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Homogeneity in Health Care:  
Comparing Self-Concept and Support in Diverse Nursing Students

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## ABSTRACT

The increasingly diverse demographics of the American patient population fails to be reflected in the nursing profession, at cost to patients. Understanding barriers and protective factors which may impact diverse candidates' graduating from baccalaureate nursing programs is vital to increasing diversity among nursing professionals. Professional self-concept (PSC) has been associated with predicting career satisfaction and job retention in nursing but has never been examined among minority nursing students. The purpose of this study is to investigate any relationship between minority status and professional self-concept, and the role support may play on the proposed relationship. A cross-sectional cohort study was chosen for this study, Baccalaureate nursing students (N=180) who had completed at least one semester of nursing classes at six universities across the eastern United States were surveyed. The anonymous survey collected demographic data, PSC scores, and items on perception of support in four areas: academic, financial, social, and environment.

Means were calculated for among minority students and white students and were compared using a t-test. Unadjusted linear regression was used to evaluate the relationship between racial/ethnic minority status (REM vs White) and each category of PSC. Support and demographic factors were added to the model as potential confounders and joint significance testing was completed.

Racial and ethnic minority (REM) status is associated with lower self-reported support from their educational institution. REM nursing students, on average, have significantly lower PSC scores compared to white nursing students, overall ( $p = 0.01$ ) and specifically in

the knowledge ( $p = 0.01$ ) and staff relations ( $p = 0.04$ ) subcategories. The findings remain, even after accounting for first generation college student status and income from household of origin ( $p = 0.03$ ). Further, when support was included in the model, social support emerged as a mediator of the relationship between minority status and lower professional self-concept ( $p = 0.0002$ ). Minority students perceive lower social support from the nursing program, which is decreasing their PSC, and therefore jeopardizing their long-term success in the nursing profession. The findings indicate a valuable area for interventions to promote the graduation and retention of diverse candidates in nursing school.

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## Chapter 1

### Background

“The problem is, as the largest segment of the health care workforce, nursing does not reflect the society in which it serves,” (Fields, as cited in Lawrence, 2022). The profession of nursing has long been heavily comprised of white women. In the National Nursing Workforce Study, completed in 2020, 80.8% of Registered Nurses (RNs) sampled self-reported their identity as “White, non-Hispanic” (National Council of State Boards of Nursing [NCSBN], 2020). In comparison, the same year, the United States census found the White non-Hispanic population to comprise only 57.8% of the national population (Jensen et al., 2021). Regarding gender diversity, men only accounted for 9.4% of Registered Nurses in 2020 (NCSBN, 2020), while accounting for 49.5% of US population (US Census Bureau, 2022). There is a significant mismatch between the demographics of the nurse population and the demographics of their patients.

Leading nursing organizations have emphasized the need for increased diversity in the nursing workforce and have communicated the damage done by the nursing workforce’s failure to reflect the diversity of the people it serves. The American Association of Colleges of Nursing (AACN) defines diversity as:

A broad range of individual, population, and social characteristics, including but not limited to age; sex; race; ethnicity; sexual orientation; gender identity; family structures; geographic locations; national origin; immigrants and refugees; language; physical, functional, and learning abilities; religious beliefs; and socioeconomic status (Palmer, 2021).

Further, the AACN identifies a “strong connection between a culturally diverse nursing workforce and the ability to provide quality, culturally competent patient care” (AACN, 2019). It is crucial to the health of patients that they see themselves represented in their healthcare team. Diverse representation in a healthcare team can help establish a trusting patient-provider relationship (AACN, 2019). A 2004 report



by the Sullivan Commission on Diversity in the Nursing Workforce asserted the failure to achieve a diverse workforce may be more detrimental to health access and outcomes than the ongoing lack of health insurance for individuals in the United States (2004). There is a widely recognized need to enhance diversity in the field of nursing.

### **Problem**

Minority populations are predicted to continue to rise, representing over half of the United States population by 2060 (Vespa et al., 2020). It is imperative the field of nursing take action to enhance diversity of the workforce and begin to reflect the increasingly diverse population in the United States. Leading healthcare and nursing organizations, including the Health Resources and Services Administration (HRSA) Division of Nursing, have identified the enhancement of diversity in nursing education as a major step in diversifying the workforce (HRSA, 2019). In 2019, the AACN reported 64% of enrollees in entry-level baccalaureate nursing programs identified as white (AACN, 2019). Further, racial/ethnic minority students have higher rates of attrition and academic failure in nursing programs than their white peers (Duerksen, 2013). Thus, increasing diversity in nursing education requires not only increasing enrollment of diverse populations, but also addressing attrition rates post-enrollment. Educating individuals from diverse backgrounds is necessary to improve the diversity of the nursing workforce, and eventually move towards health equity in the United States (AACN, 2019).

The past decade has seen the development of several programs to increase enrollment and retention of underrepresented minorities in baccalaureate nursing programs. Research on the experiences of underrepresented minorities and barriers to their success informed the creation of such programs (Loftin et al., 2012). Programs piloted at nursing schools across the country take a multifaceted approach to support underrepresented minority students in various aspects of their education. They addressed financial, social, academic, and environmental barriers to participation in undergraduate nursing programs

(Loftin et al., 2012). Through the creation, implementation, and analysis of these programs, strategies were revealed that demonstrated success in increasing minority student retention and success.

While the need for diverse nursing professionals has been established and some nursing programs have taken action by increasing their programmatic content aimed at recruitment and retention of minority students, these programs are still uncommon and recent data suggests there is much work to be done (NCSBN, 2020). Enhancing diversity is dependent on the promotion of diverse candidates in nursing education and retention of diverse professionals in the nursing field.

Professional self-concept has been identified as a factor that is highly correlated with retention of nursing professionals, in general (Goliroshan et al., 2021). Professional self-concept refers to a nurse's understanding of their abilities and competencies in their professional role (Milisen et al., 2009). Developing professional self-concept in nursing education is vital to promoting their success prior to and following graduation (Kelly & Courts, 2007). Numerous studies have emphasized the importance of bolstering and strengthening professional self-concept in nursing students in undergraduate education (Ware, 2008). Higher self-concept is one factor that has been proven to promote retention in new nurses and intention to stay in the field later in life (Kelly & Courts, 2007). Thus, nursing education institutions have been charged with building professional nursing self-concept in their students. Professional self-concept has been utilized to compare domestic and international nursing students in Australia but has never been used in the United States to explain the effect of underrepresented minority status (Angel et al., 2012). There is little research available on how professional self-concept varies in diverse students.

### **Purpose**

The purpose of this thesis is to evaluate how underrepresented minority status is associated with professional self-concept scores among undergraduate baccalaureate nursing students. The study evaluated support in several areas for nursing students to determine how the presence or absence of support may be associated with professional self-concept. Support was determined by assessing the

presence of evidence-based recommendations for improving diversity through perspectives of current nursing students at a variety of nursing programs.

The aim of the study was to answer the following questions:

1. Do underrepresented minority and disadvantaged background nursing students have lower professional self-concept than their majority peers?
2. How does perception of support affect the relationship between minority status and professional self-concept scores?

A cross-sectional survey was conducted to measure demographics, professional self-concept, and the perception of support. This thesis aimed to examine the association between underrepresented minority status and professional self-concept in undergraduate nursing programs and determine whether support may be successful in modifying that association. More broadly, this thesis contributes to the effort to identify potential areas of intervention to promote diversity in the nursing workforce.

### **Significance of the Study**

Professional self-concept has been linked to higher psychological resilience and less burnout among nursing students (Wang et al., 2019; Lyn et al., 2022). In nursing students, professional self-concept has been established as an essential predictor of professional development and has been connected to job embeddedness, job satisfaction, and intention to stay in the profession (Goliroshan et al., 2021). Therefore, professional self-concept may be an important factor to consider when examining retention in nursing programs. To date, research has not evaluated the relationship between minority status and professional self-concept in US nursing populations.

Additionally, potential explanations for any possible association between professional self-concept and minority status should be examined. One possible reason for difference in development of professional self-concept is support. Several nursing programs have implemented successful nursing support programs for minority students (See Appendix A). Having demonstrated increased support in key

areas can encourage the graduation of a diverse body of students, there exists a potential connection between support the relationship between minority status and professional self-concept. Examining which nursing students may be lacking this support and how differences in support interact with professional self-concept will further our understanding of both constructs. Completing this study will identify gaps in our understanding of professional self-concept and provide targets for better student support in nursing education in the future.

In light of recent events across the nation, many institutions have taken a focused interest in diversity. Following the death of George Floyd in May 2022, protests erupted across the United States in record numbers (Armed Conflict Location & Event Data [ACLED] Project, 2020). The riots and demonstrations called attention to race relations in the United States (ACLED Project, 2020). Consequently, a call to action emerged for all U.S. institutions, including higher education and healthcare, to examine how their own practices may be discriminatory. The urgency to improve diversity and inclusion in both healthcare and higher education supports the timing of this study.

### **Definitions**

Diversity: “A broad range of individual, population, and social characteristics, including but not limited to age; sex; race; ethnicity; sexual orientation; gender identity; family structures; geographic locations; national origin; immigrants and refugees; language; physical, functional, and learning abilities; religious beliefs; and socioeconomic status” (Palmer, 2019).

