Student Persistence in Baccalaureate Nursing Programs

BY

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THESIS

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- F.O.S.

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LIST OF ABBREVIATIONS

BSN	Baccalaureate in Nursing Science
CD-RISC 10	Connor-Davidson Resilience Scale 10
CPQ	College Persistence Questionnaire
IOM	Institute of Medicine
RN	Registered Nurse
URM	Underrepresented Minority
U.S.	United States

SUMMARY

The high attrition rate of nursing students (up to 50% in baccalaureate programs) is a concern as it impacts the nursing workforce, patient care, and healthcare outcomes. The Institute of Medicine Report (2011) recommends having a diverse workforce to help address the nursing shortage, improve diversity, reduce healthcare disparities, and achieve health equity. The purpose of this study was to understand how students persist and succeed in a baccalaureate nursing program. Researchers have shown that fostering students' inherent characteristics, mindsets, behaviors, social skills, attitudes, and strategies is critical to their academic performance, persistence, and success (Farruggia, Han, Watson, Moss, & Bottoms, 2018). Informed by a conceptual model developed from established theoretical models of persistence in educational research, the specific aims of this study were to (a) determine the associations among background characteristics (race, ethnicity, and first-generation student status), academic factors (cognitive, behavioral, and non-cognitive) and success outcomes (grade point average (GPA) and satisfaction) for enrolled baccalaureate nursing students, (b) determine if the association between academic factors and success outcomes of enrolled baccalaureate nursing students is moderated by background characteristics (race, ethnicity, and first-generation student status), and (c) explore the perceptions of underrepresented minority (URM) students regarding key elements that influenced their ability to persist in a baccalaureate nursing program.

This dissertation includes the findings of this study presented in two manuscripts. The study was conducted in 2 phases (quantitative and qualitative) with nursing students recruited in their final year of the baccalaureate program. The first manuscript includes study findings on the associations among background characteristics (race, ethnicity, and first-generation student status), academic factors (cognitive, behavioral, and non-cognitive), and success outcomes (GPA and satisfaction) as well as the predictors of success outcomes. Also included in the first manuscript are qualitative findings about perceptions of factors that influence the persistence in

baccalaureate nursing program from the perspective of students who identify as URM.

The second manuscript builds on the qualitative aim of the main study to describe key elements that facilitated persistence in a BSN program identified by URM nursing students, and present findings beyond the study conceptual model in the main study. Better understanding of URM students' experiences and how they were able to persist to graduation may help educators develop strategies focused on increasing diversity in nursing students and the workforce to meet the healthcare needs of a changing U.S. population.

The appendices include the notice of determination of human subject research for the study issued by the Institutional Review Board (IRB) of the University of Illinois at Chicago, recruitment script, informed consent, demographic questionnaire, College Persistence Questionnaire (CPQ) factors, study concepts, and survey items, Connor-Davidson Resilience Scale, and semi-structured interview guide.

STUDENT PERSISTENCE IN BACCALAUREATE NURSING PROGRAMS

Introduction

The nursing workforce shortage has been identified as a critical issue for the United States (U.S.) healthcare system (Aiken, Cheung, & Olds, 2009). There is a projected need for 649,100 replacement nurses bringing the total number of job openings for nurses to 1.09 million by 2024 (Juraschek, Zhang, Ranganathan, & Lin, 2012). The nursing workforce shortage has implications for patient safety, access to quality care, and healthcare outcomes. Practice settings, high turnover rates, burnout, and an aging nursing workforce contribute to the shortage and lack of diversity (American Association of Colleges of Nursing, 2014; Sherman, Chiang-Hanisko, & Koszalinski, 2013). In addition, there is an issue with the workforce pipeline as students drop out of nursing programs (Katz, Barbosa-Leiker, & Benavides-Vaello, 2016). The recent COVID-19 pandemic could exacerbate the nursing shortage as researchers have shown that working during a health crisis led to anxiety, fear, and an increased incidence of depression in healthcare workers, with nurses being the most affected (Lai et al., 2020; Martin-Delgado et al., 2021).

Nursing educators have been challenged to increase the number of baccalaureate prepared registered nurses to 80% (Institute of Medicine [IOM], 2011) to meet the changing needs of healthcare. Baccalaureate nursing (BSN) programs are responsible for recruiting, enrolling, and retaining a large and diverse group of students who mirror the communities in which they will practice (Phillips & Malone, 2014). A diverse nursing workforce is a crucial avenue to addressing documented disparities in healthcare and patient outcomes in racial minorities and underserved populations (Jackson & Nadine Gracia, 2014). Given that 54% of the U.S. population is projected to identify as being part of a racial/ethnic minority group by 2030 (United States Census Bureau, 2012), it is imperative that a greater number of students from diverse backgrounds persist to graduation.

Baccalaureate nursing programs have reported attrition rates up to 50% (Salamonson et

al., 2014) with higher rates reported in underrepresented minority (URM) students in comparison to their non-minority counterparts (Harris, Rosenberg, & O'Rourke, 2014). Factors identified as contributory to high attrition rates in nursing students include academic problems, financial difficulties, work issues, health problems, family commitments, and disillusionment with the nursing profession (Abele, Penprase, & Ternes, 2013; Dapremont, 2011; Jeffreys, 2014; Loftin, Newman, Gilden, Bond, & Dumas, 2013a). Although retention strategies have been developed for nursing programs to directly address the barriers to graduation, student retention remains a problem. Retention research in nursing has focused exclusively on student deficit factors (attributes that cause failure), and institutional or external factors that promote degree attainment. More recently, persistence has been identified as a critical concept for understanding higher education student retention with theories developed to identify factors that compel college students to stay or leave an institution (Farruggia, Han, Watson, Moss, & Bottoms, 2018; Tinto, 2017). Persistence is considered the result of a longitudinal process of interactions between the student and the academic and social systems of the institution (Tinto, 1988).

The disparity in rate of retention and graduation between minority and non-minority students suggests that persistence pathways may differ in a diverse group of BSN students. Persistence has been described as the individual drive, determination, and activities that propel students toward their degrees (Abeyta, 2009). Researchers recognize that fostering students' inherent characteristics, mindsets, behaviors, social skills, attitudes, and strategies is critical to their academic performance, persistence, and success (Farruggia et al., 2018). The diversity of characteristics and needs that make up the population of students highlight the importance of developing approaches that facilitate the ability of prospective nurses to persist and succeed in nursing programs. New research should account for the fact that the complexity of patient care and technological advances lend a rigor to nursing education (Salmond & Echevarria, 2017), and these pressures are likely to impact student persistence and retention in a varied manner.

In addition, students who identify as URM may have unique needs and respond to barriers to their degree attainment in ways that are not understood (Estrada et al., 2016). Understanding how these characteristics, mindsets, behaviors, social skills, and attitudes facilitate persistence and academic success in BSN students could help nursing educators better understand how to support persistence and success, especially in students who identify as URM.

The long-term goal of this program of research is to develop strategies that will facilitate the persistence and success of BSN students, increase workforce diversity, and meet the healthcare needs of a changing U.S. population. In this study, informed by a conceptual model developed from established theoretical models of persistence in educational research, this researcher examined the associations between background characteristics, academic factors, and success outcomes in nursing students to understand what helped them remain in and succeed in a baccalaureate nursing program. The specific aims of this study were to:

Aim 1: Determine the associations among background characteristics (race, ethnicity, and first-generation student status), academic factors (cognitive, behavioral, and non-cognitive) and success outcomes (grade point average (GPA) and satisfaction) for enrolled baccalaureate nursing students.

Aim 2: Determine if the association between academic factors and success outcomes of enrolled baccalaureate nursing students is moderated by background characteristics (race, ethnicity, and first-generation student status).

Aim 3: Explore the perceptions of underrepresented minority (URM) students regarding key elements that influenced their ability to persist in a baccalaureate nursing program.

Background

Registered nurses (RNs) represent the largest number of professional healthcare workers in the U.S. and are usually a patient's first point of contact with the healthcare system (Smedley, Stith, & Nelson, 2003). RNs are critical in the provision of quality care in different settings because of their ability to coordinate and integrate the care provided by other

healthcare professionals. An adequate nursing staff is associated with increased patient surveillance, fewer complications and adverse effects, and lower patient mortality rates (Clarke & Aiken, 2006). Ethnic and racial diversity are lacking in the nursing profession (Institute of Medicine [IOM], 2011). While over a third of the U.S. population belongs to racial and ethnic minorities (United States Census Bureau, 2012), only about 20% percent of nurses identify as being from a minority background (Budden, Moulton, Harper, Brunell, & Smiley, 2016).

Increasing diversity in the nursing workforce is a crucial avenue to addressing documented disparities in healthcare and patient outcomes in underserved populations, including racial minorities (Institute of Medicine [IOM], 2011; Jackson & Nadine Gracia, 2014; Phillips & Malone, 2014). Racial and ethnic minority groups face disparities in terms of morbidity, mortality, and health status (J. S. Williams, Walker, & Egede, 2016). They are more likely to die in infancy, tend to be less healthy, suffer higher rates of chronic diseases, have lower rates of successful treatment, and shorter life spans (Goode & Landefeld, 2019; J. S. Williams et al., 2016).

The lack of nursing workforce diversity can foster cultural bias and increase barriers to access to quality care for socially vulnerable populations (Jackson & Nadine Gracia, 2014; Phillips & Malone, 2014; Snyder, Frogner, & Skillman, 2018). As providers, who are themselves part of a racial or ethnic minority group, tend to practice in their communities and provide care to medically underserved populations (Ferrell, DeCrane, Edwards, Foli, & Tennant, 2016), they are better prepared to understand the norms, values, and expectations of their clients (Sharby, 2006). Ethnic and racially diverse patients with providers who look like them, and /or share their ethnicity, language or culture report better communication and participatory decision making, are more likely to report receiving preventive care and necessary medical care, have reported increased healthcare access, trust in their providers, and satisfaction with services received when compared to minority patients with non-minority providers (Fitzgerald & Hurst, 2017; Shen et al., 2018). The Future of Nursing report (2011) supports an urgent need to reduce healthcare

disparities and recommends increasing diversity in the healthcare workforce may be integral to achieving health equity.

Nursing education is challenged to recruit and retain a diverse population of students to address both workforce shortage and diversity. Baccalaureate nursing programs have reported student dropout rates as high as 50% (Salamonson et al., 2014), with 85% of underrepresented minority (URM) students dropping out before graduation (Harris et al., 2014). Student dropout increases the cost of nursing education, results in a loss of nurses, reduces diversity in the nursing profession, and contributes to the current and future nursing shortage (Mulholland, Anionwu, Atkins, Tappern, & Franks, 2008). Contributing to this account of the nursing profession, researchers have studied nursing student retention from a deficit perspective, focusing on student identified barriers to success (Amaro, Abriam-Yago, & Yoder, 2006; Loftin, Newman, Dumas, Gilden, & Bond, 2012). Various strategies have been implemented to ameliorate barriers in nursing education including identifying and supporting at-risk students academically, financially, and via online program (Dapremont, 2014; Mckendry, Wright, & Stevenson, 2014). However, nursing student retention remains an issue, especially as the profession responds to greater calls for racial and ethnic diversity (Harris et al., 2014).

To address the projected nursing shortage, increase workforce diversity, and meet public healthcare demands, it is imperative that an adequate number of nursing students succeed academically and persist to graduation. College student persistence has been explored extensively by other disciplines such as engineering, mathematics, and medicine (Arbona & Nora, 2007; Drotos & Cilesiz, 2016; Garza, Bain, & Kupczynski, 2014). Many of the persistence and retention models (such as Tinto's theory of student departure, and Bean and Metzner's non-traditional undergraduate student attrition model) were developed from studies conducted in four-year colleges and universities (Bean & Metzner, 1985; Tinto, 1975). These studies examined the impact of factors such as background variables, academic variables, environmental variables, social and academic integration, student expectations, economic

circumstances, and campus climate (institutional and external factors) on student decisions to persist to graduation, offering a nuanced description of who fails to matriculate, but little information on why these problems occur (Bergman, Gross, Berry, & Shuck, 2014).

Fortunately, there is a growing body of educational research that recognizes how academic success involves more than just intellectual preparation; success also requires mindsets, behaviors, social skills, attitudes, and strategies that are important to students' professional performance and persistence in post-secondary education (Farruggia et al., 2018; Gore, Leuwerke, Metz, Brown, & Kelly, 2019). Results from these studies may not fully address the needs of nursing students but serve as a basis for starting deeper inquiry into how the nursing profession can address the issues with nursing shortage and workforce diversity. New research should account for the fact that the complexity of patient care and technological advances lend a rigor to nursing education (Salmond & Echevarria, 2017), and these pressures are likely to impact student persistence and retention in a varied manner. In addition, students who identify as URM may have unique needs and respond to barriers to their degree attainment in ways that are not understood. To offer progress in this area, I investigated the associations among background characteristics, academic factors, and success outcomes in BSN students. These associations could explain differences in the pathways followed by a diverse group of students, explanations that may be used to design supportive programs that facilitate persistence and academic success in nursing students.

Persistence Theoretical Framework

Theoretical frameworks have been developed in educational research to understand persistence in college students. Early research was based on a sociological perspective and identified individual and group attributes that would lead to persistence or the decision to drop out (Pascarella, 2006). Tinto (1975) introduced the interaction between the student and the environment (home, academic and social) and focused on traditional students who started college or university following high school, had flexible family or work responsibilities, and were

enrolled full-time. Researchers became interested in knowing the extent to which economic and cultural factors influenced a student's decision to remain in an education program. Bean and Metzner (1985b) developed a model for non-traditional students who were enrolled at an undergraduate level and qualified in at least one of the following criteria: 25 years or older, commuters enrolled in part-time studies, members of an ethnic or racial minority group, who speak English as a second language, had dependent children, had a general equivalency diploma, and/or required remedial classes. Furthermore, they incorporated individual psychological assessments with previously identified interactions (background characteristics, academic variables, and environmental variables) to understand how students succeed and persist through educational programs. Current educational literature suggests that persistence or the decision to drop out is a process that is influenced by background characteristics, academic variables, environmental variables, academic outcomes, and psychological outcomes (Bergman et al., 2014).

Tinto's Theory of Student Departure

In this theory, persistence is described as a function of the process of integration and interactions between students and faculty, staff, and peers in academic and social settings (Tinto, 1975). The model featured categories of variables including pre-entry attributes, goals/commitments, institutional experience, integration, and outcome. According to Tinto, students enter college with pre-entry attributes (family background, skills and abilities, and prior schooling) that shape their goals/commitments (intentions, goals and institutional commitments, and external commitments). The extent of the students' academic and social integration, and success at the institution is affected by their intentions, goal and institutional commitments through their institutional experiences.

Goal commitment is an individual's willingness to achieve an objective or educational aspiration (Tinto, 2017). Students with strong goal commitment are more likely to actively engage with faculty and peers, and seek assistance to overcome barriers (Porchea, Allen,

Robbins, & Phelps, 2010). Institutional commitment is an individual's dedication to an institution or the desire to achieve the goal of a degree in a particular setting (Tinto, 1988). Students' commitment to the institution at the end of their first year is a strong predictor of their intent to persist and level of persistence (Pascarella, 2006). Student institutional experiences include involvement in the academic (academic performance and faculty staff interactions) and social systems (extracurricular activities and peer group interactions) in formal and informal settings(Tinto, 1975). The interactions and involvement allow students to understand, assimilate to academic and social institutional norms, and have a sense of belonging to the institution (termed integration).

Tinto theorized that students who depart from school do so because they have failed to integrate into and navigate the academic and social systems of the institution (Tinto, 1975). The students need to detach themselves from the groups of their previous communities that have different values, norms and behavior to integrate with the new communities of their academic institution (Tinto, 1988). Tinto posits that student goals, institutional commitment and persistence are influenced by the extent of their institutional integration (Tinto, 1988). Positive interactions and involvement in academic and social settings results in a heightened level of intentions, goals and commitment to college completion (Tinto, 1975). Tinto's model has been criticized for its emphasis on integration, need for acculturation, and failing to address the underrepresented student population adequately. Tinto's theory suggests that minority students must separate from their background and cultural realities which may potentially marginalize students who hold values that may be contrary to the institution's dominant values (Hurtado, Carter, & Kardia, 1998). In addition, Tinto's model does not address many of the reasons that students leave college including financial issues, poor academic performance, lack of encouragement, and adjustment issues. Unfortunately, the assumption driving this model, that minority students need to change significantly to be considered as members of society, offers an inaccurate description of the current context of higher education and the goals of nursing

schools.

Bean and Metzner's Non-traditional Undergraduate Student Attrition Model

Bean and Metzner describes the ways that background and defining variables, academic variables, environmental variables, and social integration variables influence academic and psychological outcomes (Bean & Metzner, 1985). Their model indicates that the decision to drop out of an educational program will be based primarily on four sets of variables: 1) academic outcome (influenced by academic variables), 2) intent to leave (influenced by academic variables and psychological outcomes), 3) background and defining variables, and 4) environmental variables. According to Bean and Metzner (1985), the relationships were apparent between environmental variables and academic outcome, as well as between psychological variables and academic outcomes. Positive environmental variables, such as encouragement from family and peers, were shown to compensate for low academic performance in the student's decision to persist in a program (Bean & Metzner, 1985). Negative environmental variables such as financial concerns or low support from family and peers were shown to contribute to the student's decision to leave the program (Bean & Metzner, 1985). These relationships between environmental variables such as finances, hours of employment, and family responsibilities, and academic outcomes have been supported by various qualitative and quantitative studies (Arbona & Nora, 2007; Bergman et al., 2014; Dapremont, 2011; Jeffreys, 2007). What remains unclear is how psychological outcomes affect academic outcome and the intention to remain in an educational program.

Bean and Metzner theorized that the interaction between psychological outcomes and academic outcomes suggest that a student with low stress and a strong commitment to his or her goals will often persist, even with low academic performance. The researchers found that high academic outcomes did not compensate for a low psychological outcome and may actually create a likelihood for student dropout (Bean, 1988). Some students may continue in school despite low GPAs if they perceive positive psychological outcomes from attendance (Bean &

Metzner, 1985). Other students may drop out of school despite high GPAs if they perceive low levels of utility, satisfaction, or goal commitment, or have high levels of stress (Bean, 1988). These findings suggest that nonacademic factors compensate for low levels of academic success, while high levels of academic achievement only result in continued attendance when accompanied by positive psychological outcomes from school.

Literature Review

The idea of studying academic success and persistence in higher education involves understanding how students continue their education, overcome barriers, and obtain a college degree. This literature review is an exploration of the factors that influence academic success and student persistence in college students. I will note recent research on academic success and persistence in different student populations, especially nursing students. The specific concepts in the conceptual model developed for this study from persistence theories/models will be discussed.

Background Characteristics

Background characteristics provide information about the student, form a central feature of the student's integration into the university community, and have been empirically linked to success and persistence (Jeffreys, 2014). The components of this concept reflect student body differences and how the differences influence the ways students interact with their peers and college environment (Bean, 1988; Bean & Metzner, 1985). In this study conceptual model, background characteristics include race, ethnicity, and first-generation student status.

Race and Ethnicity

There is a direct effect of race and ethnicity on student success and persistence (Strayhorn, 2014; Wong, Seago, Keane, & Grumbach, 2008). Students from ethnic minority groups continue to be at high risk of withdrawing from educational programs (Drotos & Cilesiz, 2016; L. B. Williams, Bourgault, Valenti, Howie, & Mathur, 2018a), and lag behind the majority population in terms of educational attainment largely due to the fact that they have

disproportionately been the victims of long-term educational disadvantage (Murray, Pole, Ciarlo, & Holmes, 2016; Quintana & Mahgoub, 2016; Strayhorn, 2014; Walker, 2016). Nursing programs report a higher rate of attrition in underrepresented minority (URM) students in comparison to their non-minority counterparts (Harris et al., 2014). Research indicates that White and Asian-American students are more likely to succeed academically and persist to graduation than students from other racial groups (Murtaugh, Burns, & Schuster, 1999). African-American students have lower enrollment rates and are more likely to drop out without earning a degree (Porchea et al., 2010). Latino students are significantly underrepresented in pre-licensure nursing program (Pence, 2011), and display the lowest college graduation rate of all minority groups (Arbona & Nora, 2007).

