UNIVERSITY OF CALIFORNIA

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A Culturally Informed Mentorship Model for Historically Underrepresented Ethnic Minority Advanced Practice Registered Nursing Students

A dissertation submitted in partial satisfaction of the

requirements for the degree

Doctor of Nursing Practice

by

Lonnie Preston Herring

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ABSTRACT OF THE DISSERTATION

Culturally Informed Mentorship Model for Historically Underrepresented Ethnic Minority Advanced Practice Registered Nursing Students

by

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Doctor of Nursing Practice

University of California, Los Angeles, 2024

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Background: Ethnic minority students pursuing advanced practice nursing degrees often face unique challenges that hinder their academic success and persistence, such as limited mentorship opportunities that address their cultural considerations. A lack of culturally informed mentorship (CIM) may contribute to feelings of isolation, lower self-efficacy, and reduced retention rates among ethnic minority advanced practice registered nursing (APRN) students. Through cultural competency, CIM programs are emerging as a promising approach to address these challenges and support the needs of historically underrepresented ethnic minority (HUEM)

students. The underrepresentation of HUEM APRN students in graduate nursing education and advanced nursing practice is a persistent issue that must be addressed using targeted, evidence-based interventions. This project sought to elucidate this gap by implementing a semi-structured mentorship program tailored to support and empower HUEM APRN students. **Objectives**: This project demonstrated the implementation of a ten-week culturally informed mentorship program to improve the satisfaction and academic resiliency of HUEM APRN students. A semi-structured mentorship program was based on a culturally informed framework, using evidence from current literature, considering the unique needs, challenges, and experiences of HUEM APRN students. The CIM program's principal objective was to provide student mentees with mentorship, guidance, support, and advice for academic resources tailored to their unique cultural backgrounds and needs to enhance mentee students' satisfaction with their educational experience and bolster academic resiliency. **Methods:** This study utilized a single-group pre-test, post-test, and quasi-experimental project design. A convenience sample of six first-year APRN students, self-identifying as ethnic minorities, was recruited as study participants and paired with individual mentors of their choice. Mentees and mentors completed a Mentor-Mentee Pre-Mentoring Questionnaire to identify preferences, goals, and expectations. Mentors engaged in a CIM mentor training module for cultural competency and mentorship pedagogy. Quantitative data was collected through APRN Graduate Student Mentee Surveys using Likert-scale items to assess the students' satisfaction levels and measure changes in their academic perseverance decisions. Descriptive and non-parametric statistical methods were employed to analyze the data and evaluate the effectiveness of the CIM program. The Wilcoxon Signed Rank Test was used due to the sample size. Summed responses to two open-answer questions provided qualitative data to understand better the students' experiences and perceptions of the mentorship program.

Results: Findings suggest HUEM APRN students had several motivations for and expectations from the CIM program. All student participants found the CIM program valuable in helping them achieve these expectations. Though not statistically significant, study results support the idea that participation in a minority mentorship program may improve student satisfaction among HUEM graduate nursing students. **Conclusion:** The findings from this project may demonstrate the positive association of a CIM program on HUEM APRN student satisfaction and academic retention. Study findings suggest that CIM programs using cultural competency may play a significant role in supporting the needs of ethnic minority APRN students. The implications may highlight the importance of implementing CIM programs to address the unique challenges of ethnic minority APRN students and promote their academic success, ultimately contributing to a more diverse, culturally competent APRN workforce. This study's recommendations may be valuable to nursing educators, practitioners, administrators, and policymakers in enhancing and sustaining institutional mentorship programs for ethnic minority students in graduate nursing education. This study project's findings contribute to the literature on HUEM mentorship programs related to APRN students and provide evidence-based recommendations for future interventions.

The dissertation of Lonnie Preston Herring is approved.

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This dissertation is dedicated to my “Kahu,” my mother, Victoria S. L. Woodie, MSN, RN, FNP-C. Without her lifelong love, guidance, sacrifices, and dedication as my champion and life guardian, I would be a simple statistic. I love you to the very core of my soul forever and always, Ma. Furthermore, I would like to acknowledge the support and understanding of my entire cadre of family and friends throughout this journey. Their inspiration to reach greater goals, unwavering belief in my abilities, and encouragement during times of doubt have been a constant source of much-needed strength and endurance.

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VITA

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2023	*Peripheral Nerve Block (PNB).* [Patient education brochure]. English and Spanish.

CHAPTER ONE: INTRODUCTION

There exists an increasing recognition of the need for increased diversity and cultural awareness within the nursing healthcare field (American Association of Colleges of Nursing [AACN], 2023a). Healthcare professionals must acquire the necessary skills and knowledge to provide culturally competent care (Stubbe, 2020). Advanced Practice Registered Nurses (APRNs), as healthcare professionals, are vital in delivering high-quality healthcare services through their expertise, specialization, collaborative practice, patient education, care continuity, and cost-effectiveness (National Academies of Sciences, Engineering, and Medicine [NASEM], 2021). Nurses from historically underrepresented ethnic minority (HUEM) backgrounds are an essential component of APRN professional practice. The similar lived experiences of these nurses position them to work productively with minority patients (AACN, 2023a). Minority APRNs better understand the influence of subtle cultural nuances that factor into the healthcare of diverse patient populations. HUEM advanced practice providers enhance trust and representation, contribute to advanced practice recruitment and retention, and advocate for equitable healthcare. They can establish partnerships and facilitate effective communication with underrepresented minority patients and their families (AACN, 2023a; Gates, 2018; Gomez & Bernet, 2019). Consequently, providing effective mentorship strategies and practices for HUEM APRNs throughout their educational journey helps ensure competent healthcare for minority populations.

Current education research sees the growing value in supporting the graduation, retention, and professional success of HUEM prelicensure and graduate nursing students through culturally congruent mentorship (AACN, 2023a; Black et al., 2022; Byars-Winston et al., 2018;

Crooks, 2013; Gates, 2018; Gularte-Rinaldo et al., 2023; Hinton et al., 2020; Johnson et al., 2020; NASEM, 2021). Recognizing the need for diversity and inclusion educational initiatives is crucial to providing targeted support to students from HUEM backgrounds (Dowling et al., 2021; NASEM, 2019; Nelson, 2022). Mentoring relationships are vital for racial and ethnic minorities as they often lack access to high-quality mentorship (National Academies of Sciences, Engineering, and Medicine [NASEM], 2019). HUEM groups often need access to the influential informal networks and information necessary for success in academic and professional environments (Byars-Winston & Dahlberg, 2019; Hinton et al., 2020). The need for mentors for HUEM APRN students is significant, given the potential impact of this experience on their retention and subsequent success and the future diversity of the discipline. There must be a systematic commitment to ensure success using evidence-based approaches (NASEM, 2019). This commitment should be intentional and integrated into a structured implementation plan.

Culturally informed mentorship (CIM) is one such structured educational initiative. CIM defines mentoring practices in which mentors are conscious of their culturally defined ideologies, experiences, and perceptions and develop an appreciation of cultural differences and similarities between their mentees and themselves (Center for the Improvement of Mentored Experiences in Research [CIMER], 2019). CIM helps provide a supportive, inclusive environment where HUEM students feel understood, valued, and accepted. This sense of belonging can help HUEM students develop improved self-efficacy, enhancing their educational experience and long-term success (Dowling et al., 2021; Gates, 2018). Culturally congruent mentors (who are aware and inclusive of mentees' cultural beliefs, values, and practices) can provide academic guidance sensitive to the unique challenges and strengths of HUEM students (Salinda et al., 2021). These mentors can offer tailored advice on navigating students'

educational programs and accessing relevant resources. HUEM students often face cultural stereotypes, biases, and microaggressions that negatively impact their educational experiences (Byars-Winston & Dahlberg, 2019; Crooks, 2013; Hinton et al., 2020; Osakwe et al., 2022; Snowden et al., 2018). Culturally informed mentors can help validate positive HUEM student identities in the face of adversity. CIM can also facilitate networking opportunities and connect students with professionals from similar cultural backgrounds, opening doors to otherwise inaccessible opportunities. This networking can help HUEM students feel more engaged and connected, increasing the likelihood of retention. By serving as role models who share their personal experiences and success stories, these mentors encourage HUEM students to persevere in their education to reach their full potential (Hinton et al., 2020; Johnson et al., 2020; Osakwe et al., 2022; Phillips et al., 2022).

Problem Statement

Trent et al. (2021) looked at factors affecting the retention of minority graduate students. Their study found that program racial climate, the availability and quality of social support within the program, access to resources and support outside the program, and individual resilience were critical components in persistence toward degree completion. The results suggest that safe, inclusive learning environments and acknowledging the multiple facets of HUEM identities are crucial to retaining students of color. This project will focus on HUEM student populations in APRN graduate training.

Despite the growing United States (US) minority populations, the number of minority advanced practice nurses is not expanding in the same proportion (AACN, 2023a). The solution lies partly in developing educational pipeline initiatives that ensure the success of HUEM students with program completion (Taylor et al., 2019). Increasing diversity in APRN education

is integral to increasing diversity in its workforce (Gates, 2018).

Attrition from graduate APRN studies has enormous financial implications for students and institutions. The California Board of Registered Nursing reports the attrition rate ranging between 0% to as high as 39% among entry-level nursing programs for the 2020-2021 academic year (California Board of Registered Nursing, 2023). Fang & Zangaro (2022) found a 77.3% completion rate for Doctor of Nursing Practice (DNP) students between 2006 and 2015 matriculating cohorts and a 19.3% attrition rate. Despite the strong support for advanced practice education, there is limited data for HUEM student completion and attrition rates for advanced practice registered nursing (APRN) students. These are important achievement measures for APRN and Doctor of Nursing Practice (DNP) programs.

Research needs to be done on HUEM APRN student attrition. Recent data from AACN notes that institutions devoted to educational equity, such as Historically Black Colleges and Universities (HBCUs), sustained a nearly 25% decline in master's program enrolment between academic years 2021-2022 (American Association of Colleges of Nursing [AACN], 2023b). During the same period, HBCU graduation rates from master's programs dropped by 15%. This data points to one area of significant decline and attrition for HUEM graduate nursing students. There is a gap in the literature regarding data on APRN program attrition and the potential change from CIM for HUEM APRN students.

DNP Essentials for Scholarly Project

The AACN *Essentials* (2021) outlined Essential One as the knowledge for advanced nursing practice, including its scientific underpinnings. This essential emphasized the use and synthesis of "current and emerging" scientific evidence to inform practice. Institutional and departmental leadership bolstered evidence-based mentoring practices through proven

mentorship education strategies and tools (NASEM, 2019).

AACN *Essentials* III highlighted the advanced practice nurse's role in promoting population health (AACN, 2021). This project considered how a CIM program could have contributed to increased HUEM APRN graduation to improve minority health outcomes using cultural acknowledgment and applied relevance (Esposito Kubanick, 2022; Gomez & Bernet, 2019; Greenwood et al., 2020; Nair & Adetayo, 2019). This DNP project proposal examined the importance of a structured CIM program in affecting student satisfaction and academic perseverance decisions for HUEM advanced practice nursing students.

Population-Intervention-Comparison-Outcome-Time (PICOT) Question

Among first-year HUEM APRN students, did a 10-week CIM program change student satisfaction and academic persistence (retention or attrition) decisions in their two- to three-year educational training program?

Scientific Underpinnings

Albert Bandura's social cognitive theory asserts the role of observational learning, social support, and self-efficacy in shaping successful behavior (Bandura, 2023). Applying this theory to CIM suggested that providing supportive mentors as role models enhanced APRN students' self-efficacy and motivation. Minority Stress Theory focuses on the unique stressors experienced by individuals from marginalized groups because of their minority status (Frost & Meyer, 2023). Applying this theory to a CIM program suggested that providing mentors who understood and addressed the specific stressors HUEM APRN students may have faced might help alleviate stress levels, improve their overall well-being, and increase satisfaction and retention.

Purpose and Objectives

This scholarly project explored whether a CIM program could have influenced APRN

students' experiences and outcomes. This project sought to demonstrate the implementation of a strategy to bolster and enhance the educational success of HUEM APRN students. The process examined HUEM APRN students' perspectives and CIM mentorship within a graduate educational setting. Student satisfaction and academic perseverance decisions were measured as the outcomes.