Underrepresented Minorities: Students of demographic backgrounds that do not match the majority of nursing students in the United States; including but not limited to racial and ethnic minorities, men, students from low-income households, and students with English as a second language (AACN, 2019).

Social Determinants: Social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks (United States Department of Health and Human Services, n.d.).

Minority Stress: Greater stress experienced by members of marginalized groups as a result of their identity, resulting in health disparities (Meyer, 2003).

Professional Self-Concept: “how nurses perceive themselves in a working environment” (Cowin, 2001).

## Summary

The health of nations and the advancement of health equity relies on the diversification of the healthcare workforce. Increasing the diversity of the nursing workforce begins by enhancing the diversity of students in undergraduate nursing programs. Barriers exist in nursing programs that inhibit the retention and graduation of nurses from underrepresented minorities. Professional self-concept, as it has demonstrated its strength as a strong determinant of positive professional outcomes, may be revelatory for the higher attrition of diverse candidates in nursing programs. Factors influencing development of professional self-concept in nursing students are not fully understand, and one factor being proposed is support. Recent implementation of programs increasing support specifically for underrepresented minority nursing students have been successful in promoting the progression and graduation of diverse nursing students. As increasing support has increased positive outcomes in diverse candidates, support may be an important variable in the development of professional self-concept. Measuring and comparing professional self-concept may be key in understanding how minority status may disadvantage diverse nursing students compared to their majority peers. It is important to evaluate, from the perspective of the nursing students, the presence of support factors that may be helpful in addressing barriers to enhancing professional self-concept. Comparing the underrepresented minority student perspectives with the majority nursing students will determine where the former group of nursing students vary in professional self-concept scores. This thesis aims to use a cross-sectional design to determine how nursing students across the United States perceive themselves as nurses and through what pathways minority status may be related to and influence their outcomes.

## **Chapter 2**

### **Review of Literature**

#### **Underrepresented Minorities**

Achieving diversity in nursing depends, in part, upon the successful education of underrepresented minority (URM) students through baccalaureate nursing programs. URM students face unique barriers in higher education that are not encountered by their majority counterparts. As baccalaureate nursing programs are offered in colleges and universities, students who experience exclusion and face barriers from higher education are subsequently excluded from nursing. The exclusion and attrition of these individuals in higher education institutions contributes to the lack of diversity in nurses.

Although there is limited data on the diversity of the nursing workforce outside race and ethnicity reports, underrepresentation in higher education at large is well-reported and can be used to deduce URM populations in baccalaureate nursing programs. Some of the groups who face barriers in higher education are financially disadvantaged students, racial and ethnic minorities, rural students, and sexual and gender minority students (National Center for Education Statistics, 2015; Committee on Underrepresented Groups and the Expansion of the Science and Engineering Workforce Pipeline, 2011). Each of the aforementioned populations face their own set of barriers in education, which determines their experience and success.

#### **Financially Disadvantaged Students**

Financially disadvantaged students are less likely to enroll in college than higher income individuals (National Student Clearinghouse Research Center [NSCRC], 2021). Not only are graduates from higher income high schools twice as likely to enroll in college, but they are also nearly 20% more

likely to return for a second year, compared to students from low-income, high poverty high schools (NSCRC, 2021). The American Council of Education (2006) reports a significant number of students hold jobs during college, with low-income status being associated with working more hours. Employment as a student has been continuously found to have a negative effect on academic progress (Torres et.al, 2010). In a study of over 200 nursing students, working more than 16 hours a week was found to be the strongest predictor of poor academic performance in two nursing classes (Salamonson & Andrew, 2006). The negative effect of working during school disadvantages students from low-income backgrounds, as they often must work to pay for their costs of living and tuition. Students receiving the Pell Grant (awarded to students with household incomes of \$40,000 or less) have 10% to 15% lower degree attainment than their non-Pell peers (Yuen, 2019). Financially disadvantaged students are more likely to face food insecurity and home instability, both of which have negative impacts on academic performance (Reppond, 2019). According to the CEO of the Education Policy Institute, students from low-income backgrounds are often ill-prepared for college, resulting in poor academic skillsets, poor time management skills, and nonexistent study habits (Taylor, 2017). These students are more likely to face chronic stressors, social issues, and emotional challenges as a result of their economic status, making focusing on their studies a difficult goal (Hackman & Farrah, 2009).

### **Racial and Ethnic Minority Students**

In 2019, racial and ethnic minority students constituted around 35% of enrollees in Baccalaureate Nursing Programs and only 32% of graduates (American Association of Colleges of Nursing [AACN], 2019). Institutional racism has long plagued higher education, making it difficult for racial and ethnic minority students to enroll, thrive, and graduate from colleges and universities. The threat of discrimination and racism negatively impacts the mental health of students, making it difficult to succeed in the collegiate environment (Volpe et al., 2020). Individuals continue to report racism at all levels (institutional, cultural, individual), and in all locations around campus (classrooms, dormitories,

restaurants, fraternity houses) due to their racial/ethnic minority status (Volpe et al., 2020). The net impact of the history and threat of racism to these students is increased psychological distress (Volpe et al., 2020). Compared to their white peers, black collegians have reported the least favorable campus climate evaluations and the highest level of race-related stressors (McClain et al., 2016). Racial and ethnic minority students at predominantly white universities experience isolation, discrimination, and identity distress, referred to in whole as minority status stressors (McClain et al., 2016).

In addition to experiencing minority status stressors at a much higher rate, racial/ethnic students are disadvantaged by lacking tools for successful coping. Over half of first-generation college students are of racial/ethnic minority status (Schuyler et al., 2021). Relying on parents for guidance in navigating the discriminatory and distressing campus is not an option. If students turn to faculty to find mentorship and guidance from an individual of their racial/ethnic background, students are too often unable to find such an individual, as there is a significant deficit in diverse faculty in colleges and universities in the United States (US Department of Education, 2020). The combination and intersection of these factors make the enrollment of racial and ethnic minority students in higher education a challenge and contributes to their underrepresentation in baccalaureate nursing programs.

## **Rural Students**

Literature on underrepresented students in higher education often fails to include students from rural areas. The US Census identifies an area as rural if it is not considered urban, making the “urban” distinction based on population density and development (Ratcliffe et al., 2016). Students from rural high schools are the least likely, out of any locality, to enroll in any university or college program (National Center for Education Statistics, 2015). Rural students are historically underrecruited by colleges and universities and face geographical and financial barriers to college enrollment (Tieken, 2020). Upon enrollment, rural students continue to face challenges, on account of primarily urban locations for colleges, lower family incomes, and less academic preparations (Tieken, 2020).



Rural students are more likely to face psychosocial stressors about to paying for college and academic stressors from a lack of study skills, making college a multi-faceted challenge. In addition, rural students often lack support from their community and/or family. Large studies of rural families continuously show rural parents have lower education aspirations for their children and are less involved in their children's post-secondary education (Tieken, 2020). Rural students, having previously been excluded from higher education, face a number of barriers as they are incorporated into higher education institutions.

### **Sexual and Gender Minority Students**

Although sexual and gender minority (SGM) status can be an unseen factor for college students, SGM identity still poses challenges and barriers to degree attainment for enrollees in nursing programs and universities at large. Although data is not available on the number of nurses who identify as sexual and gender minorities, it can be inferred there is a deficit due to the goals set by major nursing agencies, including the Joint Commission, to make healthcare workplaces more inclusive of sexual and gender minority employees (Lim et al., 2019). However, degree attainment can be difficult for SGM students. In a nationally representative survey by the Association of American Universities, two in three LGBTQ students reported an incidence of harassment on their campus in 2019 (Postsecondary National Policy Institute, 2021).

Sexual and gender minorities, as a population, are also at a higher risk for several adverse circumstances, including but not limited to substance abuse, intimate partner violence, and physical harassment. More broadly, related to their minority status, SGM individuals are at a higher risk of poor mental health, psychological distress, suicidal ideation, mental health disorders, disability, and poor general health (Fredriksen-Goldsen et al., 2014). The health disparities of sexual and gender minority are well-documented. Minority status stressors can interfere with and complicate schoolwork completion and degree attainment when an identity crisis arises during college enrollment. It has been shown that

majority students are able to triage and systematically address crises in college, whereas with SGM students, crises about developing identity take precedence over all other issues when they arise (Riley et al., 2016). In rigorous university programs, including nursing programs, the SGM may struggle to succeed academically amidst other pressing physical, mental, and psychosocial conditions.

### **Professional Self Concept**

One emerging characteristic which has been associated with better overall outcomes in nurses and nursing students is professional self-concept (PSC). As there is evidence of variance in PSC among students, it provides an interesting avenue by which to compare students. Broadly, professional self-concept refers to a nurse's understanding of themselves and their role within the nursing work environment (Goliroshan et al., 2021). It is a measure of a nurse's beliefs and attitude towards their capabilities and skills as a nurse. Among professional nurses, professional self-concept scores are used to predict factors important to role development. High professional concept scores have been shown to correlate to improved retention and job embeddedness (Goliroshan et al., 2021). Additionally, high professional self-concept scores correlated to lower burnout scores in nurses (Goliroshan et al., 2021). Conversely, lower professional self-concept scores have been associated with lower clinical competence and higher intention to leave the profession (Goliroshan et al., 2021). In stressful situations, professional self-concept can predict the adaptability of the nurses in response (Moseyabi et al., 2018).