First-Generation Student Status

First-generation students are students whose parents or guardians have not attended college, university, or an apprenticeship program (Pascarella, Pierson, Wolniak, & Terenzini, 2004). Parental level of education had been shown to influence a child's chance to attend college, persistence, and graduation (Mcfadden, 2016). First-generation student status is directly related to student success and persistence (Pascarella et al., 2004). Students who have family members with a higher education degree are better prepared to navigate the admissions process and prepare for the demands of a higher education environment (Drotos & Cilesiz, 2016). First-generation students are more likely to come from disadvantaged, low-income backgrounds, belong to a racial/ethnic minority group, and have greater responsibilities outside of the college environment (McCabe & Jackson, 2016). Students with no family history of higher education are often unprepared for the academic demands and are less likely to remain in a rigorous educational program (Pascarella et al., 2004). In nursing programs, first-generation students are at highest risk for attrition (Rouse & Rooda, 2010).

Academic Factors

Academic factors are expected to have a direct effect on academic outcome (Bean &

Metzner, 1985). These factors represent how students are involved with the institution and academic learning process from cognitive, behavioral, and non-cognitive perspectives.

Cognitive Factors

Education research has shown that cognitive factors have a significant correlation with measures of academic success and achievement (Adebayo, 2008). Cognitive factors consider whether a student has access to core foundational knowledge and quality instruction, is able to think and process the coursework, and is academically prepared for college (Bean & Metzner, 1985). In this study conceptual model, the cognitive factor was prior academic achievement.

Prior Academic Achievement. Students who have access to high level academics or advanced placement courses in high school are more likely to persist and succeed in higher education (Morgan, Farkas, Hillemeier, & Maczuga, 2016). Taking more academically challenging classes in high school provide students the opportunity to garner the academic skills necessary to pass examinations, such as SAT or ACT, to enter and succeed in college (Adebayo, 2008). The academic achievements of a student prior to the nursing program may be an important factor as there is a significant relationship between academic preparation and persistence (Cipher, Mancini, & Shrestha, 2017; L. B. Williams et al., 2018a).

Behavioral Factors

Behavioral factors include the behaviors associated with being a ‘good student’ (Her, 2014). These behaviors include the strategies students use to develop and demonstrate their content knowledge and academic skills (Farruggia et al., 2018). In this study conceptual model, behavioral factors include absenteeism, advising, and study skills.

Absenteeism. In nursing, absenteeism occurs when a student fails to attend courses or clinical rotation. Although there are many reasons a student may choose to be absent from learning, absenteeism had been associated with lack of subject interest, negative self-image, and self-esteem (Abdelrahman & Abdelkader, 2017). The absence of nursing students from classrooms and clinical rotations has a negative impact on their learning, assessment,

performance, and prolongs their study length (Lipscomb & Snelling, 2010).

Advising. Research shows that academic planning is important as it provides an opportunity for faculty and advising staff to help students identify their potential, goals and work collaboratively to ensure their success (Mooring, 2016). Students' evaluation of the availability and quality of the academic advising they have received is an important factor (Veal, Bull, & Miller, 2012). Faculty support and advisement directly influence student's decision to withdraw or persist in the nursing program (Loftin et al., 2012). A relationship between faculty, advisors, and students has been identified as having a positive correlation with persistence (Mckendry et al., 2014; Shelton, 2003). Positive student-faculty/advisor interactions create an academic environment that enhances students' involvement in the learning process (Mooring, 2016). Provision of academic support, referral, facilitation of goal setting, listening, positive feedback, patience, and genuine interest can promote student persistence (Mooring, 2016). Nursing students who meet with their academic adviser on a regular basis report greater perceived faculty support and are more likely to persist and succeed in the program (Veal et al., 2012).

Study Skills. Students should be able to demonstrate ownership of the learning process by setting goals, seeking help, persisting in courses, and appropriately communicating with teachers (Jeffreys, 2007). Qualities the students possess that are necessary to successfully complete tasks, prioritize, and manage academic demands are considered study skills (Conley, 2008). Study skills such as writing, reading, note-taking, attention in class, time management, successful participation in study groups, and attitude about responsibility for studying are critical to high performance and academic success (Strayhorn, 2014). Nursing students are often not aware of the amount of work and time commitment that is required for success, and they find themselves unable to cope with the pressures of the program in both classroom and clinical settings (Jeffreys, 2007).

Non-cognitive Factors

Non-cognitive factors refer to strategies and attitudes that are crucial to academic performance but that may not be reflected in cognitive test scores (Farruggia et al., 2018). Researchers study non-cognitive factors when evaluating how students interact with the educational context within which they are situated and the effects of those interactions in students' attitudes, motivation and performance (Gore et al., 2019). Non-cognitive factors include attitudes about learning, motivation, self-efficacy, resiliency, help-seeking behaviors, the quality of relationships with peers/adults and social and problem-solving skills that allow students to successfully manage new environments and meet new academic and social demands (Gore et al., 2019). In this study conceptual model, the non-cognitive factors included motivation, self-efficacy, sense of belonging, and resiliency.

Motivation. The driving force within a student that stimulates physical and mental activities with the intended outcome of degree completion is referred to as motivation (Schunk & Zimmerman, 2012). Motivated students are more willing to commit to academic rigor, likely to overcome academic challenges, exhibit higher academic performance and possess the academic skills necessary to persist and succeed in nursing programs (Mckendry et al., 2014; Rose, 2011).

Self-Efficacy. The student's perceived confidence for learning or performing specific tasks or skills necessary to achieve a particular goal is self-efficacy (Bryer, Peterson-Graziose, & Nikolaidou, 2015). Self-efficacy has been strongly linked to student persistence behaviors, actions and academic performance (Taylor & Reyes, 2012). The way students perceive themselves has been shown to affect success in higher education. Students with strong self-efficacy have high motivation, perceive they can achieve goals, and will actively seek help (from faculty, peers, and academic resources) to maximize their abilities (Bryer et al., 2015; Taylor & Reyes, 2012).

Sense of Belonging. The perception that one has a rightful place in a given setting is

sense of belonging (Nagaoka et al., 2013). As students transition to college, it can be challenging for them to find their place in the academic community (Porchea et al., 2010). Students with a sense of belonging to the academic community are integrated and more likely to persist till graduation (Shelton, 2020). Integration develops through formal and informal relationships between students and faculty (both academically and socially) (Porchea et al., 2010). Integrated students are more likely to use the resources available at the institution, be successful, and persist to graduation (D'Amico, Dika, Elling, Algozzine, & Ginn, 2014). Minority healthcare students are threatened by the stereotypes of being less smart and not belonging in the health professions (Ackerman-Barger, Valderama-Wallace, Latimore, & Drake, 2016; Orom, Semalulu, & Underwood, 2013). While it is normal for students to face challenges in higher education, African American healthcare students experience additional challenges related to their race and integration into the academic communities (Ackerman-Barger et al., 2016). Social integration refers to a sense of fitting in with others and is largely determined by interactions with others on campus (D'Amico et al., 2014). Peer influence, social involvement and participation in extracurricular activities have a positive correlation with persistence (D'Amico et al., 2014; Harris et al., 2014; Reeve, Shumaker, Yearwood, Crowell, & Riley, 2013). Peer support, especially from those who have experienced the same or similar learning environment, is crucial for students' success and persistence (Young-Brice, Dreifuerst, & Buseh, 2018).

Resiliency. The process and results that are part of the life story of an individual who has been successful, despite obstacles, is resiliency (Kim & Hargrove, 2013). Resiliency is a characteristic that evolves over time based on experiences, personal growth, and development (Garza et al., 2014). Research has shown that resilient students sustain high levels of academic performance despite the presence of stressful events and conditions that place them at risk of doing poorly in school and ultimately dropping out (Garza et al., 2014). Resilient students are shown to exhibit inherent attributes that allow them to set goals and use various resources in their journey to success (Gore et al., 2019; Lekan, Ward, & Elliott, 2018; Taylor & Reyes, 2012).

Success Outcomes

Success outcomes are intended to provide information about student achievement and include academic and psychological indicators of student success related to persistence (Bean & Metzner, 1985). In this study conceptual model, the success outcomes were grade point average (GPA) and satisfaction.

Grade Point Average (GPA)

The academic indicator (grade point average) is a measure of how the minimum standard of academic performance imposed by the institution is met. Nursing GPA is defined as the grade point average calculated for all required nursing courses through the end of a semester or at program completion (Jeffreys, 2007). Nursing students who have high course grades and GPA persist to graduation, whereas students who have poor GPAs are often unsuccessful in nursing programs (Reeve et al., 2013).

Satisfaction

The psychological indicator (satisfaction) reflects the attitudes of students in response to their expectations and experiences both within and in response to the academic environment (Mckendry et al., 2014). Researchers have identified students at high risk for attrition as having unrealistic expectations and reporting a dissatisfaction with their experiences in the nursing program (Bergman et al., 2014; Mckendry et al., 2014). Satisfaction regarding the students' expectations, the nursing faculty, and the program's response to student needs is a psychological outcome necessary for persistence (Walker, 2016). Campus resources and academic support services facilitate establishing goals, institutional commitment, and contribute to satisfaction which encourages students to persist in their education (Davidson, Beck, & Milligan, 2009) . When students are not aware of available support services or are not satisfied with a college, they tend to get lower grades, which could also lead to the decision to depart from the institution (Mckendry et al., 2014; Walker, 2016). Satisfaction with nursing programs may contribute to success and persistence in nursing students (Pence, 2011).

Conceptual Model

The conceptual model for this study was developed by combining aspects of established persistence theories (Tinto's theory of student departure, and Bean and Metzner's non-traditional undergraduate student attrition model). Teasing out how academic factors and background characteristics affect students' ability to persist and succeed in a baccalaureate nursing program could improve understanding of how to retain more students in nursing programs. The study conceptual model (Figure 1) incorporates 1) academic factors (cognitive, behavioral, and non-cognitive) and 2) background characteristics (race/ethnicity, and first-generation student status) that could be crucial to the success outcomes (GPA and satisfaction) in nursing students.

This research study is innovative in its focus on the strengths of students who have managed to persist in and succeed in a nursing program rather than those who failed or dropped out. It has been suggested that the key to increasing student success, facilitating retention and persistence, and combating attrition lies within students' abilities to be successful (Walker, 2016). Although pathways to persistence and graduation may differ for students, one of the goals of the study is to understand the reality of persistence and what it looks like in a diverse body of students in the final year of a baccalaureate nursing program. This study will contribute to knowledge about what students consider as being important in helping them remain in a BSN program. As nursing programs are challenged to produce culturally competent nurses to address the nursing shortage, it is critical that educators understand the factors that contribute to nursing student persistence. The results of this study can contribute to the development of strategies that enhance the persistence and academic success of nursing students, improve the retention rates of BSN students, and impact nursing workforce diversity.

Methods

This study was conducted in two phases (quantitative and qualitative) to achieve the specific aims. Guided by the study conceptual model, the specific aims of this study were to:

Aim 1: Determine the associations among background characteristics (race, ethnicity, and first-generation student status), academic factors (cognitive, behavioral, and non-cognitive) and success outcomes (grade point average (GPA) and satisfaction) in enrolled students in the final year of the baccalaureate nursing program.

Aim 2: Determine if the association between academic factors and success outcomes in enrolled baccalaureate nursing students in the final year of the baccalaureate nursing program. is moderated by background characteristics.

Aim 3: Explore the perceptions of underrepresented minority (URM) students regarding key elements that influenced their ability to persist in a baccalaureate nursing program.

Phase 1

Design

A cross-sectional survey was used to a) examine the background characteristics of undergraduate students in their final year of the baccalaureate nursing program, b) gather information regarding factors that may have influenced students' abilities to persist in the program, and c) determine the associations among background characteristics, academic factors, and success outcomes in enrolled BSN students.

Sample

The study was conducted at three research intensive Colleges of Nursing (CONs) that are part of renowned public institutions in the Midwest. The participants were undergraduate baccalaureate students in the final year of the nursing program. Eligible participants were enrolled in on-campus classes during the recruitment period. Collectively, the three CONs serve a diverse group of students and graduate approximately 500 undergraduate students annually. Across the 3 CONs, URM students account for 9%, 28%, and 32% of the student population while first-generation students account for 10%, 24%, and 26% of the student population respectively. Based on multiple regression, using up to 11 individual variables, a sample size of 122 participants would reflect 80% power of detecting an R^2 of 0.13 with a significance level

alpha of 0.05. A total of 138 students enrolled in the final year of a BSN program clicked on the study link. Twenty-eight responses were excluded from data analysis because the respondents either did not provide informed consent (N = 1) or stopped responding after providing consent or completing the demographic questionnaire (N = 27). Figure 2 highlights the inclusion and exclusion process for data analysis. Table 1 shows a description of the participants.

Recruitment and Enrollment

Upon study approval (Appendix A), an IRB approved script (Appendix B) inviting students to participate in the study was sent electronically to all enrolled final year BSN students at the three Colleges of Nursing. Once the email invitation was received and read, interested students were required to access an attached web link that led them to the consent. The consent provided information regarding study purpose, requirements, risks, benefits, and rights as participants (Appendix C). Participants who completed the survey were entered into a raffle with the opportunity to receive one of ten $50 gift cards as compensation for their time. A reminder invitation was sent to all students until the planned sample size was achieved.

Data Collection

A self-administered online survey (populated with all the study measures) was self-administered via Qualtrics. All collected data were stored on a password-protected online server for Qualtrics. The computer with access to the data was encrypted, password protected, and limited to researcher use.

Measures

The survey for this proposal included a demographic questionnaire, College Persistence Questionnaire (CPQ), and Connor-Davidson Resilience Scale (CD-RISC). The complete survey had a total of 88 items and was estimated to take 30 to 45 minutes to complete. I conducted a pre-test of the survey with nursing students in the doctoral program to ensure the clarity and ease of following directions.

Demographic Questionnaire. A researcher developed demographic questionnaire

(Appendix D) was used to gather demographic information (e.g., gender, race, ethnicity, first-generation student status), prior academic achievement, and current grade point average.

College Persistence Questionnaire (CPQ). The CPQ was developed from retention research and used to assess several predictor variables related to students' likelihood to persist (Davidson et al., 2009). The questionnaire is comprised of items across 10 scales or factors: institutional commitment, degree commitment, academic integration, social integration, collegiate stress, academic motivation, scholastic conscientiousness, academic efficacy, financial strain, and advising effectiveness. Each scale measures a construct associated with college persistence grounded in theories and models. For this study, the original CPQ was used to measure the study concepts. The ten CPQ factors and definitions were carefully reviewed by the researcher and matched to study concepts in the model (Appendix E). The concepts were scored by converting the 5-point Likert scale answers to a 5-point favorability score, based on whether the response indicates something positive or negative about the student's experiences (-2 = very unfavorable, -1= somewhat unfavorable, 0 = neutral, +1 = somewhat favorable, +2 = very favorable).

Validity. Construct validity is supported by a component analysis using a direct oblimin rotation. In prior research, the solution produced factors with eigenvalues greater than 1.4 (Davidson et al., 2009). Predictive validity was assessed with direct logistic regression using the CPQ factors as predictors and retention as the outcome. A test of the full model attained statistical significance, χ^2 (6, N = 257) = 38.03, p < .001, Nagelkerke R^2 = 0.19 (Davidson et al., 2009). The CPQ factors reliably distinguished between freshmen who did and did not return as sophomores (Davidson et al., 2009). The instrument was valuable as it provided questions that have been proven to solicit responses specifically related to student persistence.

***Reliability*.** Internal consistency studies conducted on the CPQ support a reliable instrument with Cronbach alphas 0.63 to 0.81 for subscales (Davidson et al., 2009). For this study, Cronbach alphas for the subscales ranged from 0.98 to 1.0 (Appendix E).

Connor-Davidson Resilience Scale (CD-RISC 10). The Connor-Davidson Resilience Scale 10 (CD-RISC 10) is a self-report scale that measures individuals' perceptions of their resilience (Connor & Davidson, 2003). It is short form of the CD-RISC 25 which was developed using constructs shown to be related to resilience (such as hardiness), and characteristic factors found in research on resilient individuals. The items comprising the CD-RISC-10 (Appendix G) assess individuals' perceptions of their abilities to adapt to change, deal with unexpected events, cope with illness and injury, handle unpleasant feelings, maintain positivity in the face of stress, and cope with obstacles (Connor & Davidson, 2003; Taylor & Reyes, 2012). The 5-point scale is composed of responses including: 0 (not at all true), 1 (rarely true), 2 (sometimes true), 3 (often true), and 4 (true nearly all the time). The scale is scored by adding the chosen scores for all 10 questions. The full range of the scale is from 0 to 40, with higher scores reflecting greater resilience (Connor & Davidson, 2003).

Validity. Construct validity is supported by factor analysis. In prior research, $\chi^2(35) = 176.10$, $p < .001$, RMSEA = .050, 90% CI = .043-.057, CFit = 0.50, SRMR .028, CFI = 0.97, and determinacy = 0.9 (Campbell-Sills & Stein, 2007). It was predicted that scores on the 10-item CD-RISC moderated the relationship between retrospective reports of childhood maltreatment (using the Childhood Trauma Questionnaire Short Form) and current psychiatric symptoms (using Brief Symptom Inventory) (Campbell-Sills & Stein, 2007). Divergent validity is supported by correlations between CD-RISC 10 scores and both scales measuring anxiety, depression and assessing emotional and physical abuse, emotional and physical neglect, and sexual abuse (Coates, Phares, & Dedrick, 2013). Convergent validity is supported by positive correlation with spirituality ($r = 0.6$, $p < .001$) as measured by the Religious Well-Being Scale. Concurrent validity was supported by the finding that resilience (measured with the 10-item CD-RISC) moderated the relationship between self-reported trauma and the expression of psychiatric symptoms (Campbell-Sills & Stein, 2007). Participants rating themselves as higher in resilient qualities reported less psychiatric symptoms (Coates et al., 2013).

Reliability. Internal consistency was evaluated by calculating Cronbach's alpha. The alpha value of 0.85 (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003) supports good reliability. For this study, the alpha was calculated as 0.099.

Data Analysis

Data were obtained solely from participant completion of the on-line survey through Qualtrics, transferred in raw and summary format into an Excel spreadsheet, and then uploaded into the Statistical Package for Social Sciences (SPSS) for data analysis. A confidence interval of 95% and alpha level of $p < 0.05$ was used for all statistical tests. This level of significance was selected to limit the Type I error rate to 5%, while maintaining adequate power to detect a significant association when one exists.

Descriptive statistics (means, frequencies, and standard deviations) were used to provide information about the characteristics of students in their final year of a baccalaureate nursing program, gather variable data, and calculate normal distribution of the collected data. Data analysis included checking for missing data, testing data for normality and constant variance assumptions. Ethnic groups were pooled to analyze and compare underrepresented minorities (African American and Hispanic) to their majority counterpart (White and Asian) by measuring mean ranks on other variables. An independent samples t-test was used to compare the means for each group.

