.1	63	56.3	62	46.6	63	46.3	61	48.0	287	49.4
	No Previous Degree	35	47.9	49	43.8	71	53.4	73	53.7	66	52.0	294	50.6

Ultimately, the majority of the student sample (82.3%, $n=478$) was determined to be non-minority, while 17.7% ($n=103$) of the participants' race or ethnicity was determined to be non-minority. The proportions of non—minority and minority students across the 2011-2015 classes displayed some variation, ranging from a high of 21.4% minority ($n=24$) and 78.6% non-minority ($n=88$) for the 2012 class to 9% ($n=12$) minority and 91% ($n=121$) non-minority for the 2013 class.

ESL Status. English-as-a-second-language status was dichotomously coded as 0=non-native English speaker and 1= native English speaker. Disclosure of ESL status is not included on the University's application for admission. Thus, the OIR provided data on students for whom Test of English as a Foreign Language (TOEFL®) results were available or for students who took at least one ESL course as reflected on their transcript. To further investigate ESL status, the SON Assistant Director of Student Services, who had a great deal of familiarity with all students in the sample, utilized admission and advising notes in an electronic SON database to gather additional evidence of ESL status and coded accordingly.

The majority of the student sample (94.8%, $n=551$) was determined to be non-ESL/native English speaking, while 5.2% ($n=30$) of the participants' were ESL/non-native English speaking, or students from whom English is a second language. The proportions of non-ESL and ESL students across the 2011-2015 classes displayed some variation, ranging from 7.9% ESL ($n=10$) and 92.1% non-ESL ($n=117$) for the 2015 class to 1.5% ($n=2$) ESL and 98.5% ($n=131$) non-ESL for the 2013 class.

Previous Level of Education. Previous level of education upon admission into the BBSN or ABSN Program was dichotomously coded as 0=no previous Bachelor's (or

higher) degree and 1=previous Bachelor's (or higher) degree. During the University's admissions process, students are asked to disclose their previous academic history by supplying official transcripts, which in turn made this information readily retrievable by the OIR for use in this study. Although students in the BBSN program typically do not have a previous Bachelor's (or higher) degree, a minimum of a Bachelor's degree in another field is required for admission into the ABSN Program. All students in the ABSN cohorts were found to have a Bachelor's degree (or higher), while only one student in the BBSN cohorts was found to have a Bachelor's degree (or higher). Thus, other than this one BBSN exception, the variable Previous Level of Education uniformly sorted ABSN from BBSN students in keeping with their previous level of education on program entry.

The study population (N=581) was almost evenly divided between students who held a Bachelor's degree (or higher) with 49.4% ($n=287$) and those who did not 50.6% ($n=294$). The proportions of no higher degree/higher degree displayed some variation across the 2011-2015 classes, ranging from a high of 53.7% ($n=73$) with no higher degree and 46.3% ($n=63$) with a higher degree for the 2014 class to a low of 43.8% ($n=49$) with no higher degree and 56.3% ($n=63$) with a higher degree for the 2012 class.

Academic Achievement. Tables 3 and 4 present a summary of the global and class-specific distributions of the two academic achievement independent variables, namely GPA and ATI™ Comprehensive Predictor Examination Scores. As these two variables are continuous in nature, descriptive statistics include the mean, median, standard deviation, and skewness, followed by a more detailed narrative description of each variable.

Grade Point Average (GPA). GPA at the time of ABSN or BBSN Program completion was coded as a continuous variable on an absolute scale of 0.00 to 4.00, rounded to the nearest hundredth. The University calculates GPA as the total number of grade points achieved over a given period divided by the total number of credits awarded. During the data collection process it was determined that while GPA from previous coursework outside the University is reviewed during the University and SON admissions processes, it is not included in GPA calculations once University and/or SON coursework commences. As presented in Table 3, GPA for the study sample (N=581) reflected a mean of 3.62, median of 3.63, and a standard deviation of 0.231. The data for aggregate GPA of the study population were negatively skewed and narrowly distributed, with a skewness of -0.639 and a kurtosis of 0.758.

Table 4 presents the class-specific descriptive statistics for GPA. Mean GPA remained fairly constant across the 2011-2015 classes, ranging from a low of 3.58 for 2011 to a high of

Table 3: Population Descriptive Statistics for Academic Achievement Variables

Variable	Mean	Median	Std. Dev.	Skewness	Std. Error Skewness	Kurtosis	Std. Error Kurtosis
GPA (3.0-4.0)	3.62	3.63	0.231	-0.639	0.101	0.758	0.202
ATI™ (0-100%)	69.5	70.0	8.11	-0.379	0.101	0.218	0.202

3.64 for both the 2013 and 2014 classes, respectively. Thus, standard deviation also remained rather constant, ranging from .216 for the 2014 class to .222 for the 2015 class. Skewness and kurtosis, however, revealed differences in data dispersion. Skewness

ranged from -0.160 for the 2011 class to -1.39 for the 2011 class, while kurtosis ranged from -0.309 for the 2015 class to 4.258 for the 2011 class, respectively.

Assessment Technologies, Incorporated ATI™ Comprehensive Predictor Score.

Scores on the ATI™ Comprehensive Predictor Examination, taken near program completion and designed to predict a student's likelihood (expressed as a percentage) of passing the NCLEX-RN® on the first attempt, were provided to the researcher after they were properly reviewed and de-identified by the SON's Assistant Director of Student Services. ATI™ Comprehensive Predictor Examinations are scored on an absolute continuous scale from 0.0 to 100.0, rounded to the nearest tenth. ATI™ Comprehensive Predictor Examination Scores for the study sample ranged from 42.7 to 88.7, with a mean of 69.5, median of 70.0, and a standard deviation of 8.11. These aggregate scores further demonstrated a negative skewness of -0.379 and a kurtosis of 0.218.

Table 4 also presents class-specific descriptive statistics for the ATI™ Comprehensive Predictor Examination results. Mean class-specific ATI™ scores were fairly constant across the 2011-2015 classes, ranging from a low of 67.53 for the 2014 class to a high of 71.74 for the 2013 class. Standard deviation scores reflected more diversity, ranging from 7.31 for the 2011 class to 9.25 for the 2014 class. Skewness and kurtosis, however, highlighted greater differences in data dispersion. Skewness ranged from -0.160 for the 2011 class to -0.426 for the 2014 class, while kurtosis ranged from -0.123 for the 2014 class to 0.518 for the 2013 class.