#### **Professional Self Concept in Nursing Students**

Development of professional self-concept begins with acceptance into a nursing school program and continues throughout a nurse's career (Goliroshan et al., 2021). A strong professional self-concept lays the foundation to a successful and satisfying career as a nurse. Professional self-development is a pillar in the retention model for minority nursing students created by the Medical College of Georgia in

2004 (Nugent et al., 2004). The professional self-concept scale was first adapted for use with nursing students for an Australian study to measure the self-concept of international students compared with their domestic counterparts (Cowin, 2001). Domestic students were demonstrated to have higher self-concept than international nursing students in Australia (Cowin, 2001). Additionally, higher professional self-concept can reduce levels of academic burnout in nursing students in China (Wang et al., 2019). Nursing students with higher professional self-concept also demonstrated higher rates of psychological resilience (Lyn et al., 2022). Despite significant research proving the positive outcomes professional self-concept relates to, there is a gap in research examining who may be lacking professional self-concept and why.

### **Protective Factors in Nursing Programs**

Through acknowledging and understanding the barriers to education, support programs have been designed to support URM students and promote completion of a baccalaureate program. Several programs have identified successful support mechanism to improve degree completion, NCLEX pass rates, and employment after graduation for URM (Banister & Winfrey, 2012; Condon et al., 2013; Dewitty et al., 2016). By comparing the results of multiple programs at various colleges, common themes can be identified which have demonstrated success in supporting URM nursing students at large. Many of the programs created have focused on the increased enrollment and retention of racial and ethnic minority students and financially disadvantaged students. The program components can be sorted into four groups to better understand the principles of an inclusive nursing program: academic support, financial support, social support, and environmental support.

#### **Academic Support**

Academic support is a broad category referring to any of the services provided to the nursing students in participating programs that helped them conquer the curriculum and material. Baccalaureate

nursing programs are rigorous and fast-paced and providing students with strategies to approach material can improve retention by promoting success in the classroom. Each program had a different approach to academic support. One program used a pre-entrance curriculum with math, medical terminology, critical thinking, and nursing informatics classes to prepare students for nursing schools (Condon et al., 2013). They also required academic counselors to make a plan for success for each class with the student (Condon et al., 2013). In a post-program survey, 60% of respondents reported the pre-entrance curriculum as being very important to their success, rating the math, critical thinking, and medical terminology as most helpful (Condon et al., 2013). Three quarters of students reported academic counseling as very important as well (Condon et al., 2013). Pre-entrance programming was reported to be very helpful in each program it was implemented in (Melillo et al., 2013, Dewitty et al., 2016). A couple programs used a faculty member specifically to fill the role of nursing academic support and held workshops on test-taking and writing (Noone et al., 2016, Banister & Winfrey, 2012).

### **Financial Support**

Financial support is a major component of programs aimed at increasing diversity in undergraduate nursing programs. Offering financial support levels the playing field so students of all backgrounds have the same opportunity to complete their baccalaureate education. Students are able to focus on their studies and class content when they do not have to worry about keeping a roof over their heads or figure out where their next meal is coming from. There are a variety of approaches to addressing financial support for nursing students. The most commonly utilized form of financial support is scholarships. One program offered a tuition discount of \$1000 per quarter and a \$250 living stipend per month to program participants (Condon et al., 2013). Another program offered the participants \$10,000 each during the program (Dewitty et al., 2016). Other forms of financial support included free NCLEX preparation classes and technology support in the form of personal devices or free access to computer

labs. One program included seminars on building a competitive scholarship profile to help their participants get funding from external sources (Noone et al., 2016).

In combination with other forms of support, financial support frequently increased retention and graduation of URM nursing students. In post-completion surveys, participants consistently ranked financial support (including technology assistance) as “very important” and “critical” to their success (Condon et al., 2013, Banister & Winfrey, 2012).

### **Social Support**

Social support programs included establishing mentoring relationships and peer groups within the school of nursing. All programs included the installation of a close relationship with a counselor or a faculty mentor. Whenever possible, the programs aimed to pair racial and ethnic minority nursing students with a faculty from their respective racial or ethnic minority group. Some also included mandatory monthly meetings. At some schools with a mental health practitioner, the health professional facilitated conversations about struggles and school management with peers (Melillo et al., 2013). Faculty and social support was ranked as very important in all the programs. Students reported feeling like they had “someone to fight for them” in their mentor or support person (Condon et al., 2013).

Another successful strategy was to use professional nurses in the field as mentors. Networking and career development was promoted through shadowing days, mentor mentee programs, and clinical pairings. The recommendations of the programs for the future include the expansion of a diverse mentoring program, as it was demonstrated to be successful (Condon et al., 2013).

## **Environmental Support**

One of the major barriers to student success in university is the climate of the campus surrounding diversity. Campus climates that are characterized by discrimination and marginalization can undermine the efforts of URM students in degree attainment (Torregosa et al., 2016). While all the other interventions focused on reaching students at the individual level, campus climate initiatives were focused on improving the campus's receptivity to and acceptance of diverse students. Not all of the programs included campus climate programming, but some included cultural celebrations or encouraged students to join ethnic student groups. Additionally, some programs addressed campus culture by adding cultural competence to the curriculum, to demonstrate a value for other cultures (Condon et al., 2013, Melillo et al., 2013). In post-program surveys, students emphasized an interest in more cultural engagement, even beyond what the program had offered (Condon et al., 2013). While it is a larger undertaking to make an entire college campus more inclusive, it is evident an accepting college culture can positively impact the experience of URM students on degree attainment.

## **Summary**

Amidst a shortage of diverse nurses in the workforces, nursing education continues to struggle with attrition and retention of diverse candidates. Professional self-concept demonstrates promising potential, having been linked with retention, lessened burnout, resilience in nursing students, for explaining the relative lack of minority candidates graduating from baccalaureate programs. By virtue of their identity, racial, ethnic, and sexual minority students experience increased stressors, complicating their college experience. Given programs have been successful in retaining and graduating minority candidates by addressing these barriers, it is crucial to understand how perception of financial academic, social, and environmental support may moderate any relationship between minority status and

professional self-concept. It is important to explore minority status as a possible discriminant in professional self-concept, as well as support as a possible factor in mediating this relationship.

## **Chapter 3**

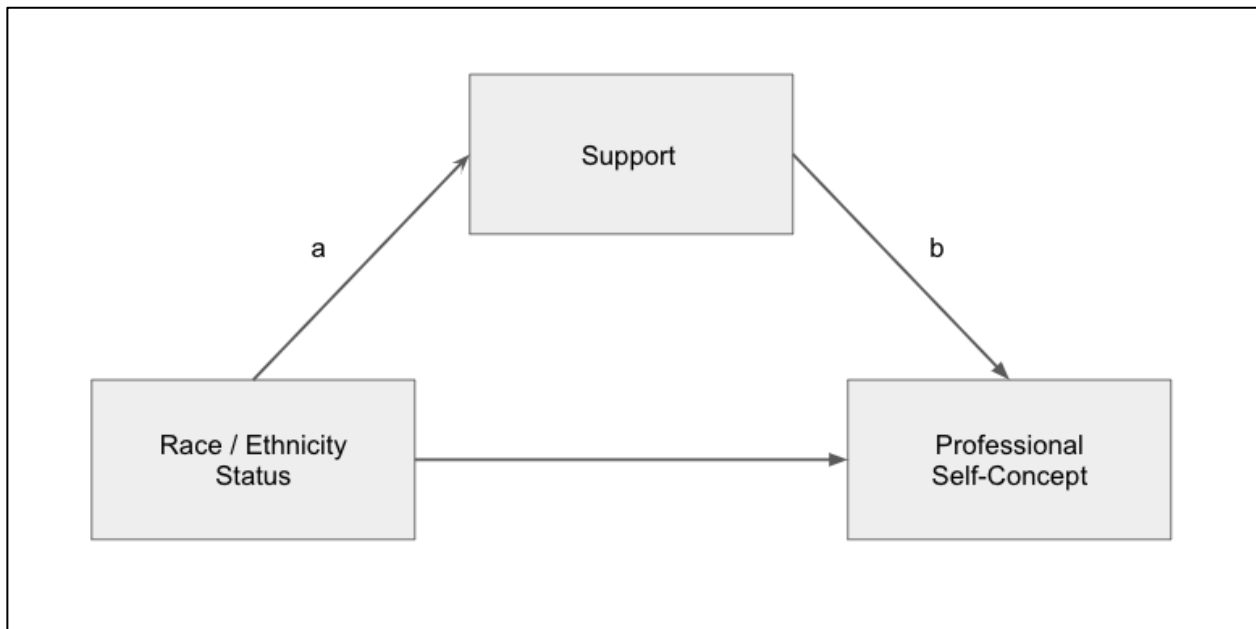
### **Methods**

This study intended to determine how underrepresented minority status affects professional self-concept and how perception of support from nursing institutions may mediate that relationship. On a broader scale, this study aimed to better understand the barriers that exist to retention and success of minority students. It is important to understand the barriers that exist that may impede the graduation of diverse nurses to address the homogeneity of the nursing workforce. A diverse nursing workforce is essential to provide culturally competent care to an increasingly diverse population. Quality, culturally competent care has been shown to reduce health disparities and improve patient outcomes (AACN, 2019).