Aim 1: *Determine the associations among background characteristics (race, ethnicity, and first-generation student status), academic factors (cognitive, behavioral, and non-cognitive) and success outcomes (grade point average (GPA) and satisfaction) for enrolled baccalaureate nursing students.*

Bivariate correlations with Pearson's r were conducted to determine if there were any associations among the background characteristics (minority status and first-generation student status), academic factors (cognitive, behavioral, and non-cognitive), and success outcomes (grade point average (GPA) and satisfaction). T-test and analysis of variance (ANOVA) was

used to compare groups, and chi-square test will be used to perform comparison of categorical variables. Multiple linear regression can estimate the collective and individual contributions of the variables to the outcomes in the model. I conducted multiple linear regression with GPA and satisfaction (success outcomes) as the dependent variables while background characteristics (race, ethnicity, and first-generation student status), and academic factors (cognitive, behavioral, and non-cognitive) are independent variables. Multiple linear regression was conducted to compute and evaluate the strength, direction, and significance of each independent variable to the prediction of the dependent variable.

Aim 2: *Determine if the association between academic factors and success outcomes of enrolled baccalaureate nursing students is moderated by background characteristics (race, ethnicity or first-generation student status).*

Hierarchical multiple regression analysis was utilized to determine if minority status or first-generation student status significantly moderated the association between academic factors and success outcomes (GPA and satisfaction) of enrolled baccalaureate nursing students. The academic factors included 3 categories (cognitive, behavioral and non-cognitive) with specific predictors within each category that predict success outcomes. The cognitive factor was prior academic achievement; behavioral factors were absenteeism, advising, and study skills; and non-cognitive variables were motivation, self-efficacy, sense of belonging, and resiliency. Due to the number of variables, separate analyses were carried out for each category to predict each success outcome.

Cognitive Factors. In the first step, prior academic achievement was the independent variable. Interaction terms were created by creating a multiplicative term for prior academic achievement and each moderator (race, ethnicity, and first-generation student status). In the second step, the three interaction terms (RACE x AC ACHIEVEMENT; ETHNICITY x AC ACHIEVEMENT; FIRST GEN x AC ACHIEVEMENT) were entered. The analysis was completed twice: first with GPA as outcome, and second with satisfaction as outcome.

Behavioral Factors. The independent variables for behavioral factors were absenteeism, advising, and study skills (continuous scores). They were entered in the first block. In the second block, the nine interaction terms (RACE x ABSENTEEISM; ETHNICITY x ABSENTEEISM; FIRST GEN x ABSENTEEISM; RACE x ADVISING; ETHNICITY x ADVISING; FIRST GEN x ADVISING; RACE x STUDY SKILLS; ETHNICITY x STUDY SKILLS; FIRST GEN x STUDY SKILLS) were entered. The analysis was completed twice: first with GPA as outcome, and second with satisfaction as outcome.

Non-cognitive Factors. The independent variables for non-cognitive factors were motivation, self-efficacy, sense of belonging, and resiliency (continuous scores). They were entered in the first block. In the second block, the twelve interaction terms (RACE x MOTIVATION; ETHNICITY x MOTIVATION; FIRST GEN x MOTIVATION; RACE x SELF-EFFICACY; ETHNICITY x SELF-EFFICACY; FIRST GEN x SELF-EFFICACY; RACE x BELONGING; ETHNICITY x BELONGING; FIRST GEN x BELONGING; RACE x RESILIENCY; ETHNICITY x RESILIENCY; FIRST GEN x RESILIENCY) were entered. The analysis was completed twice: first with GPA as outcome, and second with satisfaction as outcome.

Results

Table 2 shows the sample characteristics. The majority of subjects were female, White, non-Hispanic, and were not the first members of their families to attend college. The sample included students who identified as Black or African American (7.3%) and Hispanic (11.8%). Group differences between URM and non-URM students and between first-generation and non-first-generation students for all variables were examined using t-tests. As shown in Table 2, the only significant difference was that URM students were older than non-URM students (26.6 vs 22.8, $p = .03$).

Pearson's r coefficient was used to identify relationships among all study variables. As shown in Table 3, significant correlations ranged from fairly weak to moderately strong. The strongest correlations were between satisfaction with the nursing program and a) advising and

b) sense of belonging. Satisfaction with the nursing program was also positively associated with study skills, self-efficacy and motivation. College GPA was positively associated with sense of belonging and high school GPA. Resilience was positively associated with study skills, motivation, and self-efficacy. Sense of belonging was positively associated with advising, self-efficacy, and high school GPA and negatively associated with age. Self-efficacy was modestly positively associated with being a first-generation college student. Study skills were positively associated with and advising and absenteeism. Motivation was positively associated with study skills and with lower high school GPA. Being an underrepresented minority student was associated with being a first-generation college student.

The results of simultaneous multiple regression models to predict GPA are shown in Table 4. Predictor variables included cognitive factors (prior academic achievement), behavioral factors (absenteeism, advising, and study skills), and non-cognitive factors (motivation, self-efficacy, sense of belonging, and resiliency). Model 1 includes URM status as a predictor and Model 2 includes first-generation status as a predictor. Self-efficacy was the only significant predictor of GPA in both models with the models accounting for 16% to 18% of the variance in GPA. Neither URM status, first-generation status, cognitive factors, behavioral factors, nor other non-cognitive factors predicted GPA.

The same regression models were repeated to predict satisfaction with the nursing program. These models accounted for 58% - 59% of the variance in satisfaction with advising, self-efficacy and sense of belonging being significant predictors in both models. As shown in Table 5, neither URM status, first-generation college student status, cognitive factors, or other behavioral or non-cognitive factors were significant predictors of satisfaction.

To address our second aim, multi-step hierarchical multiple regression analysis was utilized to determine if minority status or first-generation student status significantly moderated the association between cognitive factors (prior academic achievement), behavioral factors (absenteeism, advising, and study skills), and non-cognitive factors (motivation, self-efficacy,

sense of belonging, and resiliency) on success outcomes (GPA and satisfaction) of enrolled baccalaureate nursing students. Age was a significant variable for URM students when group differences were tested. URM students were older than non-URM students (26.6 vs 22.8, $p = .03$). Age was included in the hierarchical multiple regression models; however, the results were slightly attenuated and showed the statistical effects in the same direction. Therefore, age is not included in further analysis. Due to our sample size, we examined the interactions with cognitive, behavioral and non-cognitive factors in separate models.

Table 6 shows the significant results from the models examining interactions between the moderators (minority status and first-generation student status) and academic factors to predict GPA. Non-significant interactions were not retained in the model. The top of Table 6 shows the models examining interactions between URM and first-generation student status and behavioral factors (absenteeism, advising, and study skills) to predict GPA. First-generation student status significantly moderated the effect of absenteeism on GPA. A high absenteeism score is favorable as it shows that the student does not miss class, turns in assignments on the due date, and is punctual to class and school events. As shown in Figure 3, the relationship between GPA and absenteeism is a strong positive relationship for first-generation students as evidenced by a steep slope associated with GPA scores. Whereas the non-first-generation students was a flat slope showing no relationship between GPA and absenteeism. This means that there is a strong relationship between absenteeism and first-generation student status in nursing students. For first-generation nursing students, a low absenteeism score predicted low GPA while a high absenteeism score predicted higher GPA. For first-generation students missing class, turning in assignments late, and arriving to class late was more related to GPA than non-first-generation students. For non-first-generation students, there is no effect of absenteeism on GPA. None of the other interactions between behavioral factors and GPA were significant.

The bottom of Table 6 shows the models examining interactions between URM and first-

generation student status and non-cognitive factors (motivation, self-efficacy, sense of belonging, and resiliency) to predict GPA. First-generation student status significantly moderated the effects of sense of belonging on GPA. As shown in Figure 4, the relationship between GPA and sense of belonging is a strong positive relationship for first-generation students as evidenced by a steep slope associated with GPA scores. Whereas the non-first-generation students was a flat slope showing no relationship between GPA and sense of belonging. This means that for first-generation nursing students, having a low sense of belonging predicted low GPA whereas having high sense of belonging predicted higher GPA. For non-first-generation students, there is no effect of sense of belonging on GPA. None of the other interactions were significant.

The top of Table 7 shows the models to examine the interactions between URM and first-generation student status and behavioral factors (absenteeism, advising, and study skills) to predict satisfaction. Non-significant interactions were not retained in the model. URM status significantly moderated the effects of advising on satisfaction with the nursing program. As shown in Figure 5, the relationship between satisfaction and advising is a strong positive relationship for non-URM as evidenced by a steep slope associated with a wider range of satisfaction scores. Whereas the URM students showed a positive relationship with a gentler slope showing a weaker relationship between advising and satisfaction. This means that low levels of advising are associated with low levels of satisfaction, the effects were stronger in students who identified as non-URM than in students who identified as URM. More specifically, at low levels of advising, satisfaction is low, but students who identify as non-URM students reported much lower levels of satisfaction than students who identify as URM at low levels of advising. At higher levels of advising, satisfaction is high for both groups of students. None of the interactions between first-generation student status and behavioral factors were significant.

The bottom of Table 7 shows the models to examine the interactions between URM and first-generation student status and non-cognitive factors (motivation, self-efficacy, sense of

belonging, and resiliency). URM student status significantly moderated the effect of sense of belonging on satisfaction. As shown in Figure 6, the relationship between satisfaction and sense of belonging is a strong positive relationship for non-URM as evidenced by a steep slope associated with a wider range of satisfaction scores. Whereas the URM students showed a positive relationship with a gentler slope showing a weaker relationship between sense of belonging and satisfaction. This means that having a low sense of belonging is associated with low levels of satisfaction for students who identified as non-URM but not for students who identified as URM. For all students, having a high sense of belonging is associated with high satisfaction. None of the interactions between first-generation student status and non-cognitive factors were significant.

Phase 2

Design

A descriptive qualitative method was used to conduct an exploration of the perceptions of underrepresented minority (URM) students regarding key elements that influenced their ability to persist in a baccalaureate nursing program. The goal of the qualitative phase was to enrich the data collected and analyzed in Phase 1 by providing descriptions of the experiences of students who identify as URM and insight to persistence theory concepts from their perspective.

Sample

Sample size was planned for 10 -14 participants. Participant responses were evaluated during the data collection phase to determine whether data saturation had been reached. Saturation is the point during the data coding and analysis process when no new codes are found (Fusch & Ness, 2015). Data saturation is reached when there is enough information to replicate the study and when the ability to obtain additional new information has been attained during data collection (Saunders et al., 2018). The final qualitative sample size was guided by achievement of saturation.

Recruitment

Students who self-identified as African American, Black or as having Hispanic, Latino, or Spanish origin were purposefully sampled from Phase 1 of the study. The final question of the survey completed in Phase 1 solicited students who were interested in participating in follow-up interviews. The invitation also offered a $25 gift card for participation. Once consent was obtained, the students who identified as URM and had expressed an interest in participation Phase 2 of the study, were contacted to schedule a follow-up interview.

Data Collection

Interviews were conducted with eligible participants (N = 10). Due to COVID related social isolation restrictions, interviews were conducted via Zoom video conference. Participants were directed to an online consent form prior to scheduled interviews. The consent was also reviewed prior to starting the interview. All interviews were audio-recorded with permission. Code numbers were assigned to each study participant to maintain confidentiality. After each interview, audio-recordings were uploaded directly onto Box (a secure University server) immediately after completion of the interview. Each audio-recording was transcribed verbatim. Identifiers were removed from written transcriptions. The PI kept notes and completed reflexive journaling after completion of each interview. Confidentiality of audio recordings, verbatim transcriptions, and field notes will be maintained and protected throughout dissertation completion.

Measure

A semi-structured interview guide (Appendix H) was utilized to solicit information from participants in their final year of a baccalaureate nursing program regarding their experiences as students who identify as URM. Feedback on the developed interview guide was sought from expert committee members. The guide was pilot tested to refine the questions and determine if there are flaws, limitations, or other weaknesses within the interview design. Necessary revisions were completed prior to the implementation of the study. The interviewer asked

participants to describe their experiences as students who identify as URM including any events that stood out as being important or a challenge to their ability to persist in nursing school. While interviewing the participants, the open-ended questions were followed by targeted questions or probes aligned to capture the predetermined theoretical concepts measured in Phase 1. The interview guide contained 5 core questions. Sample interview questions included *"how would you describe your experiences as an underrepresented minority student in nursing school?"* and *"describe any events or experiences that stand out as being important to your persistence in nursing school"*

Data Analysis

The qualitative data were analyzed using a directed content analysis approach. The goal of a directed approach to content analysis is to validate or extend conceptually a theoretical framework or theory (Hsieh & Shannon, 2005). Data analysis was guided by the work of Hsieh and Shannon (2005). The researcher completed all interviews and read them noting students' phrases and sentences indicating their perceptions about concepts that influenced their ability to persist in a baccalaureate nursing program. The researcher identified initial codes from concepts in the study model (Figure 1). Definitions for each concept were determined using definitions from the literature review, and synonyms associated with each variable were included with the code sheet. Inter-rater reliability was achieved by recruiting two fellow doctoral students to assist in a review of codes and to discuss how and why data were coded in various ways. Any disagreements regarding coding were discussed until a consensus was reached. Once the inter-rater exercise was completed, the list of the codes and descriptions for each code was used to double-code the transcripts to assure that there was consistent application of codes and to resolve any discrepancies in the application of codes.

The researcher reviewed transcribed interviews, field notes, and listened to the recordings of the interviews multiple times to ensure completeness and accuracy. As new themes arose from the data, additional codes were added. The continued analysis of data

through interviews and transcription allowed for the identification of saturation. Saturation occurs when continued interviews produce repetitive content with no emergent themes (Saunders et al., 2018). Texts that appeared to represent the identified concepts were highlighted using the predetermined codes. The researcher reviewed the transcripts and performed reanalysis after the initial coding process. Any text that could not be categorized with the initial coding scheme was given a new code for subsequent analysis to determine whether they represented a new category or a subcategory of an existing code. Newly identified categories might either offer a contradictory view of the phenomenon or further refine, extend, and enrich the theory (Hsieh & Shannon, 2005).

Study Rigor

Rigor is defined as the quality or state of being very exact, careful, or with strict precision, or the quality of being thorough and accurate (Cypress, 2017). Rigor is described as the strength of the research design and appropriateness of the method to answer the questions (Morse, 2015). Quantitative researchers establish rigor through measures of validity and reliability. Qualitative research should be conducted with rigor because of the potential of inherent subjectivity (Cypress, 2017). In their research, Lincoln and Guba (1985) replaced validity and reliability with the concept of trustworthiness to appraise rigor in qualitative studies. Trustworthiness refers to quality, authenticity, and truthfulness of findings of qualitative research. Qualitative researchers establish trustworthiness by focusing on measures of credibility, dependability, confirmability, and transferability (Lincoln, Guba, & Pilotta, 1985).

Credibility. When the researcher has established confidence in the truth of the findings based in the research design, subjects or informants, and the context in which the study was undertaken, the interpretations are thought to be credible (Lincoln & Guba, 1985). A qualitative study is credible when it presents accurate descriptions or interpretation of human experiences that people who also share that experience would immediately recognize the descriptions (Sandelowski, 1986). In this study, credibility was enhanced during the interview process using

a semi-structured guide that allowed for probes focused on the persistence experiences of students who identified as URM. The research method was reviewed continually against the research question to ensure that information that addressed the question were being gathered. Data were reviewed after the completion of each interview by listening to interview recordings multiple times, reviewing transcribed interviews and field notes extensively, and ensuring that the code book included clear operational definitions that allowed for code checking by fellow doctoral students. Member checking involved reviewing the findings with participants to ensure an accurate representation of their experiences. Member checking was ensured by a follow-up email with the participants for clarification of data collected during the interview.

Dependability. When study findings are established as being consistent and repeatable, the research is considered dependable (Lincoln & Guba, 1985). To establish dependability, this researcher maintained an audit trail of the data. Careful notes were taken during interviews and data analysis to track the development of ideas and concepts and to provide details to reproduce the findings if needed. Dependability of the study was also enhanced by having other PhD students review the data to formulate codes for comparison with the primary researcher. This was done with the initial iteration of the codebook, and the researchers met for comparison, and to resolve any differences in coding.

Confirmability. Qualitative findings are highly dependent upon the researcher's interpretation which can be influenced by the researcher's background, culture, and values (Patton, 2015). The level of confidence that the study findings are based on the participants' narratives and words rather than potential researcher biases establishes confirmability. To minimize the impact of researcher bias and pre-conceived truths on data analysis, a continual process of reflection, engagement, and articulation of the place of the researcher and the study context (reflexivity) is important. For this study, I remained on guard of my personal biases, assumptions, and beliefs as a student who identified as URM by employing journaling throughout the process of planning, conducting, analyzing, and writing up the study. During

each interview, I took careful notes while deliberately holding my conscious biases at bay.

Transferability. This concept relates to the probability that the findings of the study may have meaning to others in similar situations. Qualitative research is often based on the specific context of the study itself and is not usually expected to have a great deal of transferability. The extent to which findings can be generalized to other populations must be determined by the reader or reviewer (Cypress, 2017). Transferability may not be established until the findings are disseminated to similar populations. The primary responsibility of the qualitative researcher is to provide as much detail as possible about the population, procedures and findings so that readers may have the best information from which to draw their own conclusions. This researcher provided dense descriptions of the research context and responses to allow others to assess the transferability of the study.

Results

Students who participated in Phase 2 of the study self-identified as African American, Black or as having Hispanic, Latino, or Spanish origin. Ten students responded to the invitation and completed the interviews via Zoom. The majority of subjects were female, identified as Black or African American, and were first-generation students. Table 8 displays the participant demographic characteristics of this sample.

Background Characteristics. Themes related to the background characteristics in the study conceptual model (race and ethnicity, and first-generation student status) were identified.

Race and Ethnicity. All participants in this phase of the study identified as members of a racial or ethnic minority group. The majority of participants identified their minority status as a "disadvantage" requiring them to work harder than their non-minority counterparts and learn to integrate in an academic environment with few minority peers.

Participants shared the following quotations.

> *"I think overall as a URM student; you are already at a disadvantage. I think you are always trying to prove yourself. So, when you are working harder to prove yourself, you sometimes may miss out on enjoyable moments or you may feel burnt out faster. You*

may feel negative impacts easier. And I don't even think it matters about your social economic status. Even when you are well off, as a person of color, as a URM student, I think you are disadvantaged. I think it's easier to say that you will not be as successful as your counterpart. I think it's easier to say that you have a different culture; have a different way of doing things." - Participant 2, Female, African American.

"You expect me to write exactly like every other American which is something that is not fair to me. I work hard, have all As and all of that. What if I have a problem writing the perfect essay that you expect me to write. Even if they give me a question to explain about an issue, the way I paraphrase my thoughts would seem different to certain professors or TAs and they would give me a lower grade for that. And all my colleagues would get a high grade because they all speak the same language and have the same sense of humor or whatever it is." - Participant 5, Male, African American.

"There were times I felt that I had to work harder or prove myself to my professors and TAs…I got along with everyone and shared information re: grades/ assignments willingly. So, I would see my White classmates' scores on their care plans and wonder how they got such scores based on what they turned in. Or I would hear them talk about their experiences in clinicals and wonder why the instructor was so hard on me." - Participant 10, Female, African American.

***First-Generation Student Status*.** More than half the participants reported to being the first in their families to attend college or an apprenticeship program. However, only one participant talked about the influence of her family's college background on her persistence. This participant said:

"I feel very privileged as compared to my fellow URM students. A lot of them were first-generation college students while I was surrounded by family members with college degrees. I felt very supported." - Participant 8, Female, African American.

Academic Factors. In the study conceptual model, academic factors included cognitive, behavioral, and non-cognitive factors. Participant responses with themes related to each sub-concept were identified.

Cognitive Factors. Themes related to prior academic achievement were explored. Participants did not mention prior academic achievement in their responses.