Description of Dependent Variable

The dependent variable was defined as the student's individual pass/fail outcome on the NCLEX-RN® on the first attempt. Success, defined as passing the NCLEX-RN®

Table 4: Class-Specific Descriptive Statistics for Academic Achievement Variables

Variable	Class	Mean	Median	Std. Dev.	Skewness	Std. Error Skewness	Kurtosis	St. Error Kurtosis
GPA (3.0-4.0)	2011	3.58	3.61	0.265	-1.39	0.281	4.258	0.555
	2012	3.61	3.63	0.223	-0.580	0.228	0.228	0.453
	2013	3.64	3.64	0.239	-0.521	0.210	-0.297	0.417
	2014	3.64	3.66	0.216	-0.210	0.208	-1.133	0.413
	2015	3.63	3.63	0.222	-0.462	0.215	-0.309	0.427
ATI™ (0-100%)	2011	70.60	70.7	7.31	-0.160	0.281	0.428	0.555
	2012	70.52	71.3	7.21	-0.380	0.228	-0.129	0.453
	2013	71.74	72.0	7.78	-0.258	0.210	0.518	0.417
	2014	67.53	68.7	9.25	-0.426	0.208	-0.123	0.413
	2015	67.92	68.7	7.64	-0.233	0.215	-0.166	0.427

on the first attempt, was coded as 1, while failure on the first attempt was coded as 0. Although students who do not pass the NCLEX-RN® on the first attempt are permitted to take the examination multiple times until they may ultimately pass, only the results of the student's first attempt were used for consideration in this study,

Since NCLEX-RN® results and RN licensure are both matters of public record, the Board of Nursing in the state in which the University is located was contacted and in turn provided a report for all SON ABSN and BBSN graduates who took the NCLEX-RN® from 2011-2015. The report was comprised of data maintained by the state's Board of Nursing as well as the National Council of State Boards of Nursing (NCSBN), the central repository of NCLEX-RN® results from all fifty United States and its territories. The report included first time NCLEX-RN® success or failure for program graduates, even those students who took the NCLEX-RN® out of state. Of the 581 cases included in the study sample, 87.10% ($n=506$) passed the NCLEX-RN® on the first attempt while 12.90% ($n=75$) failed. Table 5 presents the class-specific NCLEX-RN® first time pass rates, which ranged from a low of 81.40 % for 2013 to a high of 89.38% for 2012.

Table 5: University's Combined ABSN/BBSN NCLEX-RN® Pass Rates 2011-2015

Year	Percentage
2011	88.31
2012	89.38
2013	81.40
2014	88.49
2015*	86.05
Total sample	87.10

**YTD through Third Quarter*

Correlational Analysis

As presented in Table 6, Biserial and Pearson's r correlational analyses were conducted to examine the relationship between the categorical and continuous

independent variables, respectively. The results indicated no collinearity was present among the variables. ESL Status ($r = 0.189, p < .01$) and Previous Education ($r = 0.103, p < .05$) demonstrated weak positive correlations with NCLEX-RN[®] success, while ATI[™] Comprehensive Predictor Examination Score ($r = 0.329, p < .01$), and GPA ($r = 0.292, p < .01$) demonstrated moderate positive correlations with NCLEX-RN[®] success.

Research Findings

The following are the research findings from the various demographic and academic independent variables utilized to analyze NCLEX-RN[®] results for the 581 cases included in the study sample, which were in turn used to investigate two principle research questions.

Research Question #1

1. To what extent do demographic characteristics (i.e., gender, ethnicity, ESL status) and academic characteristics (cumulative GPA at program completion, ATI[™] comprehensive predictor exam score, and previous level of educational attainment) predict success on the NCLEX-RN[®] for 2011-2015 SON pre-licensure program graduates?

Logistic Regression Model for All 2011-2015 Graduates

The results indicated there is a statistically significant relationship between the dependent variable of NCLEX-RN[®] success/failure and the set of demographic and academic variables utilized in the model. As presented in Table 7, the global logistic regression model for all 2011-2015 graduates correctly classified 88.0% of the cases. Table 7 further reflects the predictive power of the independent variables on first time success/failure on the NCLEX-RN[®]. GPA, ESL status, ATI[™] Comprehensive Predictor

Table 6: Correlation Coefficients among Outcome and Predictor Variables (N=581)

Variables	1	2	3	4	5	6	7
<u>Biserial Correlations</u>							
1. NCLEX-RN®	1	0.077	0.050	0.189**	0.103*	0.329**	0.292**
2. Gender	0.077	1	-0.074	0.034	0.017	0.092*	0.088*
3. Minority Status	0.050	-0.074	1	0.197**	0.029	0.205**	0.172**
4. ESL Status	0.189**	0.034	0.197**	1	-0.018	0.212**	0.052
<u>Pearson's r Correlations</u>							
5. Previous Education	.103*	0.017	0.026	-0.018	1	0.062	0.229**
6. ATI™	0.329**	0.092*	0.205**	0.212**	0.062	1	0.509**
7. GPA	0.292**	0.088*	0.172**	0.052	0.229**	0.509**	1

* $p < .05$ ** $p < .01$

Examination score, and Previous Level of Education were all found to be significant predictors in the model.

For the purposes of this study, the values of the odds ratios were interpreted as:

- OR=1 Exposure did not affect the odds of passing the NCLEX-RN® on the first attempt
- OR>1 Exposure was associated with higher odds of passing the NCLEX-RN® on the first attempt
- OR<1 Exposure was associated with lower odds of passing the NCLEX-RN® on the first attempt

- Furthermore, beta (β) values were interpreted as the measure of the correlation coefficient, or the relationship (i.e. effect size) between two variables. β can also be viewed as an alternative expression of the odds ratio; in other words, the odds ratio can be calculated by raising e to the power of the logistic coefficient according to the equation $OR = \text{Exp}(\beta)$.

For example, in table 7 β for gender is listed as -.216 and the odds ratio for gender is .806. Thus, $\text{Exp}(-0.216) = 0.806$.

Gender and minority status were not found to be statistically significant predictors.

Odds ratios were useful in determining whether exposure to any of the variables of interest increased the likelihood of passing the NCLEX-RN® on the first attempt.

- After careful review of the data, the odds ratio for GPA ($\beta = 2.434$, $p < .001$) was determined to be 11.403. Thus, with each unit increase in GPA (i.e. 3.0 to 4.0) students are eleven times more likely to pass the NCLEX-RN® on the first attempt. ESL status ($\beta = -1.205$, $p < .05$), ATI™ Comprehensive Predictor Examination score ($\beta = .088$, $p < .001$), and Previous Level of Education ($\beta = .423$, $p < .05$), were also found to be significant with odds ratios of 0.300, 1.092, and 1.527 respectively.

Table 7: Model Including All Demographic and Academic Independent Variables

All Graduates (N=581)				
Predictor	β (effect size)	S.E.	Sig.	Exp(β)
Gender	-0.216	0.332	0.516	0.806
Minority Status	0.507	0.372	0.173	1.660
ESL Status	-1.205	0.495	0.015	0.300
GPA	2.434	0.653	0.000	11.40
ATI™	0.088	0.019	0.000	1.092
Education	0.423	0.282	0.015	1.527
Model Accuracy	88.0%			

Table 8: Revised Model Excluding GPA

All Graduates (N=581)				
Predictor	β (effect size)	S.E.	Sig.	Exp(β)
Gender	0.286	0.326	0.380	0.751
Minority Status	-0.318	0.359	0.375	1.374
ESL Status	1.017	0.475	0.032	0.362
ATI™	0.115	0.018	0.000	1.122
Education	0.566	0.275	0.040	1.761
Model Accuracy	88.1%			

Specifically, students for whom English is a second language were 70% more likely to fail the NCLEX-RN® on the first attempt. For each percent unit increase (i.e. 65% to 66%) on the ATI™ Comprehensive Predictor Examination score, students were 9% more likely to pass the NCLEX-RN® on the first attempt, while students who held a Bachelor's Degree (or higher) were 53% more likely to pass. The highly robust odds ratio for GPA was found to overwhelm the predictive power of the other independent variables and a revised binary logistic regression model was constructed that excluded GPA.