The study primarily investigated the relationship between minority status and professional self-concept among nursing students. We hypothesized that minority students would have lower professional self-concept than their white peers and support may play a role in mediating that relationship. Given our hypothesized link between these two variables, it will become important to investigate possible pathways by which minority status may be associated with professional self-concept. One potential explanation is the availability and perception of support for these students. Evidence suggests that increasing support has promotes attrition and retention of minority nursing students in the past through the development of specifically programming (see Appendix). With increased support and professional self-concept both being linked to program attrition and retention following graduation, the role support may play in any relationship between minority status and professional self-concept must also be investigated.



Figure 1: Proposed Model of Support as a Mediating Variable



In order to understand the role race and ethnicity play on support and professional self-concept, as well as the way the variables interact, nursing students across the country, at various nursing programs were surveyed. The aims of the study are to answer the following questions:

- 1) Do underrepresented minority and disadvantaged background nursing students have lower professional self-concept than their majority peers?
- 2) How does perception of support affect the relationship between minority status and professional self-concept scores?

## Study Design

In the past, studies on this topic have been quasi-experimental (the introduction and evaluation of a program to improve minority retention and graduation) or qualitative (individual student interviews about experiences). A cross-sectional cohort study was chosen for the purpose of this thesis. The design - was chosen to bridge the prior research gap by measuring the effect minority and disadvantaged background status has on professional self-concept, without any intervention, among a large, diverse sample of students. Quantitative studies are helpful when collecting data from a large sample group with a larger number of survey items. Quantitative studies allow for the collection of data from a larger sample. Then, characteristics can be identified, and subsamples can be compared within the overall study sample.

The study was designed to be online and anonymous. The decision to use an online service to administer the survey allowed for the survey to reach more nursing students, across the country. Additionally, it allowed students the flexibility to complete the study in their own time, which is important for undergraduate nursing students, due to their atypical schedules which include long clinical shifts. The survey was made anonymous, and no data was collected on which university the student attends. The anonymous design was chosen to protect participants and allow for more honesty in their responses, without having to worry about their answers getting back to their university.

## Sampling

To best investigate the research question, the ideal sample population was determined to be undergraduate baccalaureate nursing students from a variety of nursing programs. Specifically, the best fit was determined to have been nursing students who have completed at least one semester of nursing classes. As each university has a different timeline for completing general education classes and introducing nursing-specific classes and clinicals, inclusion criteria did not include a specific age or class

standing (i.e. first-year, fourth-year, etc.) Instead, students were asked to answer whether they had completed a semester of nursing classes. The reason for establishing this inclusion criterion was to ensure the students reported their self-concept and the levels of support had been exposed to a scenario where they may have needed to utilize resources from the nursing program. Further, it was necessary to ensure participants had met and interacted with personnel from the college of nursing to allow them to accurately answer questions on social support.

In determining which students to contact, the Big Ten conference was identified as a group of universities with large student populations and active nursing programs. Pennsylvania state universities were added as enrollment sites in order reach more students and incorporate results from nursing programs in more urban areas, to allow for better generalizability of the findings. Ultimately, the ideal sampling was to reach as many students as possible, regardless of where they were attending nursing school, to get the most accurate answers to the research questions.

While the research question considers minority status, all nursing students were invited to participate in the research study, regardless of race/ethnicity. Comparisons across race/ethnicity status occurred in analysis, only after all students had been sampled. To be able to identify racial and ethnic minority students for data analysis, participants self-reported their race.

### **Recruitment and Screening**

Participants were recruited through an advertisement that was included in e-mail newsletters of select nursing programs in the United States. All Big Ten universities and Pennsylvania state universities with undergraduate nursing programs were contacted as potential enrollment sites. Among the invited universities (n=17), six agreed to participate. Participating universities included Purdue University, Ohio State University, University of Maryland, Pennsylvania State University, Temple University, and Duquesne University. The recruitment materials were only sent to Baccalaureate nursing students through

the cooperation of participating colleges and universities. The recruitment advertisement provided a detailed description of the study and invited interested baccalaureate nursing students to complete the eligibility survey and participate, if eligible.

If participants consented to participation in the study, they were asked to complete a brief eligibility questionnaire, which ensured they met inclusion criteria before participating. Inclusion criteria for this study were (1) informed consent (2) current enrollment in a baccalaureate nursing program (3) no prior bachelor's degree, and (4) residence in the United States at the time of survey completion.

### **Measures**

The survey consisted of three main sections: demographic information, professional self-concept instrument, and perception of support. The demographics section collected information on race, ethnicity, gender identity, sexual orientation, rurality of hometown, income level of household, academic achievement of parents/guardians. The demographics section was developed using questions from the National Center for Education Statistics and the National Academies of Science, Engineering, and Medicine. Minority status was determined through self-reporting of both race and ethnicity, by the participants. Then, for the purposes of answering the research questions, responses were sorted as either White (non-Hispanic, Caucasian participants) or minority (Hispanic, Black, Asian, Native American, and Pacific Islander respondents, or respondents identifying as "Other").

The income level of the household the student originated from was determined by the participant reporting the yearly income. Then, responses were coded as high income, middle income, or low income based on guidelines from the Pew Research Center (2020). Participants were asked to report the highest level of educational achievement of their parents/guardians. During analysis, these responses were used to create a "first generation" variable and identify students who were the first in their family to

attend college. Questions about income and financial security were borrowed from a June 2018 Financial Wellness Survey from the Trellis Company.

Sexual minority students were identified by asking students to self-report their sexual orientation. Gender minority students were identified by asking their assigned sex at birth and the gender that best described them at the point they completed the survey. These two responses were compared in analysis to determine gender minority status.

The instrument used to measure professional self-concept was the Nurse's Self Concept Instrument (NSCI), developed for Australian nursing students based on the Nurse's Self-Concept Questionnaire (NSCQ), which measured professional self-concept of nurses (Angel et al., 2012; Cowin, 2001). The questionnaire was adapted to be fewer items and wording was modified to assess nursing students rather than nurses. The NSCI responses were collected with a 5-point Likert scale, ranging from 1 (strongly agree) to 5 (strongly disagree). The NSCI consists of four subscales, including professional self-concept related to care (C), knowledge (K), staff relations (S), and leadership (L). The knowledge and leadership sections each included four items. Staff relations and care sections each included three items. For tabulating overall scores as well as scores of subcategories, the means were calculating by adding all the responses and dividing by the number of items in the scale. Therefore, the range of possible scores for the total score and the range of possible scores for each subscale is 1-5. A higher score can be interpreted to mean poorer self-concept.

To measure support from nursing institutions, questions were utilized to assess the four major areas of support determined to be successful in supporting minority nursing students from a literature review (See Appendix). The four common areas of support were financial, social, academic, and environmental. Social support questions were derived from the Multidimensional Scale of Perceived Social Support (MSPSS) and adapted to measure support from faculty and advisors (Zimet et al., 1988). Other support questions were developed by the research team to reflect the successful attributes of existing supportive programming in nursing schools. All support questions were measured with a 5-point

Likert scale. Academic support and social support were assessed using three items each, and financial support and environmental support were assessed using two items each. Means were calculated for each subscale by totaling the responses and dividing by the number of items in the category. The highest support score is 1 with the lowest support possible would scored as 5. Means were compared at the subcategory level.

### **Ethical Considerations**

As this study involves the use of human subjects, it was submitted for consideration and approved by the Institutional Review Board (IRB) at Penn State University (STUDY 00021068). All participants were required to provide informed consent prior to participation in the research study. As personal demographic information was gathered, participants were assured of anonymity and confidentiality of the responses provided.

Although we did not expect the survey to cause discomfort or distress to participants in any way, there is always a small potential for this occurring. As several of the questions referenced identity, acceptance, and campus climate, steps were taken to provide support for participants who may have experienced negative emotions when considering their response. Free resources were included at the conclusion of the survey for students.

To bolster participation in the survey, compensation was offered in the form of a lottery giveaway. Upon completion in the study, participants had their name entered in a pool, from which five names were selected to win \$20 gift cards. The names were selected at random to ensure fairness. Incentivizing the study allowed the research team to survey a larger sample size than would have been possible without the incentive, potentially increasing the generalizability of the results. No survey responses were required as part of participation, allowing participants to leave questions unanswered if they felt uncomfortable providing their response.

## Statistical Analysis

First, frequencies of demographic characteristics were calculated to understand the composition of the sample population. Based on review of demographics, there were very few participants identifying as sexual or gender minorities (SGM). Additionally, very few participants reported coming from a low-income household or a rural community. Thus, subsequent analyses focused on the comparison of racial ethnic minority (REM) students to non-racial ethnic minority (REM) students. Due to minimal reporting of other minority statuses (SGM, low-income, rural), analysis of those minority groups was not possible. Mean responses of each support item were calculated among REM and White students, and then compared using t-tests. Mean scores for each category of professional self-concept (overall, care, knowledge, staff relations, and leadership) were then calculated among REM and White students. Unadjusted linear regression was used to evaluate the relationship between racial/ethnic minority status (REM vs White) and each category of professional self-concept. Family income and first-generation status were both added to the model as potential confounders, after being identified a priori (see Chapter 2). Finally, support variables were added to the model. The model was reduced to include only those support variables which were statistically significant. Joint significance testing was used to evaluate whether support mediated the relationship between REM status and professional self-concept.