Behavioral Factors. In the study conceptual model, behavioral factors included absenteeism, advising, and study skills. None of the participants mentioned anything about absenteeism in their responses. Participant responses with themes related to advising and

study skills are shown below.

Advising. The concept of advising was identified when participants described an evaluation of the availability and quality of the academic advising they received, including support from professors and academic support staff. Over half the students provided examples of when advising and support provided by either faculty or staff member encouraged them to persist through the program.

One participant said:

> *"And to be honest with you, it always came down to the professor. Whether or not they genuinely cared, and you could always tell. You could always tell because some of them did everything in their power to ensure that we would succeed." - Participant 1, Female, Latina.*

Another participant said:

> *"People were actually pretty supportive of me; the faculty and staff. Especially the African American faculty and staff, their support was unmatched. They really pushed for us. And made sure that we knew that our success was important to them. And they would make comments to that effect to encourage us." - Participant 4, Female, African American.*

Study Skills. The concept of study skills was identified when participants described qualities necessary to successfully complete tasks, prioritize, and manage academic demands. Only two students talked about their study skills in the program.

One participant said:

> *"I like to make sure that I am in front of the class, listening, getting my information and everything." – Participant 4, Female, African American.*

Another participant said:

> *"I had to find a new way to study compared to the way I studied for like Chemistry and A/P. Other than memorizing the material and knowing enough to pass the exams, I realized that this content was something I actually had to learn because the theory and skills go hand in hand. It was a shift in the way I studied*". - *Participant 8, Female, African American.*

Non-cognitive Factors. In the study conceptual model, non-cognitive factors included motivation, self-efficacy, sense of belonging, and resiliency. Participant responses from the

interviews with themes related to motivation, self-efficacy, sense of belonging, and resiliency are shown below.

Motivation. The concept of motivation was identified when participants described an inner driving force that molded their commitment to themselves and degree completion. Participants shared the following quotations:

> *"It was like I wanted this more than anything and I knew that. So, I always say that you have to sacrifice what you want right now for what you want the most. So, there was social stuff whatever and I was fine with that because I am an introvert. You really have to like strap in for the duration of the journey and commit to it like a 100%." - Participant 1, Female, Latina.*

> *"It is hard. It is a daily struggle. But I have heard that it is worth it. So that motivates me to keep going. To be in profession that is held in high regard where you get to make an impact on patients and their family members." – Participant 9, Female, Latina.*

Self-efficacy. The concept of self-efficacy was identified when the participants described their confidence for learning or performing specific tasks or skills necessary to achieve a particular goal. Many students expressed self-efficacy and were confident in their ability to learn or perform the tasks/skills needed to accomplish their goal: complete nursing school.

One participant said:

> *"…I can remember that I had to be like, I can do this, I believe in my abilities. I think that also contributes to me because all those little challenges of whether you really want it and how bad do you really want it, taking a chance on yourself all contributes to that drive and self-discipline. I am taking this chance on myself and I have to be very serious about it." - Participant 1, Female, Latina.*

Sense of Belonging. The concept of sense of belonging was identified when the participants described their perception of having a rightful place, feeling included or loyal to others within the academic setting. Nearly all the participants expressed the importance of a sense of community in their ability to successfully navigate the nursing program. Participants shared the following quotations:

> *"Being a URM was kind of something; I think that people see you as someone who needs the attention to fit with other people. Because you are hesitant, you know. You*

don't know who wants to connect with you. This was a big part for me because I needed the community." - Participant 5, Male, African American.

"My study habits got better after learning from others and getting into study groups. I think that everyone just understood that we are all going through this together so let's just study together. Making friends in the nursing program made it easier to get through the program" - Participant 7, Male, African American.

Resiliency. The concept of resiliency was identified when the participants described an ability to seek and draw on all available resources in the achievement of their goals. A majority of students relayed how their resilience helped them persist through the nursing program. Participants shared the following quotations:

"I would say resilient, absolutely resilient. I don't have the luxury be anything but. If I don't do it, nobody is going to do it for me." - Participant 1, Female, Latina.

"I knew that if I go for this thing (nursing), I had to do it with everything I had, and failure was not an option. It was sink or swim, but I had to swim for my life, and I had to get through it." - Participant 3, Female, African American.

"I had to remind myself often that I could do this. That I was born to do this. I was committed to doing this. I would review my vision board whenever it got difficult." - Participant 9, Female, Latina.

Discussion

The purpose of this study was to better understand how students persist and succeed in a baccalaureate nursing program. The success outcomes measured were academic (GPA) and psychological (satisfaction). A key finding was that first-generation student status significantly moderated the effects of absenteeism (behavioral factor) and sense of belonging (non-cognitive factor) on GPA (success outcome). For first-generation nursing students, attending classes and turning in assignments when due (indicating a high CPQ absenteeism score) was associated with high GPA. First-generation students are more likely to be less academically prepared than their counterparts and thus need to ensure that they attend all classes and turn in assignments in a timely manner. In contrast, non-first-generation students might have attending prior class that exposed them to the some of the materials in class. Thus, non-first-generation students

might be less likely to impact their GPA when they miss classes.

For first-generation students, having a low sense of belonging (non-cognitive factor) predicted low GPA (success outcome) whereas having a high sense of belonging predicted higher GPA. First-generation students do not have parents or guardians to guide them through the college application and admission process, or who can share their expectations and experiences in the higher education environment. These students may be less likely to live on campus, understand the college culture of student events, sporting activities, or joining student groups. Therefore, first-generation students may not fully engage with their peers outside of the classroom setting directly influencing their being “part” of the group. Fostering a sense of belonging in first-generation nursing students could increase the likelihood of their academic success in the nursing program. In Phase 2, participant responses highlighted that students increased involvement in study groups and interaction with their peers once they felt a sense of community supports this key finding. This finding is further supported by investigators who suggested that peer influence, social involvement and participation in extracurricular activities have a positive correlation with persistence and crucial for success (D’Amico et al., 2014; Harris et al., 2014; Reeve et al., 2013). It is important that nursing educators support opportunities for first-generation students to interact with their peers and develop relationship that foster their sense of belonging in the academic setting.

Minority status was found to significantly moderate the effects of advising (behavioral factor) on satisfaction (success outcome) with the nursing program. Low levels of advising were found to be associated with low levels of satisfaction. The moderation effect was stronger in students who identified as non-URM than in students who identified as URM. At low levels of advising, non-minority students reported much lower levels of satisfaction than minority students. Unlike non-minority students, minority students may or may not know what “good” or a high level of advising should include and may not have any expectations of receiving it in their academic environment. At higher levels of advising, satisfaction was high for both groups of

students. When minority students receive high levels of advising, they are satisfied by their experiences. These findings are consistent with previous investigators who suggested strong advising and academic support may help develop a student's full potential, improve academic success and satisfaction with the program of study while increasing the likelihood of student persistence and nursing degree completion (McEnroe-Petitte, 2011; Mooring, 2016; L. B. Williams, Bourgault, Valenti, Howie, & Mathur, 2018b). As minority students are often fearful of seeking assistance due to perceived discrimination (Ingram & Wallace, 2019; Wolf, Stidham, & Ross, 2015), quality advising may create a positive perception of the program while increasing academic involvement and integration. Academic advisors who keep track of student academic progress, identify areas of weakness, address stressors and coping strategies and develop relationships with students may have an impact on persistence and success, especially in minority students (Jeffreys, 2014; Mooring, 2016). This finding was also supported by the comments from minority students interviewed in Phase 2 of this study. Over one-half the students provided examples of different scenarios when the advising and support provided by either faculty or staff member encouraged them to persist through the program. Educators and support staff might not be aware of how impactful advising can be for minority students. It is clear from this study that when minority students receive high levels of advising and support from faculty and support staff, they are able to describe what it "looks" like and how it facilitated their persistence and academic success.

Minority status was also found to significantly moderate the effects of sense of belonging (non-cognitive factor) on satisfaction (success outcome) with the nursing program. A low sense of belonging was associated with low levels of satisfaction for students who identify as non-URM but not for students who identify as URM. For all nursing students, having a high sense of belonging was associated with high satisfaction. This finding implies that a non-minority student with a low sense of belonging is more likely to report low levels of satisfaction than a minority student with a low sense of belonging. Minority students are also often first-generation students

with minimal guidance from parents and guardians about college expectations, and how to navigate relationships with their peers, as discussed above. They may not know how to become part of the academic environments and therefore do not feel a sense of belonging. The identified moderation effect is inconsistent with investigators who have shown that minority students who perceive their academic environments as closed or hostile towards them will report unmet expectations and low satisfaction and are therefore at risk of attrition (Strayhorn, 2015; Young-Brice et al., 2018). In Phase 2 of this study, nearly all the participants expressed the importance of a sense of belonging in their persistence in the nursing program. It is clear that minority students are able to describe the academic environment they would prefer to be in but unclear on how to go about achieving the engagement with peers that will achieve it. Educators could provide opportunities for minority students to better understand what the college experience typically is like, and also pair them up with peer mentors to facilitate a sense of belonging in the academic environment. Thus, improving their sense of belonging and likely their satisfaction.

There is growing body of educational research that recognizes that academic success also requires mindsets, behaviors, social skills, attitudes, and strategies that are important to students' performance and persistence in post-secondary education. In Phase 2 of this study, behavioral and non-cognitive factors appear to have more influence on success outcomes than cognitive factors for students who identify as URM. Although, motivation and resilience were found to be important themes, these concepts did not reflect any significant moderating effects on success outcomes in Phase 1 of the study. As the concepts were measured using a self-report survey, further consideration of whether the measures accurately capture the inherent characteristics needed to succeed in a nursing program should be considered. These findings suggest that persistence is complex and a further investigation of the behavioral and noncognitive factors important to students' persistence in baccalaureate nursing program is warranted.

Limitations

The limitations of this study are related to the survey design. The extent of the research was limited to one-time quantitative survey completion and a qualitative phase to determine the associations among background characteristics, academic factors, and success outcomes. A causal inference cannot be made due to the use of cross-sectional data. Although, this study provided a unique opportunity to learn from the strengths of students, rather than focus on their deficits, the strict inclusion criteria of enrolled BSN students who were successful and had persisted through the nursing program may have reduced variability of the results and limited generalizability of results. The students may not remember certain factors that may have contributed to their success, especially if an incident occurred at the beginning of the program. Future studies using a longitudinal design involving students from the beginning through the end of the program would help to clarify these findings.

The qualitative phase of this study was limited by the nature of reflection across time. Participants were asked to recall some experiences through their education. There were challenges of participants' memories and ability to recall details. However, the purpose was not to create an objectively accurate reconstruction but rather allow the individuals to recount their subjective experiences, which reflect the most significant and impactful aspects of their nursing persistence pathways, despite the passage of time. The findings cannot be generalized to students in other baccalaureate programs without replication of findings in those groups.

The use of directed content analysis approach presented a limitation in that the predetermined theoretical categories may have allowed the researcher to have an informed bias or use probing questions that cue participants to respond in a certain way. The researcher remained aware of such bias and engaged in reflexive activities, especially during the interview process. Despite these limitations, this study contributes to our knowledge of factors that may help facilitate persistence in baccalaureate nursing students, especially in students who identify as first-generation and URM.

Implications for Research and Education

Baccalaureate nursing programs have reported attrition rates up to 50% (Salamonson et al., 2014) with higher rates reported in underrepresented minority (URM) students in comparison to their non-minority counterparts (Harris et al., 2014). As the retention of nursing students continues to be an issue, the findings from this study have several implications for research and education related to the improvement of students' ability to persist and succeed in baccalaureate nursing programs.

First, it is important for educators to increase their knowledge of behavioral factors such as advising and non-cognitive factors such as sense of belonging, that can influence students' success outcomes (GPA and satisfaction). Proactive identification of how best to facilitate sense of belonging and advising has the potential to increase success outcomes such as GPA and satisfaction in BSN students. It is important to disseminate this information to faculty and advisors, and to provide opportunities to learn strategies to promote focused advising and a sense of belonging in the academic setting.

It is also important for educators to better understand the experiences of nursing students who identify as first-generation and URM. During the course of the phase 2 interviews, the importance of certain academic factors (behavioral, and non-cognitive) to URM student persistence were highlighted. As minority students are more likely to drop out of the nursing program, understanding what supports their decision to persist will be critical to promoting nursing workforce diversity. Future research and development of new strategies can contribute to the recruitment and graduation of a group of students who will diversify the healthcare workforce, care for a changing U.S. population, reduce healthcare disparities, and help achieve health equity.

Conclusion

The nursing workforce shortage has been identified as a critical issue for the United States healthcare system with a projected need for an additional 649,100 nurse by 2024. As the Future of Nursing report (2011) recommends increasing diversity in the healthcare workforce may be integral to achieving health equity, it is important that baccalaureate nursing (BSN) programs continue to support the academic success and persistence of a diverse group of students. In this study, I discovered that sense of belonging and advising facilitated success outcomes of satisfaction for all students. I also found that it is more important for first-generation students to be present for classes, clinicals, and academic activities as their absence is more likely to impact their GPA, in comparison to their counterparts. Also, first-generation student status and minority status influenced how sense of belonging predicted GPA and satisfaction. The results of this study can provide the foundation for the development of strategies to enhance the persistence and success of nursing students, improve the retention rates of BSN students, and impact nursing workforce diversity.

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Table 1

Description of Phase 1 Participants

Variable name	Group	n	%
Gender	Female	98	89.1
	Male	11	10
	Non-binary	1	0.9
Race	Asian	22	20
	Black or African	8	7.3
	White	78	70.9
	Non-reported	2	1.8
Ethnicity	Hispanic	13	11.8
	Non-Hispanic	97	88.2
Marital Status	Single	100	90.9
	Married/Domestic	10	9.1
College Generation Status	First-generation	27	24.5
	Non-first-generation	83	75.5
AP Classes in High School	Yes	99	90
	No	11	10
Age	Mean		23.54
	Median		22
	Range (Min, Max)		19 - 48
	Standard Deviation		4.56
High School GPA	Mean		3.735
	Median		3.8
	Range (Min, Max)		2.2 - 4.0
	Standard Deviation		0.31
College GPA	Mean		3.57
	Median		3.6
	Range (Min, Max)		2.0 - 4.0
	Standard Deviation		0.33

Table 2

Group Comparisons for Study Variables

Variable	URM students		Non-URM Students		p	First-generation Students		Non-first-generation Students		p
	M	SD	M	SD		M	SD	M	SD	
Participant Characteristics										
Age	26.57	7.26	22.82	3.32	0.03	25.22	6.25	22.99	3.74	0.09
HS GPA	3.71	0.37	3.74	0.29	0.7	3.67	0.35	3.76	0.29	0.24
Cognitive Factors										
Prior Academic	0.86	0.36	0.91	0.3	0.47	0.89	0.32	0.9	0.3	0.83
Achievement										
Behavioral Factors										
Absenteeism	1.55	0.55	1.65	0.52	0.44	1.74	0.49	1.6	0.54	0.22
Advising	0.84	0.62	0.84	0.66	0.97	0.79	0.62	0.86	0.67	0.63
Study Skills	0.69	0.46	0.64	0.42	0.61	0.72	0.49	0.62	0.4	0.33
Non-cognitive Factors										
Motivation	0.44	0.52	0.39	0.52	0.7	0.46	0.56	0.38	0.51	0.47
Self-efficacy	0.87	0.55	0.75	0.59	0.41	0.97	0.52	0.72	0.59	0.05
Sense of belonging	0.46	0.67	0.61	0.55	0.28	0.65	0.6	0.56	0.56	0.51
Resiliency	30.3	6.07	29.46	4.53	0.58	29.88	5.41	29.57	4.67	0.78

Note: Mean parameter values for each of the analyses are shown for the URM students (N = 21), non-URM students (N = 89), first-generation students (N = 27) and non-first-generation students (N = 83). Sample size varies slightly by construct, i.e., up to 6 missing per group.

Table 3

Descriptive Statistics and Correlations for Study Variables

Variable	n	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	109	23.54	4.56	-													
2. URM	109			.20*	-												
3. First-generation student status	109			.08	.37**	-											
4. High School GPA	108	3.735		-.22*	.04	-.01	-										
5. Prior Academic Achievement	109			-.21*	-.07	-.02	.27**	-									
6. Absenteeism	102	1.63	0.53	-.05	-.06	.17	.05	-.00	-								
7. Advising	109	0.84	0.65	-.06	-.04	-.07	.09	-.09	.17	-							
8. Study Skills	105	0.65	0.45	.05	.05	.11	-.03	.09	.26**	.29**	-						
9. Motivation	106	0.4	0.52	.07	.07	.09	-.21*	.00	-.05	.15	.198*	-					
10. Self-efficacy	105	0.78	0.58	-.06	.07	.21*	.12	-.06	.15	.19*	.16	.07	-				
11. Sense of Belonging	108	0.58	0.57	-.30**	-.08	.08	.25*	.03	.07	.37**	.17	.15	.30**	-			
12. Resiliency	104	29.63	4.84	.05	.06	.00	-.03	-.02	.06	.08	.27**	.23*	.25*	.19	-		
13. GPA	109	3.56	0.33	.05	-.01	.04	.22*	-.16	.18	.11	.00	.04	.34**	.17	0.11	-	
14. Satisfaction	104	0.87	1	-.11	.05	.02	.11	-.02	.22*	.64**	.34**	.21*	.31**	.49**	0.14	0.01	-

Note: * correlation is significant at the 0.05 level (2-tailed); ** correlation is significant at the 0.01 level (2-tailed).

Table 4

R*egression Coefficients of Cognitive, Behavioral, and Non-cognitive Factors on GPA*

Variable	Model 1				Model 2			
	B	β	SE	p	B	β	SE	p
Constant	3.36		.23	.00	3.38		.23	.00
Cognitive Factors								
Prior Academic Achievement	-.11	-.93	.12	.34	-.12	-.1	.11	.31
Behavioral Factors								
Absenteeism	.08	.13	.06	.21	.09	.15	.06	.15
Advising	.02	.04	.06	.72	.01	.01	.06	.90
Study Skills	-.06	-.07	.08	.49	-.05	-.06	.08	.57
Non-Cognitive Factors								
Motivation	-.02	-.03	.06	.75	-.01	-.02	.06	.84
Self-efficacy	.16	.3	.06	.00*	.18	.33	.06	**.00***
Sense of Belonging	.06	.12	.06	.30	.07	.13	.06	.25
Resiliency	.00	.03	.01	.81	.00	.02	.00	.87
URM	.02	.03	.08	.80				
First-Generation Student Status					-.11	-.15	.07	.14
R^2	.16				.18			
ΔR^2	.16				.18			

Table 5

R*egression Coefficients of Cognitive, Behavioral, and Non-cognitive Factors on Satisfaction*

Variable	Model 1				Model 2			
	B	β	SE	p	B	β	SE	p
Constant	.11		.31	.72	.15		.31	.63
Cognitive Factors								
Prior Academic Achievement	.09	.04	.15	.55	.06	.03	.15	.69
Behavioral Factors								
Absenteeism	.12	.10	.08	.16	.10	.09	.08	.25
Advising	.46	.49	.07	.00*	.47	.51	.08	**.00***
Study Skills	.11	.07	.11	.33	.11	.08	.11	.33
Non-Cognitive Factors								
Motivation	.12	.10	.08	.16	.12	.10	.08	.17
Self-efficacy	.20	.19	.08	.01*	.20	.20	.08	**.01***
Sense of Belonging	.24	.23	.08	.00*	.22	.21	.08	**.01***
Resiliency	-.01	-.09	.01	.22	-.01	-.08	.01	.28
URM	.16	.11	.10	.12				
First-Generation Student Status					.03	.02	.10	.77
R^2	.59				.58			
ΔR^2	.59				.58			

Table 6

Significant Findings from Hierarchical Regression of Behavioral and Non-Cognitive Factors on GPA

	Moderator: Minority Status			**Moderator: Generational Student Status**		
Behavioral Factors	Unstandardized B	Standard Error	p-value	Unstandardized B	Standard Error	p-value
Constant	3.371	0.11	0.000	3.557	0.112	0.000
Moderator	0.035	0.08	0.658	-0.922	0.247	0.000
Absenteeism	0.094	0.061	0.128	-0.015	0.065	0.823
Advising	0.078	0.052	0.138	0.065	0.049	0.189
Study Skills	-0.035	0.080	0.666	-0.005	0.076	0.948
Moderator X Absenteeism	-	-	-	0.507	0.138	**0.000**
Moderator X Advising	-	-	-	-	-	-
Moderator X Study Skills	-	-	-	-	-	-
Non-Cognitive Factors						
Constant	3.39	0.188	0.000	3.483	0.186	0.000
Moderator	0.026	0.078	0.741	-0.262	0.101	0.011
Motivation	-0.055	0.059	0.35	-0.034	0.058	0.552
Self-Efficacy	0.167	0.056	**0.004**	0.180	0.055	**0.002**
Sense of Belonging	0.053	0.055	0.340	-0.02	0.061	0.741
Resiliency	0.001	0.007	0.848	0.000	0.006	0.98
Moderator x Motivation	-	-	-	-	-	-
Moderator x Self-Efficacy	-	-	-	-	-	-
Moderator x Sense of Belonging	-	-	-	0.27	0.115	**0.022**
Moderator x Resiliency	-	-	-	-	-	-

Note: - shows that non-significant interactions were not retained in the model.