This scholarly project sought to achieve six objectives, including:

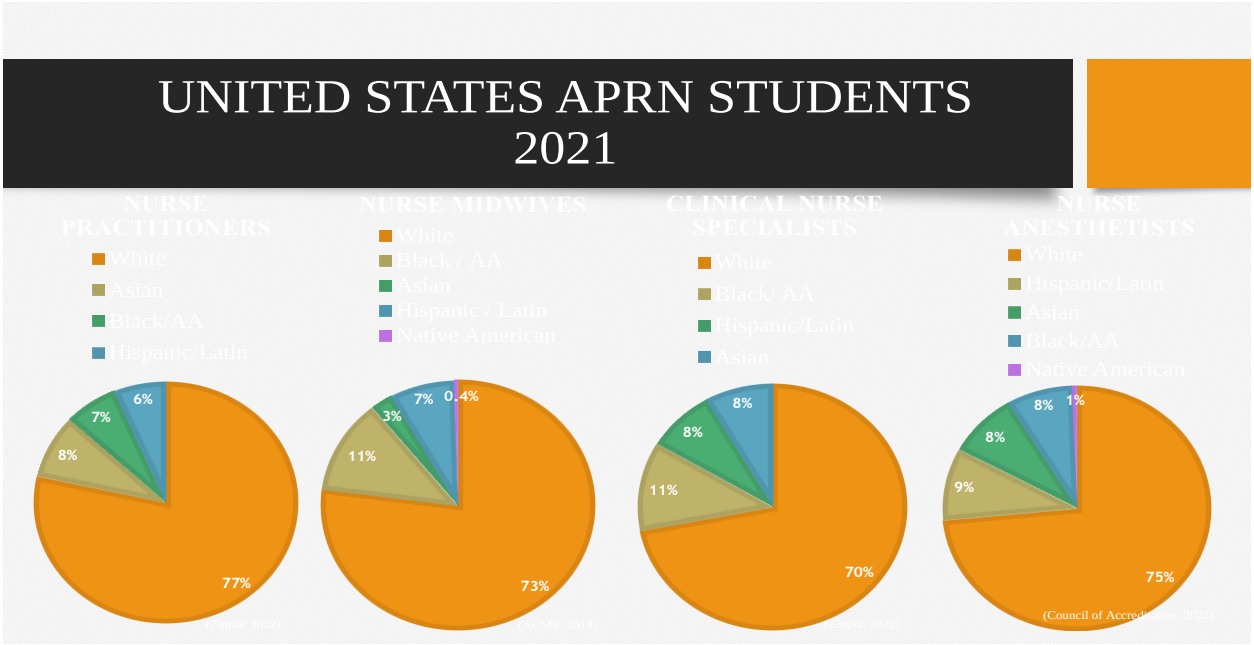
1. Assessing satisfaction levels and academic perseverance among APRN students and potential influencing factors.
2. Using evidence to design and implement a CIM program for APRN students.
3. Analyzing quantitative and qualitative data to substantiate its outcomes.
4. Identifying barriers and challenges encountered with implementation to guide improvement suggestions.
5. Providing recommendations for further development.
6. Evaluating potential implications for the integration of CIM practices into APRN education.

Background

The NASEM (2021) noted that the nursing workforce has become increasingly diverse. The proportion of RNs who identified as Black/African American approximated the nation's population (12 %), while the proportion of RNs who identified as Asian (9.1 %) exceeded that of the population (6 percent). However, despite doubling since 2001, the proportion of Hispanic RNs in the nursing workforce (7.4 %) was well below that of the population (18.3 %) (Esposito Kubanick, 2022). Detailed research analysis on APRN specialties by Zippia (2022) reported that the most common ethnicity of student nurse practitioners is White (77.1 %), followed by Asian

(8.3 %), Black or African American (6.5%), and Hispanic or Latino (6.3 %). The most common ethnicity of clinical nurse specialists was White (70.3 %), followed by Black or African American (11.4 %), Hispanic or Latino (8.1 %), and Asian (8.0 %). The Accreditation Commission for Midwifery Education (ACME) reported that the most common ethnicity of nurse-midwifery students was White (72.7%), followed by Black or African American (11.43%), Hispanic or Latino (7.2%), Asian American/ Pacific Islander [AAPI] (2.6%), and Native American (0.42%) (ACME, 2019). The most common ethnicity of student nurse anesthetists was White (75.41 %), followed by Hispanic or Latino (9.06 %), Black or African American (8.01%), Asian (7.71 %), multiracial (2.64 %), Native American (0.71 %), and Native Hawaiian/Pacific Islander (0.49 %) (Council on Accreditation [COA], 2021). Despite the nursing reports showing a more diverse workforce than in past years, more diversification efforts are necessary to recruit, retain, and graduate HUEM APRN students (AACN, 2023a; Osakwe et al., 2022; Trent et al., 2021).

Figure 1: *APRN Specialty Student Demographics 2021*



Note. Figure 1 shows only available measured data for HUEM groups.

Racial and ethnic diversity in nursing could diminish healthcare disparities by expanding access and enhancing the quality of minority healthcare experiences (Duff-Brown, 2018; Gomez & Bernet, 2019; Greenwood et al., 2020; Nair & Adetayo, 2019; Stanford, 2020). A lack of diversity in the nursing education pipeline leads to a lack of diversity among APRNs. CIM programs embedded in nursing education can support HUEM students' success by promoting diversity representation, addressing potential cultural barriers, offering tailored support, and promoting cultural competence. These factors help improve patient outcomes by fostering more inclusive, culturally sensitive healthcare professionals and environments. CIM provides a supportive mentoring environment and values HUEM backgrounds (Black et al., 2022; Byars-Winston et al., 2023; Crooks, 2013; Dowling et al., 2021; Esposito Kubanick, 2022; Gates, 2018). This initiative can promote HUEM students' engagement and support their recruitment and retention (Trent et al., 2021). HUEM student retention can contribute to a culturally diverse advanced nursing provider workforce more reflective of the patient population. A program like CIM may serve as a model initiative for increasing the number of HUEM APRN providers. Increasing the number of HUEM APRN providers using CIM during APRN training is one potential facet in reducing health inequities (AACN, 2023a; Gomez & Bernet, 2019; Gularte-Rinaldo et al., 2023; Nair & Adetayo, 2019; Stanford, 2020). These studies showed that having diverse HUEM APRNs, which enhances patient-provider concordance, was linked to gains in patient care, including enhanced care quality, adherence to prescription therapy, and higher patient satisfaction (Bonifacino et al., 2021). Additionally, HUEM APRNS may be more inclined to work with underserved, low-income populations.

Diversity among APRN providers can help bridge the gap in existing racial and ethnic health disparities, thereby improving patient outcomes. Those initiatives must start early in the educational pipeline to engage qualified HUEM candidates. These efforts do not come at the expense of being qualified; moreover, they must evolve to engage, retain, and promote highly dedicated minorities (Nair & Adetayo, 2019). Phillips et al. (2022) discuss developing a mentoring and support system for intended and current HUEM doctoral nursing students. Student participants remarked on the benefits of learning first-hand accounts from HUEM nurse leaders. The knowledge that others like themselves could obtain a doctoral degree reinforced the idea that visible representation is critical.

Research analysts recognized the importance of a healthcare workforce representative of the increasingly diverse US patient population (Gomez & Bernet, 2019; Stanford, 2020). Increased diversity in the nursing workforce is associated with better patient outcomes. Studies support the benefits of patient–physician ethnic concordance on healthcare outcome metrics for HUEM populations (Duff-Brown, 2018; Greenwood et al., 2020). They emphasized concordance can ameliorate outgroup biases, improve communication, and bolster trust. A Stanford University study placed African-American men with similar physicians and found that this pairing reduced the racial gap in cardiovascular-related deaths by 19% (Duff-Brown, 2018). In a separate US study, African American newborns have a death rate three times the rate of White newborns. This study also finds the mortality rate for African-American newborns is reduced by 39% under the care of African-American physicians than White physicians (Greenwood et al., 2020).

AACN (2023) reports that a higher percentage of minority nurses than white nurses progress to complete nursing degrees beyond the associate degree level. This data supports the

idea that HUEM nurses show motivation and recognize the value of attaining higher levels of nursing education. Since many HUEM educational experiences are similar, research indicated that these APRN students can face similar unique challenges and barriers on their journey to academic and professional success (Hinton et al., 2020; Johnson et al., 2020; Nelson, 2022; Osakwe et al., 2022; Trent et al., 2021). Factors affecting the satisfaction and attrition rates of HUEM APRN students are the same as those of any student. Those factors were financial support and opportunity, morale and emotional support, faculty and professional mentorship, and technical support. Research shows some other common reasons students drop out of nursing school include feeling overwhelmed, poor study habits, poor time management skills, crippling stress, synthesis of material into problem-solving, and family obligations (Nelson, 2022; Trent et al., 2021). HUEM students can also face obstacles, such as a lack of consistent financial resources, fewer professional role models, bias, and micro-inequities (Zajac & Benton-Lee, 2023). These obstacles were associated with the experiential themes of HUEM students enrolled in nursing programs at predominantly white institutions. (Crooks, 2013; Hinton et al., 2020; Johnson et al., 2020; Osakwe et al., 2022; Snowden et al., 2018; Trent et al., 2021; Zajac & Benton-Lee, 2023).

Educational and psychosocial support is crucial to a CIM program for several reasons. Educational support helps HUEM mentees improve their academic performance by providing guidance, resources, and assistance, which enhances their learning experience, increases their confidence, and improves their overall academic success (Byars-Winston & Dahlberg, 2019). Incorporating culturally relevant educational support allows mentors to tailor their guidance to meet the specific needs and challenges HUEM mentees from diverse backgrounds may face. This approach ensures that the support is relatable, meaningful, and effective. Psychosocial

support focuses on the emotional, social, and psychological well-being of HUEM mentees. This support helps them develop important life skills, such as self-confidence, resilience, problem-solving, and decision-making abilities. CIM programs consider the unique cultural contexts and challenges HUEM mentees face, providing them with the necessary psychosocial support to navigate these challenges successfully (Byars-Winston et al., 2023). Cultural identity plays a significant role in an individual's development and perspectives. A CIM program acknowledges and supports the mentees' exploration and understanding of their cultural identity. Providing a safe, inclusive space for HUEM mentees to discuss their cultural experiences helps them develop a positive sense of self and foster a strong cultural identity. Equipping HUEM mentees with the necessary skills, knowledge, and support can help them build resilience, develop a growth mindset, and achieve their goals despite cultural or societal obstacles (Campbell & Rodríguez, 2018). Institutional retention teams, such as deans, faculty leaders, and academic affairs officers, can use predictive models to estimate the probability that incoming students will return the following year. Academic persistence or perseverance can be an important identifier of at-risk students to mitigate APRN program attrition (Davidson et al., 2009). This identification may enable program support personnel to focus initiatives on those APRN students most in need of assistance.

This scholarly project focused on a CIM program for first-year HUEM APRN students and evaluated their satisfaction levels and academic perseverance decisions. Stakeholders can develop targeted CIM programs that acknowledge the experiences and needs of HUEM students. These measures provide the necessary support and guidance to help HUEM students overcome barriers and thrive in their careers (Bonifacino et al., 2021; Byars-Winston et al., 2018; NASEM, 2019; Snowden et al., 2018). Nursing education equity, diversity, and inclusion (EDI) initiatives

require concerted efforts. Such efforts mitigate attrition and effectuate the aim of diverse and culturally conscious nursing leaders reflective of the broad American patient population (Dowling et al., 2021). The findings of this study contributed to the existing body of knowledge on mentorship and cultural competence within the healthcare field. The insights on minority APRN students gained from this research informed the development of evidence-based, culturally congruent mentorship programs. These programs can empower minority APRN students, enhance cultural awareness, and potentially improve the quality of healthcare services provided to diverse populations.

CHAPTER TWO: THEORETICAL FRAMEWORK

The theoretical framework of this project was the Purnell Model for Cultural Competence (PMCC) (Purnell, 2018). The Purnell model and theory is a grand nursing theory described as a holographic complexity theory because it includes certain diverse characteristics (see Appendix A). *Holography* is defined as everything being a whole in one part and a part in another and interconnected, with each part being in the whole and the whole being in the part (Talbot, 1991). The PMCC has a graphic display, incorporates assumptions, and has the cognitive framework concepts of global society, community, family, and person. It is adaptable for use by professions other than nursing. It proposes an organizing scheme to help direct cultural competence among interdisciplinary healthcare team members in various primary, secondary, and tertiary milieus. Purnell defines *culture* as the whole of socially transmitted behavioral patterns, beliefs, values, customs, art lifeways, and all other products of human work and thought characteristics. *Culture* guides a group of people's worldview and decision-making. Specific health concerns require cultural knowledge and skills to provide culturally competent care.

Cultural competence purports to have the characteristics of congruous attitudes, knowledge, and behaviors of healthcare providers. It enables valuable skills used in cross-cultural encounters (To, 2018). It is an ongoing learning and developmental process, not an endpoint. *Cultural competence* empowers the practitioner to provide care that aligns with the patient's (or student's) culture, becoming a conscious and non-linear process. Culturally competent healthcare providers develop an awareness of their perspectives, thoughts, and environment without allowing those aspects to harm their patients (Purnell, 2018).

Model

The Purnell Model is circular (Appendix A), with the interior divided into 12 cultural

domains and their constructs (Purnell, 2018). These 12 domains provide the organizing framework as an approach utilizing cultural sensitivity. However, not every patient or student interaction uses each domain. Concepts are added in or removed as the cultural requirements of the interaction dictate for the mentor. The model's dark center represents unknown phenomena, and the jagged line along the bottom displays cultural consciousness as a non-linear progression. The bottom of the model includes the variant characteristics of a culture. These variant characteristics of culture are critical in assessing and decreasing the stereotyping of individuals from a population health perspective. The mentor selects the most salient concepts of each domain based on the student's experiences, background, and perspectives.