## Chapter 4

### Results

The sample was comprised of 180 undergraduate, baccalaureate nursing students. The sample was overwhelmingly female (n=171, 95%), with few responses from male or gender queer students (n=5, 2.78%; n=3, 2.78%, respectively). Ten percent of the sample identified with a sexual orientation other than heterosexual (n=10). Just over half the sample reported incomes in the middle-income range (n=99), with a quarter of respondents falling in the high-income range (n=48) and even fewer in the low-income range (n= 16, 8.89%). Approximately one quarter of the sample population identified themselves as a racial and/or ethnic minority (n=47, 26.11%) and just over one-fifth of the sample were first generation college students (n=38, 21.11%). See Table 1.

**Table 1: Demographic Data for eligible sample population (N=180)\*.**

		Frequency	Percentage (%)
<b>Gender</b>	Female	171	96
	Male	5	3
	Gender queer	3	12
<b>Sexual Orientation</b>	Heterosexual	159	88
	Other	18	10
<b>Race &amp; Ethnicity</b>	White	132	73
	Racial/Ethnic Minority	47	26
<b>Income</b>	Low income	16	10
	Middle income	99	60
	High income	48	29
<b>First Generation Status</b>	First Generation	38	21
	Not First Generation	142	79

\*Note: Columns may not sum to 180 due to missing data.



When the sample is stratified by REM status, there are several interesting findings. The white and minority subgroups exhibit similar compositions of gender and sexual orientation. Of the white participants, 97% identified as female (n=128), and less than two percent identified as male (n=2), and less than two percent identified as a gender other than male or female (n=2). Of the minority participants, 91% identified as female (n=43), six percent identified as male (n=3), and two percent identified as a gender other than male or female (n=1). Ninety percent of the entire sample identified as heterosexual (n=159). When divided, heterosexual participants accounted for 85% of the minority population and 90% of the white population (n=40, n=119).

Both subsamples were comprised of proportionately equal groups of students from middle-income households (n=26, 55%; n=73, 55%). However, in the remaining group from the white sample, 30% of students were from high income households. and only five percent from low-income households (n=40, n= 6). In contrast, 17% of the minority sample were from high income households, while 20% were from low-income households (n=8, n=10). While middle income groups were consistent across REM status, there were more high income than low income in the white sample, and more low income than high income in the minority sample. First generation college students comprise significantly more of the minority sample (n=18, 38%) compared to the white sample (n=20, 15%). See Table 2.

Table 2: Sample Demographics: Racial and Ethnic Minority vs. White (N=180)

		Minority (n=47)	White (n=132)
<b>Gender</b>	Female	43 (91.49%)	128 (96.97%)
	Male	3 (6.38%)	2 (1.52%)
	Gender Queer	1 (2.13%)	2 (1.52%)
<b>Sexual Orientation</b>	Heterosexual	40 (85.11%)	119 (90.15%)
	Other	7 (14.89%)	11 (8.33%)
<b>Income</b>	Low income	10 (21.28%)	6 (4.55%)
	Middle income	26 (55.32%)	73 (55.30%)
	High income	8 (17.02%)	40 (30.30%)
<b>First Generation Status</b>	First Generation	18 (38.30%)	20 (15.15%)
	Not First Generation	29 (61.70%)	112 (84.85%)

To compare support, P-values were determined using a t-test, comparing means among minority and white students. Across every support item, aside from those assessing financial aid, minority participants reported less support than white participants, on average. REM students rated academic support lower than their white peers. Specifically, minority students indicated availability and regularity of academic counseling and advising significantly lower than their white peers. On average, white and minority participants agreed (mean=2.28, mean= 2.24, respectively) tutoring was available when necessary and agreed (mean= 1.87, mean= 1.76, respectively) there was a faculty and staff member to help them with decisions.

Minority students rated social support from their respective nursing programs lower than white students. Minority participants ranked significantly lower ( $p=0.02$ ) agreement with, “My professors really try to help me,” compared to white participants (mean= 2.02, mean= 1.69). Similarly, minority students

were less likely to report their nursing program facilitated peer groups and mentorship programs than white students (mean= 2.15, mean= 1.84).

Financial support assessed the support students received from scholarships and whether those reduced the cost burden of tuition. While White students reported less agreement overall that they received scholarships from their institution, and that the scholarships reduce the cost burden of their education, these findings were not significant.

The most notable difference between the two groups was in response to the campus climate questions. When asked if they felt safe on campus in their identity, minority students reported significantly lower scores than their white counterparts ( $p = <0.01$ ). Further, when asked if they felt their campus valued people of their identity and background, minority students reported significantly lower scores ( $p = <0.01$ ). Across most measures, minority students perceived lower academic and social support and a less supportive campus climate than their white peers. See Table 3.

**Table 3: Availability of Academic, Social, Financial, and Environmental Support**

		Minority	White	P-values†
<b>Academic</b>	Academic counseling/advising is readily available if I need help scheduling/choosing classes.	1.93	1.59	<b>0.02</b>
	I have regularly scheduled meeting with an academic counselor/advisor.	2.80	2.36	<b>0.04</b>
	Tutoring is available if I am struggling with my coursework.	2.28	2.24	0.83
<b>Social</b>	There is a faculty/staff member who is willing to help me make decisions.	1.87	1.76	0.38
	My professors really try to help me.	2.02	1.69	<b>0.02</b>
	My nursing program facilitates peer relationships with clubs/ mentorship programs.	2.15	1.84	<b>0.04</b>
<b>Financial</b>	I receive financial aid in the form of scholarships from my college.	2.50	2.82	0.17
	The financial aid I receive significantly eases the financial burden of nursing school.	2.83	3.17	0.16
<b>Environmental</b>	I feel safe on campus based on my identity.	2.57	1.89	<b>&lt;0.01</b>
	I feel like my college campus values people from my background and identity.	2.54	1.83	<b>&lt;.001</b>

\*Because the item is phrased negatively, please note a lower score indicates a more negative outcome.

The means of the professional self-concept scores among white and minority students were calculated and compared. The items were positively phrased and the scale ranges from 1 (strongly agree) to 5 (strongly disagree), meaning a higher score indicates lower professional self-concept. Minority nursing students have significantly lower professional self-concept than white nursing students ( $p = 0.01$ ). In a closer evaluation of the subscales, minority students scored higher on every subscale, indicating lower professional self-concept in each category. The comparison between white and minority groups was significant for the knowledge subscale ( $p = 0.01$ ) and staff relations subscale ( $p = 0.04$ ). See Table 4.

After accounting for these variables, the data suggesting lower professional self-concept in minority nursing students compared to white nursing students remains significant. Therefore, the association between racial and ethnic minority status and professional self-concept exists independent of household income level and first-generation status.

**Table 4: Comparison of Professional Self-Concept Scores by Race/Ethnicity**

	<b>Total (N= 179)</b>	<b>Minority (n=47)</b>	<b>White (n=132)</b>	<b>P Values†</b>
<b>Overall</b>	1.23	1.59	1.40	<b>0.01</b>
<b>Care</b>	1.25	1.32	1.32	0.11
<b>Knowledge</b>	1.45	1.60	1.40	<b>0.01</b>
<b>Staff Relations</b>	1.39	1.55	1.34	<b>0.04</b>
<b>Leadership</b>	1.64	1.83	1.58	0.007

\*Bolded values represent statistically significant values based on alpha = 0.05.

†P-values resulting from F-test of overall significance

A final linear regression model tested the role of support as a mediator. Social support emerged as a significant predictor ( $p = 0.0002$ ) of overall professional self-concept, while still adjusting for family income and first gen status. In the final model, minority status was no longer significant.

Joint significance testing results are pulled from Tables 3 and 5. The significant relationships between REM status and support (a in Figure 1) and support and professional self-concept (b in Figure 2) provide evidence that social support is a significant mediator of the relationship between REM status and professional self-concept. Minority status is a strong predictor of social support and social support is strongly associated with professional self-concept.

**Table 5: Linear regression model evaluating the relationship between racial/ethnic minority status and overall professional self-concept among nursing students (N=180)**

	Minority Status P-value	Beta value (B)
Model 1: Original model	0.01	0.19
Model 2: Adjusting for family income and first gen status	0.03	0.19
Model 3: Mediation model, adjusting for family income and first gen status, and including significant support mediators*	0.08	0.14

\*Social support retained as only significant support variable in this model with a P-value of 0.0002

## Chapter 5

### Discussion

Professional self-concept is believed to be essential in the development, attrition, and retention of nursing students as they approach professional roles. Minority nursing students, on average, were found to have lower professional self-concept scores than their white peers, even when controlling for low-income background and first-generation status. In addition, minority nursing students ranked support from their nursing programs lower than their white peers across all key areas, including academic support, social support, and environmental support. Social support from the university was found to mediate the relationship between minority status and professional self-concept, suggesting that social support plays a critical role in reducing differences in professional self-concept by racial ethnic minority status.

As the profession of nursing struggles to match the growing diversity of the client population the healthcare industry serves, it is important to investigate the relative lack of graduation and retention of minority nurses. It is known racial and ethnic minority students experience more adversity on college campuses compared with their white peers (Volpe et al., 2020). Nursing students already report stress at a higher level than peers pursuing other professional degrees, before it is compounded with additional stressors (Mazalova et al., 2022).