Table 7

Significant Findings from Hierarchical Regression of Behavioral and Non-Cognitive Factors on Satisfaction

	Moderator: Minority Status			**Moderator: Generational Student Status**		
Behavioral Factors	Unstandardized B	Standard Error	p-value	Unstandardized B	Standard Error	p-value
Constant	0.129	0.148	0.388	0.174	0.149	0.244
Moderator	0.514	0.191	0.008	0.13	0.101	0.202
Absenteeism	0.034	0.083	0.768	0.037	0.085	0.661
Advising	0.666	0.076	**0.000**	0.607	0.072	**0.000**
Study Skills	0.169	0.107	0.118	0.148	0.11	0.182
Moderator X Absenteeism	-	-	-	-	-	-
Moderator X Advising	-0.455	0.182	**0.014**	-	-	-
Moderator X Study Skills	-	-	-	-	-	-
Non-Cognitive Factors						
Constant	0.348	0.302	0.252	0.539	0.309	0.084
Moderator	0.450	0.156	0.005	-0.049	0.116	0.674
Motivation	0.052	0.093	0.58	0.092	0.096	0.344
Self-Efficacy	0.255	0.089	**0.005**	0.313	0.093	**0.001**
Sense of Belonging	0.594	0.102	**0.000**	0.432	0.09	**0.000**
Resiliency	-0.003	0.011	0.796	-0.006	0.011	0.566
Moderator x Motivation	-	-	-	-	-	-
Moderator x Self-Efficacy	-	-	-	-	-	-
Moderator x Sense of Belonging	-0.515	0.193	**0.009**	-	-	-
Moderator x Resiliency	-	-	-	-	-	-

Note: - shows that non-significant interactions were not retained in model.

Figure 1

Study Conceptual Model

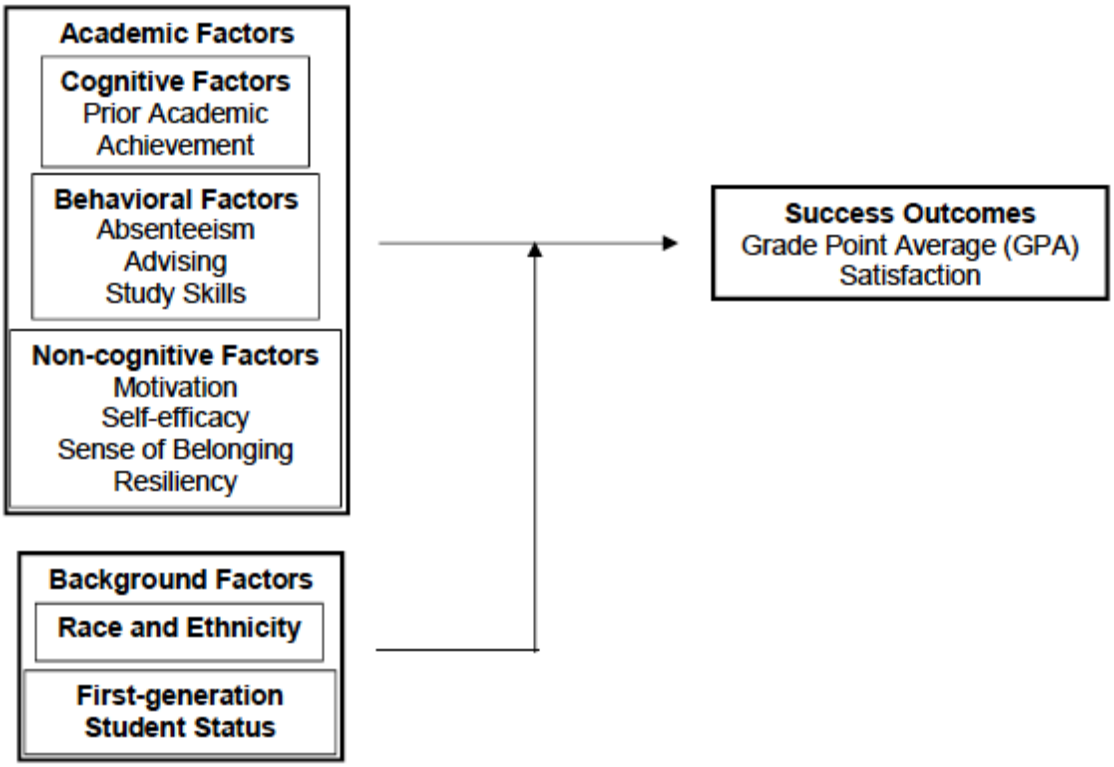


Figure 2

Inclusion and Exclusion Process for Data Analysis

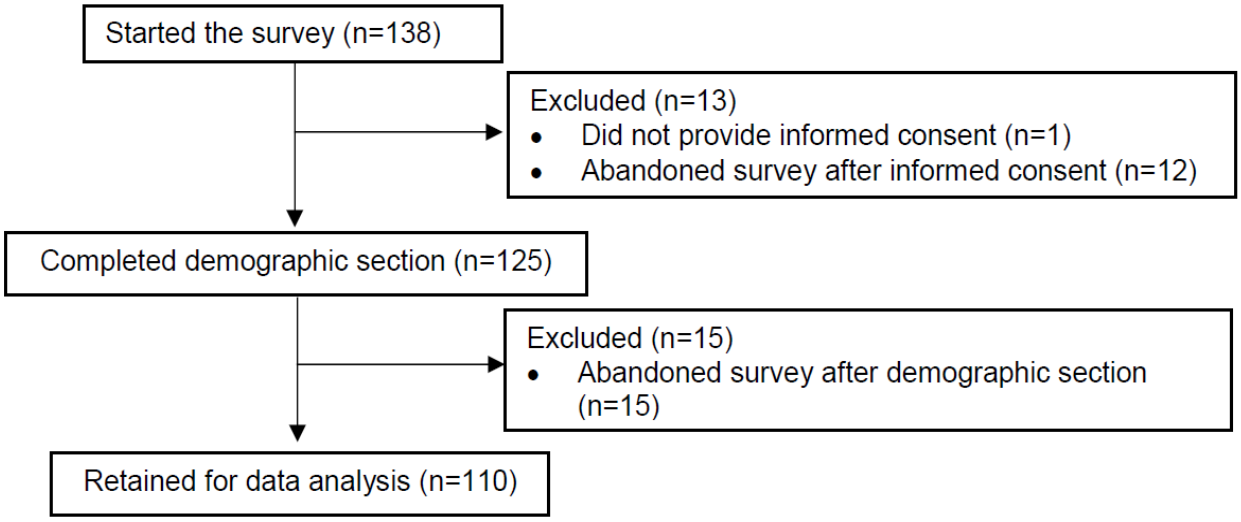


Figure 3

Generational Student Status Moderates Effect of Absenteeism on GPA

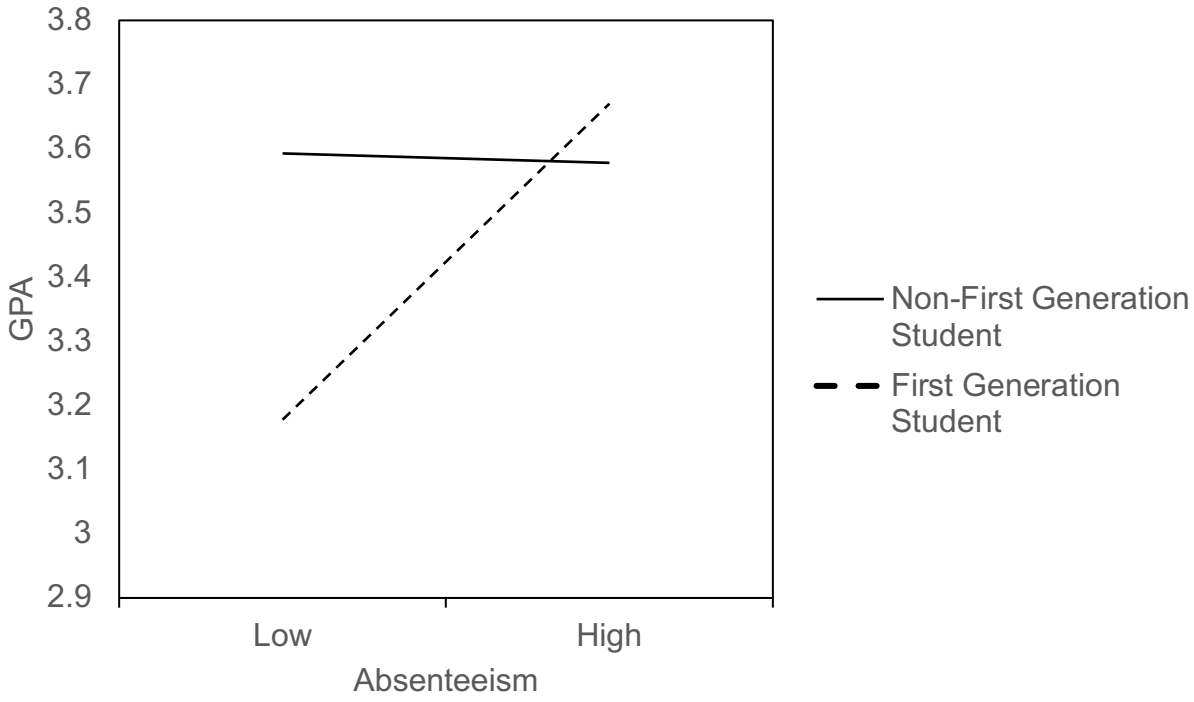


Figure 4

Generational Student Status Moderates Effect of Sense of Belonging on GPA

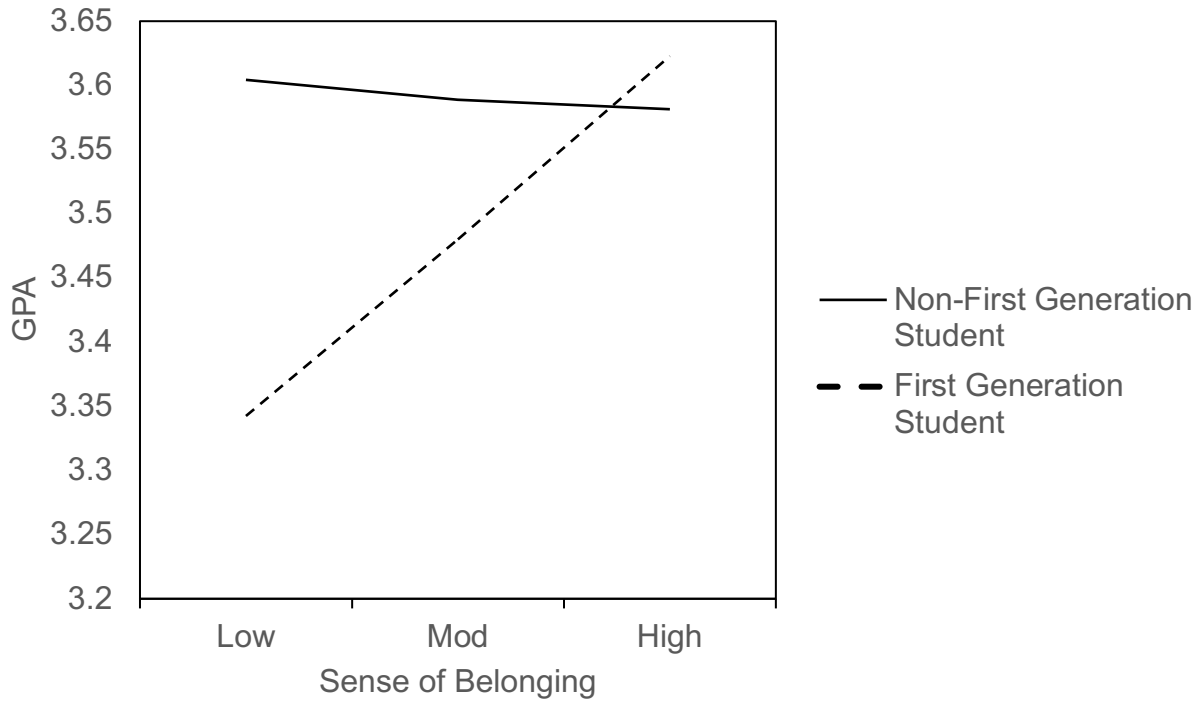


Figure 5

Minority Student Status Moderates Effect of Advising on Satisfaction

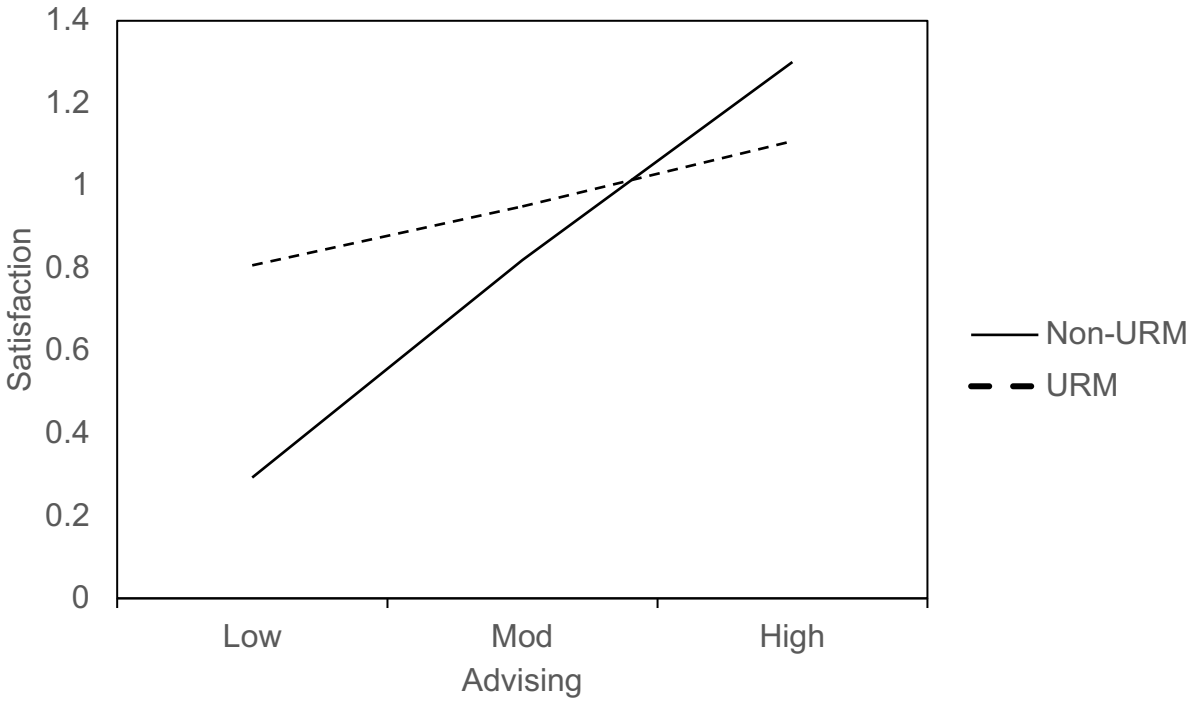
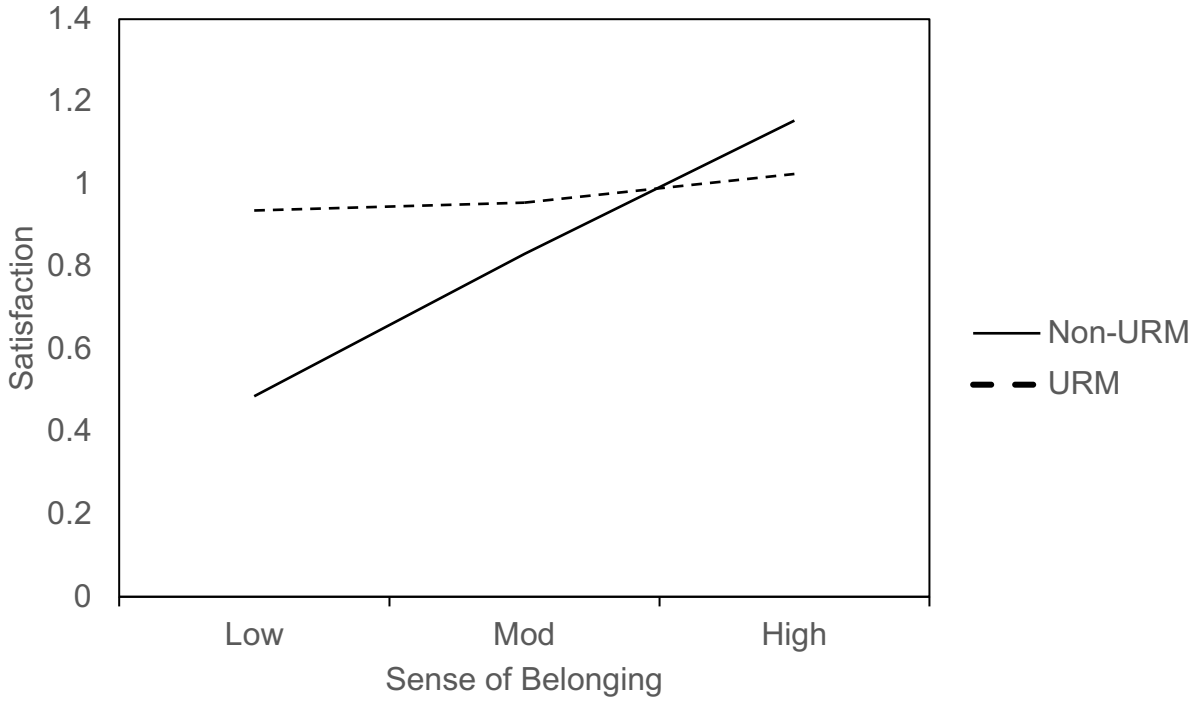


Figure 6

Minority Student Status Moderates Effect of Sense of Belonging on Satisfaction



PERSISTENCE IN UNDERREPRESENTED NURSING STUDENTS: ADDITIONAL QUALITATIVE FINDINGS

Introduction

There is a projected need to fill 1.09 million nursing job openings by 2024 (Juraschek, Zhang, Ranganathan, & Lin, 2012). With nurses leaving the profession due to age, high turnover rates, and burnout, the shortage has implications for patient safety, access to quality care, and healthcare outcomes (Hall et al., 2015). The recent COVID-19 pandemic could also exacerbate the nursing shortage. Researchers have shown that working during a health crisis led to anxiety, fear, and an increased incidence of depression in healthcare workers, with nurses being the most affected (Lai et al., 2020; Martin-Delgado et al., 2021). The Institute of Medicine (IOM) has recommended an increase in the number of baccalaureate-prepared registered nurses to 80% to meet the changing needs of healthcare (2011).