Revised Logistic Regression Model without GPA for All 2011-2015 Graduates

As presented in Table 8, the results of the revised global logistic regression model without GPA indicated there is a statistically significant relationship between the dependent variable of NCLEX-RN® success/failure and the set of demographic and academic variables utilized in the model. As seen in Table 8, the exclusion of GPA did not diminish the model's accuracy, as it correctly classified 88.1% of the cases; however, the absence of GPA amplified the predictive power of the other variables.

ESL status, ATI™ Comprehensive Predictor Examination score, and previous level of education were all found to be significant predictors in the model. After careful review of the data, ESL status was determined to be a statistically significant predictor of NCLEX-RN® passage ($\beta = 1.017$, $p < .05$) with an odds ratio of 0.362, indicating an ESL student is 64% less likely to pass the NCLEX-RN® on the first attempt. ATI™ Comprehensive Predictor Examination was also determined to be a statistically significant predictor of NCLEX-RN® passage ($\beta = 0.115$, $p < .01$) with an odds ratio of 1.122, meaning students are 12% more likely to pass the NCLEX-RN® with each percent

increase (i.e. 71% to 72%) on their ATI™ Comprehensive Predictor Examination score. Lastly, previous level of education was found to be a statistically significant predictor of NCLEX-RN® passage ($\beta = 0.566$, $p < .05$) with an odds ratio of 1.761, meaning students who enter their nursing program with a Bachelor's (or higher) degree are 76% more likely to pass the NCLEX-RN® on the first attempt. Gender and minority status were not found to be statistically significant predictors.

Logistic Regression Model for Accelerated vs. Basic Students

Table 9 presents data generated from a Logistic Regression Model designed to compare Accelerated (ABSN) to Basic (BBSN) students.

Accelerated Student Results. The results for ABSN students indicate there is a statistically significant relationship between the dependent variable of NCLEX-RN® pass/fail and the independent variables in the model. The model accurately classified 90.2% of the cases. In terms of the contribution of the independent variables in prediction of NCLEX-RN® pass/fail, GPA, ESL status, and ATI™ Comprehensive Predictor Examination score were found to be statistically significant predictors. The results suggest that students with higher GPAs had a greater chance of passing the NCLEX-RN® on the first attempt ($\beta = 1.952$, $p < .05$) with an odds ratio of 7.0, meaning ABSN students are seven times more likely to pass the NCLEX-RN® for every unit increase in GPA (i.e. from 3.0 to 4.0). In addition, ESL was found to be a statistically significant predictor of NCLEX-RN® pass/fail ($\beta = -1.665$, $p < .05$) with an odds ratio of 0.19, indicating that students for whom English is a second language are 81% more likely to fail the NCLEX-RN® on the first attempt. Lastly, scores on the NCLEX-RN® pass/fail ($\beta = 0.083$, $p < .05$) with an odds ratio of 1.09, indicating that for

Table 9: Summary of Logistic Regression Analysis of Demographic and Academic Predictors of First-time NCLEX-RN® Pass Rates for Accelerated and Basic Cohorts

Accelerated (ABSN) (<i>n</i> =286)					Basic (BBSN) (<i>n</i> =295)			
Predictor	β	S.E.	Sig.	Exp(β)	β	S.E.	Sig.	Exp(β)
Gender	-0.567	0.512	0.268	0.567	0.048	0.452	0.915	1.049
Minority Status	0.146	0.553	0.791	1.158	-0.797	0.506	0.115	0.451
GPA	1.952	0.899	0.030	7.043	3.237	1.007	0.001	25.452
ESL Status	-1.665	0.695	0.017	0.189	-0.880	0.692	0.204	2.410
ATI™	0.083	0.034	0.014	1.086	0.088	0.024	0.000	1.093
Model Accuracy	90.2%				86.4%			

every percent increase (i.e. 70 % to 71%), in ATI™ RN Comprehensive Predictor Examination Score students are 9% more likely to pass the NCLEX-RN® on the first attempt.

Basic Student Results. The results for BBSN students indicate there is a statistically significant relationship between the dependent variable of NCLEX-RN® pass/fail and the independent variables in the model. The model accurately classified 86.4% of the cases. In terms of the contributions of the independent variables to predict NCLEX-RN® pass/fail, only GPA and ATI™ Comprehensive Predictor Examination score were found to be statistically significant predictors. The results suggest that students with higher GPAs had a greater chance of passing the NCLEX-RN® on the first attempt ($\beta = 3.237$, $p < .01$) with an odds ratio of 25.45, meaning BBSN students are greater than twenty-five times more likely to pass the NCLEX-RN® for every unit increase in GPA (i.e. from 3.0 to 4.0). BBSN students' scores on the ATI™ Comprehensive Predictor Examination were also a statistically significant predictor of NCLEX-RN® pass/fail ($\beta = 0.083$, $p < .001$) with an odds ratio of 1.09, indicating that for every percent increase (i.e. 70 % to 71%) in ATI™ RN Comprehensive Predictor Examination Score students are 9% more likely to pass the NCLEX-RN® on the first attempt.

Revised Logistic Regression Model without GPA for Accelerated vs. Basic Students

Due to the extraordinarily high predictive power of GPA found in the ABSN versus BBSN Logistic Regression Model, a revised model excluding GPA was used to further investigate the predictive power of the other variables. The results of these analyses are presented in Table 10.

Table 10: Summary of Logistic Regression Analysis of Demographic and Academic Predictors (without GPA) of First-time NCLEX-RN® Pass Rates for Accelerated and Basic Cohorts

Accelerated (ABSN) (n=286)					Basic (BBSN) (n=295)			
Predictor	β	S.E.	Sig.	Exp(β)	β	S.E.	Sig.	Exp(β)
Gender	-0.587	0.501	0.241	0.556	-0.135	0.443	0.761	0.874
Minority Status	0.106	0.543	0.846	1.112	0.457	0.478	0.340	1.579
ESL Status	-1.431	0.671	0.033	0.239	-0.754	0.666	0.257	0.470
ATI™	0.111	0.031	0.000	1.117	0.117	0.022	0.000	1.124
Model Accuracy	90.6%				84.7%			

Accelerated Student Results. The results for ABSN students indicate there is a statistically significant relationship between the dependent variable of NCLEX-RN[®] pass/fail and the independent variables in the model. Exclusion of GPA amplified both the model's accuracy as well as the predictive power of the independent variables. The model accurately classified 90.6% of the cases. In terms of the contribution of the independent variables for prediction of NCLEX-RN[®] pass/fail, ESL status and ATI[™] Comprehensive Predictor Examination scores were found to be statistically significant predictors. ESL was found to be a statistically significant predictor of NCLEX-RN[®] pass/fail ($\beta = -1.431$, $p < .05$) with an odds ratio of .24, indicating that students for whom English is a second language are 76% more likely to fail the NCLEX-RN[®] on the first attempt. In addition, scores on the ATI[™] Comprehensive Predictor Examination were a statistically significant predictor of NCLEX-RN[®] pass/fail ($\beta = 0.111$, $p < .001$) with an odds ratio of 1.12, indicating that for every percent increase (i.e. 70 % to 71%), in ATI[™] Comprehensive Predictor Examination Score students are 12% more likely to pass the NCLEX-RN[®] on the first attempt.