In recent years, the development of specific programs began to specifically support nursing students of color to promote retention and success in the program (See Appendix A). While graduation rates demonstrate the increased support was effective, there is no research explaining how the increased support leads to more successful outcomes in nursing students (Noone et al., 2016). Professional self-concept may be an important concept to closing the gap and understanding the academic and professional outcomes of minority nursing students.

While there has been important research related to professional self-concept as a predictor of career retention and satisfaction (Goliroshan et al., 2021), there have also been numerous studies aiming

to understand what factors influence development of professional self-concept. Professional self-concept has been investigated and compared between domestic and international nursing students in Australia (Angel et al., 2012). In China, higher perceived social support was connected to higher professional self-concept scores among nursing students (Zhou et al., 2022). Prior to this study, disparities in professional self-concept have not been compared by racial/ethnic minority status. This study found overall professional self-concept scores to be lower in minority nursing students compared to white nursing students. Specifically, minority nursing students scored lower in every subcategory, with the significant differences in overall scores and the knowledge subcategory scores. Given low professional self-concept has been proven to be with attrition, decreased career satisfaction and burnout in nurses (Goliroshan et al., 2021), this is an alarming finding.

With such significant findings, it is important to clarify exactly what the data is demonstrating. There is an important distinction to note between assessing knowledge and assessing perception of knowledge in the “knowledge” subscale of the PSC. Minority students were found to have significantly lower PSC scores in the knowledge subcategory. The study did not test the participants on their knowledge of any nursing content, like an exam in nursing school might. Rather, it asks students to rate their own understanding of their knowledge and report their own ability to master nursing content. Therefore, lower PSC-K scores do not indicate a lower knowledge of nursing, but rather lower confidence in one’s nursing knowledge, unreflective of any objective measure of student knowledge.

Returning to the definition of professional self-concept, the findings suggest minority nursing students, on average, conceptualize themselves as nurses at a lower level and have a poorer view of their own professional capabilities (Cowin, 2001). The research shows minority students struggled more to think about themselves as a nursing professional. Identifying this professional self-concept disparity in minority nursing student is revealing of a deficit in identifying with and confidence in their role as a future nurse.

When considering the results, there are important considerations which frame the interpretation of the findings. It is necessary to note that data collected in this study was gathered from a convenience



sample. While all Big Ten nursing programs and all nursing programs in the Pennsylvania State System of higher education were contacted for participation, various factors, including university policy and timing of survey enrollment, prevented several universities from participating. While convenience sampling allows for a larger sample to be reached, does limit the generalizability of the results. This is a limitation of the findings of this survey.

Additionally, the original NSCI adapted by Angel in 2012 applied an eight-point Likert scale, ranging from 1 (definitely false) to 8 (definitely true) to assess professional self-concept. Alternately, the data in the study was collected on a five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). The difference in scale use prevents the data from being accurately compared with other studies which have collected the professional self-concept of nursing students. That said, the purpose of the study was to compare across the sample based on characteristics, so the analysis isn't limited by using a smaller scale within this study. Secondly, having used a smaller scale, the variance in the data may have been smaller than it possibly could have been if a larger scale had been used, allowing the participants more discretion in their responses. Although a larger scale may have shown more differences, the five-point scale was still able to reveal significant differences in professional self-concept. Further research, with a larger scale, will likely only further support a difference in professional self-concept across race/ethnicity status.

It is important to understand both the causes and the ramifications of the lower professional self-concept in minority nursing students. One potential explanation is the lack of representation in the field. Representation of diverse nurses can be inspirational for younger candidates interested in a career in the field (Nelson, 2022). Without representation, it may be more difficult for individuals to identify with the professional role of a nurse (Nelson, 2022). Underrepresentation in the nursing profession and at nursing education institutions may contribute to the lack of professional self-concept in minority students.

To explore the students affected by underrepresentation, the survey attempted to gather identifiers for all underrepresented minorities in higher education. However, the characteristics of the data set limited the ability to fully compare professional self-concept in other minority groups, such as men,

sexual minorities, gender minorities, students from low-income households, students from rural backgrounds, and first-generation college students. For this reason, our study was only able to evaluate professional self-concept as it relates to racial/ethnic minority status. There is a need for surveying the professional self-concept in all other underrepresented minorities among nursing students.

First generation status and low-income background are two factors that may have also impacted the professional self-concept score. As there were proportionally more minority nursing students identifying as first-generation college students and reporting a low-income background than there were white students, our final models controlled for these variables as potential confounders. After controlling for first generation and low-income variables, the significant relationship between minority status and professional self-concept remained. Other influences set aside; professional self-concept still differs significantly by REM status.

Another potential cause of the gap in professional self-concept scores is a difference in support. When assessing perception of support (academic, social, financial, environment), minority nursing students reported lower support on almost all the items, compared to white nursing students who completed the survey.

The only area of support where a significant difference was not noted was in the financial support subcategory. This is likely because the questions asked about receiving sufficient financial aid from their university. It is difficult to assess financial status and support in college students. The questions utilized didn't provide clear data as clients could choose "disagree" for two very different circumstances. Participants could "disagree" because they need financial aid and are receiving some but not enough, or they could "disagree" because they do not receive financial aid related to a higher income status. Because there is no way to differentiate these answers based on the way the questions were written, there is no strong data to assess financial support from the nursing institution.

Minority students did report less support in academic, social, and environmental areas. Note, we were only able to assess perception of support, rather than the actual support structures in place for these students, thus we could not objectively evaluate availability of support. To keep the survey

anonymous, the students did not provide the name of the university they attended. While support was not evaluated directly, perception of support may be more important to understanding the experience of nursing students. Even if support is available, its impact on the student's education and experience can only be actualized if the student acknowledges its presence. Therefore, perception of support is the important variable to assess.

Minority students perceiving less support is an important finding as it builds on the previous work surrounding graduation and retention of minority students. Previous studies have proven minority students are more successful when they are provided with academic, social, and environmental support (see Appendix A). Therefore, it is a compelling finding that minority status is related to social support specifically. The association reveals a need for education and interventions directed towards faculty and staff to better support minority students.

Understanding the importance of support and professional self-concept, it follows to ask if one finding can influence the other. Previous research has demonstrated a connection between perceived social support and professional self-concept (Zhou et al., 2022). This study aimed to understand if support can influence the potential relationship between minority status and lower professional self-concept. Using regression, we concluded that social support acts as a significant mediator between REM status and professional self-concept, while other forms of support were not significant mediators. This suggests that the racial/ethnic disparity in professional self-concept that we identify in this analysis could be mitigated by improved social support. This is a critical finding – one that lends itself to clear and actionable steps among nursing education leaders.

By identifying a gap in social support related to minority status and being able to attribute lower PSC scores to this gap, a distinct path for improvement has been identified. Focusing on improving the development of professional self-concept in minority students is a priority for increasing retention of minority nursing students and nurses. Professional self-concept is a relatively new concept, and strategies for increasing PSC have not been clearly defined. Fortunately, the findings reveal one distinct facet of nursing programs that can better support minority students: social support.

It is imperative for nursing programs to understand social support from student-facing personnel is an important determinant in the development of professional self-concept in their students. Interventions to revise nursing programs should include plans to foster supportive relationships between peers, as well as between faculty/staff and students. Interventions should be targeted specifically towards minority nursing students, as the findings demonstrated they perceive lower social support than their white peers, directly influencing their self-concept. Further, education for staff should include information on underrepresented minorities and strategies for supporting and mentoring these students during their college career.

Both professional self-concept and program support offer exciting new avenues of exploration to better promote the success of minority nursing students. The success of diverse students in nursing programs directly impacts the diversity of our healthcare workforce, which is intimately linked to the lessening of health disparities in our entire population (AACN, 2019). Investing in our minority nursing students promises to bring new and important voices to the table, at all levels of healthcare. This study reinforces the need to investigate barriers to success for underrepresented nursing students. More research is needed to better understand all the factors influencing professional self-concept. A proper understanding of practices which improve professional self-concept will be imperative to guiding the revision of nursing programs across the country.