Major assumptions

The major assumptions of the PMCC include the following: "Healthcare professionals require similar information regarding diversity; cultures share core similarities; and differences are present within, among, and between cultures" (Limbo Sagar, 2018, p. 91). The model has a foundation of twenty explicit assumptions. Some examples of key assumptions are:

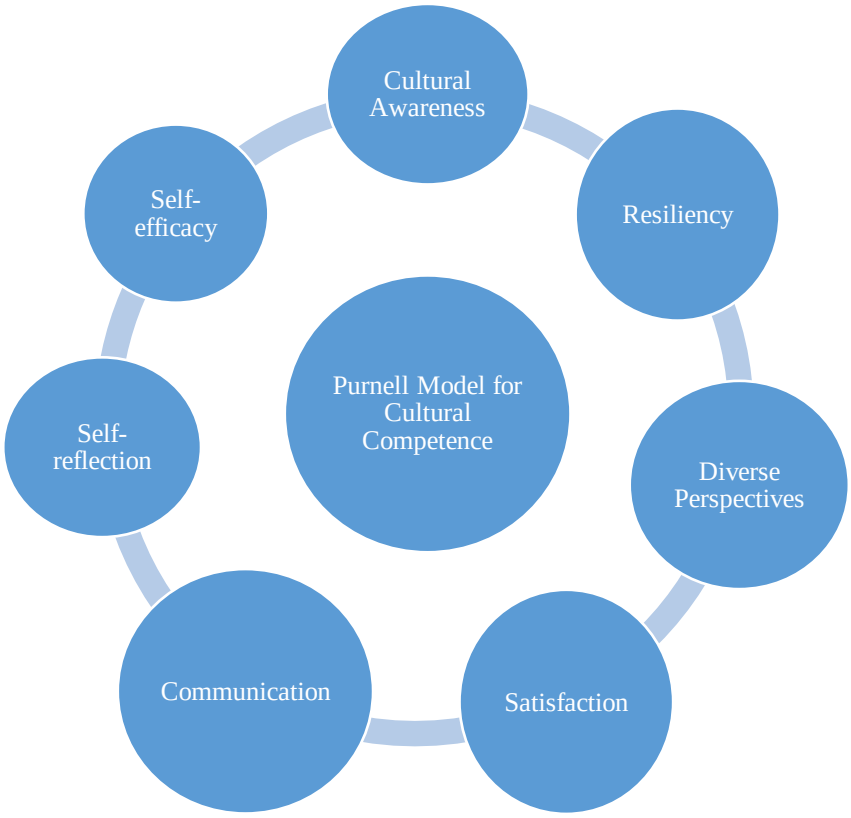
1. One culture is not better than another culture; they are just different.
2. Differences exist between, within, and among cultures.
3. Culture has a powerful influence on one's interpretation of and responses to interactions.
4. Each individual has the right to be respected for their uniqueness and cultural heritage.
5. All cultures share core similarities.

PMCC and Culturally Informed Mentorship

PMCC allows nurses to enhance their understanding and delivery of culturally congruent

patient care. PMCC provided an adaptable framework for CIM programs to promote cultural awareness, knowledge, skills, and encounters, which are essential for effective mentorship across diverse cultural backgrounds (Purnell, 2018). The model's principles and concepts were adaptable to mentor-HUEM mentee relationships. Extrapolating the Purnell Model to a mentoring relationship, mentors must be culturally competent and knowledgeable about the cultural backgrounds of their mentees. PMCC emphasized the importance of understanding and appreciating different cultures. Expanding research has shown that cultural sensitivity is essential in achieving health equity through culturally informed and evidence-based care. This congruence helps mentors understand and respect their mentees' values, beliefs, and practices, leading to more effective communication and support (Black et al., 2022; Byars-Winston & Dahlberg, 2019; Campbell & Rodríguez, 2018; Snowden et al., 2018).

Figure 2. *Adapted PMCC CIM Framework Model.*



Note. The model shows that the integrated goals of the CIM program are centered around the PMCC framework.

Figure 2 visually displays how mentors and HUEM mentees can engage in a cultural self-reflection to understand their backgrounds and how they influence their perspectives and interactions. Mentors should seek to understand the cultural background and experiences of HUEM mentees. This concept is significant for non-HUEM faculty and mentors from varying ethnic backgrounds and cultures to know how to provide appropriate mentorship for HUEM students' success (Campbell & Rodríguez, 2018). This knowledge allows mentors to provide culturally relevant guidance and support that considers the mentee's unique cultural context and needs. The Purnell Model emphasizes utilizing effective communication, active listening, and negotiation skills. Communication skills help ensure effective cross-cultural communication with HUEM mentees (Johnson et al., 2020). Mentors also learn to actively listen to and validate HUEM mentees' perspectives. Through negotiation, mentors learn to find common ground and adapt their mentoring approach to different values and preferences.

Mentors can facilitate cultural encounters by exposing mentees to individuals of various backgrounds and diverse perspectives. These encounters help mentees develop their cultural competence and broaden their understanding of different cultures, expanding their worldview. These experiences challenge them to think critically, introduce them to different perspectives, and encourage them to explore and embrace cultural diversity (Byars-Winston & Dahlberg, 2019). The Purnell Model emphasizes having a genuine desire to acknowledge and embrace cultural diversity. As role models, mentors can cultivate such interest by demonstrating a true interest in the HUEM mentee's cultural experiences, aspirations, and background. This interest builds trust, respect, confidence, and a sense of belonging, creating a supportive, inclusive

mentoring environment (Hinton et al., 2020). Research has shown that such support increases mentee satisfaction and educational resiliency (Byars-Winston & Dahlberg, 2019; Hinton et al., 2020). PMCC emphasizes developing cultural skills, such as cultural sensitivity and adaptability. Mentors must possess these skills to establish a positive and productive relationship with their mentees. Through cultural awareness, mentors can navigate cultural differences, address potential barriers, and create an inclusive and supportive environment for their HUEM mentees (Black et al., 2022; Byars-Winston et al., 2018).

CHAPTER THREE: REVIEW OF LITERATURE

Literature Search

A comprehensive search was conducted using multidisciplinary electronic databases to identify studies published between 2018 and 2023 that ensured the relevance and currency of the literature. An integrative literature review was performed in the Cumulated Index to Nursing and Allied Health Literature (CINAHL) Complete with Full Text (EBSCOhost). This database was valuable for its specialized content, extensive coverage, nursing-specific indexing, full-text availability, advanced search features, and peer-reviewed content. Other healthcare databases included MEDLINE (Ovid), Education Source (EBSCO), APA PsycINFO, and PubMed. Following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines, once articles were generated throughout the search, a manual review was conducted, looking at relevant articles' abstracts and reference lists to identify and locate additional research resources (see Appendix B) (Haddaway et al., 2022). Various search terms and Boolean/Phrase descriptors were used to discover peer-reviewed scholarly articles related to the DNP project topic of undergraduate and graduate culturally diverse nursing student satisfaction and attrition. An extensive search was conducted using search terms in various combinations. The search terms included "*culturally informed mentorship*," "*culturally congruent mentorship*," "*culturally aware mentorship*," "*minority mentoring*," "*ethnic minority nursing students*," "*minority graduate nursing students*," "*graduate students*," "*underrepresented minority nursing students*," "*student satisfaction*," "*nursing student attrition*," "*nursing student retention*," and related variations or truncations. When applicable, terms identifying the population of interest were exchanged into the search terms.

Studies were included using the following criteria: the effect of CIM, culturally aware mentorship (CAM), or minority mentorship on ethnic minority APRN students; comparing CIM or CAM with traditional mentorship practices; HUEM students as the target population; studies published in peer-reviewed journals or academic sources; studies conducted in various healthcare educational settings to capture a diverse range of experiences; and studies providing qualitative of mixed-methods data examining the impact of a CIM program. Exclusion criteria included studies conducted on populations other than HUEM students, studies before 2013, non-English studies, and studies solely focused on pre-baccalaureate programs. Seventy-six articles were identified from ten database searches. Eleven studies met the inclusion criteria and were included in this review.

Literature

The literature review showed that in recent years, more written and published work focused on culturally informed mentorship for ethnic minority undergraduate nursing students. In a landmark article, Crooks (2013) introduced a precursor to CIM named "Mentoring Ethnically diverse Nursing students To increase Overall Retention" (MENTOR). The author reported this sixteen-week mentorship program was developed to coincide with the institution's 16-week semester system. However, it was adaptable to any nursing curriculum. This program design supported the ten-week program layout for this DNP project. No statistical tests were noted in this untested program following a prescriptive format, adhering to a process to potentially ensure success. This mentorship program served as a guideline for implementing a culturally informed mentorship program using Leininger's Theory of Culture Care (Lancellotti, 2008). The article discussed mentoring as one strategy to help with HUEM student retention. However, mentoring alone is just one element; additional strategies are necessary to ensure academic success. Student

dedication to success and preparation for rigorous coursework must be present to have successful results for ethnically diverse nursing students. Ostensibly, this theorized a similar effect within advanced practice nursing education. However, further research was required to determine its effect on APRN training programs using evidence-based practice (EBP) CIM programs.

Snowden et al. (2018) demonstrated data from a qualitative, descriptive study of forty HUEM pre-licensure nursing students admitted to a "New Careers in Nursing" program, which included a financial grant and structured mentorship program. Descriptive, quantitative data were analyzed by SPSS software by two nurse researchers using Sandelowski's content analysis method. Data from this study showed that a structured mentorship program led to student academic success along with leadership and networking skills development. All participants passed the National Council License Examination- Registered Nurse (NCLEX-RN) and attained employment after the program. Of twenty respondents, five individuals (25%) secured leadership roles in nursing. In addition, participants reported wanting more time with their mentors, appreciated the mentorship, and expressed gratitude for the program. This program successfully promoted the retention, academic success, and development of future minority nurse leaders.

In a secondary data analysis of a national cohort of 2,250 HUEM accelerated nursing students who received national diversity scholarships, Williams et al. (2018) examined the three predictors of HUEM undergraduate nursing students' satisfaction, success, and future advanced educational intent. All statistical analyses were completed using SAS® version 9.4 software. Statistical significance was set at an alpha level of .05. Descriptive statistics, frequency tables, Pearson correlation coefficients, Chi-square, and Fisher's exact tests of association (for parametric and nonparametric data) were conducted to determine whether there was a statistically significant association between categorical variables and the outcome measures.

Stepwise logistical regressions were done using 95% Wald confidence intervals to model the association of explanatory variables in the analysis. The significant predictors were: (1) National Council License Examination (NCLEX) Success on First Attempt; (2) satisfaction with the nursing program; and (3) intent to pursue advanced education. Using Tinto's education research model, five conditions determined enhanced student retention: commitment, expectations, support, feedback, and involvement (Williams et al., 2018). Data from this analysis identified mentorship as a critical component that can integrate these five conditions. Students who were satisfied with the quality of interactions with non-teaching faculty were also more likely to pass the NCLEX on the first attempt. Students' perception of social integration in an institution's academic and social system strongly predicted college student satisfaction. HUEM students experience feelings of marginalization and isolation. These feelings may cause hesitation in asking questions and forming relationships with the majority faculty. This analysis recommended that institutions ensure that faculty are culturally competent. Faculty must know about microaggressions and other unconscious behaviors negatively affecting HUEM students. Faculty support, student integration, and institutional belonging are common facilitating factors for HUEM students' satisfaction. These noted factors were essential components addressed through a CIM program for HUEM students.

Gates (2018) described a qualitative descriptive study. This study explored faculty perceptions of factors that attracted and maintained HUEM nursing students at three universities with large percentages of minority students. The ten faculty participants possessed a mean of 17.3 years of teaching experience ranging in age from 40 to 67 years, with 60% being 50 or above. Data analysis utilized a qualitative descriptive approach involving identifying categories and themes. The interview and website data from the three different institutions were reviewed

for similarities and differences. Common aspects such as institutional location, mentor programs and activities, online learning modalities, institutional community outreach programs, diverse faculty and student populations, faculty accessibility, and financial aid with low college costs pointed to attracting and retaining HUEM students. Barriers included tuition costs for low socioeconomic status students, educational deficits in primary and secondary school preparation, institutional inherent bias, competition from other schools, admission policies, and limited diversity in leadership and faculty. Limited diversity in nursing leads to a predominantly white perspective in nurses' attitudes, values, and medical beliefs. Data from this study revealed that mentoring was critical in maintaining diverse students within nursing programs. Across the three institutions, faculty embraced all students, recognized their unique needs, and responded to them, which promoted the success of minority students in the programs. Gates et al. (2018) concluded that a sustained faculty effort to tailor programs for HUEM students was necessary to commit to improving and maintaining diversity in nursing programs. These efforts must include promoting mentoring programs and active faculty involvement in mentorship to support HUEM students in nursing programs.