Basic Student Results. The results indicate that for BBSN students there is a statistically significant relationship between the dependent variable of NCLEX-RN[®] pass/fail and the independent variables in the model. Exclusion of GPA amplified both the model's accuracy as well as the predictive power of an independent variable. The model accurately classified 84.74% of the cases. In terms of the contribution of the independent variables for prediction of NCLEX-RN[®] pass/fail, only ATI[™] Comprehensive Predictor Examination scores were found to be statistically significant predictors, ($\beta = 0.117$, $p < .001$) with an odds ratio of 1.12, indicating that for every percent increase (i.e. 70 % to 71%), in ATI[™] RN Comprehensive Predictor Examination Score students are 12% more likely to pass the NCLEX-RN[®] on the first attempt.

Research Question #2

2. Which of the variables noted above is the most significant predictor of success on the NCLEX-RN® for 2011-2015 SON pre-licensure program graduates?

While a per unit increase in GPA (i.e. 3.0 to 4.0) reflects a 25 times greater likelihood of passing the NCLEX-RN® on the first attempt, greater than 95% of student GPAs within the study sample were located within this narrow range, thus greatly minimizing GPA's student-specific predictive power of NCLEX-RN® success. The robust and more accurate predictive power of the ATI™ Comprehensive Predictor Examination Scores was then demonstrated only when GPA was excluded, which in turn amplified the predictive power of the other independent variables.

Therefore, based on the results of the various logistic regression models performed which excluded GPA, scores on the ATI™ Comprehensive Examination are the most significant and accurate predictors of student success or failure on the NCLEX-RN® for a number of reasons. First, ATI™ scores were consistently significant in each of the global logistic regression models (including and excluding GPA) as well as for both nursing program-specific (i.e. ABSN versus BBSN) logistic regression models (including and excluding GPA). Furthermore, ATI™ scores are graded on an absolute scale of 0.00 to 100.00, thus allowing for a wider distribution of scores than GPA, which is reported on an absolute scale of 0.00 to 4.00. For all BBSN students in the study sample, the odds ratios for ATI™ scores reflected that each unit increase in score (i.e. 70.1 to 70.2) increased a student's probability of passing the NCLEX-RN® on the first attempt by 12%. Upon review of a student's ATI™ Comprehensive Predictive Examination score, faculty can not only accurately predict the percent likelihood of NCLEX-RN® success based on

published ATI™ expectancy tables, they can also direct students to remedial resources tailored to address underperformance in specific content areas.

Attrition Rates

Although the primary purpose of the study was to determine NCLEX-RN® success or failure on the first attempt, only those students who successfully completed their respective nursing program (i.e. ABSN or BBSN) actually took the NCLEX-RN® and were therefore eligible for inclusion in the study. Accordingly, GPA and ATI™ Comprehensive Predictor Examination scores are indicators of academic achievement only for students who achieve program completion and are therefore not reviewed in this section. Close examination of the global and class-specific attrition rates per demographic variable, however, revealed disproportionately higher attrition rates for certain groups of students who did not successfully complete their respective nursing program.

Table 11 presents the global and class-specific attrition rates for 2011-2015. Overall attrition rates for students who enrolled in either the ABSN or BBSN programs for any of the academic years 2011-2015 averaged 12.6%. Although gender and minority status were not found to be significant in any of the logistic regression models, both of these student groups were found to have disproportionately higher levels of attrition. Attrition rates for males ranged from a high of 38% for 2011 BBSN to a low of 0% for 2013 ABSN, while attrition for females ranged from a high of 32% for 2011 BBSN to a low of 2% for 2013 ABSN. Overall male attrition rates across all classes however, averaged 17.5% while overall female attrition averaged 12%

Attrition rates for minority students ranged from a high of 40% for the 2013 BBSN and 2015 ABSN cohorts to a low of 0% for the 2013 ABSN and 2014 ABSN cohorts. In contrast, non-minority attrition rates ranged from a high of 36% for the 2011 BBSN cohort to 3% for the

Table 11: Class-Specific & Combined Attrition Rates (%) per Demographic Independent Variable

Year	Classification	Levels	Accelerated	Basic	Combined
2011	Minority Status	Minority	38	14	11
		Non-Minority	5	36	
	Gender	Male	25	38	
		Female	8	32	
	ESL Status	ESL	0	100	
		Non-ESL	11	31	
2012	Minority Status	Minority	17	10	12
		Non-Minority	11	12	
	Gender	Male	0	20	
		Female	15	10	
	ESL Status	ESL	20	0	
		Non-ESL	12	12	
2013	Minority Status	Minority	0	40	9
		Non-Minority	2	4	
	Gender	Male	0	29	
		Female	2	5	
	ESL Status	ESL	0	0	
		Non-ESL	2	9	
2014	Minority Status	Minority	0	11	16
		Non-Minority	6	18	
	Gender	Male	10	21	
		Female	4	16	
	ESL Status	ESL	0	22	
		Non-ESL	5	16	
2015	Minority Status	Minority	40	32	14
		Non-Minority	3	8	
	Gender	Male	25	7	
		Female	11	17	
	ESL Status	ESL	43	33	
		Non-ESL	7	10	

2015 BSN cohort. Overall minority attrition rates across classes however, averaged 20.2% while overall non-minority attrition averaged 10.5%

Attrition rates for ESL students ranged from a high of 100% for the 2011 BBSN cohort to a low of 0% for 2011 ABSN, 2012 BBSN, 2013 ABSN and BBSN, and 2014 ABSN cohorts. Non-ESL student attrition ranged from a high of 31% for 2011 BBSN to a low of 2% for 2013 ABSN. Overall ESL attrition rates across all classes, however, averaged 21.8% while non-ESL attrition averaged 11.5%.

Summary

This study sought to identify the predictive power of various demographic and academic variables on NCLEX-RN® success or failure on first attempt for graduates of a large urban University's Nursing Programs graduates. This chapter included a descriptive analysis of the demographic and academic variables as well as the logistical analysis for the entire study sample and for each of the 2011-2015 classes and cohorts. The findings highlight the diversity of the student population in the University, especially given its location within a major urban area. The findings further suggest the logistic regression models utilized in the analyses were statistically significant in predicting the outcomes for both research questions. Lastly, global, class-specific, and variable-specific attrition rates were compared to closely examine program completion rates for minority, male, and ESL students. The next chapter will address the conclusions based on the study findings as well as discussion and recommendations for further research.