Nursing programs have reported attrition rates up to 50% (Salamonson et al., 2014). Higher rates (up to 85%) have been reported in students who identify as underrepresented minority (URM) in comparison to their non-minority counterparts (Harris et al., 2014). Diversity is lacking in the nursing profession (Institute of Medicine [IOM], 2011). While over a third of the United States (U.S.) population belongs to racial and ethnic minorities (United States Census Bureau, 2012), only about 20% percent of nurses identify as being from a minority background (Budden et al., 2016). According to the IOM (2011), changing the demographic composition of nurses has the potential to change the face of healthcare as nurses make up the largest proportion of the healthcare workforce.

Health care disparities occur along the ethnic and racial lines as well as socioeconomic levels (Gilchrist & Rector, 2007). Minority nurses tend to practice in their communities, provide care to medically underserved populations (Ferrell et al., 2016), and are better prepared to understand the norms, values, and expectations of their minority clients (Sharby, 2006). In tandem, minority patients are more likely to seek care from health care providers who look like

them (Smedley, Stith, & Nelson, 2003), use health care services more appropriately, and report increased healthcare access, trust in their providers, and satisfaction with services received (Fitzgerald & Hurst, 2017; Shen et al., 2018).

An increase in healthcare workforce diversity has been identified as being integral to reducing healthcare disparities and achieving health equity (Bouye, McCleary, & Williams, 2016; Institute of Medicine [IOM], 2011; Jackson & Nadine Gracia, 2014). Therefore, it is critical that a greater number of students from diverse backgrounds persist to graduation. It has been suggested that increasing diversity in nursing programs also prepares future non-minority nurses to serve culturally diverse populations (Gilchrist & Rector, 2007). An engagement with peers from minority backgrounds, in classes and clinical experiences, promotes a comprehension of diverse perspectives and builds cultural competency in non-minority students before they assume nursing roles (Mingo, 2008; Sanner, Baldwin, Cannella, Charles, & Parker, 2010). An expansion of diversity within nursing students and consequently within the nursing profession will impact the patients and communities they serve (Jackson & Nadine Gracia, 2014).

The disparity in attrition rates between minority and non-minority students suggests that students leave the nursing programs for different reasons. Students who identify as URM have reported poor academic preparation, difficulty balancing personal and academic stressors, as well as a lack of coping mechanisms and resources to overcome the challenges of nursing education (Dapremont, 2014; Veal et al., 2012; Young-Brice et al., 2018). A difficulty to develop meaningful relationships with peers and others in the academic setting leave the students disconnected from the school and also create barriers to their success (D'Amico et al., 2014; Veal et al., 2012). Various strategies have been implemented to address attrition in nursing education including identifying and supporting at-risk students academically, financially, and via online programs (Dapremont, 2014; Mckendry et al., 2014). However, nursing student retention remains an issue, especially in students who identify as URM.

Persistence has been identified as an important concept for understanding higher education student retention with theories developed to identify factors that compel college students to stay or leave an institution (Farruggia et al., 2018). Nursing research is limited in reporting URM students' perceptions of nursing programs and factors viewed as supportive of academic success and persistence. Research suggests that URM students often have higher levels of needs across multiple domains and require complex intervention efforts (Amaro, Abriam-Yago, & Yoder, 2006; Gates, 2018). These students may experience commonalities in challenges, barriers, and struggles to their education. As students who identify as URM may have unique needs and respond to barriers to their degree attainment in ways that are not recognized (Estrada et al., 2016), understanding the factors that facilitate their persistence could help nursing educators know how to support them.

There is a direct effect of race and ethnicity on student success and persistence (Strayhorn, 2014; Wong et al., 2008). Students from ethnic minority groups continue to be at high risk of withdrawing from educational programs, and lag behind in terms of educational attainment (Drotos & Cilesiz, 2016; Strayhorn, 2014; Walker, 2016). Research indicates that White and Asian-American students are more likely to succeed academically and persist to graduation than students from other racial groups (Murtaugh et al., 1999). African-American students have lower enrollment rates and are more likely to drop out without earning a degree (Porchea et al., 2010). Latino students are significantly underrepresented in pre-licensure nursing program (Pence, 2011), and display the lowest college graduation rate of all minority groups (Arbona & Nora, 2007).

First-generation student status is directly related to student success and persistence (Pascarella et al., 2004). Students who have family members with a higher education degree are better prepared to navigate the admissions process and prepare for the demands of a higher education environment (Drotos & Cilesiz, 2016). First-generation students are more likely to come from disadvantaged, low-income backgrounds, belong to a racial/ethnic minority group,

and have greater responsibilities outside of the college environment (McCabe & Jackson, 2016). Students with no family history of higher education are often unprepared for the academic demands and are less likely to remain in a rigorous educational program (Pascarella et al., 2004).

The purpose of this paper is to present qualitative research findings from a larger study. The main study was conducted in two phases with students recruited from three nursing colleges. In Phase 1, the associations between background characteristics (race and ethnicity and first-generation student status), academic factors (cognitive, behavioral, and non-cognitive), and success outcomes (grade point average and satisfaction) were examined to determine what predicted success outcomes. The study conceptual model was developed by combining aspects of established persistence theories (Tinto's theory of student departure, and Bean and Metzner's non-traditional undergraduate student attrition model) and is further described in the main study. In Phase 2, students who identified as URM were interviewed to explore their perceptions of key elements that influenced their ability to persist in a BSN program. The goal of the qualitative phase of the main study was to support the study conceptual model, and enrich the data collected and analyzed in Phase 1 by providing descriptions of the experiences of students who identify as URM. In this paper, this researcher builds on the qualitative aim of the main study to describe key elements that facilitated persistence in a BSN program identified by URM nursing students, and present findings beyond the study conceptual model in the main study. Better understanding URM students' experiences and how they were able to persist to graduation may help educators develop strategies focused on increasing diversity in nursing students and the workforce to meet the healthcare needs of a changing U.S. population.

Literature Review

The study of academic success and persistence in higher education involves understanding how students decide to continue their education, overcome barriers, and obtain a college degree. It is understood that factors related to persistence affect minority students

differently from their non-minority counterparts and may impact the best strategy to facilitate academic success in nursing students. In this section, I review the literature on factors, beyond the study model, that influenced academic success and student persistence in college students who identify as URM. For the purposes of this study, URM students are defined as students who self-identified as African American, Black or as having Hispanic, Latino, or Spanish origin.

Advising. Minority students may perceive the nursing program to be much more difficult than they expected in contrast to their non-minority counterparts (Loftin, Newman, Gilden, Bond, & Dumas, 2013b). Research shows that advising is important as it provides an opportunity for faculty and advising staff to help URM students identify their potential, goals, and work collaboratively to ensure their success (Loftin et al., 2012; Mooring, 2016). A relationship between faculty, advisors, and students has been identified as having a positive correlation with persistence (Mckendry et al., 2014; Shelton, 2003). Minority students have reported inadequate academic advising and lack of support from faculty as barriers to their nursing education (Loftin et al., 2012). Academic advisors and personnel who are committed to providing minority students with strong support increase the likelihood of URM student persistence (Mooring, 2016).

Motivation. Academic motivation has been found to be a strong predictor of academic success among nursing students (Khalaila, 2015). Motivated students are more willing to commit to academic rigor, likely to overcome academic challenges, exhibit higher academic performance and possess the academic skills necessary to persist and succeed in nursing programs (Mckendry et al., 2014; Pence, 2011; Salamonson et al., 2014). Extrinsic motivation is the degree to which students perceive themselves to be participating in a task for external rewards (such as grades, rewards, competition, and approval from others), while intrinsic motivation is the degree to which students perceive themselves to be participating in a task for internal and personal rewards (such as interest, meeting goals, and learning new skills) (Pence, 2011). Investigators have shown that students with high extrinsic motivation focus on getting

good grades and receiving approval from others while students with high intrinsic goals may show more interest in the coursework than achieving high grades (Pence, 2011). Previous research has shown that intrinsically motivated students persist longer, conquer more challenges, and demonstrate accomplishments in their academic endeavors than extrinsically motivated students (Hwang, Echols, & Vrongistinos, 2002). For URM students in pre-health careers, extrinsic motivation (such as tangible feedback from advisors, family and mentors) has been found to be a better predictor of persistence than intrinsic motivation (Tucker & Winsor, 2013). These inconsistent research findings suggest that there may be a complex relationship between motivation and persistence in URM students.

Self-Efficacy

Self-efficacy has been strongly linked to student persistence behaviors, actions, and academic performance (Taylor & Reyes, 2012). Students with strong self-efficacy have high motivation, perceive they can achieve goals, and will actively seek help (from faculty, peers, and academic resources) to maximize their abilities (Bryer et al., 2015; Taylor & Reyes, 2012). Self-efficacy educational research has been primarily conducted on college students without a focus on racial or ethnic minority groups. However, lower levels of self-efficacy have been reported in minority students in comparison to their non-minority counterparts (Hackett, Betz, Casas, & Rocha-Singh, 1992; Mayo & Christenfeld, 1999). The specific influence of self-efficacy on minority student persistence is unclear.

Sense of Belonging

The perception that one has a rightful place in a given setting is sense of belonging (Nagaoka et al., 2013). Students with a sense of belonging to the academic community are more likely to persist till graduation (Shelton, 2020). Minority healthcare students experience additional challenges related to their race and integration into the academic communities (Ackerman-Barger et al., 2016). They also report dealing with stereotypes of being less smart and not belonging in health professions (Ackerman-Barger et al., 2016; Orom et al., 2013).

Resiliency

The process and results that are part of the life story of an individual who has been successful, despite obstacles, is resiliency (Kim & Hargrove, 2013). Resiliency is a characteristic that evolves over time based on experiences, personal growth, and development (Garza et al., 2014). Research has shown that resilient students sustain high levels of academic performance despite the presence of stressful events and conditions that place them at risk of doing poorly in school and ultimately dropping out (Garza et al., 2014). Although literature suggests that resiliency can be a valuable concept when investigating the gaps in persistence and degree attainment between minority students and their majority counterparts, no research has been conducted (Hartley, 2011).

Methods

The qualitative aim for the main study was to explore the perceptions of underrepresented minority (URM) students regarding key elements that influenced their ability to persist in a baccalaureate nursing program. In this paper, key findings beyond the study conceptual model in the main study are presented.

Design

A descriptive qualitative design was used to conduct an exploration of the perceptions of underrepresented minority (URM) students regarding key elements that influenced their ability to persist in a baccalaureate nursing program. Students who self-identified as African American, Black or as having Hispanic, Latino, or Spanish origin were purposefully sampled from the quantitative phase of the main study. Participant responses were evaluated during the data collection phase to determine whether data saturation has been reached. The final qualitative sample size was guided by achievement of saturation.

Data Collection

Interviews were conducted with eligible participants (N = 10). Due to COVID related social isolation restrictions, interviews were conducted via Zoom video conference. Participants

were directed to an online consent form prior to scheduled interviews. The consent form was also reviewed prior to starting the interviews. All interviews were audio-recorded with permission. Code numbers were assigned to each study participant to maintain confidentiality. After each interview, audio-recordings were uploaded directly onto Box (a secure University server) immediately after completion of the interview. Each audio-recording was transcribed verbatim. Identifiers were removed from written transcriptions. The PI kept notes and completed reflexive journaling after completion of each interview. Confidentiality of audio recordings, verbatim transcriptions, and field notes was maintained and protected throughout dissertation completion.

Measures

A semi-structured interview guide (Appendix H) was utilized to solicit information from participants in the final year of a baccalaureate nursing program regarding their experiences as students who identify as URM. Feedback on the developed interview guide was sought from expert committee members. The guide was pilot tested to refine the questions and determine if there were flaws, limitations, or other weaknesses within the interview design. Necessary revisions were completed prior to the implementation of the study. Participants were asked to describe their experiences as students who identify as URM in nursing school including any events that stood out as being important or a challenge to their ability to persist in nursing school. While interviewing the participants, the open-ended questions were followed by targeted questions or probes aligned to capture the predetermined theoretical concepts measured in Phase 1. The interview guide contained 5 core questions. Sample interview questions included *“how would you describe your experiences as an underrepresented minority student in nursing school?”* and *“describe any events or experiences that stand out as being important to your persistence in nursing school”*

Data Analysis

The qualitative data were analyzed using a directed content analysis approach. The goal

of a directed approach to content analysis is to validate or extend conceptually a theoretical framework or theory (Hsieh & Shannon, 2005). Data analysis was guided by the work of Hsieh and Shannon (2005). The researcher completed all interviews and read them noting students' phrases and sentences indicating their perceptions about concepts that influenced their ability to persist in a baccalaureate nursing program. In the main study, the researcher identified initial codes from concepts in the study model. Definitions for each concept were determined using definitions from the literature review, and synonyms associated with each variable were included with the code sheet. Inter-rater reliability was achieved by recruiting two fellow doctoral students to assist in a review of codes and to discuss how and why data were coded in various ways. Any disagreements regarding coding were discussed until a consensus was reached. Once the inter-rater exercise was completed, the list of the codes and descriptions for each code was used to double-code the transcripts to assure that there is consistent application of codes and to resolve any discrepancies in the application of codes.

The researcher reviewed transcribed interviews, field notes, and listened to the recordings of the interviews multiple times to ensure completeness and accuracy. As new themes arose from the data, additional codes were added. In this paper, I elaborate on the qualitative results reported in the main study by providing richer descriptions of participant responses and presenting additional themes identified beyond the study model. The continued analysis of data through interviews and transcription allowed for the identification of saturation. Saturation occurs when continued interviews produce repetitive content with no emergent themes (Saunders et al., 2018). Texts that appeared to represent the identified concepts were highlighted using the predetermined codes. The researcher reviewed the transcripts and performed reanalysis after the initial coding process. Any text that could not be categorized with the initial coding scheme was given a new code for subsequent analysis to determine whether they represented a new category or a subcategory of an existing code. Newly identified categories might either offer a contradictory view of the phenomenon or further refine, extend,

and enrich the theory (Hsieh & Shannon, 2005).

Study Rigor

Rigor is defined as the quality or state of being very exact, careful, or with strict precision, or the quality of being thorough and accurate (Cypress, 2017). Rigor is described as the strength of the research design and appropriateness of the method to answer the questions (Morse, 2015). Quantitative researchers establish rigor through measures of validity and reliability. Qualitative research should be conducted with rigor because of the potential of inherent subjectivity (Cypress, 2017). In their research, Lincoln and Guba (1985) replaced validity and reliability with the concept of trustworthiness to appraise rigor in qualitative studies. Trustworthiness refers to quality, authenticity, and truthfulness of findings of qualitative research. Qualitative researchers establish trustworthiness by focusing on measures of credibility, dependability, confirmability, and transferability (Lincoln et al., 1985).

Credibility

When the researcher has established confidence in the truth of the findings based in the research design, subjects or informants, and the context in which the study was undertaken, the interpretations are thought to be credible (Lincoln & Guba, 1985). A qualitative study is credible when it presents accurate descriptions or interpretation of human experiences that people who also share that experience would immediately recognize the descriptions (Sandelowski, 1986). For this study, nursing students who had persisted to the final year of the BSN program were purposefully sampled from three different Colleges of Nursing in the Midwest. The participants were interviewed by asking the same questions from an interview guide. Rich descriptions of their experiences are provided to get a better understanding of factors that influenced persistence in students who identify as URM.

In this study, credibility was enhanced during the interview process using a semi-structured guide that allowed for probes focused on the persistence experiences of students who identified as URM. The research method was reviewed continually against the research

question to ensure that information that addressed the question were being gathered. Data were reviewed after the completion of each interview by listening to interview recordings multiple times, reviewing transcribed interviews and field notes extensively, and ensuring that the code book included clear operational definitions that allowed for code checking by fellow doctoral students. Member checking involved reviewing the findings with participants to ensure an accurate representation of their experiences. Member checking was ensured by a follow-up email with the participants for clarification of data collected during the interview.

Dependability

When study findings are established as being consistent and repeatable, the research is considered dependable (Lincoln & Guba, 1985). To establish dependability, this researcher maintained an audit trail of the data. Careful notes were taken during interviews and data analysis to track the development of ideas and concepts and to provide details to reproduce the findings if needed. Dependability of the study was also enhanced by having other PhD students review the data to formulate codes for comparison with the primary researcher. This was done with the initial iteration of the codebook, and the researchers met for comparison, and to resolve any differences in coding.

Confirmability

Qualitative designs and findings are highly dependent upon the researcher's interpretation which can be influenced by the researcher's background, culture, and values (Patton, 2015). The level of confidence that the study findings are based on the participants' narratives and words rather than potential researcher biases establishes confirmability. To minimize the impact of researcher bias and pre-conceived truths on data analysis, a continual process of reflection, engagement, and articulation of the place of the researcher and the study context (reflexivity) is important. For this study, I remained on guard of my personal biases, assumptions, and beliefs as a student who identified as URM by employing journaling throughout the process of planning, conducting, analyzing, and writing up the study. During

each interview, I took careful notes while deliberately holding my biases at bay.

Transferability

This concept relates to the probability that the findings of the study may have meaning to others in similar situations. Qualitative research is often based on the specific context of the study itself and is not usually expected to have a great deal of transferability. The extent to which findings can be generalized to other populations must be determined by the reader or reviewer (Cypress, 2017). Transferability may not be established until the findings are disseminated to similar populations. The primary responsibility of the qualitative researcher is to provide as much detail as possible about the population, procedures and findings so that readers may have the best information from which to draw their own conclusions. This researcher provided dense descriptions of the research context and responses to allow others to assess the transferability of the study.

Results

In the main study, associations between background characteristics (race and ethnicity and first-generation student status), academic factors (cognitive, behavioral, and non-cognitive), and success outcomes (GPA and satisfaction) in nursing students were examined to better understand what facilitated persistence in a baccalaureate nursing program. The main study was informed by a conceptual model developed from established theoretical models of persistence in educational research. The qualitative results reported for the main study provided descriptions of the experiences of URM students to support the study model and enrich the data analyzed in the quantitative phase. In this paper, this researcher elaborates on these qualitative results by presenting additional themes identified beyond the study model.

Sample

Most of the 10 participants were female, identified as Black or African American, and were first-generation students. Table 8 displays the participant demographic profiles.

Findings

In addition to themes identified in the main study (advising, motivation, self-efficacy, sense of belonging, and resiliency), participants described new themes including family and friend support, privilege, minority representation, and student diversity.

Family and Friend Support

When participants described the support their families and friends provided, these remarks were coded as family and friend support. Participants shared the following quotations.