Trent et al. (2020) published their findings in a qualitative study that examined the aspects affecting student retention in graduate studies for HUEM students at predominantly White institutions (PWIs). Ten participants (nine female, one male; ages 23 to 31) were interviewed across varying US regions except the Northeast. The majority (80%) of participants pursued a doctoral degree, while the rest sought or had earned a master’s degree. The study included current, graduate, and discontinuing students to gain perspectives at different points of degree completion. Using a process known as consensual qualitative research to analyze the semi-structured interviews, students were questioned about their racial/ethnic identity and

interactions in their program, various support systems, validating experiences, graduate school expectations, aspects that influenced persistence, as well as positive and negative factors that may have impacted their persistence. Eight domains were identified as central themes across the interviews: (1) goals and motivations, (2) disparity between expectations and experiences, (3) racism and discrimination incidents, (4) reactions to perceived and experienced racism, (5) racial identify and influences, (6) sources of support, (7) types of support, and (8) challenges to success. Participants noted several factors that influenced their experiences as HUEM students in PWIs. Though a keen sense of racial identity highlighted instances of discrimination and differential treatment, this identity gave them the fortitude and resilience required to persevere despite such treatment. While participants described that personal grit kept them motivated despite stressors, they emphasized the vital role that support systems played in helping them reach success. Positive and negative relationships significantly influenced students' impressions of their academic environment. With supportive relationships, the sense of belonging grew. However, when faced with bitter, insensitive, and exclusionary interactions from faculty and peers, students experienced a desire to withdraw. Participants emphasized that mentorship is pivotal in providing professional guidance and access to opportunities. They also described professional organizations as significant resources connecting them to potential mentors. Program faculty should take an active role in bridging HUEM students with mentorship opportunities. The importance of tailored mentoring relationships with supportive faculty, peers, and outside support systems is consistent with existing literature on HUEM student retention in graduate nursing programs.

Black et al. (2022) discussed the significance of mentorship in research for HUEM student mentee persistence in Science, Technology, Engineering, and Mathematics (STEM)

careers. They used a mixed methods descriptive and qualitative approach for an Enhanced Cultural Awareness (ECA) module intervention to obtain data from 62 research mentors of HUEM research students across 16 Research Experiences for Undergraduates (REU) programs. The authors used descriptive statistics and ran a series of paired t-test analyses to assess for any changes in participants' self-reported ratings of five skills with CAM after the training module intervention. They used the effect size to estimate Cohen's *dz* to calculate the standardized difference between the paired means. Mentors were asked to rate their perception of their skills before the training intervention and again following the intervention using Likert-scale responses ranging from 1 (not at all skilled) to 7 (extremely skilled). The ${}^{t}M_{diff}$ (mean difference between mentors' self-reported level of skill before and after the training intervention) values were 1.03, 1.05, 1.28, 1.39, and 1.50 ($p < 0.001$). Participant responses to open-ended items illustrated mentors' reactions to the ECA module training and stated intended changes to their mentorship practices. Cultural identity is a salient factor in mentoring relationships, including developmental needs and mentor expectations. HUEM mentees in STEM frequently want to discuss racial/ethnic topics and their career impact. Still, mentors for HUEM mentees are uncertain of their ability to address diversity and culture concerns in mentorship or engage in CIM practice strategies. The research team developed an evidence-based mentor training module intervention for Enhanced Cultural Awareness (ECA), a two-hour virtual training session with research mentors of HUEM STEM mentees primarily from well-represented (WR) racial and ethnic groups. This study examined the effectiveness of a "mentor training intervention" specifically designed to enhance research mentors' cultural awareness in interactions with HUEM mentees. Findings displayed that, after the ECA training module (train the trainer), these research mentors of HUEM mentees reported the benefit and value of the discussion-based design of the ECA

module. The module content significantly contributed to the mentors' heightened cultural awareness and skills to navigate topics related to race/ethnicity effectively with HUEM research students in their mentorship. Notably, mentors reported improved confidence to engage in racial/ethnic-related discussions with their HUEM mentees and be intentional. These reported skill gains were reflected in open-ended responses upon completing the ECA module. Responses reveal that mentors of HUEM mentees immediately began to consider strategies and opportunities to incorporate topics related to racial matters into their research mentoring relationships and training spaces. These results indicate that the ECA module effectively improves mentors' abilities and comfort to engage in CIM practices with HUEM mentees. However, no HUEM student mentees' outcomes were measured in this study.

Byars-Winston et al. (2018) conducted a pilot study using a "culturally aware mentorship (CAM) program" as an evidence-based intervention for research mentors. Seventy mentors participated in the training across three pilot test implementation sites. The data from 64 mentors (91%) across the three implementation sites was included in this research. The study authors used descriptive statistics and dependent paired *t*-tests to examine statistical significance along with *p* values and effect size d_z. CAM is an innovative approach with four theoretical foundations guiding the curricula and interventional design: multicultural and feminist theories, critical race theory, transtheoretical model/motivation theory, and institutional transformational theories. The study noted that conversations about ethnicity, racism, and biases were frequently seen as insignificant in research education and mentorship. This observation was consistent with US culture that socializes fear surrounding cultural diversity topics (Byars-Winston et al., 2018). HUEM mentees in STEM frequently desire the ability to discuss racial/ethnic issues. These CAM study mentor training results showed a positive change in training the trainer. Research

mentors of HUEM research mentees achieved the ability to intentionally engage in honest conversations about race, privilege, discrimination, unconscious bias, and the lived experiences of HUEM student mentees in the sciences.

Moreover, CAM training can effectively build research mentors' capacity to engage directly in racial and ethnic topics with HUEM students during their research mentoring relationships. Mentors who participated in the CAM training reported significant skill gains in initiating conversations about race/ethnicity. Mentors also reported greater openness and honesty in addressing racial, ethnic, and cultural topics in HUEM mentoring relationships and a willingness to step outside their comfort zone (Byars-Winston et al., 2018). This openness was true even for faculty who were themselves from HUEM groups. However, no HUEM student mentees' outcomes were measured in this study.

Womack et al. (2020) conducted a descriptive, qualitative study post-intervention that described how prior CIM intervention participation influenced the longitudinal attitudes, beliefs, and behaviors of research mentors, staff, and administrators. They interviewed 24 academic administrators and faculty participants from the three previous CIM trainings across three US university institutions. Qualitative analysis software, NVivo, facilitated data coding and analysis. The study authors used an inductive, iterative method with "constant comparison" to identify themes in participants' interviews and to compare authors' interpretations regarding participants. Through content analysis, their findings illustrated how three observational impacts of the CIM intervention worked collaboratively in facilitating the development to become culturally aware mentors for HUEM mentees. Those three impacts were changes in intrapersonal awareness, interpersonal relationships, and skills-based behaviors. No HUEM mentee outcomes were measured, but interview evidence found that prior CIM training promoted behavioral change in

mentoring and participants' relationships with colleagues and administrators. Many respondents reported engaging with colleagues to encourage mentor training for HUEM mentees in their institutions. Some also reported greater confidence in intervening with faculty peers who were not supplying good mentoring to HUEM students. These aspects are significant in helping to create an institutional culture that bolsters the educational environment for all students to succeed, including HUEM students. No HUEM student mentees' outcomes were measured in this study.

Byars-Winston et al. (2023) conducted a randomized control trial (RCT), collecting extensive quantitative data on a research mentor training intervention to increase mentors' recognition and skills for HUEM mentees. These aspects surrounded cultural diversity in those mentoring relationships that recorded the effect on mentors and their HUEM mentees' ratings of their efficacy. Using a national sample of 197 mentors and 117 HUEM mentees from 32 US undergraduate research training programs, mentors were randomized into experimental or comparison groups. Researchers used comparative mean group differences, Mann-Whitney *U* tests, Wilcoxon rank sum tests, and Spearman rank correlations to examine differences between experimental and comparison groups, pre- and post-treatment. This study explored the effects of an established mentor training curriculum with its original equity and inclusion module compared to the same mentor training curriculum with a unique module designed to improve research mentors' cultural diversity awareness (CDA). The experimental group received 8 hours of mentor training which included the CDA module given synchronously online. After the mentor training curriculum, mentors and mentees completed validated outcome measures via electronic survey platforms. Concerning cross-cultural confidence to mentor culturally diverse students, mentors in the experimental group reported statistically significant larger gains than the

comparison group (Mann Whitney) *U* test 0.795 (experimental) versus 0.301 (comparison); $z = -2.64$, $p < 0.01$. Mentees paired with those mentors in the experimental group rated their mentors higher at addressing race/ethnicity topics $U = 3.94$ (experimental) versus 3.28 (comparison); $z = -1.98$, $p < 0.05$ and cultivating opportunities to address race/ethnicity matters respectfully $U = 2.98$ (experimental) versus 2.39 (comparison); $z = -2.14$, $p < 0.05$ than those with mentors in the comparison group. These findings supported the efficacy of culturally focused mentorship education for mentors and its positive effect on their HUEM mentees.

Osakwe et al. (2022) conducted a systematic review that examined the challenges and facilitators to success among undergraduate HUEM nursing students. Using CINAHL, PubMed, Embase, and PsycINFO databases to search for studies published between 1980 and 2020 focused on these unique challenges and facilitators, two independent reviewers identified fourteen of 4435 articles surveyed. Two reviewers used the Mixed-Methods Appraisal Tool (MMAT) version 2011 to appraise study quality. Four cross-sectional and ten qualitative studies were examined, with most studies focusing on Black and Hispanic/Latin students. All the studies included HUEM baccalaureate degree students, with two combining HUEM baccalaureate and master's degree students. Inclusion criteria for studies were as follows: investigated undergraduate nursing students in the United States; published in the English language; the target population included at least one of the following HUEM populations: African American, Hispanic/Latinx, Asian American or Asian-Pacific Islander nursing students, Alaska natives, Pacific Islanders, and Native Americans.; they had a qualitative or quantitative study design; and published in a peer-reviewed journal. None of the articles evaluated HUEM student outcomes associated with online learning.

Studies were not excluded based on study design to obtain a full understanding of published evidence in the extant literature at the time. No statistical analysis information from the included studies was provided in this review. The data extracted from the included studies used mixed methods with the following themes: Significant themes or factors that impeded HUEM student success in nursing education or those that supported or improved successful HUEM student outcomes were extracted from the fourteen studies. Six components were identified as barriers to HUEM nursing student success: personal (social isolation and stress), school environment (lack of mentorship and poor student-peer interactions), home (caregiving demands), and financial barriers. Specifically, the lack of a supportive mentor or mentorship programs provided by the school was a common theme. Five components were identified as facilitators for HUEM nursing students' academic success: personal (resilience), supportive home environment (family support), supportive class and curriculum (positive faculty-student interactions, mentorship), diverse/inclusive learning environments, and financial support. Findings from this study indicated potential key initiatives and strategies to enhance successful outcomes for HUEM nursing students. These included high-quality mentorship programs like CIM, positive faculty-student interactions, and diverse and inclusive learning environments.

Tranter et al. (2018) wrote a qualitative integrative review that examined the initiatives and strategies that targeted the retention of HUEM baccalaureate nursing students in studies from Australia, Canada, New Zealand, the United Kingdom, and the United States. Their initial purpose was to explore general attrition and retention rates within undergraduate nursing programs. However, the increasing diversity within the author's educational institution led to studies focused on HUEM and linguistically diverse baccalaureate nursing students. Using ProQuest, PubMed, CINAHL, ERIC, and COCHRANE databases, published articles in English

between January 2006 and December 2015 were captured and surveyed. Further refining included studies whose participants identified as HUEM or where English was an additional language (EAL). This review included forty-four articles by four reviewers who read titles and abstracts. Seventeen articles were analyzed using the Critical Appraisal Skills Programme (CASP) tool. This integrative approach summarized evidence from studies using an unspecified range of methodologies to offer a better understanding of this HUEM retention topic. No specific study design or statistical analysis information from the included studies was provided in this review.

This analysis identified four themes: prediction, recruitment and retention, single approach, and multiple approaches. Findings from this integrative review revealed mentorship to be a key element of effective HUEM student initiatives in the literature. Many aspects affect the retention of HUEM nursing students, and the reasons for their retention and attrition are complex. The difficulty exists in capturing the multifaceted factors for HUEM students opting to leave or stay in an undergraduate nursing program. However, mentorship interventions from recruitment to graduation correlated with positive outcomes. While singular approach initiatives appear to be limited in their efficacy for HUEM student retention, a range of approaches from pre-enrollment to graduation increased the likelihood of HUEM students' successful completion of a BN program. Their findings supported the recruitment and retention of HUEM nursing students as a component of ensuring culturally congruent patient care. Supporting the recruitment and retention of HUEM students through mentorship and mentoring circles led to higher HUEM graduation rates. These strategies cultivated a more linguistically and culturally diverse workforce representative of the population.