CHAPTER V

SUMMARY, DISCUSSION, LIMITATIONS, AND RECOMMENDATIONS

As the diversity of the US population continues to increase, the need for greater diversity within the nursing workforce is intensified (American Association Colleges of Nursing, 2015; IOM, 2010). In order to accomplish the goal of preparing a diverse group of graduates for professional practice, schools of nursing are faced with the formidable challenge of accommodating the learning needs of minority, male, and ESL students (Loftin, Newman, Gilden, Bond, & Dumas, 2013; Melillo, Dowling, Abdallah, Findeisen, & Knight, 2013; Olson, 2012).

This study's theoretical context was bounded by Stanton-Salazar's (2011) Framework of Social Capital, which indicates academic success is significantly impacted by the amount of social capital students bring to the educational setting. As noted previously, variations in such capital are highly evident in the social strata of large metropolitan areas, which often carry a legacy of racial and linguistic segregation, economic disparities, and vastly inferior educational experiences for various students (Moje & Martinez, 2007; Stanton-Salazar, 2011; Wilson, 2009). Urban universities often confront the complex socio-economic challenges faced by minority students, for many of

whom English is a second language (Berlin, 2010; Olson, 2012). Like other students who hail from urban areas, nursing students also bring disparate amounts of social capital to the educational setting, prompting nurse educators to rethink staid pedagogical methods to promote success for diverse groups of students (Bosch, Doshier, & Gess-Newsome, 2012; Carr, 2011; Reinhardt, Keller, Summers, & Schultz, 2012).

As was discussed in detail in Chapter 1, the University's primary catchment area is an urban metropolis that exemplifies rich cultural and linguistic diversity. In response, the University commissioned the development of a Diversity Action Plan (Nuru-Holm, 2010), designed to leverage diversity as an asset to promote opportunity and equal access for all students on campus. The plan's basic philosophy, however, underscores the tension created between the competing demands of recruiting and retaining diverse groups of students and maintaining the needed pedagogical rigor to properly educate them. Nevertheless, schools of nursing are ultimately charged with educating competent graduates who will successfully pass the NCLEX-RN®, achieve licensure, and serve the public in the safest manner possible (Billings & Halstead, 2012; Harding, 2012; Iwasiw, Goldenberg, & Andrusyszyn, 2009). As with other students, variances in the amounts of social capital nursing students bring to the educational setting are evident when analyzing the impact of demographic and academic predictors on performance (Stanton Salazar, 2010).

The purpose of this study was to identify and analyze the predictive power of a number of such relevant demographic (gender, minority status, and ESL status) and academic factors (GPA at graduation, ATI™ Comprehensive Predictor Examination score, and previous level of education) on NCLEX-RN® success or failure for a large

urban university's pre-licensure nursing programs. This chapter contains a summary of the study including a discussion of the findings, delimitations and limitations of the study, conclusions, implications for nursing practice, and recommendations for further research.

Summary of Findings

In this longitudinal retrospective study, records from 581 graduates of a large urban university's 2011-2015 pre-licensure nursing programs were utilized. Students were grouped into classes (aggregate of all students in a graduating class per year [2011-2015]), and then sub-divided into cohorts based on program type Accelerated (ABSN) or Basic (BBSN) [2011 ABSN, 2012 BBSN, etc.].

Data was collected on both demographic and academic independent variables. The demographic independent variables were dichotomously coded and included gender, minority status, and ESL status. A single academic achievement independent variable, previous level of education attained, was dichotomously coded, while two additional academic independent variables, overall nursing program grade point average and score on the Assessment Technologies, Incorporated™ Comprehensive Predictor Examination (ATI™), were continuously coded. The single, dichotomously-coded dependent variable was first time success or failure on the NCLEX-RN®.

Correlational Analyses

Biserial and Pearson's r correlational analyses were conducted for the categorical (gender, minority status, ESL status, and previous level of education) and continuous (GPA and comprehensive ATI™ predictor examination score) variables, respectively. ESL status and Previous Education demonstrated weak positive correlations with

NCLEX-RN® success, while ATI™ Comprehensive Predictor Examination Score and GPA demonstrated moderate positive correlations with NCLEX-RN® success. No multicollinearity was noted among any of the independent variables.

Logistic Regression Model Summaries

Since the study involved both categorical and continuous independent variables as well as a dichotomous dependent outcome variable, binary logistic regression was selected as the method of bivariate analysis. Logistic regression operates on the concept of the odds ratio, which predicts the impact of a per-unit change in an independent variable on successful attainment of the dependent variable, in this study defined as passing the NCLEX-RN® on the first attempt. Furthermore, beta (β) values were interpreted as the measure of the correlation coefficient, or the relationship (i.e. effect size) between two variables.

Aggregate (All Students) Models. The logistic regression model accurately classified 90.2% of the cases, and found GPA to have an extremely high level of predictive power for NCLEX-RN® success. Therefore, a revised model was constructed excluding GPA. The revised model accurately classified 88.1% of the cases and amplified the predictive power of the other independent variables. ESL status, ATI™ Comprehensive Exam Predictor score, and previous level of education thus emerged as statistically significant predictors of NCLEX-RN® success or failure.

Program-Specific (i.e. ABSN vs. BBSN) Aggregate Models. The ABSN model accurately classified 90.2% of the cases, and found GPA, ESL status, and ATI™ Comprehensive Exam Predictor score to be significant predictors of NCLEX-RN® success or failure. The BBSN model accurately classified 86.4% of the cases, and found

GPA and ATI™ to be significant predictors of NCLEX-RN® success or failure. Due to the overwhelming predictive power of GPA in the program-specific logistic regression model, a revised model was constructed excluding GPA. The revised ABSN model accurately classified 90.6% of the cases and substantially amplified the predictive power of the other independent variables. Thus, ESL status, and ATI™ Comprehensive Exam Predictor score were found to be statistically significant predictors of NCLEX-RN® success or failure. The revised BBSN model accurately classified 84.7% of the cases and found only ATI™ Comprehensive Exam Predictor score to be a statistically significant predictor of NCLEX-RN® success or failure.

Attrition Rates

Although attrition rates across cohorts and classes were varied, global attrition rates for all students in the study sample were fairly constant across cohorts. However, the study sample revealed disproportionately high attrition rates for male, minority, and ESL students. While male students reflected the smallest disparity, the attrition rates for minority and ESL students were approximately twice those of non-minority and native English speaking students.

Discussion of the Findings

This section contains a discussion of the findings of the study by: a. demographic predictors, b. academic predictors, and c. attrition rates.

Demographic Predictors

ESL Status. Over the past 30 years, the University's surrounding metropolitan area, like other Midwest industrial urban centers, has been the recipient of many immigrants from previously under-represented parts of the globe and has thus increased

in linguistic diversity (Berlin, 2012). Adult first-generation ESL students who seek a nursing education may have taken some English courses as part of their primary, secondary, or higher educational experiences in their native country. Alternatively, some first generation students who immigrated as small children may have received their primary, secondary, or higher-level education from schools within the United States (Choi, 2005; Olson, 2012). Nevertheless, English is still their second language, thus presenting challenges based on varying levels of social and familial reinforcement within their homes or communities as well as much higher levels of native language resilience than encountered by 19th and early 20th century immigrants (Dowdy, 2002; Berlin, 2010).