> *"With my family, there were definitely ups and downs. My sister, for example, did everything under the sun to help me. I have 3 children. On days I would have to leave early for lectures or a clinical, she would come to my house at 4:30/5am to take care of my kids while I left for clinical. I couldn't have done that without her… And then there was other battles, like I had to fight some family members tooth and nail to support the decision (nursing school)." – Participant 1, Female, Latina, first-generation student.*

> *"If a student has a good support system, they can get through anything. And I truly believe that. I really do. Because it would be so hard. It would be so difficult. It would be much easier to give up without a support system. I didn't find support or a family with my nursing cohort, but I found it with my actual family, with my outside friends, with my clinical group." – Participant 2, Female, African American, non-first-generation student.*

> *"I had 3 other Black female friends in the program with me. We called ourselves the Core Four. It was so funny because everyone of us went through a trying period where we were ready to stop because we didn't want to do it (nursing school) anymore. But God is so good. It all happened at different times so each one of us had 3 other individuals to encourage us. Because God forbid, we all came in feeling the same way one day and all walked out together. We would pull together and talk each other off the ledge. That's what we did." – Participant 3, Female, African American, first-generation student.*

> *"I don't know how this sounds but growing up my mom always made sure that my older sister and I were surrounded by a diverse population. Not just African Americans. So, from a young age, I have always been around Caucasians and Latinos, so I have never had a problem being in the room where I was the only Black person. Like that never truly bothered me. I got over that a long time ago; I don't even remember the last time I felt like that. If anything, when I see it, I go like, oh, nothing new. But I don't walk in a room and go oh man, this is scary. Or cringe about being the only one in the room. So, whenever I have this conversation with someone or if anyone asks me, I always give a shout out to my mom. Starting from a young age, she always made sure that we thrived or knew how to relate in situations where people may not look like us or come from where we come from." - Participant 7, Male, African American, non-first-generation student.*

> *"I don't think I have ever had the thought of quitting something that I started. I mean I would think nursing was hard and why would I choose to do this, but never would I think*

that I could not handle this anymore. I knew that I did not have a choice. My parents fund my education since for nursing school I paid out of pocket throughout the program. So, I really did not have a choice. I could not go back home and say, "Mom, I can't do this anymore". They would not let me stop." – Participant 8, Female, African American, non-first-generation student.

"My parents were also very supportive of my nursing school struggle. My mom would cook or order my favorite food after major exams so I would look forward to working hard and being rewarded with that. I would go out with my non-nursing friends during breaks." – Participant 9, Female, Latina, first-generation student.

Privilege

When participants described the support they received from faculty or non-minority students either because they were not physically recognized as minority students or had formed social groups with non-minority students, these remarks were coded as privilege. Participants shared the following quotations.

"First and foremost, I want to say that even though I am a minority I do feel that obviously I benefit from white privilege because my skin is light. So, a lot of times a lot of people don't know that I am a Latina. So, I just want to fully disclose my privilege as compared to a person of color." – Participant 1, Female, Latina, first-generation student.

"A nurse told me that I was lucky to be a Latina that could pass as white… my hair is dyed with blonde highlights. I originally took offense, but she took the time to explain to me what she meant. She said that was what helped her through nursing school. She was able to blend in and get along with all her classmates. If she needed test prep and questions from previous cohorts, she hung out with one group of students. If she needed study buddies, she hung out with another group of students." – Participant 9, Female, Latina, first-generation student.

"I got along with everyone and shared information re: grades/ assignments willingly. So, I would see my White classmates' scores on their care plans and wonder how they got such scores based on what they turned in. Or I would hear them talk about their experiences in clinicals and wonder why the instructor was so hard on me. So, I became very intentional of being placed in predominantly White groups or seen studying with the super smart White students. I would also huddle with them after class to ask the professors questions. So that their 'luck' or 'glow' could rub off on me too. I remember telling my favorite aunt about that and she told me that was not a new issue in nursing. It's sad that I had to do that because I am a really good student. I sat in front of the class, took a lot of notes, asked questions, participated, studied hard, did well on exams but still needed to be respectable or inclusive so that the professors would be fair to me like they were to my White counterparts. – Participant 10, Female, African American, non-first-generation student.

Minority Representation

When participants described a need to see minority professors and nursing

professionals, these remarks were coded as minority representation. Participants shared the following quotations.

> *"I think that they could have brought in minority speakers to overcome the fact that a lot of the professors were White. The minority speakers would be able to communicate with students of color, as well as White students. So, the students can come to an understanding about how people should conduct themselves when working with people from different communities, races and backgrounds. The trend is changing, and students should change too. So that they learn how to practice inclusion in their communities." - Participant 5, Male, African American, first-generation student.*

> *"From the URM standpoint, I obviously have only been to one school so I don't know what other schools have, but we actually have a diversity director in the CON who puts on events throughout the year and will bring in various minority nursing professionals from across country to come talk about their paths and what they do, things like that. So, there was a very good support network and lots of opportunities to feel connected and things like that." - Participant 6, Male, Latino, first-generation student.*

Student Diversity

When participants described a need to see fellow students/peers who identified as minority students, these remarks were coded as student diversity. Participants shared the following quotations.

> *"My take is that the diversity in this setting was just talked about and not practiced. If diversity was practiced, I should have seen and felt it. I didn't feel it and I don't see it. That's one thing that shocked me. That you would just literally be by yourself if you don't have other supportive groups or coping mechanisms for you to feel better. The school does not always provide that as a URM student." - Participant 5, Male, African American, first-generation student.*

> *"I was the only Black male in my class. We started off with 6 males and1 left so we graduated with 5 males in my class. And I was the only Black male. And there were only 2 African Americans total in the entire class including 2 other females. I didn't have a problem with diversity in the classroom. My high school was the same way honestly and probably with less of an African American population. I was used to that setting and it didn't bother me. It was just that…I don't know why I expected things to be different when I got to college. I just did". - Participant 7, Male, African American, non-first-generation student.*

Discussion

The qualitative results reported in the main study provided descriptions of the experiences of URM students to support the study model and enrich the quantitative findings. In

this paper, this researcher presents additional themes identified by participants. Participants articulated experiences that facilitated their persistence in baccalaureate nursing programs. The additional themes identified were family and friend support, privilege, minority representation, and student diversity.

Students who identify as URM reported challenges as they went through the nursing program. Participants described the importance of various kinds of support from family members and friends (financial, emotional, and social) to their persistence. Higher level of support from family and friends is associated with greater persistence behavior in students (Dapremont, 2011). Investigators have shown that students who perceive that they have a low level of support are more likely to experience anxiety, depression, and lower levels of resilience, whereas those who perceive high levels of support are less likely to experience poor psychological outcomes and more likely to demonstrate greater resilience (Barbé, Kimble, Bellury, & Rubenstein, 2018; Lekan et al., 2018; Woods-Giscombe, Johnson Rowsey, Kneipp, Lackey, & Bravo, 2020). This implies that support from family members and friends facilitate academic success and persistence. It is important for family members and friends to be aware of this finding so they can continue being supportive. If educators understood the importance of support from family members and friends played for each minority student, via advising and open discussions, the students could be encouraged to express their appreciation explicitly to ensure the support (financial, emotional, and social) remains consistent.

Participants described belonging to a racial minority group as being a disadvantage in their educational journey. However, some participants described support they received from faculty or non-minority students either because they were not physically recognized as minority students or had formed social groups with non-minority students. They also described how they deliberately developed relationships with non-minority students or were able to easily interact with their non-minority counterparts and some professors because they did not fit the visual representation of fellow minority students. Research shows that students who identify as URM

are likely to report experiences of discrimination and racism which may interfere with their desire and willingness to seek support when they need it (Ingram & Wallace, 2019). Students described feelings of privilege that allowed them to be seen by professors in a positive light. Data suggest that minority students may experience discrimination that requires them to form relationships to present themselves as 'better'. These findings suggest that if academic settings worked on recognizing and correcting biases, minority students would not consider their identities as being a disadvantage, would likely fit into their academic environments better, and develop engaging relationships with their peers.

Participants described a preference to see minority professionals in positions of power as giving them a push to complete the program as they could see their career potential post-graduation. Research that highlights the importance of minority representation in the nursing profession as a key element to promote persistence in URM students (Mulholland et al., 2008) supports this finding. Minority students want to see faculty who look like them, who have had similar experiences, and who can relate to them on a personal level (Igbo et al., 2011). These findings suggest that with more minority faculty members, URM students could have individuals in positions of power that would serve as their mentors. Also, if students are encouraged to join minority healthcare association and take advantage of opportunities (formal and informal) to interact with minority nursing professionals, they could be more motivated to persist to graduation and serves as mentors to future nurses.

Participants described a need to see fellow students/peers who also identified as URM. Most of the participants expressed a sense of disappointment from actually being the minority (in numbers) in a large group of students contrary to the information advertised by the college. Students expressed concerns about feelings of aloneness. Other researchers have reported that URM students often experience a sense of isolation and alienation from the academic environment (Graham, Phillips, Newman, & Atz, 2016), supporting this finding. These findings imply that an increase in student diversity could ameliorate feelings of isolation within the

nursing program and facilitate persistence. Recruitment strategies can be targeted towards high school minority students through career panels and workshops. Such recruitment strategies might be successful if current URM nursing students participated in the programs to answer questions from the minority perspective.

Limitations

The qualitative phase of this study was limited by the nature of reflection across time. Participants were asked to recall some key elements that facilitated persistence through their nursing education. There were challenges of participants' memories and ability to recall details. However, the purpose was not to create an objectively accurate reconstruction but rather allow the individuals to recount their subjective experiences of living, which reflect the most significant and impactful aspects of their nursing persistence pathways, despite the passage of time.

Implications for Research and Education

Baccalaureate nursing programs have reported attrition rates up to 50% (Salamonson et al., 2014) with higher rates reported in students who identify as URM in comparison to their non-minority counterparts (Harris et al., 2014). As the retention of nursing students who identify as URM is an issue, nursing educators continue to implement various interventions to increase their retention. As the participants of this study successfully progressed through the nursing programs until graduation, the findings from this paper have several implications for research and education related to strategies to improve URM student success and persistence in baccalaureate nursing programs.

It is important for educators to acknowledge that URM students often have higher levels of needs and require complex intervention efforts to facilitate persistence. It is important to disseminate this information to faculty, advisors, and support staff, and to provide opportunities to learn. Support from family and friends was identified as a facilitator of persistence and academic success. To promote the consistency of the financial, emotional, and social support, nursing educators could help URM students learn how to explicitly express their appreciation to

their family and friends (especially during advising sessions).

Educators should also work to create a diverse and inclusive academic environment for minority students. Efforts to recruit, train, and support a diverse nursing faculty should be considered as participants described the importance of minority representation in faculty. URM students should be encouraged to also join minority professional nursing associations so they can see the potential future from successful program completion. Nursing educators should also consider incorporating recruitment and admission policies that are geared towards increasing the minority student population. Targeted middle school and high school outreach programs could help educate and capture the career interests of minority students. If minority nursing students were part of such outreach programs, it would serve a dual purpose of providing mentoring opportunities while motivating the middle and high school students to consider the profession of nursing. Further studies need to be completed to discover strategies that will increase persistence and diversity in nursing programs. Quantitative and qualitative studies of students who identify as URM from recruitment through attrition or graduation can provide more information about the key elements that contribute to retention in baccalaureate nursing programs.

Conclusion

There is an urgent need to reduce healthcare disparities in the U.S. population. The IOM (2011) advocates for an improvement in healthcare workforce diversity to achieve health equity by increasing the number of baccalaureate-prepared registered nurses by 80%. Baccalaureate programs have been challenged to recruit and retain a more diverse group of students. The disparity in rate of retention and graduation between minority and non-minority students suggests that persistence pathways may differ in a diverse group of BSN students. In this paper, I identified key elements important to minority students' persistence in baccalaureate nursing programs. The identified themes included family and friend support, privilege, minority representation, and student diversity. Findings reported here provide a foundation to better

educate and support URM students and to develop strategies to enhance the persistence and success of URM nursing students in baccalaureate nursing programs.

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Table 8

Participant Demographic Profiles

Participant	Gender	Race/Ethnicity	Student Generational Status
Participant 1	Female	Latina	First-generation
Participant 2	Female	African American	Non-first-generation
Participant 3	Female	African American	First-generation
Participant 4	Female	African American	First-generation
Participant 5	Male	African American	First-generation
Participant 6	Male	Latino	First-generation
Participant 7	Male	African American	Non-first-generation
Participant 8	Female	African American	Non-first-generation
Participant 9	Female	Latina	First-generation
Participant 10	Female	African American	Non-first Generation

APPENDIX A

IRB APPROVAL

December 19, 2019

Feyifunmi Sangoleye
Women, Child, & Family Health Science
Phone: (312) 996-7539 / Fax: (312) 413-1512

RE: **Protocol # 2019-1417**
"Student Persistence in Baccalaureate Nursing Programs"

Dear Mx. Sangoleye:

Your application was reviewed on **December 16, 2019** and it was determined that your research meets the criteria for exemption as defined in the U.S. Department of Health and Human Services Regulations for the Protection of Human Subjects [45 CFR 46.104(d)]. You may now begin your research.

Exemption Granted Date: December 16, 2019
Sponsor: None

The specific exemption category under 45 CFR 46.104(d) is: (2)

Please remember to add any raters who will review and/or have access to identifiable data via an amendment to this exemption.

You are reminded that investigators whose research involving human subjects is determined to be exempt from the federal regulations for the protection of human subjects still have responsibilities for the ethical conduct of the research under state law and UIC policy.

Please remember to:

- → Use your research protocol number (2019-1417) on any documents or correspondence with the IRB concerning your research protocol.
- → Review and comply with the policies of the UIC Human Subjects Protection Program (HSPP) and the guidance ***Investigator Responsibilities***.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact me at (312) 996-2014 or the OPRS office at (312) 996-1711. Please send any correspondence about this protocol to OPRS via OPRS Live.

Sincerely,
Sandra Costello
Assistant Director, IRB #7
Office for the Protection of Research Subjects

cc: Crystal Patil, Women, Child, & Family Health Science, M/C 802
Catherine Vincent (faculty advisor), Women, Child, and Family Health Science, M/C 802

APPENDIX B

Phase 1 Script

Dear Nursing Student:
You are invited to participate in a research study for currently enrolled baccalaureate nursing students.

Purpose of the Research Study
The purpose of this research study is to examine the associations between background characteristics, academic factors and academic outcomes in nursing students. The goal of this study is to determine if certain relationships are important for the persistence pathways in a diverse group of nursing students.

What you will be asked to do:
Following a brief explanation of the study, I will send out a link which will include consent for your participation. Then I will ask you to complete a demographics form and surveys to measure academic factors and academic outcomes associated with student persistence. It is important that you answer the questions as honestly and completely as possible. None of your answers will affect your grades or your standing as a student. None of your faculty will know your scores or how you responded to any of the questions.

Risks
There are minimal risks for participating in this study. You do not have to answer any survey questions that make you feel uncomfortable. Every effort will be taken to assure confidentiality, but loss of confidentiality may occur due to unforeseen events.

Benefits/Incentives
You may benefit from this study by a reflexive examination of the factors important to supporting your continued enrollment and persistence in the baccalaureate nursing program. All participating students will be entered into a raffle for the opportunity to win one of ten available $50 gift cards.

Confidentiality
All information that you provide will be kept confidential and stored securely. Your identity will be coded, and the researcher will be the only person with access to your identity. All forms linking your name to the identity code will be kept separate from the data. Only the researcher, members of the research committee, members of the IRB and its staff, and authorized research personnel, may inspect the records from this research project. The results of this study may be published in a journal article, presented at a conference, or displayed in a poster. However, the data obtained from you will be combined with data from others in the publication. There will be no way to identify you personally in any way in published results of this research.

Contact information
If you have questions at any time about the study or the procedures, you may contact the researcher, Feyifunmi Sangoleye, at fadesa1@uic.edu and 773-531-5771 (cell). Your participation in this study is voluntary; you may decline to participate without penalty. If you decide not to participate, you may withdraw from the study at any time by contacting Feyifunmi Sangoleye via email (fadesa1@uic.edu) without penalty. If you withdraw from the study before data collection is completed your data will be destroyed.

APPENDIX C

Phase 2 Informed Consent

Dear Nursing Student:
You are invited to participate in a research study for currently enrolled baccalaureate nursing students who identify as underrepresented minority. *For the purposes of this study, a URM student is one who identifies as either African American, Mexican American, or belonging to Latin ethnic group.*

Purpose of the Research Study
The purpose of this research study is to conduct an exploration of the perceptions of underrepresented minority (URM) students regarding key elements that influenced their ability to persist in a baccalaureate nursing program.

What you will be asked to do:
An interview will be scheduled (in-person, on the phone, or via video conference) to discuss your experiences as a URM student in a baccalaureate nursing program. I am interested in exploring your perceptions, as an underrepresented minority (URM) student, of the key elements that influenced your ability to persist in a baccalaureate nursing program. It is important that you answer the questions as honestly and completely as possible. None of your answers will affect your grades or your standing as a student. None of your faculty will know your scores or how you responded to any of the questions.

Risks
There are minimal risks for participating in this study. You do not have to answer any survey questions that make you feel uncomfortable. Every effort will be taken to assure confidentiality, but loss of confidentiality may occur due to unforeseen events.

Benefits/Incentives
You may benefit from this study by a reflexive examination of the elements that support your continued enrollment and persistence in the baccalaureate nursing program. All participating students will be compensated with a $25 gift card.

Confidentiality
All information that you provide will be kept confidential and stored securely. Your identity will be coded, and the researcher will be the only person with access to your identity. All forms linking your name to the identity code will be kept separate from the data. Only the researcher, members of the research committee, members of the IRB and its staff, and authorized research personnel, may inspect the records from this research project. The results of this study may be published in a journal article, presented at a conference, or displayed in a poster. However, the data obtained from you will be combined with data from others in the publication. There will be no way to identify you personally in any way in published results of this research.

Contact information
If you have questions at any time about the study or the procedures, you may contact the researcher, Feyifunmi Sangoleye, at fadesa1@uic.edu and 773-531-5771 (cell). Your participation in this study is voluntary; you may decline to participate without penalty. If you decide not to participate, you may withdraw from the study at any time by contacting Feyifunmi Sangoleye via email (fadesa1@uic.edu) without penalty. If you withdraw from the study before data collection is completed your data will be destroyed.