Bonifacino et al. (2021) conducted a systematic review that analyzed thirty-one publications of twenty-eight mentorship programs for underrepresented physicians and trainees in medicine (URiM). This study was done as part of a prior larger systematic review that was reported in two publications. This review identified and described mentoring programs for HUEM physicians in academic medicine and described salient themes from prior literature that aid in developing HUEM mentorship programs. Using PubMed, PsycINFO, ERIC, and Cochrane databases, and including original publications describing US mentorship programs for academic medical doctors at the faculty or trainee level and HUEM physicians, the search produced 4,548 citations, and thirty-one publications met the inclusion criteria. Two independent study authors abstracted data from these publications. No quality or bias assessment was done for twenty-four articles. These articles offered descriptive data only without validated measures existing to assess bias quality and because of the study design heterogeneity, outcome, and assessment methods. One study was an RCT and five presented data at two or more points in time. For these, the research team utilized the National Heart, Lung, and Blood Institute (NHLBI) Quality Assessment Tools for Controlled Intervention Studies and for Before-After Studies with No Control Group, respectively. Researchers applied the Critical Appraisal Skills Program (CASP) Checklist for Qualitative Studies for the single qualitative study. No statistical analysis information from the included studies was provided in this review. Three mentorship programs were led by URiM mentors only, while the remaining programs involved URiM and non-URiM mentors in varying proportions. Study eligibility criteria included original publications that (1) described a mentorship program within the US; (2) involved primarily academic physicians or trainees; (3) described a program designed for URiM persons or provided results separated by race/ethnicity; and (4) were published in the English language.

Program barriers identified in this review were related to program logistics, mentor matching, and communication. One program identified a lack of minority faculty to serve as mentors as a barrier. Facilitating factors for HUEM mentorship were identified as institutional support, workshops or written materials provided to mentors, and having gender, cultural, or racial mentor/mentee concordance. A dyad mentoring model was the most common among the included studies. Mentorship program evaluations were primarily subjective and reported greater satisfaction. Some program evaluations examined objective outcomes, including publications, retention, and promotion. All included studies showed satisfactory HUEM mentee outcomes for the mentorship programs despite no program being cited as inherently better than others. Four themes emerged in this systematic review. First, the congruence of mentorship programs with institutional goals and resources is vital to program sustainability and achieving aims. Second, mentorship programs should be designed for unique institutional needs to maximize available resources. Third, the lack of mentor-mentee racial/ethnic concordance does not affect mentorship program success or participant satisfaction. The fourth theme is the importance of training the mentors to ensure the mentorship program's effectiveness.

Synthesis of Literature Review

Mentorship is an essential tool for academic development and success. Scarce research examined the effects of a CIM program on the success, satisfaction, or academic persistence (attrition) of ethnic-minority APRN students. The current literature revealed the complexity and significance of the barriers that HUEM nursing students face at multiple levels of nursing education. Many studies described qualitative research with HUEM students at predominately non-minority institutions and pointed to a range of non-academic factors impacting their nursing education experiences (AACN, 2023). The studies reviewed emphasized the importance of

acknowledging culture and using cultural competence within mentorship programs supporting HUEM students. This concept is important across disciplines, recognizing and valuing the unique cultural backgrounds, experiences, and perspectives of ethnic minority students. This scholarly project aimed to provide data supporting the need for CIM for HUEM APRN students. Important central themes describing the experience of HUEM students identified in the literature were financial support and costs, the struggle with isolation and a sense of belongingness, the impact of faculty and non-faculty cultural competence on HUEM student success, mentor training, the educational milieu and representation, and the importance of academic and interpersonal support (Crooks, 2013).

The studies presented in this review demonstrated the growing evidence-based literature recognizing CIM programs' significant contribution to the academic success and retention of HUEM nursing students (Osakwe et al., 2022; Snowden et al., 2018; Williams et al., 2018). Each study contributed to the burgeoning body of descriptive qualitative and quantitative data and strengthened the scientific research on minority mentorship practices. The findings from this literature indicated that culturally sensitive mentoring practices can positively influence the satisfaction and academic perseverance of HUEM nursing students (Snowden et al., 2018; Williams et al., 2018). Research literature supported a relationship between mentor training and development, mentee satisfaction, and the potential for successful completion of training (Byars-Winston et al., 2023; Heeneman & de Grave, 2019). CIM programs help cultivate a supportive learning environment. Students could freely express their concerns, seek guidance, and receive feedback from mentors who understood their cultural experiences.

This literature review also explored the significance of faculty perspectives, mentor training, and educational milieu in diversity mentorship. Faculty commitment to creating an

educational environment that reinforces diversity initiatives can significantly impact the academic success and satisfaction of HUEM students (Gates, 2018; Snowden et al., 2018). This research supported diversity improvement initiatives, such as mentoring, financial aid, scholarships, outreach, and non-isolationism, which can reduce challenging barriers that often hinder HUEM students (Crooks, 2013; Gates, 2018; Osakwe et al., 2022; Snowden et al., 2018; Williams et al., 2018). Addressing the unique needs and challenges faced by ethnic minority APRN students can lead to higher satisfaction, greater retention rates, and improved academic outcomes.

Some of the literature in this review on CIM programs supported the value of "training the trainer." Cultural competence training equips mentors with the knowledge and skillset to properly integrate CIM practices into mentorship programs confidently and with intention (Black et al., 2022; Bonifacino et al., 2021; Byars-Winston & Dahlberg, 2019; Womack et al., 2020). The findings from this research substantiated support for implementing a CIM curriculum. The findings also described potential outcomes for mentors of HUEM students resulting from this intervention. Moreover, CIM programs positively impact the academic persistence of ethnic minority nursing students (Tranter et al., 2018). These programs offered tailored support, educational guidance, career development, and networking opportunities. These approaches were crucial for the success of ethnic minority students. Mentorship programs foster a sense of belonging. These programs provided resources to overcome barriers, enhancing the self-efficacy of HUEM nursing students.

The findings from evidence suggested that retention of HUEM students is not a unique concern to nursing and is noted across other healthcare professions (Bonifacino et al., 2021; Byars-Winston et al., 2018; Gomez & Bernet, 2019; Hinton et al., 2020; Stanford, 2020; Taylor

et al., 2019; Tranter et al., 2018). The extensive descriptive, qualitative data throughout the literature review noted common barriers for HUEM nursing students. These barriers included social isolation, caregiving demands, lack of culturally responsive mentorship, faculty support, and inadequate financial resources. Factors that facilitated HUEM students' success included appropriate mentorship, favorable curriculum structure, family and financial support, and diverse/inclusive learning environments (Osakwe et al., 2022; Williams et al., 2018). Mentorship is a critical factor in minority success in nursing education, with a structured CIM program having a more significant impact on mentees' success, satisfaction, and retention. An integrative and systematic review revealed cross-sectional and qualitative data studies that described the positive effects of mentorship, like a CIM program, as one key aspect of HUE nursing students' success (Osakwe et al., 2022; Tranter et al., 2018).

Apart from Williams et al. (2018), the data from this literature is limited in generalizability by sample sizes and the qualitative nature of most of the data. These gaps in the literature needed to explore concepts related to APRN students or the applicability and effect of CIM practices outside STEM academia. Neither does the research examine how CIM practices may or may not address certain other unique barriers that HUEM nursing students can face, such as financial and family support. Few studies showed quantitative measurements, and few studies measured the change in HUEM students' outcomes when evaluating the effectiveness of mentor training for HUEM student mentees. The nascent scientific development of CIM practices is growing, and more EBP research supporting the significance of its implementation is needed. Substantial evidence from this literature review supported designing comprehensive, multifactorial approaches. These strategies must consider the unique cultural, social, financial,

and institutional factors that potentially enhance the academic outcomes of HUEM nursing students (Osakwe et al., 2022).

The NASEM (2021) report on the future of nursing pointed to mentoring as an integral process that strengthens the nursing workforce. Diversity among APRN providers empowers the profession through the DNP role of organizational and systems leadership (AACN, 2021). This essential domain of nursing knowledge focuses on leadership skills and the DNP-level nurse's ability to influence healthcare systems. The goal is to equip changemakers with the necessary information to create better policies to reduce health inequities. The project considered the organizational and systems-level implications of implementing a CIM program. It examined how CIM can improve student satisfaction and academic perseverance. Synthesis of the supporting literature reviewed herein enhanced the project lead's ability to influence and advocate for support of this scholarly project's CIM program. DNP leadership advocacy could significantly impact HUEM APRN students' academic and career trajectories, improving their chances of success and empowerment. Leadership advocacy can bring about systemic changes that address challenges and disparities HUEM students can often face. A CIM program fosters the interprofessional collaborative practices of the DNP. Involving professionals from various backgrounds, experiences, and perspectives in this process also included professionals of different ethnicities, races, and cultures. Such inclusion fostered the advanced-level nursing of the AACN *Essential* interdisciplinary partnerships integrating diversity, equity, and inclusion (AACN, 2021). Diversity ensures that HUEM students can access mentors who can understand and relate to their experiences (NASEM, 2019). However, this opportunity is hindered by the scarcity of HUEM faculty in nursing academia.

CHAPTER FOUR: METHODS

Design

This evidence-based study utilized a single-group pre-test, post-test quasi-experimental project design. The project evaluated student mentee satisfaction levels and academic perseverance decisions. The project had an evidence-based quality improvement focus on program development and evaluation.

Instruments

The project lead developed the Mentor-Mentee Pre-Mentoring Questionnaire (MMPMQ) to identify participants' preferences, goals, and expectations of the mentoring program (see Appendix C). The MMPMQ was created to aid in the creation of mentor-mentee pairs or dyads for the CIM program. This questionnaire was developed by the DNP project lead, based on a review of the relevant literature, and was consistent with Bozeman & Feeney's Goodness of Fit model, which hypothesized the quality of a mentorship relationship is a function of the "goodness of fit" between mentors and mentees on preferences, motivations, and evaluations (Bozeman & Feeney, 2008).

Fedesco et al. (in press) granted the project lead permission (see the letter in Appendix D) to utilize and adapt their previously used but unvalidated survey to assess graduate student mentorship for this project. The APRN Graduate Student Mentee Survey in Appendix E was a modified tool with adapted or additional culturally responsive survey items from Fernandez et al. (2022) added to the psychosocial support section by the project lead. In addition, added survey questions were validated by Byars-Winston & Butz's (2021) research for internal consistency and reliability using Cronbach's *alpha.* This data was critical to the objectives and aims of the project to measure its significance. Additional survey questions regarding academic persistence

decisions were validated by Davidson et al. (2009) for reliability through rotated pattern and structure coefficients and communalities.

Rigor and Reflexivity

In the context of this study project, rigor involved a comprehensive literature review identifying existing knowledge gaps and the PMCC theoretical framework. This also involved using appropriate research methods, such as the qualitative survey, to collect data from mentees to comprehensively understand their experiences and perceptions. Reflexivity involved the project team acknowledging and reflecting on their cultural background, beliefs, and values that may have influenced the project study process and findings. This intrinsic reflection helped to ensure that the project team approached the study with an open mind, respected the diversity of perspectives, and avoided intrinsic biases on the project outcomes.

Procedures

Mentee Recruitment

Once approval was granted by the APRN program directors, an email was sent via the internal email directory of the University of California Los Angeles (UCLA) School of Nursing to solicit potential HUEM APRN participants. Potential mentees were also recruited by flyers distributed in the School of Nursing. Any student who contacted the project lead via email expressing interest was sent a UCLA APRN Mentee Participation email that explained the purpose of the project, assured participants of privacy and confidentiality, and explained that participation was voluntary and that participants could withdraw at any time without repercussion. Potential participants included six first-year HUEM students actively matriculating in Commission on Collegiate Nursing Education accredited APRN programs.

Inclusion and Exclusion Criteria

Purposive sampling in February 2024 targeted first-year students from HUEM groups to gain insight into participants' satisfaction and academic persistence decisions. HUEM demographic groups for this project were considered to be: Hispanic/Latin, Asian American or Asian-Pacific Islander, African American, Alaska Native, and Native American. Due to the focus of this project, inclusion criteria for the study were: 1) volunteer matriculating HUEM students enrolled in APRN programs and 2) students within their first year of study. Exclusion criteria for this study were: 1) graduate nursing students not enrolled in an APRN program; 2) students accepted into an APRN program but were not yet matriculating; 3) APRN students beyond their first year of advanced practice education; 4) APRN students concurrently participating in diversity mentorship programs, and 5) involuntary mentors and mentees.

MMPMQ

Following informed consent, mentees were sent a secure email containing a link to complete the MMPMQ, a brief survey of preferences and expectations for the mentoring experience, on the UCLA Qualtrics platform. Information from the MMPMQ was made available to the project lead via UCLA Qualtrics. The data analyzed for this project was demographic data, including age, gender identity, and ethnicity or racial identity. Preferences for mentor gender identity and racial/ethnic congruence were also analyzed in this data. Each mentor and mentee were assigned a random number that correlated to their personal information. This assigned number was used for dyad matching and to match pre-test survey answers with post-test survey answers. Personal information collected included names and secure email addresses. Mentees received a link via the secure UCLA School of Nursing email server to complete all questionnaires and surveys via the UCLA instance of Qualtrics platform.

The MMPMQ consisted of ten ranked items from the mentoring program sessions. This questionnaire asked mentors and mentees to state their preferences regarding the attributes of their match and topics they wished to discuss, which included topics related to the CIM program as well as professional development (e.g., career goals). Responses from the MMPMQ were then used to guide the matching process. The DNP project lead utilized the results of these findings and added them to each mentee's personal and confidential informational folder, kept in a password-protected computer file.