Variations in mastery of English are often not readily apparent throughout a student's nursing education. During an admissions interview, ESL students may display excellent social and conversational skills as well as write a reasonable response to an essay question. Deficits in reading comprehension or verbal/written expression may only become apparent for ESL students after they encounter the competing linguistic challenges of mastering English and nursing-specific medical vocabulary (Choi, 2005; Olson, 2012;). The challenges faced by ESL students in the SON are quite evident, based on odds ratios from the various logistic regression models which show ESL students are often significantly less likely to pass the NCLEX-RN[®] on the first attempt. The logistic regression model that compared ABSN to BBSN students, for example, showed ESL ABSN students were 76% less likely to pass the NCLEX-RN[®] on the first attempt than their native English-Speaking counterparts.

In turn, ESL students displayed an average attrition rate of twice that of their native English speaking classmates. Failure for any student is difficult, but for ESL

students who are in varying stages of acculturation, either academic or NCLEX-RN® failure are particularly devastating (Choi, 2005; Olson, 2012). Schools across the country are therefore adopting strategies to more effectively screen ESL students prior to admission, thus guiding them toward remedial coursework in English prior to admission and, if necessary, to post-admission academic resources.

In particular, the NCSBN (2013) maintains a position that “all domestic and international nurses need to be proficient in written and spoken English language skills” and has in turn set benchmarks for passing scores for a number of English proficiency tests, most recently the Michigan English Language Assessment Battery® (MELAB®). The NCSBN (2013) issue brief assertively states the MELAB® “...is developed in accordance with the highest standards in educational assessment. Rigorous quality procedures are followed during item and test form development... (p. 1).”

Accordingly, as opposed to the more well-known and widely-used Test of English as Foreign Language® (TOEFL®), the MELAB®’s use of individualized, scenario-based verbal questions demonstrates a higher level of efficacy in assessing comprehension and spontaneous conversation skills and is therefore viewed as a more contemporary, effective admissions screening tool (Lim, 2014). Per the University’s admission criteria, the TOEFL® is required only for non-native applicants whose country of origin is perceived to utilize English as a primary language, therefore qualifying for membership on a “TOEFL® Exempt” list. Furthermore, non-native speaking students who hold a degree from any American high school or university—in the United States or abroad—are also considered TOEFL® exempt. Thus, ESL nursing program applicants who may have significant deficiencies in one or more domains may still apply to a SON pre-

licensure program without demonstration of English language proficiency. Current SON admissions practices observe the University's policies for English language proficiency and do not require any additional English language proficiency assessment. However, a group interview and brief written essay are required, both of which have been successfully navigated by previous applicants with significant deficits in one or more domain of English language proficiency.

Minority Status. The University's surrounding catchment area is comprised of a large urban core with concentric rings of inner, second, and tertiary ring suburbs. Based on noted social, economic and educational disparities, the greater metropolitan area exemplifies layers of segregation, social stratification and resultant variances in social capital (Berlin, 2012; Wilson, 2009). Despite similar GPAs, urban minority students, many of whom are African American or Hispanic, may not have experienced equal opportunities to develop critical thinking skills, effective patterns of discourse, or opportunities to network within their school systems or communities (McNamee & Miller, 2009; Wilson, 2009).

Of similar concern is a lack of culturally-matched nursing faculty who can assist minority students with scaffolding techniques needed to bridge the cultural divide between the home and academic settings (Dapremont, 2013; Melillo, Dowling, Abdallah, Findeisen, & Knight, 2013). Students from minority groups have a culturally-defined "home-front" (Moje & Martinez, 2007) in which they feel comfortable engaging with family and community members. As minority nursing students may lack the same quality of academic preparation as their non-minority counterparts, the competing demands of the nursing class room, skills lab, and clinical settings may quickly overwhelm them,

especially given a noted reluctance by minority students to seek assistance with organizational skills, study habits, and test taking strategies (Dapremont, 2014). Unfortunately, it is highly unlikely they will encounter adults who have successfully navigated the challenges of higher education. In the absence of these role models, an acute need for “empowerment agents,” in the form of faculty or administrative staff who can guide students toward academic success, is highly evident (Moje & Martinez, 2007).

Encouragingly, none of the logistic regression models determined minority status to be a significant predictor for NCLEX-RN® success or failure. Despite the surrounding City’s population being nearly 65% African American and Hispanic (Profile of Selected Social Characteristics, US Census Bureau, 2010) however, less than 10% of the students admitted to any cohort or class during the 2011-2015 academic years were from minority populations. With so few minority students admitted, attrition rates that are double those of non-minority students present a serious concern. Given social and economic gains made by many minority families over the past fifty years, perhaps the minority students who achieve program completion and take the NCLEX-RN® have levels of social and cultural capital similar to their non-minority counterparts, thus encouraging deeper analysis of the minority students for whom attrition occurred.

Gender. Despite lingering perceptions of nursing as a profession geared toward women, the SON admitted male students in greater numbers than those reflected in the general nursing workforce, which show men continue to comprise only 8% of the nursing workforce (American Association Colleges of Nursing, 2015). The percentage of male students admitted during 2011-2015 ranged from a 11-26% of their respective cohorts. It is also encouraging that the overall attrition rates for males from these same years

averaged 17.5% as compared to 12% for their female counterparts, representing the smallest disparity in attrition rates for any of the demographic independent variables analyzed. Furthermore, none of the global or cohort-specific logistic regression models found gender to be a significant predictor of NCLEX-RN® success.

Due to a continued challenge of nurturing a gender-neutral culture where both male and female students feel equally empowered for success. Although the SON supports a number of student organizations (i.e. the Student Nurse Association) there are currently no specific programs or support groups for male students. The lack of such groups may indicate fewer opportunities for male students to network with other male students within the SON as well as with male nurses who are already successfully in practice.

Academic Predictors

GPA. The study's results showed GPA was an extremely significant predictor of NCLEX-RN® outcome, indicating that BBSN students were overall 25 times more likely to pass and ABSN students were 12 times more likely to pass per unit increase in GPA (i.e. 3.0 to 4.0). Final nursing program GPA proved to be highly accurate, yet deceptively so. With greater than 90% of graduates captured within the GPA scale of 3.0 to 4.0 and noted SON NCLEX-RN® pass rates near 90%, it is evident students who fall within this GPA range are poised for NCLEX-RN® success. Although ESL status and ATI™ comprehensive predictor examination scores were also found to be significant, GPA's highly robust odds ratios overwhelmed their predictive ability of the other independent variables and thus a revised logistic regression model excluding GPA was conducted. In the absence of GPA, the predictive power of the other independent

variables was amplified.