## Appendix A

### Appendix A: Programs Supporting Underrepresented Minority Students in Nursing Education

Article	Purpose	Sample & Setting	Methods	Findings	Strengths & Limitations
<p><b>Published: 2013</b></p> <p>Condon, V., Morgan, C., Miller, E., Mamier, I., Zimmerman, G., &amp; Mazhar, W. (2013). A Program to Enhance Recruitment and Retention of Disadvantaged and Ethnically Diverse Baccalaureate Nursing Students. <i>Journal of Transcultural Nursing</i>, 24(4), 397-407</p>	<p>The purpose is to evaluate the effectiveness of the SLIPP (Success in Learning: Individualized Pathways Program) to progress disadvantaged and ethnically diverse students through graduation.</p>	<p><b>Size:</b> 77</p> <p><b>Source:</b> Study sample was recruited from a Loma Linda School of Nursing in California, USA.</p> <p><b>Characteristics:</b> Students were from Bachelor's, Master's, Associates, and Doctorate nursing programs.</p> <p><b>Inclusion criteria</b></p> <ul style="list-style-type: none"> <li>• member of an ethnic group</li> <li>• child of single parent,</li> <li>• first-generation college students</li> <li>• English as a second language students</li> </ul>	<p>Design: Quasi-experimental study</p> <p>Program was implemented based on an academic success model: consisting of:</p> <ul style="list-style-type: none"> <li>• 6 pre-entrance to major classes</li> <li>• academic support</li> <li>• social support</li> <li>• financial support</li> </ul> <p>Faculty to student ratios were ~ 1:15 for classes.</p>	<ul style="list-style-type: none"> <li>• 89.6% of participants passed NCLEX, nearly 60% passing on 1<sup>st</sup> attempt.</li> <li>• What students reported was very important: <ul style="list-style-type: none"> <li>○ pre-entrance courses (60.7%)</li> <li>○ academic advising (73.2%)</li> <li>○ study groups (71.4%)</li> <li>○ Social support from faculty (70.9%)</li> <li>○ Financial support: &gt; provision of computers &amp; printers (93.5%), &gt;tuition discounts (94.2%), &gt;scholarships (93.3%), and &gt;living stipends (87.2%)</li> </ul> </li> </ul>	<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• Comprehensive entrance to major mini class programs developed</li> <li>• Program included social, academic, financial and career support</li> <li>• Collected data on marital status, parent's education level, children, and country of origin</li> <li>• Based on theoretical framework</li> </ul> <p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• Little information on factors causing NCLEX failures or unemployment following graduation</li> <li>• Data collected at a private Catholic university</li> </ul>

Article	Purpose	Sample & Setting	Methods	Findings	Strengths & Limitations
<p><b>Published: 2013</b></p> <p>Melillo, K., Dowling, J., Abdallah, L., Findeisen, M., &amp; Knight, M. (2013). Bring diversity to nursing: Recruitment, retention, and graduation of nursing students. <i>Journal of Cultural Diversity</i>, 20(2), 100-104</p>	<p>The purpose of the study is to assess the efficacy of the NWD (Nursing Workforce Diversity) program in decreasing barriers to nursing education for individuals from a disadvantage background.</p>	<p><b>Size:</b> 87</p> <p><b>Source:</b> UMass Lowell Nursing Students</p> <p><b>Characteristics:</b> All accepted nursing students were welcome to apply, but preference was given to ethnic minorities, local applicants, and financially disadvantaged students.</p>	<p><b>Design:</b> Quasi-experimental study</p> <p>Program included:</p> <ul style="list-style-type: none"> <li>• personal technology</li> <li>• counseling</li> <li>• monthly meetings with coordinator</li> <li>• weekly goal journaling</li> <li>• NCLEX prep</li> <li>• cultural celebrations</li> <li>• student groups</li> <li>• community outreach</li> </ul> <p>A survey on perceived impact of each resource was given to participants.</p>	<ul style="list-style-type: none"> <li>• Using minority recruiters and workshops not only increased total applications but also increased the percentage of diverse student from 2007-2011 from 17% to 20.2%.</li> <li>• Retention went from 77% to 92% from 2008 to 2011</li> <li>• Students strongly agreed (67%) that academic services contributed to their success.</li> <li>• Student survey revealed tutoring as the most helpful service for academic success.</li> <li>• 78% of students strongly agreed use of support services improved life management skills.</li> </ul>	<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• The NWD program was the most thorough support program conceptualized, by supporting the student financially, academically, and socio-culturally.</li> <li>• Outcomes were measured by both academic measures and survey responses assessing impact.</li> </ul> <p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• Participants included graduates from the local high schools, regardless of ethnic background of financial study.</li> <li>• The study was community-based, starting at the elementary school level, making replication difficult.</li> </ul>

Article	Purpose	Sample & Setting	Methods	Findings	Strengths & Limitations
<p><b>Published: 2016</b></p> <p>Noone, J., Wros, P., Cortez, D., Najjar, R., &amp; Magdaleno, L. (2016). Advancing health equity through student empowerment and professional success: A statewide approach. <i>Journal of Nursing Education</i>, 55(6), 316-322</p>	<p>The purpose of the study is to test the implementation of the HealthE STEPS program in graduating nursing students from disadvantaged backgrounds.</p>	<p><b>Size:</b> 90 Year One: 44 Year Two: 46</p> <p><b>Source:</b> BSN program with 5 campuses across Oregon</p> <p><b>Characteristics:</b> The group consisted of pre-nursing, community college, traditional BSN, and RN-to-BSN students*.</p> <p><b>Inclusion criteria</b> (needs to meet at least one):</p> <ul style="list-style-type: none"> <li>• educationally disadvantaged</li> <li>• financially disadvantaged</li> <li>• underrepresented minority.</li> </ul>	<p>Design: Quasi-experimental study</p> <p>The program utilized:</p> <ul style="list-style-type: none"> <li>• bilingual staff</li> <li>• pre-enrollment outreach to communities</li> <li>• mentoring,</li> <li>• case management</li> <li>• individualized academic coaching</li> <li>• scholarship programs</li> <li>• financial support</li> <li>• inclusion of cultural competency curriculum</li> <li>• campus culture interventions</li> </ul>	<ul style="list-style-type: none"> <li>• Graduation rate from program Year One (94%) and Year Two (93%)</li> <li>• First-time NCLEX pass rate Year One (86%) and Year Two (79%)</li> <li>• After the second year of the program, minority enrollment went from a baseline 11% to 17%,</li> <li>• From a baseline of 78%, graduation rates of underrepresented minorities increased to (Y1) 93%, and (Y2) 82%.</li> </ul>	<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• Inclusion of campus culture interventions in program.</li> <li>• Unique collection of data on bilingualism of nursing staff.</li> <li>• Strategies implemented were evidence-based.</li> </ul> <p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• Included vague participant category: “educationally disadvantaged”</li> <li>• Only focuses on community college nursing programs.</li> <li>• *Results not differentiated by undergraduate program.</li> </ul>

Article	Purpose	Sample & Setting	Methods	Findings	Strengths & Limitations
<p><b>Published: 2016</b></p> <p>Diefenbeck, C., Michalec, B., Alexander, R. (2016). Lived experiences of racially and ethnically underrepresented minority BSN students: A case study specifically exploring issues related to recruitment and retention. <i>Nursing Education Perspectives</i>, 37(1), 41-44.</p>	<p>The purpose of the study was to better understand barriers and facilitators to a positive experience in nursing education for underrepresented minority students.</p>	<p><b>Size:</b> 12</p> <p><b>Source:</b> Nursing students at a large, public university</p> <p><b>Characteristics:</b> All participants were female, between the ages of 19 and 22, and identified as either Black or Latina.</p>	<p><b>Design:</b> Qualitative, Exploratory</p> <p>Consisting of semi-structured interviews, administered through an e-questionnaire.</p> <p>The responses to the questionnaires underwent a multistep analysis to identify the common themes and most occurring words.</p>	<ul style="list-style-type: none"> <li>• Some barriers to success identified were negative interactions with faculty and peers, a lack of diversity in faculty and peers, a lack of cultural competency training, lack of academic support, lack of financial support, and negative family behaviors.</li> <li>• Some facilitators to success identified were a strong desire to be a nurse, a family member in the field, and being geographically close to home.</li> <li>• Recommendations are to acknowledge and celebrate diversity compared to a color-blind approach and elevate passion for nursing to improve core course work.</li> </ul>	<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• Participants were all traditional ages.</li> <li>• The qualitative design allows for specific, individual responses.</li> </ul> <p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• There is no comparison group of white or majority to compare with findings that are specific to underrepresented minorities.</li> <li>• The study was limited to one institution and twelve respondents.</li> <li>• The e-questionnaire style does not allow for clarification or further questioning based on the participants' responses.</li> </ul>



Article	Purpose	Sample & Setting	Methods	Findings	Strengths & Limitations
<p><b>Published: 2016</b></p> <p>Dewitty, V., Huerta, C., Downing, C. (2016). New careers in nursing: Optimizing diversity and student success for future of nursing. <i>Journal of Professional Nursing</i>, S4-S13</p>	<p>The purpose of the study was to evaluate the efficacy of the New Career in Nursing (NCIN) scholarship program. The aims of the program were to recruit and support minority students and economically disadvantaged students. The long-term purpose is to alleviate the nursing shortage and increase diversity in nursing.</p>	<p><b>Size:</b> 3,335</p> <p><b>Source:</b> Up to 27 nursing programs across the USA.</p> <p><b>Characteristics:</b> 80% of scholars are enrolled in a bachelor's degree and 20% were enrolled in a master's degree program. The average age of participants was 29, and the majority were women. Participants were white, black, Asian, American Indians, or Hispanic.</p>	<p><b>Design:</b> Quasi-experimental study</p> <p>Program included:</p> <ul style="list-style-type: none"> <li>• scholarships (\$10,000)</li> <li>• technical assistance</li> <li>• mentoring</li> <li>• leadership development</li> <li>• pre-entry immersion program with time management strategies &amp; core skills</li> </ul> <p>3 surveys were administered to participants to assess attitudes.</p>	<ul style="list-style-type: none"> <li>• At the midpoint survey, the participants were most satisfied with faculty availability to meet &amp; peer support in academic settings.</li> <li>• They were least satisfied with instructional methods and faculty attitudes toward students.</li> <li>• Students rated the Pre-Entry Immersion Program (PIP) an average of 4.14 (scale 1 to 5: 1 being not helpful at all and 5 being extremely helpful).</li> <li>• Students with mentors matching their racial ethnic background reported significantly higher satisfaction with the mentoring relationship than ethnically mismatched mentees.</li> </ul>	<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• The participants were surveyed at three separate time periods.</li> <li>• Financial, social, and academic support interventions were included.</li> </ul> <p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• The sample size was not specifically limited to underrepresented minorities in nursing.</li> <li>• The program was implemented in an accelerated bachelor's program for students with a prior degree.</li> <li>• Results were not stratified based on Master's vs. Baccalaureate.</li> </ul>