Mentor Recruitment

Mentor recruitment in January 2024 engaged a volunteer group of experienced, practicing APRN mentors and leaders from HUEM and well-represented ethnic majority (WREM) groups for one-to-one mentor-mentee matched pairing. A pool of mentors was sought using the UCLA School of Nursing email listserv of recent APRN and DNP graduates, Sigma Theta Tau Gamma Tau at-Large Chapter, local ethnic nursing associations, and snowball sampling. The MMPMQ was distributed using the Qualtrics approach described for mentees. Mentors were also asked to submit a current two-page curriculum vitae for student participant purview that aided in mentor selection by mentees. These submissions were also for institutional mentor recordkeeping. Data was collected on their mentoring style, any preferences expressed about mentees, knowledge base, and previous experiences with mentoring. This data was stored in a password-protected computer file. Mentors were informed that their participation was voluntary and that they could withdraw from the program at any time without any repercussions.

Mentee-Mentor Dyad Pairings

One of the most essential steps in a mentoring relationship is properly pairing the mentor and mentee dyads (Manthiram & Edwards, 2021). Proper pairing was attempted by aligning the

mentees' goals and mentors' skills and evaluating shared common ground, such as goals or backgrounds. Mentees selected any available mentor from the mentor list, which is consistent with research demonstrating that the pairing process should be mentee-led, as mentees are the program's primary beneficiaries (Hill et al., 2022). The hope was that greater autonomy and choice lead to more investment in the mentoring relationship to yield mentee success and satisfaction.

Mentors and mentees answered the MMPMQ regarding their preferences and expectations before the pretest. After the completion of the questionnaires by mentee and mentor participants, the DNP project lead reviewed the data on mentees and mentors. Based on mentee and mentor data recorded about expectations, preferences, mentoring style, previous mentoring experiences, and any preferences expressed about mentees or mentors, a list of potential mentors was presented to the mentees for their consideration and choice. The mentee then selected a mentor in late February 2024.

Mentor Training

The literature for this project supported mentor training for positive mentorship change outcomes for HUEM students (Black et al., 2022; Bonifacino et al., 2021; Crooks, 2013; Esposito Kubanick, 2022; Hill et al., 2022; NASEM, 2019; Nelson, 2022; Osakwe et al., 2022; Snowden et al., 2018; Trent et al., 2021). All mentors viewed one six-minute introductory video online, two (2) one-hour videos, and a PowerPoint presentation asynchronously, which allowed mentors to absorb the information without distractions at their convenience. The six-minute introductory mentorship video produced by the National Research Mentoring Network (NRMN) was entitled NRMN Culturally Aware Mentorship (CAM) Intro (National Research Mentoring Network [NRMN], 2017). In addition, mentors were directed to two one-hour training webinars.

One was entitled Culturally Aware Mentorship (National Institute of General Medical Sciences [NIGMS] et al., 2020). The other was Code Blue: Resuscitating URM involvement in scholarly research through mentorship (Society of Teachers of Family Medicine [STFM], 2020). Lastly, the project lead developed an asynchronous 25-minute CIM mentor training module for cultural competency and mentorship pedagogy. It was an informational PowerPoint presentation based on this DNP project's literature review of current themes in HUEM mentorship.

Survey-Pre-test

The pre-intervention survey instrument was administered to mentees using the Qualtrics approach immediately before beginning the mentoring program. Mentees answered this pretest survey using Likert-scale questions regarding expected (*expressed in italics* seen in Appendix E) APRN program satisfaction, support, climate, belongingness, cultural mentorship needs assessment, and academic persistence (retention) decisions. Mentees received the survey via the secure UCLA School of Nursing email server. This data provided the study project's measurement of academic persistence and resiliency using the concepts of degree and institutional commitment. This pretest survey was the instrument used to compare to a similar post-test survey to collect the outcome data for this project.

Intervention

CIM was an innovative, evidence-based intervention developed by the project lead with metrics that attempted to evaluate the effectiveness of CIM training. Appendix F shows weekly session agendas based on the themes in HUEM mentorship literature. These topics guided the mentor-mentee pair to encourage meaningful discussions throughout the program. The CIM program lasted ten weeks, beginning in early March 2024. Mentee-mentor pairs consecutively met weekly for those ten weeks. Mentors were supplied with the intended CIM session agendas.

This program was designed by the project lead based on current evidence for minority mentorship practices (Black et al., 2022; Byars-Winston & Dahlberg, 2019; Byars-Winston et al., 2023; Hinton et al., 2020; NASEM, 2019). This program guided topics to discuss at each meeting for the semi-structured mentoring sessions. Before beginning the mentoring program, mentees were informed that the nature of the weekly sessions was primarily to allow mentees to discuss challenges and issues that may have arisen in their educational program experience while also offering them a chance to hear about and discuss specific elements of culturally sensitive mentoring and how this can help to cope with unique challenges.

Weekly Mentoring Sessions with Lead Check-ins

The DNP project lead conducted informal weekly check-ins via the secure UCLA School of Nursing email server with mentees and mentors of the CIM program to address any concerns or issues. It was explained to the project participants that the quality and characteristics of the mentoring experience were monitored by the project lead with these weekly check-ins. The project participants were informed that they may discontinue or withdraw from the relationship and the project at any time without any repercussions.

Survey Post-test

After completing the ten-week session program, all study participants were thanked for participating and mentees were reimbursed as specified in the Study Information Sheet (see Appendix G). Mentee participants completed the same survey instrument used for the pre-test assessment via the same Qualtrics approach. The same randomized number assigned to participants for the pre-test was used for the post-test to pair up results and findings. Mentees answered this post-test survey using Likert-scale questions regarding perceived APRN program satisfaction, support, climate, belongingness, cultural mentorship needs assessment, and

academic persistence (retention) decisions. Scores were compared to assess the outcomes of the CIM experience.

Ethical Considerations

The study project was certified as exempt by the UCLA Institutional Review Board (IRB) and adhered to any resulting additional ethical requirements. Consent to participate was obtained as required by the IRB determination of the DNP project. Each mentee was provided the Study Information Sheet (Appendix G), which served as consent to participate in this project and to inform mentee participants of the project's purpose, risks, and procedures. Participation in the project was voluntary and no exclusion was based on gender identity, sexuality, age, height, weight, or level of English proficiency. Participants were informed of their right to withdraw at any time. No known intended physical or psychological harm occurred to participants of the study. Data collected did not include participants' names or specialized APRN program affiliations for confidentiality purposes. Participants were identified by using a unique identification number randomly assigned by the project lead, which was used throughout the project duration to protect anonymity. Subjects received $150.00 for participation as described in the study information sheet The data was maintained in a password-protected computer file accessible only to the DNP project lead. The de-identified data was managed and stored according to IRB protocol upon completion of the DNP project.

CHAPTER FIVE: RESULTS

Data Collection and Analysis

Qualitative and quantitative data were gathered using the MMPMQ and APRN Student Mentee Survey tools. APRN student satisfaction, academic persistence decisions, and narrative information were collected using the online Qualtrics survey tool. This data helped to evaluate the CIM program's effect on the APRN students' satisfaction and academic persistence. The open-ended survey questions summarized additional topics and evaluated the CIM program outcomes.

In this study project, descriptive and non-parametric statistical methods were employed to analyze the data and evaluate the effectiveness of the CIM program. To assess changes in mentees' perceptions of mentor support across various Likert-scale items, the Wilcoxon Signed Rank Test was used. Due to the small sample size, this non-parametric test was chosen to compare pre-intervention and post-intervention scores. The analysis focused on the changes in individual Likert items, which were presented in bar plots with median values for both periods. The overall change in mentees' total perceptions of mentor support was also analyzed by summing the Likert-scale items for each participant. These total scores were then compared pre- and post-intervention using the Wilcoxon Signed Rank Test. The results indicated whether the intervention led to significant improvements in the overall perception of mentor support. A box plot was presented to visually depict the distribution of total scores before and after the intervention, highlighting the median and interquartile ranges. For the open-ended questions, participant responses were summarized. Responses were re-categorized into topics that emerged from the data, providing qualitative insights into the aspects of the mentoring relationship that were most valued by the mentees both before and after the intervention. All statistical tests were

performed using IBM SPSS Statistics version 29. The significance level for all tests was set at 0.05.

The combination of the Wilcoxon Signed Rank Test for quantitative data and participant response summarization for qualitative data provided an evaluation of the intervention's effect on mentees' satisfaction and academic resiliency. The statistical analyses indicated how the intervention improved these perceptions, as illustrated by the bar plots and box plots presented in the results section. The data analysis also helped the project lead to identify areas for improvement, which provided valuable insights into further CIM program development.

Sample Demographics

Table 1 provides a detailed breakdown of the participants' demographic information from the MMPMQ, including gender, age, and race. The program engaged a total of 12 participants, equally divided between mentees and mentors. All participants identified as female, making the gender distribution uniform across mentees and mentors. Among the six APRN student mentees, age demographics revealed 66.7% (*n* = 4) respondents fell within the 30-35 years range and 33.3% (*n* = 2) in the 36-40 years category. Mentors were more evenly spread across the age ranges, including a notable representation over 41 years (*n* = 3, 50%). Mentor and mentee participant racial and ethnic composition was diverse, with Asian-American/Pacific Islanders being the most represented group (*n* = 5, 50%), followed by Hispanics (*n* = 3, 30%), Black/African Americans (*n* = 2, 20%), and Middle Easterners (*n* = 2, 20%) indicating a relatively even distribution of racial and ethnic backgrounds among both mentees and mentors.

Table 1: *Demographic Characteristics of Mentees and Mentors in the CIM Program*

Variables	Mentee *n (%)*	Mentor *n (%)*	Total *n (%)*
Gender (*n* =12)			

Female	6 (100)	6 (100)	12 (100)
Age (*n* =12)			
30-35years	4 (66.7)	2 (33.3)	6 (50.0)
36-40 years	2 (33.3)	1 (16.7)	3 (25.0)
Over 41 years	0 (0)	3 (50)	3 (25.0)
Race (*n* = 12)			
Hispanic	2 (33.3)	1 (25.0)	3 (30.0)
Asian-American/ Pacific islander	3 (50.0)	2 (50.0)	5 (50.0)
Black/African American	1 (16.7)	1 (25.0)	2 (20.0)
Middle Eastern	0 (0)	2 (33.3)	2 (20.0)

Note. "*n*" represents the number of participants within each specific demographic category, and "%" indicates the percentage of participants that each category comprises out of the total sample.

Mentor-Mentee Pre-Mentoring Questionnaire

Table 2 shows the preferences of mentees and mentors regarding various aspects of the mentor-mentee pairing in the CIM program as reflected by responses on the MMPMQ. Regarding gender preference, most mentees (*n* = 5, 83.3%) and most mentor respondents (*n* = 4, 66.7%) expressed no specific preference, with only one mentee (*n* = 1, 16.7%) preferring a female mentor. When considering racial/ethnic congruence, half of the mentees (*n* = 3, 50.0%) and all mentors (*n* = 6, 100%) had no preference, resulting in 75.0% (n = 9) of the total participants favoring no particular racial/ethnic pairing. In terms of work orientation, a significant majority preferred a blended or hybrid approach (*n* = 10, 90.9%). Personality type preferences varied, with the largest proportion of participants expressing a tendency to talk to people often (*n* = 5, 41.7%), followed by those who talk to people sometimes (*n* = 4, 33.3%). Communication preferences showed a notable inclination towards no specific preference (*n* = 7, 58.3%), although a mix of methods was mentioned, including email (*n* = 3, 25.0%) and text messaging or FaceTime (each with *n* = 1, 8.3%). Lastly, a casual and relaxed communication

style was favored by the majority (*n* = 9, 75.0%), with a smaller portion having no preference for communication style (*n* = 3, 25.0%).

Table 2: *Preferences of Mentees and Mentors Regarding Gender, Racial/Ethnic Congruence, Work Orientation, Personality Type, and Communication in the CIM Program*

Variables for Preference for Mentor	Mentee *n (%)*	Mentor *n (%)*	Total *n (%)*
Gender Preference (*n* = 10)			
Female	1 (16.7)	0 (0)	1 (10.0)
No Preference	5 (83.3)	4 (66.7)	9 (90.0)
Mentor-Mentee Pairing Racial/Ethnic Congruence Preference (*n* = 12)			
Yes	3 (50.0)	0 (0)	3 (25.0)
No	0 (0)	0 (0)	0 (0)
No Preference	3 (50.0)	6 (100)	9 (75.0)
Mentoring Preference: Work Orientation (*n* = 11)			
Task-Oriented	1 (20.0)	0 (0)	1 (9.1)
Blended or hybrid approach to work	4 (80.0)	6 (50.0)	10 (90.9)
Mentoring Preference: Personality Type (*n* = 12)			
Introverted – I keep to myself	2 (33.3)	0 (0)	2 (16.7)
I talk to people sometimes	3 (50.0)	1 (16.7)	4 (33.3)
I tend to talk to people often	1 (16.7)	4 (66.7)	5 (41.7)
Extroverted – I am very outgoing	0 (0)	1 (16.7)	1 (8.3)
Mentoring Preference: Communication (*n* = 12)			
Text Message	0 (0)	1 (16.7)	1 (8.3)
FaceTime	0 (0)	1 (16.7)	1 (8.3)
Email	2 (33.3)	1 (16.7)	3 (25.0)
No Preference	4 (66.7)	3 (50.0)	7 (58.3)
Mentoring Preference: Communication Style (*n* = 12)			
Casual and relaxed	4 (66.7)	5 (83.3)	9 (75.0)
No Preference	2 (33.3)	1 (16.7)	3 (25.0)

Note. "*n*" represents the number of participants within each specific demographic category, and "%" indicates the percentage of participants that each category comprises out of the total sample.