The GPA odds ratios of 7.04 for the ABSN and 25.45 for the BBSN logistic regression models respectively were not inclusive of external coursework, thus further questioning the usefulness of GPA as a predictor of NCLEX-RN® success even further. Since ABSN students are only required to take nursing courses and any remaining required elective courses prior to the nursing program entry, their GPA is calculated only on the basis of the nursing coursework taken at the University. Therefore, the differences in GPA odds ratios between BBSN and ABSN students accurately reflect the University's policy of excluding GPA from outside coursework into final program GPA calculations.

Multiple studies have demonstrated the predictive power of GPA for NCLEX-RN® success (Romeo, 2013). However, fewer studies have explored the predictive power of GPA for accelerated ABSN versus traditional BBSN programs. Given that University does not incorporate the GPA from external coursework, any GPA related to an external degree was reviewed as an criteria for admission to the SON, but not incorporated into GPA at nursing program completion. Nevertheless, GPA from non-major coursework and/or pre-requisite courses remains an accessible, convenient factor for consideration for admission into the SON. However, it seems that final program GPA is of little value in predicting NCLEX-RN® success. Given SON policy that a grade of "C" or better must be earned in any nursing course to progress in either of the BBSN or ABSN Programs, it is understandable most students who achieve program completion will gave GPAs within the 3.0 to 4.0 range. Nevertheless, other factors including ESL status and performance on the ATI™ comprehensive predictor examination, have demonstrated a more precise level

of predictive power.

ATI™. The results of the revised logistic regression models excluding GPA demonstrated amplified significance of the predictive power of the ATI™ Comprehensive Predictor Examination scores on NCLEX-RN® success or failure. As opposed to GPA, which is rated on an absolute scale from 0 to 4.0 and rounded to the nearest one hundredth, ATI™ scores are rated on a percent scale from 0 to 100.0, rounded to the nearest tenth. Thus, GPA demonstrated its usefulness as a gross predictor of NCLEX-RN® success, while ATI™ demonstrated a far more precise level of predictive power. The odds ratios for ATI® scores were significant in both the initial aggregate and aggregate revised (sans GPA) logistic regression models, demonstrating that for each 1% increase in exam score, a student's chances of passing the NCLEX-RN® increased by 9% and 11%, respectively.

The SON has committed heavily to ATI™ products and provides students on admission with a hard copy set of discipline-specific ATI™ books as well as access to online resources. Although the ATI™ program also provides discipline-specific comprehensive examinations, they are typically used within the SON's curriculum only as formative assessments only. Thus, the ATI™ Comprehensive Predictor Examination is the only ATI™ assessment presented to students as a high-stakes examination. It is administered near program completion in a nursing capstone course with scores used to place students with higher scores in a one-on-one preceptorship experience and students with lower scores with a SON nursing faculty member in a more traditional clinical group experience. Furthermore, students who do not achieve a minimum score of 65% will not achieve program completion until they meet this benchmark or alternatively, enroll in an

NCLEX-RN® review course.

Recommendations for Nursing Education

Based on the research findings, the following are recommendations for nursing education:

Enhancements to SON Admissions Processes

1. As GPA was an overwhelmingly robust predictor of NCLEX-RN®, decrease reliance on GPA as a primary screening criterion by further development of a holistic admissions process. Holistic admissions review allows for consideration of other aspects of a students' academic and social profile such as vocational/career experience, community services, and extracurricular interests (Scott & Zerwic, 2015). In doing so, students with slightly lower GPAs and alternative valuable experiences could receive equal consideration for admission.
2. In turn, social capital, a key asset for academic success, should also be considered during the admissions process. Such capital comes in many forms, not the least of which are connections to powerful community-based institutions (i.e. places of worship and civic organizations), many of which provide opportunities for networking and social support. Assessment of student involvement with community resources should not only be viewed as an indicator for nursing program success; this involvement positions students for career success within their own communities after program completion.
3. Further refine the existing admissions process by administering two

screening examinations to all applicants:

- a. First, administer the ATI™ Critical Thinking Examination as a non-clinical, logic-based assessment of general knowledge and reading comprehension. As this exam samples basic reasoning skills, results may provide valuable additional insight into a student's reading comprehension and test-taking strategies. Other schools of nursing have used critical thinking admissions and exit assessments produced by Health Educational Systems, Incorporated™ (HESI), an ATI™ competitor, with success (Knauss & Willson, 2013; Sullivan, 2011). Given the ATI™ Comprehensive Predictor's high level of predictive power for NCLEX-RN® success or failure, utilizing the ATI™ Critical Thinking Exam as a screening tool for admission may be useful in guiding students toward developmental resources before admission is granted, or direct at-risk admitted students to wrap-around advising and support services to nurture success.
- b. Secondly, as part of the admissions process consider administering the Michigan English Language Assessment Battery® (MELAB®), a standardized test that assesses English proficiency in writing, listening and conversational skills to all non-native speaking applicants or applicants who have resided in the United States for less than ten years. As the aim of this exam is to demonstrate sufficient English fluency for success in professional nursing

practice, minimum proficiency scores on the MELAB[®] have recently been established by the NCSBN (National Council of State Boards of Nursing Approves Passing Standards for Michigan English Language Assessment Battery[™], 2015).

4. Applicants who are not successful on the ATI[™] Critical Thinking Examination, MELAB[®] should not be denied admission, but rather placed on a waiting list and directed to supplemental coursework or other resources to address specific deficits in English language expression. Once remediation is completed, students should re-take both examinations and if successful, receive consideration for admission in the next available cohort.
5. The SON's current practice involves a group admissions interview, thus making it possible for ESL students to hear other candidates' responses successfully negotiate deficits in verbal expression. Asking each candidate to offer an individualized response to a specific question may make it more difficult to negotiate deficits in verbal expression and conversational skills.
6. Consider instituting the practice of asking each candidate to write a brief, time-limited written essay in response to a nursing student-patient scenario that samples not only critical thinking, but nuanced communication strategies. This essay could detect deficits in reading comprehension and writing skills, but also assess future linguistic and culturally-based difficulties students may face with therapeutic communication.

Post-Admission Student Support to Enhance Social Capital

1. Provide expanded social networking opportunities within the School of Nursing for male, minority, and ESL students between cohorts (combined ABSN and BBSN students for a given year) and classes (ABSN or BBSN students for a given year). Given the SON's status as a school comprised largely of commuter students, enhanced opportunities for these students to meet and form supportive social networks would allow them to share strategies for success (Baker, 2010). Given the potential reluctance of minority students to ask for assistance from students outside their culture (Schoofs, 2012), opportunities for minority students to coalesce may prove invaluable (Baker, 2010; Dapremont, 2014; Tabi, Thornton, & Garno, 2013).
2. In the absence of culturally-matched nursing faculty members, consider instituting a SON-sponsored mentoring program comprised of gender, linguistic, and culturally-matched nursing professionals who can provide emotional support, guidance, and instruction on achieving program completion and NCLEX-RN® success. As it may prove difficult to have mentors travel to the school of nursing, one potential strategy is to empower faculty in the clinical setting to invite a diverse array of nurses to attend pre and post-conferences. With these mentors acting as role models, minority, ESL, and male students may receive valuable feedback on scaffolding, coping, and academic strategies to successfully navigate the divide between their home fronts and the educational contact zone

(Banister, Bowen-Brady, & Winfrey, 2014; Moje & Martinez, 2007).