Article	Purpose	Sample & Setting	Methods	Findings	Strengths & Limitations
<p><b>Published: 2018</b></p> <p>Young-Brice, A., Dreifuerst, K., &amp; Buseh, A. (2018). Being invisible: Stereotype threat in an undergraduate nursing program. <i>Journal of Nursing Education, 57</i>(3), 159-162</p>	<p>The purpose of the study is to explore the experiences of stereotype threat among a group of nursing students identifying as an ethnic minority.</p>	<p><b>Size:</b> 20</p> <p><b>Source:</b> Nursing students at a large, urban university in Oregon.</p> <p><b>Characteristics:</b> The participants ranged in age from 19 to 26. Participants self-identified as African American, Hispanic, Asian, and Arab.</p>	<p><b>Design:</b> Qualitative, exploratory</p> <p>Conducted one-time, semi-structured in person interviews. The interviews were recorded, transcribed verbatim, and analyzed using thematic analysis.</p>	<p>Three major themes emerged from analysis of the interviews:</p> <ul style="list-style-type: none"> <li>• A sense of uncertainty about personal academic abilities.</li> <li>• Avoidance of campus and disengagement in classes due to not fitting in on campus</li> <li>• Vigilance for signs of failure related to the pressure to overcome stereotypes about their ethnic identity.</li> </ul> <p>Recommends specialized, mandatory orientation programs, ethnically diverse mentors and study groups, acknowledgement of identity threat, and positive reappraisal of students.</p>	<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• Large sample size for a qualitative study</li> <li>• In-person study allows for further questioning using probes</li> <li>• There are a large variety of ethnic/racial backgrounds represented by the participants in this study.</li> <li>• Investigator took field notes during and after each interview.</li> <li>• Utilized member checking with study results</li> </ul> <p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• There was no measure or report of academic success in participants.</li> <li>• There is no indication of background or prior schooling in participants.</li> </ul>

Article	Purpose	Sample & Setting	Methods	Findings	Strengths & Limitations
<p><b>Published: 2018</b></p> <p>Banister, G., Winfrey, M. (2012). Enhancing diversity in nursing: A partnership approach. <i>Journal of Nursing Education</i>, 42(3), 176-181</p>	<p>The purpose of the study was to determine the efficacy and outline the successes of the Clinical Leadership Collaborative for Diversity in Nursing.</p>	<p><b>Size:</b> 59</p> <p><b>Source:</b> Students recruited from University of Massachusetts Boston nursing program in Massachusetts, USA</p> <p><b>Characteristics:</b> All participants were entering their junior year of college and identified as either:</p> <ul style="list-style-type: none"> <li>• Black</li> <li>• Hispanic</li> <li>• Asian</li> </ul>	<p><b>Design:</b> Quasi-experimental study</p> <p>The program provided:</p> <ul style="list-style-type: none"> <li>• academic counseling</li> <li>• tutoring</li> <li>• workshops</li> <li>• stress management programming</li> <li>• NCLEX preparation</li> <li>• peer tutoring</li> <li>• mentoring</li> <li>• financial support</li> </ul>	<ul style="list-style-type: none"> <li>• Of the participants in the cohorts, 78% passed the NCLEX examination on the first try.</li> <li>• After graduation, 92% of the participants in the program were gainfully employed in the field.</li> <li>• The program credits much of the success to its partnership with a local clinical facility to seek mentors and to offer a participating clinical experience.</li> </ul>	<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• Unique intervention due to the inclusion of a partnership with a major hospital.</li> <li>• Continuing the promotion of nurses past graduation into an employment position reflects the purpose.</li> </ul> <p><b>Limitations:</b></p> <ul style="list-style-type: none"> <li>• Heavy involvement by dean and chief nursing officer limits the generalizability of the study.</li> <li>• 22 of the 59 participants were still enrolled in the program at the time of data collection, limiting the ability to measure outcomes.</li> <li>• Completed in urban location, diversity of career mentors may be limited in rural settings.</li> </ul>

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ACADEMIC VITA  
**Kelly J. Snyder**

E-mail: kys5266@psu.edu

**EDUCATION**

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**The Pennsylvania State University.**

College of Nursing | *Bachelor of Science in Nursing*  
College of the Liberal Arts | *Diversity Studies Certificate*

**Schreyer Honors College Scholar**

**University Park, PA**

Graduation: *May 2023*

Graduation: *May 2023*

**WORK EXPERIENCE**

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**Massachusetts General Hospital**

*Carol A. Ghiloni Oncology Nursing Fellowship*

**Boston, MA**

*May 2022—August 2022*

- One of seven undergraduate students selected nationally for prestigious fellowship program
- Managed patient care alongside preceptor on two inpatient oncology units and pediatric and adult infusion clinics
- Reviewed and presented evidence-based research based on clinical experiences to oncology nursing panel

**Cape Cod Hospital**

*Clinical Nurse Aide*

**Hyannis, MA**

*May 2021—August 2021*

- Coordinated care for 15 patients including assessment of vital signs, activities of daily living, and telemetry needs
- Assisted nurses, physicians, and surgeons in the ICU, emergency department, pediatric unit, telemetry floor, and PACU

**Foxdale Village Retirement Community**

*Certified Nurse Aide*

**State College, PA**

*May 2020—January 2021*

- Assisted long-term care residents with activities of daily living and therapeutic interventions in collaboration with care team
- Recreated and facilitated weekly book club with residents to engage and maintain critical thinking and creativity

**Centre Hills Country Club**

*Dining Room Server*

**State College, PA**

*May 2020—May 2021*

- Consistently provided professional, friendly, and engaging dining service to members and guests
- Greeted, seated, and conversated with members and guests upon entry to the country club
- Maintained professional rapport and communication with management and co-workers throughout employment

**CLINICAL EXPERIENCE**

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**Senior Capstone in Pediatric Hematology/Oncology**

*Penn State Health Children's Hospital at Hershey Medical Center*

**January 2023- Present**

**Educational Clinical Rotations**

*Penn State Health Children's Hospital at Hershey Medical Center, Mount Nittany Medical Center, Juniper Rehabilitation Facility, UPMC Harrisburg Medical Center, Mount Nittany Outpatient Pediatric Clinic*

**August 2019 - Present**

**PROFESSIONAL ORGANIZATION/ENGAGEMENT**

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**Penn State Council of Sustainable Nursing**

*One of the two Student Members*

**University Park, PA**

*November 2019—Present*

- Authored and presented research study assessing faculty knowledge of sustainable development goals

**Phi Epsilon Kappa Professional Healthcare Fraternity**

*Executive Board Member*

**University Park, PA**

*February 2020—Present*

- Facilitated communications to members, designed graphic content, and managed social media accounts for fraternity
- Actively fundraised for and participated in THON (pediatric cancer dance marathon)

**Student Nurses Association of the Pennsylvania State University**

**University Park, PA**

*Breakthrough to Nursing Chair*

*October 2020—October 2021*

- Critically examined practices of nursing and nursing education for cases of biases, inequity, and barriers to entry
- Educated members on issues of racial equity, healthcare disparities, and inclusion

**University Park Undergraduate Association**

**University Park, PA**

*Representative of the College of Nursing*

*February 2020—February 2021*

- Advocated 46,000 students alongside 39 other representatives in the undergraduate student government
- Enhanced communication between the nursing staff, professors, students, and the student advocacy board
- Created initiative to reduce financial burden on nursing students, improving the accessibility and inclusivity of the program

*Freshman Council Member*

*August 2019-February 2020*

- Collaborated with faculty, administration, students, and other stakeholders to complete organization's goals

**CERTIFICATIONS**

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Certified Nurse Aide (Pennsylvania)

*May 2019- Present*

American Heart Association BLS Healthcare Provider CPR/AED

*September 2018- Present*

Crisis Prevention Institute Training

*May 2021- Present*

Cancer Basics Certification

*May 2021- Present*

**AWARDS**

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Nightingale Awards of Pennsylvania BSN Scholarship

*Fall 2022*

Induction to Beta Sigma Nursing Honor Society

*Spring 2022*

Riley Ridge Alumni Scholarship (Schreyer Honors College)

*Fall 2019-Present*

Ross and Carol Nese Nursing Excellence Scholarship

*Fall 2020*

Rotary Club First Year Engagement Scholarship

*Fall 2019*

**RESEARCH**

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**Student Engagement Network Grant for Honors Thesis, \$2,000**

**September 2022- Present**

- Authored the grant, developed questionnaire, conducted research on diversity and inclusion in nursing education
- Conducted literature review, developed thesis surrounding research project, in process of submitting for publication

**Erikson Discovery Grant, \$3,500**

**May 2020- August 2020**

- Authored the grant, researched growth mindset measurement in personality tests used for hiring
  - Conducted literature review, presented, and collaborated with research team on professor's concurrent research projects
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