Data collected regarding mentoring experiences, perceived benefits, and the extent of engagement within and outside a program among mentees and mentors are shown in Table 3 below. A difference in prior mentoring experience was observed, with a majority of mentees (*n* = 4, 66.7%) reporting no previous experience, contrasting sharply with mentors, most of whom (*n* = 5, 83.3%) described their past mentoring experiences as positive. This disparity highlights the mentors' richer background in mentorship roles. When it comes to the benefits received from mentoring, mentors again reported a higher incidence of positive outcomes, with 83.3% (*n* = 5) affirming benefits, compared to a third of mentees (*n* = 1, 33.3%). This may reflect mentors' ability to derive satisfaction or growth from their roles, potentially influenced by their prior positive experiences. Current participation in a program showcased that all mentees (*n* = 6, 100%) and a majority of mentors (*n* = 4, 66.7%) were not engaged in another mentorship program at the time of the survey. Additionally, the question of having other mentors or mentees outside the current program revealed that both groups predominantly do not have other mentoring relationships (*n* = 10, 83.3%), with only two mentors (*n* = 2, 33.3%) indicating the presence of such relationships, underscoring the mentors' more extensive engagement in mentorship beyond the program.

Table 3: *Comparison of Mentees' and Mentors' Previous Mentoring Experiences, Perceived Benefits, Current Program Engagement, and External Mentoring Relationships*

Variables	Mentee *n (%)*	Mentor *n (%)*	Total *n (%)*
Mentoring Experience (*n* = 12)			
Positive	1 (16.7)	5 (83.3)	6 (50.0)
Neutral/Informal	1 (16.7)	1 (16.7)	2 (16.7)
No Experience	4 (66.7)	0 (0)	4 (33.3)
Benefits Received (*n* = 12)			

Yes	1 (33.3)	5 (83.3)	6 (66.7)
Maybe	2 (66.7)	1 (16.7)	3 (33.3)
Current Program Participation (*n* = 12)			
Yes	0 (0)	2 (33.3)	2 (16.7)
No	6 (100)	4 (66.7)	10 (83.3)
Other Mentors/Mentees (*n* = 12)			
Yes	0 (0)	2 (33.3)	2 (16.7)
No	6 (100)	4 (66.7)	10 (83.3)

Note. "*n*" represents the number of participants within each specific demographic category, and "%" indicates the percentage of participants that each category comprises out of the total sample.

Table 4 highlights the diverse content preferences of mentees and mentors, as assessed through a Likert scale with scores ranging from 1 to 10, indicating the ranking of specific mentoring session topics. The differences and similarities in these preferences reveal nuanced insights into the CIM program interests of both groups.

- Implicit and Unconscious Bias: Mentees showed a relatively high interest (*M* = 7.0, *SD* = 2.37), contrasting with mentors who were less inclined (*M* = 4.0, *SD* = 2.90) suggesting mentees perceived a greater interest in understanding biases in their academic journey.
- Cultural Competency: Mentees expressed stronger interest (*M* = 6.17, SD = 1.83) compared to mentors (*M* = 3.50, *SD* = 3.08), suggestive of a potential gap in the perceived importance of cultural awareness between the two groups.
- Imposter Syndrome/Confidence Building: This topic was more appealing to mentors (*M* = 5.53, *SD* = 1.97) than to mentees (*M* = 2.67, *SD* = 2.25), highlighting a difference in the perceived interest in building confidence and combating imposter syndrome.
- Addressing Microaggressions: Both groups showed moderate interest (Total *M* = 5.42, SD = 2.27) in recognizing the importance of addressing microaggressions in creating inclusive environments.

- Communication Skills: Interest was similarly moderate across both groups (Total *M* = 3.50, *SD* = 2.54), suggesting a balanced but not prioritized focus on improving communication skills.
- Time Management/School-Life Balance: Both mentors and mentees recognized the importance of this topic (Total *M* = 5.33, *SD* = 2.31), with slightly higher interest among mentees (*M* = 5.83, *SD* = 2.23), reflecting the challenges of balancing academic and personal life.
- Financial Resources: Displaying the highest interest among all topics, particularly for mentees (*M* = 8.5, *SD* = 3.21), this topic underscores the critical need for financial guidance within the student cohort.
- Professional Goal Setting: Mentors showed a stronger inclination towards this area (*M* = 6.5, *SD* = 2.81) compared to mentees (*M* = 4.83, *SD* = 1.83), possibly reflecting a mentor's focus on professional long-term career planning.
- Role Models and Academic Support Systems: Interest was fairly even, with a slight preference among mentors (*M* = 4.83, *SD* = 2.40), suggesting a general acknowledgment of the importance of support systems and role models in academic success.
- Networking Opportunities: Markedly, mentors exhibited a high willingness to engage with networking topics (*M* = 8.83, *SD* = 1.94), compared to mentees (*M* = 6.67, *SD* = 3.39), underscoring the value placed on networking by more experienced professionals.

Table 4: *Mentor and Mentee CIM Content Preferences*

Variables	Mentee (*n* =6)	Mentor (*n* =6)	Total (*n* =12)
Implicit and Unconscious Bias			
M (*SD*)	7.0 (2.37)	4.0 (2.90)	5.50 (2.97)

Med (*IQR*)	8 (4-9)	3 (2-7)	5.50 (3-8)
Cultural Competency			
M (*SD*)	6.17 (1.83)	3.50 (3.08)	4.83 (2.79)
Med (*IQR*)	6 (6-8)	2.50 (1-5)	5.50 (2.5-7)
Imposter Syndrome / Confidence Building			
M (*SD*)	2.67 (2.25)	5.53 (1.97)	4.00 (2.45)
Med (*IQR*)	1.50 (1-5)	6 (3-7)	4 (1.5-6.5)
Addressing Microaggressions			
M (*SD*)	5.67 (3.14)	5.17 (1.17)	5.42 (2.27)
Med (*IQR*)	6.5 (2-7)	5.5 (5-6)	6 (4-6.5)
Communication Skills			
M (*SD*)	3.17 (1.47)	3.83 (3.43)	3.50 (2.54)
Med (*IQR*)	3.5 (2-4)	3 (1-5)	3.50 (1.5-4.5)
Time Management / School-Life Balance			
M (*SD*)	5.83 (2.23)	4.83 (2.48)	5.33 (2.31)
Med (*IQR*)	6 (4-7)	4.5 (3-7)	5.5 (3-7)
Financial Resources			
M (*SD*)	8.5 (3.21)	8.17 (2.32)	8.33 (2.67)
Med (*IQR*)	10 (9-10)	9 (7-10)	9.5 (8-10)
Professional Goal setting			
M (*SD*)	4.83 (1.83)	6.5 (2.81)	5.67 (2.42)
Med (*IQR*)	4.5 (3-7)	8 (4-8)	6 (3.5-8)
Role Models and Academic Support Systems			
M (*SD*)	4.5 (3.02)	4.83 (2.40)	4.67 (2.61)
Med (*IQR*)	4 (2-8)	5 (4-6)	4.5 (2.5-7)
Networking Opportunities			
M (*SD*)	6.67 (3.39)	8.83 (1.94)	7.75 (2.86)
Med (*IQR*)	7.50 (5-9)	9.50 (9-10)	9 (5.5-10)

Note. Participants ranked each content area from 1 to 10. This table presents the mean (*M*) and standard deviation (*SD*) alongside the median (*Med*) and interquartile range (*IQR*) for each content area evaluated.

This study project explored the perspectives of mentees participating in a mentorship program with six open-ended questions on the MMPMQ. Responses focused on their areas of professional development, skills for mentorship focus, career aspirations post-graduation, and additional personal insights they wish their mentors to know. Through a series of six open-ended

questions, detailed responses were gathered from this mentee cohort, aiming to understand their expectations and needs within the mentorship framework (see Appendix H). The responses, categorized based on the topics emerging from each question, have been summarized and presented in Table 5. The summarization of mentees' responses reveals diverse areas of interest and concerns in their academic journey.

For Areas of Professional Development Interest, mentees expressed a balanced distribution of interests, including *Professional Development and Networking* (*n* = 1, 16.7%), *Confidence and Role Transition* (*n* = 2, 33.3%), *Work-Life Balance and Support* (*n* = 2, 33.3%), and *Communication Skills and Cultural Competency* (*n* = 1, 16.7%). In terms of Professional Skills for Mentorship Focus, the majority highlighted a desire to enhance *Communication and Confidence Skills* (*n* = 3, 60.0%), followed by an interest in combining *Communication with Leadership Skills* (*n* = 2, 40.0%). Regarding Career Goals and Post-Graduation Aspirations, a significant portion of mentees aim to serve *Underserved and Minority Populations* (*n* = 3, 50.0%), with others focused on achieving *Work-Life Balance and Respectful Practice Environment* (*n* = 1, 16.7%) and exploring *Specialized Clinical Areas* (*n* = 2, 33.3%). Lastly, in sharing Additional Insights for Mentor Understanding, mentees conveyed *Enthusiasm for the Mentorship Program* (*n* = 2, 40.0%), *Openness to Learning and Feedback* (*n* = 1, 20.0%), *Language and Confidence Challenges* (*n* = 1, 20.0%), and specific *Background Information* (*n* = 1, 20.0%), indicating a range of personal experiences and attitudes towards the mentorship experience.

Table 5: *Summary of Mentees' Professional Development Interests, Mentorship Skills Focus, Career Aspirations, and Additional Insights for Mentor Understanding*

Topics	Total *n (%)*

Areas of Professional Development Interest (*n* = 6)	
Professional Development and Networking	1 (16.7)
Confidence and Role Transition	2 (33.3)
Work-Life Balance and Support	2 (33.3)
Communication Skills and Cultural Competency	1 (16.7)
Professional Skills for Mentorship Focus (*n* = 5)	
Communication and Confidence Skill	3 (60.0)
Communication and Leadership Skill	2 (40.0)
Career Goals and Post-Graduation Aspirations (*n* = 6)	
Work-Life Balance and Respectful Practice Environment	1 (16.7)
Serving Underserved and Minority Populations	3 (50.0)
Specialized Clinical Areas	2 (33.3)
Additional Insights for Mentor Understanding (*n* = 5)	
Enthusiasm for the Mentorship Program	2 (40.0)
Openness to Learning and Feedback	1 (20.0)
Language and Confidence Challenges	1 (20.0)
Background Information	1 (20.0)

Note. "*n*" represents the number of participants within each specific demographic category, and "%" indicates the percentage of participants that each category comprises out of the total sample.

In assessing the participants' desired benefits within the CIM program, summarizing open-ended responses from the MMPMQ, a preference emerges for the concepts of *Confidence and Professional Growth*, with 66.7% (*n* = 4) of respondents identifying this as their primary expectation. Conversely, 33.3% (*n* = 2) of participants prioritize *Guidance, Support, and Networking*.

Summaries of mentors' responses to the MMPMQ's open-ended questions (see Appendix I) revealed distinct areas of expertise, clinical focus, and self-identified strengths that mentors bring to the mentor-mentee relationship. Table 6 summarizes the mentors' responses to these open-ended questions and shows that mentors underscored the importance of *Professional Skills, Personal Development, Authenticity, and Strength Identification*, which reflected an

acknowledgment of the foundational and individual growth aspects in the nursing profession. An emphasis was also placed on *Cultural and Emotional Intelligence* and *Career Pathways and Leadership*, highlighting the mentors' focus on fostering both effective interpersonal relationships and professional advancement. Clinical expertise was predominantly identified in *Mental Health and Psychotherapy* and *Chronic and Specialized Medical Care*, which showcased a solid mentorship foundation in critical healthcare areas. Meanwhile, *Integrative and Functional Medicine* and *Pediatrics and Leadership in Nursing* received focused yet significant attention. Most mentors identified their greatest strengths in *Interpersonal and Emotional Intelligence*, followed by *Professional and Team Dynamics*, and *Clinical Skills and Knowledge*, underlining a prevalent view of emotional intelligence and teamwork as essential to healthcare success.