3. Institute a SON-sponsored peer mentoring programs for all students with low levels of social capital. Such a program could encourage these students to access peer support as a powerful tool for success. For example, minority students may feel more comfortable coalescing with other minority students and thus avoid accessing collegial support from other students who have more well-defined academic prowess, study skills, and discourse strategies. Senior and junior students who have been successful in their programs may volunteer as a peer mentor to provide guidance on successful academic and social strategies, especially those concerning discourse, networking, social, and academic strategies.

Faculty Development

1. Integrate cultural awareness into new SON faculty orientation and ongoing professional development activities. Non-minority nursing faculty may be extremely unaware of their own potential biases related to the academic needs or narrative strategies of minority students in the nursing classroom, skills lab, or clinical settings. Engaging faculty to engage in open dialogue on the specific academic and social needs of minority, and ESL nursing students may heighten individual and collective faculty cultural awareness.
2. Include gender bias self-awareness and sensitivity training during new faculty orientation as well as ongoing professional development. Exposing faculty to current research on the potential sources of bias

toward male students may cause them to be more sensitive to their emotional, social, and academic needs.

3. Provide training to faculty in grading techniques and test construction, sources of grade inflation and lack of inter-rater reliability respectively, which contribute to grade inflation and erosion of the efficacy of GPA as an indicator of academic success. Furthermore, grade inflation may allow under-performing students to achieve program completion and potentially fail the NCLEX-RN® on the first attempt.

Pedagogical Innovations

1. Decrease the high stakes nature of classroom examinations by utilizing alternative assessment techniques such as written case studies, verbal presentations, and group work, especially during pivotal first year nursing courses. Although classroom examinations are highly important summative assessment tools in preparation for the NCLEX-RN®, decreasing their value as the sole indicator of academic performance would allow students time to adapt to the competing demands of the nursing didactic classroom, nursing skills lab, and clinical settings.
2. Conduct workshops to increase general faculty expertise with the ATI™ program, especially in terms of integrating ATI™ formative strategies into classroom content and running or interpreting group and individual student performance reports.
3. Provide advanced preparation for the ATI™ Comprehensive Predictor Examination by administering proctored, discipline-specific ATI™ exams

at the end of each relevant nursing course. Students who are not successful in meeting individual discipline-specific benchmarks should be directed to remedial content and test-taking strategies, thus adopting a strategy to address discipline-specific deficits prior to the ATI™ Comprehensive Predictor Examination.

4. Given the highly accurate predictive nature of the ATI™ Comprehensive Predictor Examination demonstrated in this study, further integrate existing ATI™ formative assessment products (case studies, videos, simulations, etc.) across the SON Curriculum.

Delimitations of the Study

1. The time frame selected for the study was a period in which there were limited SON curricular and/or program policy changes.
2. The time frame selected for the study was a period in which there were limited changes to the NCLEX-RN® testing methodology.
3. The University's Office of Institutional Research (OIR) and the SON's Assistant Director of Program Services provided properly de-identified data to the researcher, which enhanced the objectivity of the researcher, a full-time SON faculty member.
4. Data was retrieved for 581 out of 586 cases. In the five cases where NCLEX-RN® outcome data was missing, the subject was not included in the analysis.

Limitations of the Study

1. Analysis of census data resulted in broad assumptions about variations in

capital for the populations under study. Given strides made by minority and ESL populations in economic and social mobility, it would have been helpful to know additional information about each student's previous educational experience (i.e. attended an urban versus suburban or public versus private school) to more closely assess the impact of students' primary and secondary educational experiences on nursing school success or failure.

2. Given the use of aggregate, fully de-identified data, the researcher needed to rely fully on the OIR and the SON Assistant Director of Student Services to provide all data, thus limiting the researcher's ability to provide input on questions regarding coding.
3. The University's current record-keeping systems for minority and ESL status relies on student self-report and resulted in incomplete information provided by the OIR, requiring the SON Assistant Director of Student Services to query SON in-house records to fill in missing information.
4. While each school of nursing faces its own challenges based on aspects of regional diversity, the results of this study will be most appropriately applicable for schools of nursing with an urban-focus and may not be generalizable to other nursing programs.

Recommendations for Future Research

A principal recommendation is to gather and analyze data for the various demographic and academic predictors identified in this study on an annual basis to assist faculty recognize opportunities to promote student success. Further study in these key

areas may increase the timeliness of response to student need, resulting in revisions to policies or the adoption of new pedagogical innovations.

In turn, each of the groups identified in this study (i.e. minority, male, ESL, and students with higher levels of educational attainment) would benefit from more in-depth analysis by identifying specific predictors that highlight subtle nuances in variations in social capital. For example, it would be helpful to assess the underlying attitudes and social constructs within the ranks of students and faculty to determine if higher than expected NCLEX-RN® success for men and minority groups support perceptions of growing gender neutrality and racial tolerance or if conversely higher rates of attrition for these two groups infers that only students with characteristics and levels of social capital closer to Caucasian females achieve program completion and are thus eligible to take the NCLEX-RN®.

Surveying each of these groups individually—and anonymously—may reveal perceptions and attitudes individuals are reluctant to share based on gender differences, cultural factors, or linguistic barriers. For example, further exploration of the experiences of male nursing students could in turn determine yet unknown sources of faculty/instructor bias. For example, perhaps men who are successful in the SON programs are those who quickly adopt recognized coping strategies such as self-selecting into a technical specialty within nursing (Abushaikha, Mahadeen, AbdelkKader, & Nabolsi, 2014). Lastly, deeper analysis of faculty and student optimism or skepticism concerning the effectiveness of the University's Diversity Action Plan may uncover less obvious sources of bias towards minority student groups that are worthy of further research.

Summary

The US population will continue to grow in ethnic and linguistic diversity. A critical goal confronting nursing programs will be meeting the sustained demand for more diversity among students far into the future. A crucial first step will be to recognize the historical significance—but fading importance—of the profession’s legacy as a career for Caucasian middle-class women. Nursing program educators must engage in steps to not only recruit but retain and nurture success for minority, ESL, and male students so nursing graduates more accurately mirror the composition of the US population in pursuit of the highest standard of culturally-competent nursing care possible.

As additional research is done, it is hoped minority groups within nursing will be viewed from the perspective of their potential and contributions to the field, and not their limitations based on deficits in social or cultural capital. As Tuck (2009) observed, viewing minority populations from a perspective of brokenness results in “damage-centered” research that perpetuates unwanted stereotypes and undue limitations. Rather, it is far preferable to explore how differences in thought, opinion, or practice enacted by minority group members can enrich the lives of the majority. By doing so, perhaps rich possibilities for minorities, men, and those for whom English is a second language can be fully realized, thus widening nursing’s collective cultural lens for the benefit of society as a whole.

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