APPENDIX D

Demographic Questionnaire

Instructions: *This section of the survey is designed to gather information about you. Please indicate the one response (unless otherwise indicated) that best represents you.*

1. Initials: _____

2. Email (school and/or personal): _____

3. How old were you on your last birthday? _____

4. How might you report your gender on official documents? ☐ Male ☐ Female ☐ Gender Nonconforming

5. Are you of Hispanic/Latino/Spanish origin? ☐ Yes ☐ No

6. How would you best describe yourself?
   - ☐ American Indian or Alaska Native
   - ☐ Asian
   - ☐ Black or African American
   - ☐ Native Hawaiian or Other Pacific Islander
   - ☐ White

7. Marital Status:
   - ☐ Single
   - ☐ Married, or in a domestic partnership
   - ☐ Widowed
   - ☐ Divorced
   - ☐ Separated

8. What high school did you graduate from? _____

9. Considering your own income and the income from any other people who help you, how would you describe your overall personal financial situation?
   - ☐ Live comfortably
   - ☐ Meet needs with a little left
   - ☐ Just meet basic expenses
   - ☐ Does not meet basic expenses

10. Did you take Advanced Placement courses in High School? ☐Yes ☐No

11. Using a 4-point scale, what was your Grade Point Average (GPA) at High School Graduation: _____

(*If you don't know for sure then you can estimate based on the following: A = 4.0, B = 3.0, C = 2.0, D = 1.0, F = 0*)

12. SAT Score: _____

13. ACT Score: _____

14. Using a 4-point scale, what is your current Grade Point Average (GPA)? _____
(*If you don't know for sure then you can estimate based on the following: A = 4.0, B = 3.0, C = 2.0, D = 1.0, F = 0*)

15. How is your nursing education (tuition, fees, books, and other learning materials) funded?
    - ☐ Family
    - ☐ Scholarships
    - ☐ Student Loans
    - ☐ Employment

16. How many hours do you usually work at your job?
    - ☐ Not applicable
    - ☐ 1 - 10 hours per week
    - ☐ 11 - 20 hours per week
    - ☐ 20 - 30 hours per week
    - ☐ 30 - 40 hours per week
    - ☐ More than 40 hours per week

17. What was the highest level of education completed by your mother?
    - ☐ 8 or fewer years of formal education
    - ☐ Some high school but did not graduate
    - ☐ Graduated from high school or received G.E.D.
    - ☐ Graduated from vocational or community college
    - ☐ Some college but did not receive a 4-year (Bachelor's) degree
    - ☐ Graduated with Bachelor's degree
    - ☐ Received Master's Degree
    - ☐ Obtained Doctoral degree
    - ☐ Do not know level of education completed by mother

18. What was the highest level of education completed by your father?
    - ☐ 8 or fewer years of formal education
    - ☐ Some high school but did not graduate
    - ☐ Graduated from high school or received G.E.D.
    - ☐ Graduated from vocational or community college

☐ Some college but did not receive a 4-year (Bachelor's) degree

☐ Graduated with Bachelor's degree

☐ Received Master's Degree

☐ Obtained Doctoral degree

☐ Do not know level of education completed by father

Phase 2 of this study involves an interview to conduct an in-depth exploration of key elements that influence persistence in underrepresented minority (URM) nursing students. For the purposes of this study, a URM student is one who identifies as either African American, Black, or having Hispanic, Latino, or Spanish *origin. The interviews can be in-person, over the phone, or via video conference.*

19. Would you be interested in participating in Phase 2 of this study? ☐ Yes ☐ No
    If yes, please provide a best email that you can be contacted: _____

APPENDIX E

CPQ Factors, Study Concepts and Survey Items

CPQ Factor	Study Concept Measured	Survey items
Scholastic Conscientiousness	Absenteeism (α = 0.996)	14. How often do you turn in assignments past the due date? 24. How often do you miss class for reasons other than illness or participation in school-related activities? 34. How often do you arrive late for classes, meetings, and other college events?
Advising	Advising (α = 0.981)	3. How easy is it to get answers to your questions about things related to your education here? 12. How satisfied are you with the academic advising you receive here? 22. How well does this institution communicate important information to students such as academic rules, degree requirements, individual course requirements, campus news and events, extracurricular activities, tuition costs, financial aid and scholarship-opportunities? 28. How concerned about your intellectual growth are the faculty here? 37. How would you rate the academic advisement you receive here? 40. How much do the instructors and the courses make you feel like you can do the work successfully? 41. In general, when you receive evaluative feedback from instructors, how useful has it been in figuring out how to improve?
Academic Integration	Study Skills (α = 0.993)	1. On average across all your courses, how interested are you in the things that are being said during class discussions? 4. In general, how enthused are you about doing academic tasks? 5. College students have many academic responsibilities. How often do you forget those that you regard as important? 11. How inclined are you to do most of your studying within 24 hours of a test rather than earlier? 30. This semester, how much time do you spend studying each week relative to the number of credit hours you are taking? *Assume each credit hour equals one hour of studying per week.* 35. How much time do you spend proofreading writing assignments before submitting them? 43. How much do you think class attendance should count in grading? 49. If you are supposed to complete a reading assignment before the next class session, how likely are you to actually do it? 50. How organized are you in terms of keeping track of upcoming assignments and tests?
Academic Motivation	Motivation (α = 0.987)	8. Some courses seem to take a lot more time than others. How much extra time are you willing to devote to your studies in those courses? 16. How often do you read educationally related material not assigned in courses?

		21. Students vary widely in their view of what constitutes a good course, including the notion that the best course is one that asks students to do very little. In your own view, how much work would be asked of students in a really good course? 26. How often do you encounter course assignments that are actually enjoyable to do?
Academic Efficacy	Self-efficacy (α = 0.997)	7. How confident are you that you can get the grades you want? 18. How good are you at correctly anticipating what will be on tests beforehand? 27. When you consider the techniques you use to study; how effective do you think your study skills are? 31. When you are waiting for a submitted assignment to be graded, how assured do you feel that the work you have done is acceptable? 36. How much doubt do you have about being able to make the grades you want? 48. How often do you encounter course work that makes you wonder whether you can do it successfully?
Social Integration	Sense of Belonging (α = 0.988)	2. What is your overall impression of the other students here? 10. How much have your interactions with other students had an impact on your personal growth, attitudes, and values? 17. How strong is your sense of connectedness with others (faculty, students, staff) on this campus? 25. How much have your interactions with other students had an impact on your intellectual growth and interest in ideas? 29. How much do you think you have in common with other students here? 33. How often do you wear clothing with this college's emblems? 42. How much do the faculty at this school care about you?
Institutional Commitment Degree Commitment	Satisfaction (α = 0.998)	6. How confident are you that this is the right college or university for you? 9. In general, how satisfied are you with the quality of instruction you are receiving here? 13. How well do you understand the thinking of your instructors when they lecture or ask students to answer questions in class? 15. How much thought have you given to stopping your education here (perhaps transferring to another college, going to work, or leaving for other reasons)? 19. How satisfied are you with the extent of your intellectual growth and interest in ideas since coming here? 20. When you think about your overall social life here (friends, college organizations, extracurricular activities, and so on), how satisfied are you with yours? 23. How much of a connection do you see between what you are learning here and your future career possibilities? 32. How much input do you think you can have on the decision-making process here (on matters such as course offerings, rules and regulations, and registration procedures)?

		38. How would you rate the quality of the instruction you are receiving here? 39. During the first-class session, many instructors present students with an overview of the course. In general, how accurate have these previews been in forecasting what you actually experienced in these courses? 44. How fair are the tests at this school? 46. How clear have the instructors and syllabi usually been in detailing what you need to do in order to be successful in courses 47. Relative to what you expected when beginning college, how interesting have you found class sessions to be?

APPENDIX F

College Persistence Questionnaire

Instructions: *Students differ a great deal from one another in how they feel about their college experiences. This questionnaire asks you about your reactions to many aspects of your life here at this college. Please consider each of the questions carefully and circle the answer that best represents your thoughts. There are no "right or wrong" answers, so mark your real impressions. It is very important that you answer all of the questions. Your answers will be treated as confidential information.*

1. On average across all your courses, how interested are you in the things that are being said during class discussions? ☐ very interested ☐ somewhat interested ☐ neutral ☐ somewhat disinterested ☐ very disinterested ☐not applicable

2. How easy is it to get answers to your questions about things related to your education here? ☐ very easy ☐ somewhat easy ☐ neutral ☐ somewhat hard ☐ very hard ☐ not applicable

3. What is your overall impression of the other students here? ☐ very favorable ☐ somewhat favorable ☐ neutral ☐ somewhat unfavorable ☐ very unfavorable ☐ not applicable

4. In general, how enthused are you about doing academic tasks? ☐ very enthusiastic ☐ somewhat enthusiastic ☐ neutral ☐ somewhat unenthusiastic ☐ very unenthusiastic ☐ not applicable

5. College students have many academic responsibilities. How often do you forget those that you regard as important? ☐ very often ☐ somewhat often ☐ sometimes ☐ rarely ☐ very rarely ☐ not applicable

6. How confident are you that this is the right college or university for you? ☐ very confident ☐ somewhat confident ☐ neutral ☐ somewhat unconfident ☐ very unconfident ☐ not applicable

7. How confident are you that you can get the grades you want? ☐ very confident ☐ somewhat confident ☐ neutral ☐ somewhat unconfident ☐ very unconfident ☐ not applicable

8. Some courses seem to take a lot more time than others. How much extra time are you willing to devote to your studies in those courses? ☐ very much extra time ☐ much extra time ☐ some extra time ☐ a little extra time ☐ very little extra time ☐ not applicable

9. In general, how satisfied are you with the quality of instruction you are receiving here? ☐ very satisfied ☐ somewhat satisfied ☐ neutral ☐ somewhat dissatisfied ☐ very dissatisfied ☐ not applicable

10. How much have your interactions with other students had an impact on your personal growth, attitudes, and values? ☐ very much ☐ much ☐ some ☐ little ☐ very little ☐ not applicable

11. How inclined are you to do most of your studying within 24 hours of a test rather than earlier? ☐very inclined ☐ somewhat inclined ☐ a little inclined ☐ not very inclined ☐ not at all inclined ☐ not applicable

12. How satisfied are you with the academic advising you receive here? ☐very satisfied ☐ somewhat satisfied ☐ neutral ☐ somewhat dissatisfied ☐ very dissatisfied ☐ not applicable

13. How well do you understand the thinking of your instructors when they lecture or ask students to answer questions in class? ☐ very well ☐ well ☐ neutral ☐ not well ☐ not at all well ☐ not applicable

14. How often do you turn in assignments past the due date? ☐ very often ☐ somewhat often ☐ sometimes ☐ rarely ☐ very rarely ☐ not applicable

15. How much thought have you given to stopping your education here (perhaps transferring to another college, going to work, or leaving for other reasons)? ☐ a lot of thought ☐ some thought ☐ neutral ☐ little thought ☐ very little thought ☐ not applicable

16. How often do you read educationally-related material not assigned in courses? ☐ very often ☐ somewhat often ☐ sometimes ☐ rarely ☐ very rarely ☐ not applicable

17. How strong is your sense of connectedness with others (faculty, students, staff) on this campus? ☐ very strong ☐ somewhat strong ☐ neutral ☐ somewhat weak ☐ very weak ☐ not applicable

18. How good are you at correctly anticipating what will be on tests beforehand? ☐ very good ☐ somewhat good ☐ neutral ☐ somewhat bad ☐ very bad ☐ not applicable

19. How satisfied are you with the extent of your intellectual growth and interest in ideas since coming here? ☐ very satisfied ☐ somewhat satisfied ☐ neutral ☐ somewhat dissatisfied ☐ very dissatisfied ☐ not applicable

20. When you think about your overall social life here (friends, college organizations, extracurricular activities, and so on), how satisfied are you with yours? ☐ very satisfied ☐ somewhat satisfied ☐ neutral ☐ somewhat dissatisfied ☐ very dissatisfied ☐ not applicable

21. Students vary widely in their view of what constitutes a good course, including the notion that the best course is one that asks students to do very little. In your own view, how much work would be asked of students in a really good course? ☐ very much ☐ much ☐ some ☐ little ☐ very little ☐ not applicable

22. How well does this institution communicate important information to students such as academic rules, degree requirements, individual course requirements, campus news and events, extracurricular activities, tuition costs, financial aid and scholarship opportunities? ☐ very well ☐ well ☐ neutral ☐ not well ☐ not at all well ☐ not applicable

23. How much of a connection do you see between what you are learning here and your future career possibilities? ☐ very much ☐ much ☐ some ☐ little ☐ very little ☐ not applicable

24. How often do you miss class for reasons other than illness or participation in school- related activities? ☐ very often ☐ somewhat often ☐ sometimes ☐ rarely ☐ very rarely ☐ not applicable

25. How much have your interactions with other students had an impact on your intellectual growth and interest in ideas? ☐ very much ☐ much ☐ some ☐ little ☐ very little ☐ not applicable

26. How often do you encounter course assignments that are actually enjoyable to do? ☐ very often ☐ somewhat often ☐ sometimes ☐ rarely ☐ very rarely ☐ not applicable

27. When you consider the techniques you use to study, how effective do you think your study skills are? ☐ very effective ☐ somewhat effective ☐ neutral ☐ somewhat ineffective ☐ very ineffective ☐not applicable

28. How concerned about your intellectual growth are the faculty here? ☐ very concerned ☐ somewhat concerned ☐ neutral ☐ somewhat unconcerned ☐ very unconcerned ☐ not applicable

29. How much do you think you have in common with other students here? ☐ very much ☐ much ☐ some ☐ little ☐ very little ☐ not applicable

30. This semester, how much time do you spend studying each week relative to the number of credit hours you are taking? *Assume each credit hour equals one hour of studying per week*. ☐ many more hours studying than the credit hours ☐ a few more hours studying than the credit hours ☐ the same number of hours studying as the credit hours ☐ a few less hours studying than the credit hours ☐ a lot less hours studying than the credit hours ☐ not applicable

31. When you are waiting for a submitted assignment to be graded, how assured do you feel that the work you have done is acceptable? ☐ very assured ☐ somewhat assured ☐ neutral ☐ somewhat unassured ☐ very unassured ☐ not applicable

32. How much input do you think you can have on the decision-making process here (on matters such as course offerings, rules and regulations, and registration procedures)? ☐ very much ☐ much ☐ some ☐ little ☐ very little ☐ not applicable

33. How often do you wear clothing with this college's emblems? ☐ very often ☐ somewhat often ☐ sometimes ☐ rarely ☐ very rarely ☐ not applicable

34. How often do you arrive late for classes, meetings, and other college events? ☐ very often ☐ somewhat often ☐ sometimes ☐ rarely ☐ very rarely ☐ not applicable

35. How much time do you spend proofreading writing assignments before submitting them? ☐

a lot ☐ some ☐ little ☐ very little ☐ none ☐ not applicable

36. How much doubt do you have about being able to make the grades you want? ☐ very much doubt ☐ much doubt ☐ some doubt ☐ little doubt ☐ very little doubt ☐ not applicable

37. How would you rate the academic advisement you receive here? ☐ excellent ☐ good ☐ fair ☐ poor ☐ very poor ☐ not applicable

38. How would you rate the quality of the instruction you are receiving here? ☐ excellent ☐ good ☐ fair ☐ poor ☐ very poor ☐ not applicable

39. During the first-class session, many instructors present students with an overview of the course. In general, how accurate have these previews been in forecasting what you actually experienced in these courses? ☐ very accurate ☐ somewhat accurate ☐ neutral ☐ somewhat inaccurate ☐ very inaccurate ☐ not applicable

40. How much do the instructors and the courses make you feel like you can do the work successfully? ☐ very much ☐ much ☐ some ☐ little ☐ very little ☐ not applicable

41. In general, when you receive evaluative feedback from instructors, how useful has it been in figuring out how to improve? ☐ very useful ☐ somewhat useful ☐ neutral ☐ not very useful ☐ not at all useful ☐ not applicable

42. How much do the faculty at this school care about you? ☐ very little ☐ little ☐ some ☐ much ☐ very much ☐ not applicable

43. How much do you think class attendance should count in grading? ☐ very much ☐ much ☐ some ☐ very little ☐ not at all ☐ not applicable

44. How fair are the tests at this school? ☐ very unfair ☐ somewhat unfair ☐ neutral ☐ somewhat fair ☐ very fair ☐ not applicable

45. The life of a college student typically has both positive and negative aspects. At this time, would you say that the positives outweigh the negatives, or vice versa? ☐ positives far outweigh the negatives ☐ positives somewhat outweigh the negatives ☐ positives and negatives are equal ☐ negatives somewhat outweigh the positives ☐ negatives far outweigh the positives ☐ not applicable

46. How clear have the instructors and syllabi usually been in detailing what you need to do in order to be successful in courses? ☐ very unclear ☐ somewhat unclear ☐ neutral / somewhat clear / very clear / not applicable

47. Relative to what you expected when beginning college, how interesting have you found class sessions to be? ☐ much less interesting ☐ less interesting ☐ about as interesting as expected ☐ more interesting ☐ much more interesting ☐ not applicable

48. How often do you encounter course work that makes you wonder whether you can do it

successfully? ☐ very often ☐ somewhat often ☐ sometimes ☐ rarely ☐ very rarely ☐ not applicable

49. If you are supposed to complete a reading assignment before the next class session, how likely are you to actually do it? ☐ very likely ☐ somewhat likely ☐ neutral ☐ somewhat unlikely ☐ very unlikely ☐ not applicable

50. How organized are you in terms of keeping track of upcoming assignments and tests? ☐ very organized ☐ somewhat organized ☐ neutral ☐ somewhat disorganized ☐ very disorganized ☐ not applicable

APPENDIX G

Connor-Davidson Resilience Scale

Instructions: The questions in this section ask you about your feeling and thoughts regarding obstacles and adversity. In each case, you will be asked to indicate your response by choosing the option that represents how often you felt or thought a certain way. Please consider each of the questions carefully and choose the answer that best represents your thoughts. There are no "right or wrong" answers, so mark your real impressions. It is very important that you answer all of the questions. Your answers will be treated as confidential information

1. I am able to adapt when changes occur.
   ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

2. I can deal with whatever comes my way.
   ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

3. I try to see the humorous side of things when I am faced with problems.
   ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

4. Having to deal with stress can make me stronger.
   ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

5. I tend to bounce back after illness, injury, or other hardships.
   ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

6. I believe I can achieve my goals, even if there are obstacles.
   ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

7. Under pressure, I can stay focused and think clearly.
   ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

8. I am not easily discouraged by failure.
   ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

9. I think of myself as a strong person when dealing with life's challenges and difficulties.
   ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

10. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.
    ☐ not true at all ☐ rarely true ☐ sometimes true ☐ often true ☐ true nearly all the time

APPENDIX H

Semi-structured Interview Guide

Thank you for agreeing to participate in the qualitative phase of this study. I am interested in exploring your perceptions, as an underrepresented minority (URM) student, of the key elements that influenced your ability to persist in a baccalaureate nursing program. For the purposes of this study, a URM student is one who identifies as either African American, Black, or having Hispanic, Latino, or Spanish origin. In this study, persistence is described as the quality or actions that allows someone to continue doing something or trying to do something even though it is difficult or opposed by other people.

1. Do you identify as an underrepresented minority student?
2. How would you describe your experiences as an underrepresented minority student in nursing school?
3. Describe any events or experiences that stand out as being important to your persistence in nursing school.
4. Describe any events or experiences that stand out as being challenging to your persistence in nursing school.

Is there anything else you would like to share with me about your experience as an underrepresented minority (URM) student in a baccalaureate nursing program?

Curriculum Vitae

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EDUCATIONAL PREPARATION

2013-2021	Doctor of Philosophy in Nursing University of Illinois at Chicago Chicago, IL
2011-2012	Master of Science in Nursing DePaul University Chicago, IL
2003-2005	Master of Science in Public Services Management DePaul University Chicago, IL Minor – Health Care Administration
1998-2001	Bachelor of Science in Applied Psychology University of Illinois at Chicago Chicago, IL

EMPLOYMENT RECORD

University of Illinois Hospital & Health Sciences System, Chicago, IL

2018-Present	Administrative Nurse III
2017-2018	Clinical Nurse Consultant II

Resurrection University, Chicago, IL

2018-2020	Adjunct Faculty Member

Advocate Trinity Hospital, Chicago, IL

2013-2017	Registered Nurse

Northwestern University, Chicago, IL

2006-2009	Research Administrator

AWARDS, HONORS, AND SCHOLARSHIPS

2013	University Fellowship, University of Illinois at Chicago

2012 Grace Peterson Scholarship, Sigma Theta Tau International Honor Society of Nursing, Zeta Sigma Chapter

ASSOCIATION MEMBERSHIP/HONOR SOCIETIES

Midwest Nursing Research Society

RESEARCH AND SCHOLARLY ACTIVITIES

Funded Projects

2019-2020 Principal Investigator. *Student Persistence in Baccalaureate Nursing Programs.* Internal Research Support Program, College of Nursing Seth and Denise Research Award, University of Illinois at Chicago, IL ($800).

2017-2019 Principal Investigator. *Nurse-Driven Anxiety and Depression Support during SCT.* DAISY Foundation ($2500).

Presentations-Refereed

Sangoleye, F.S., Vincent, C., Corte, C., Matthews, A.K., Steffen, A., Thorkildsen, T., Scott, L., & Zerwic, J. (2021, March). *Student Persistence in Baccalaureate Nursing Programs.* (Poster Presentation). Midwest Nursing Research Society 44th Annual Research Conference, Virtual.