Table 6: *Mentor Expertise and Strengths for APRN Students*

Topics	Total *n (%)*
Specialties or Areas of Expertise Beneficial to APRN Mentees (*n* = 6)	
Professional Skills and Personal Development	1 (16.7)
Cultural and Emotional Intelligence	2 (33.3)
Career Pathways and Leadership	2 (33.3)
Authenticity and Strength Identification	1 (16.7)
Clinical Area of Expertise (*n* = 6)	
Mental Health and Psychotherapy	2 (33.3)
Chronic and Specialized Medical Care	2 (33.3)
Integrative and Functional Medicine	1 (16.7)
Pediatrics and Leadership in Nursing	1 (16.7)
Greatest Clinical Strengths (*n* = 6)	
Professional and Team Dynamics	2 (33.3)
Interpersonal and Emotional Intelligence	3 (50.0)
Clinical Skills and Knowledge	1 (16.7)

Note. "*n*" represents the number of participants within each specific demographic category, and "%" indicates the percentage of participants that each category comprises out of the total sample.

APRN Graduate Student Mentee Survey

Pre-Intervention

A pre-intervention APRN Graduate Student Mentee Survey tool measured HUEM mentees' expectations of mentor roles and support in the CIM program from their mentors across various dimensions of mentorship, including educational support, cultural sensitivity, communication, professional development, and ethical guidance (see Appendix E). Across distinct items, HUEM mentees expressed their expectations on a Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). 100% of respondents (n = 6) strongly agreed that mentors should provide information about learning opportunities, help improve communication skills, and offer timely, useful feedback. A majority of mentees also strongly agreed that mentors should encourage the development of professional relationships with others in the field (66.7%, n = 4), advise on academic opportunities for growth and development (83%, n = 5), accurately assess their competence (66.7%, n = 4), and provide opportunities to learn about scholarly writing (50%, n = 3). Moreover, expectations for mentors to advise on financial resources and to offer a sufficient level of independence were both strongly agreed upon by 60% of respondents (n = 3). Expectations for mentor availability varied, with 60% of mentees (n = 3) somewhat agreeing that mentors should be available when needed.

The HUEM mentees agreed (100%, n = 5) that mentors should view them as APRN student mentees rather than tasks and actively contribute to building their confidence. A strong consensus existed around mentors working collaboratively with mentees to set educational goals and providing information on ongoing research relevant to their APRN practice specialty, with 80% (n = 4) strongly agreeing on these points. Additionally, the importance of mentors encouraging ethical research practices, treating mentees' ideas with respect, and motivating

mentees positively were also strongly agreed upon by 80% (*n* = 4) of respondents. While 40% (*n* = 2) somewhat agree and another 40% (*n* = 2) strongly agree that mentors should encourage mastery of research skills, there was a mixed response regarding reasonable expectations for study hours/school workload. The expectation for mentors to support any career path chosen by the mentee was strongly agreed upon by 60% (*n* = 3), with the remaining 40% (*n* = 2) somewhat agreeing.

The survey assessed HUEM mentees' expectations concerning the socio-emotional and communicative dimensions of their mentorship experiences in the CIM program. Unanimous agreement (100%, *n* = 5) was observed among mentees on several mentorship qualities, such as effective communication, good listening skills, the ability to discuss non-academic topics comfortably, mentors sharing their career histories for alternative perspectives, and addressing HUEM mentees' concerns related to competence, educational commitment, and personal challenges. 80% (*n* = 4) of mentees strongly agreed that mentors should foster a sense of belonging within the APRN program, respect the unique cultural identities of mentees and how they influence their experiences, serve as role models, and work collaboratively with them to set and align clear expectations for the mentoring relationship.

Consensus was observed among HUEM mentees regarding the need for mentors to be not only friendly (80%, *n* = 4 strongly agree) but also to act consistently in the mentees' best interests (60%, *n* = 3 strongly agree). Unanimous agreement (100%, *n* = 5) was evident on mentors' roles in comfortably discussing racial/ethnic backgrounds, understanding the unique needs of HUEM APRN students, and recognizing the impact of racial/ethnic identity on the mentoring relationship. Mentees felt that mentors should be prepared to navigate conversations about race and ethnicity (100%, *n* = 5 strongly agree on multiple items), even when those discussions might

be uncomfortable, underscoring the value of open, honest dialogue in fostering a supportive and inclusive mentoring environment. Furthermore, there was a desire for mentors to facilitate opportunities for discussing racial/ethnic identity in relation to graduate nursing education (100%, *n* = 5 strongly agree) and to encourage HUEM mentees to reflect on how advanced practice nursing relates to their lived experiences (100%, *n* = 5 strongly agree). However, opinions varied somewhat on mentors' willingness to discuss race and ethnicity, with a divided response indicating that while mentees (40%, *n* = 2 strongly agree) value this willingness, some are either unsure or slightly apprehensive (40%, *n* = 2 neither agree nor disagree, or somewhat agree).

HUEM mentees' revealed expectations (100%, *n* = 5) for mentors to approach discussions of race and ethnicity respectfully, comfortably discuss the experiences of being a minority in advanced nursing education, understand the enrichment racial/ethnic differences bring to the mentoring relationship, and recognize aspects of the APRN student experience that may expose minority students to vulnerability related to stereotypes. A majority of HUEM mentees strongly agree (80%, *n* = 4) that mentors should proactively create opportunities to address issues of race/ethnicity when relevant. Additionally, recognizing interactions that could be perceived as insulting or dismissive due to racial/ethnic backgrounds was seen as important, with 60% (*n* = 3) strongly agreeing and 40% (*n* = 2) somewhat agreeing, highlighting the need for mentors to recognize the significance in maintaining a respectful and inclusive environment.

It was noted that a proportion of the cohort (80%, *n* = 4) delineated a Master of Science in Nursing or an equivalent Master's degree as their ultimate academic pursuit, albeit with one respondent's data absent. A majority (75%, *n* = 3) of HUEM students strongly agreed with their intention to persist in their APRN degree and, similarly, their likelihood to graduate from the

university, indicating a strong commitment to completing their APRN program. Inversely, the likelihood of dropping out of the APRN program or considering stopping their education at the university was markedly low among the respondents, with 75% (n = 3) strongly disagreeing with the notion of dropping out and strongly disagreeing with considering stopping their education. Regarding the association of a CIM program on academic persistence decisions, a majority (75%, n = 3) somewhat agree, and 25% (n = 1) strongly agree that such a program would positively affect their decision to persist in their academic journey.

The open-ended questions from the pre-intervention APRN Graduate Student Mentee Survey revealed that participants equally valued *Open and Honest Communication* and *Mutual Respect and Understanding*, with each topic being highlighted by 30% (n = 3) of participants as key factors contributing to a strong working relationship with their mentors. A majority of participants, 60% (n = 4), identified *Supportive and Positive Environments* as crucial aspects of their relationship with their mentors. Answers revealed that *Professional Development Guidance* was the most valued form of support, with 33.3% (n = 5) of responses highlighting its importance. *Emotional Support* and *Confidence Building* were also significant, receiving 20.0% (n = 3) and 13.3% (n = 2) of responses, respectively. *Constructive Feedback*, identified by 13.3% (n = 2) of responses, along with *Active Listening*, indicated by 6.7% (n = 1), reflect open communication channels. Additionally, *Networking* and *Practical Insights* each received 6.7% (n = 1) of responses.

Post-Intervention

This section presents the changes in various aspects of the mentoring program as reported by mentees before and after the intervention. The Wilcoxon Signed Rank test was utilized to

assess the significance of these changes. The items were grouped based on whether they showed improvement, no change, or a decrease from pre- to post-intervention.

Table 7 presents the changes in various aspects of mentees' perceptions before and after the CIM program represented by responses to items on the APRN Student Mentee Survey. There were no statistically significant changes in the scores. Availability showed some improvement, with the mean score rising from 3.17 (*SD* = .98) pre-intervention to 4.50 (*SD* = .84) post-intervention. The median scores improved from 3.50 (*IQR* = 2.00 - 4.00) to 5.00 (*IQR* = 4.00 - 5.00), (*p* = .102). Academic Growth improved, with the mean score increasing from 4.33 (*SD* = 1.03) pre-intervention to 4.67 (*SD* = .52) post-intervention.

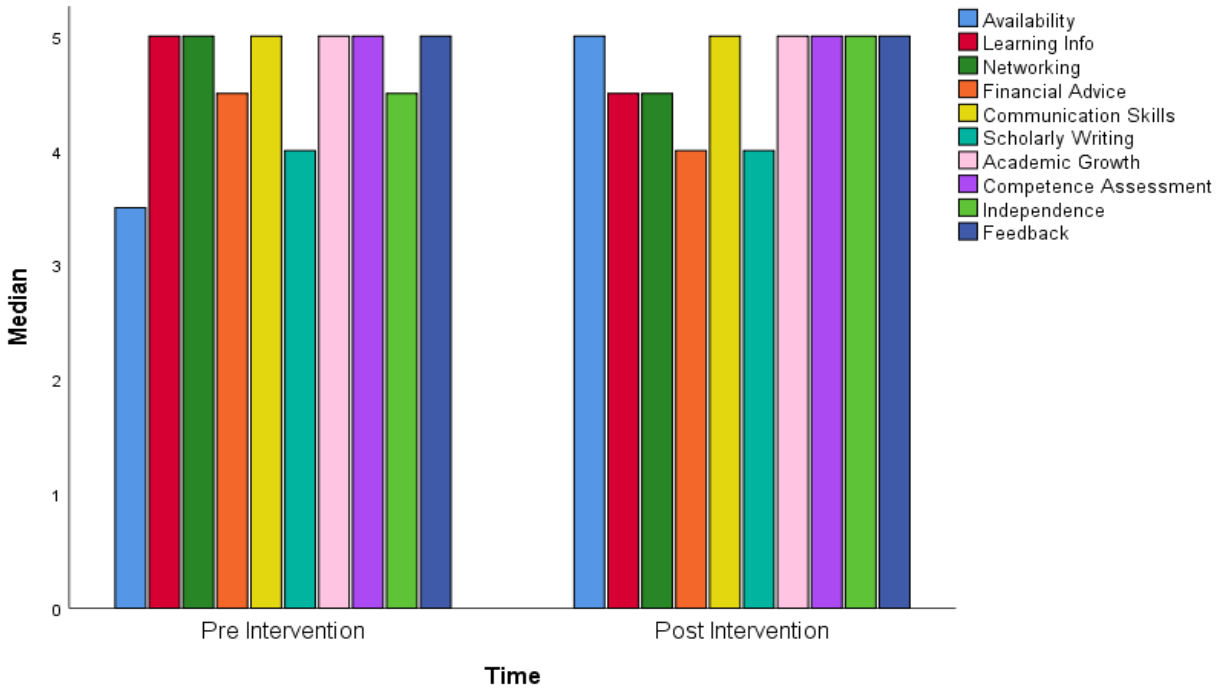
Table 7: *Changes in Mentees' Perceptions of Availability-Feedback Pre- and Post-CIM*

Items	*Time*	*M*	*SD*	*Mdn*	*Q1*	*Q3*	*p*
Availability	Pre	3.17	.98	3.50	2.00	4.00	.102
	Post	4.50	.84	5.00	4.00	5.00	
Learning Info	Pre	4.67	.82	5.00	5.00	5.00	.461
	Post	4.17	1.17	4.50	4.00	5.00	
Networking	Pre	4.50	.84	5.00	4.00	5.00	1.00
	Post	4.50	.55	4.50	4.00	5.00	
Financial Advice	Pre	4.33	.82	4.50	4.00	5.00	.577
	Post	4.00	1.10	4.00	4.00	5.00	
Communication Skills	Pre	4.67	.82	5.00	5.00	5.00	1.00
	Post	4.67	.82	5.00	5.00	5.00	
Scholarly Writing	Pre	4.00	1.10	4.00	3.00	5.00	.705
	Post	3.83	1.17	4.00	3.00	5.00	
Academic Growth	Pre	4.33	1.03	5.00	3.00	5.00	.414
	Post	4.67	.52	5.00	4.00	5.00	
Competence Assessment	Pre	4.50	.84	5.00	4.00	5.00	.785
	Post	4.67	.82	5.00	5.00	5.00	
Independence	Pre	4.33	.82	4.50	4.00	5.00	.705
	Post	4.50	.84	5.00	4.00	5.00	
Feedback	Pre	4.67	.82	5.00	5.00	5.00	1.00
	Post	4.67	.82	5.00	5.00	5.00	

Note. N = 6. Pre = Pre-Intervention; Post = Post-Intervention. *M* = Mean; *SD* = Standard Deviation; *Mdn* = Median; *Q1* = First Quartile; *Q3* = Third Quartile. The Wilcoxon

Signed Rank test was used to assess the significance of changes from pre- to post-intervention.

Figure 3: *Median Mentee Perceptions of Availability-Feedback Pre- and Post-CIM*



Note. This figure illustrates the median scores of mentees' perceptions of mentor support across items 1-10 on the survey before and after the intervention. The data highlights changes in median perception scores, with the pre-intervention scores on the left and post-intervention scores on the right. The Y-axis represents the median value of the Likert scale from 0 to 5; 0 strongly disagree, 5 strongly agree.

Table 8 presents the non-statistically significant changes in various aspects of mentees' perceptions before and after the CIM program, represented by items 11-16 on the Educational Support section of the APRN Graduate Student Mentee Survey and items 1-4 on the Psychosocial Support section of the survey. Workload Expectations showed an improvement, with the mean score rising from 3.83 (*SD* = .75) pre-intervention to 4.67 (*SD* = .52) post-

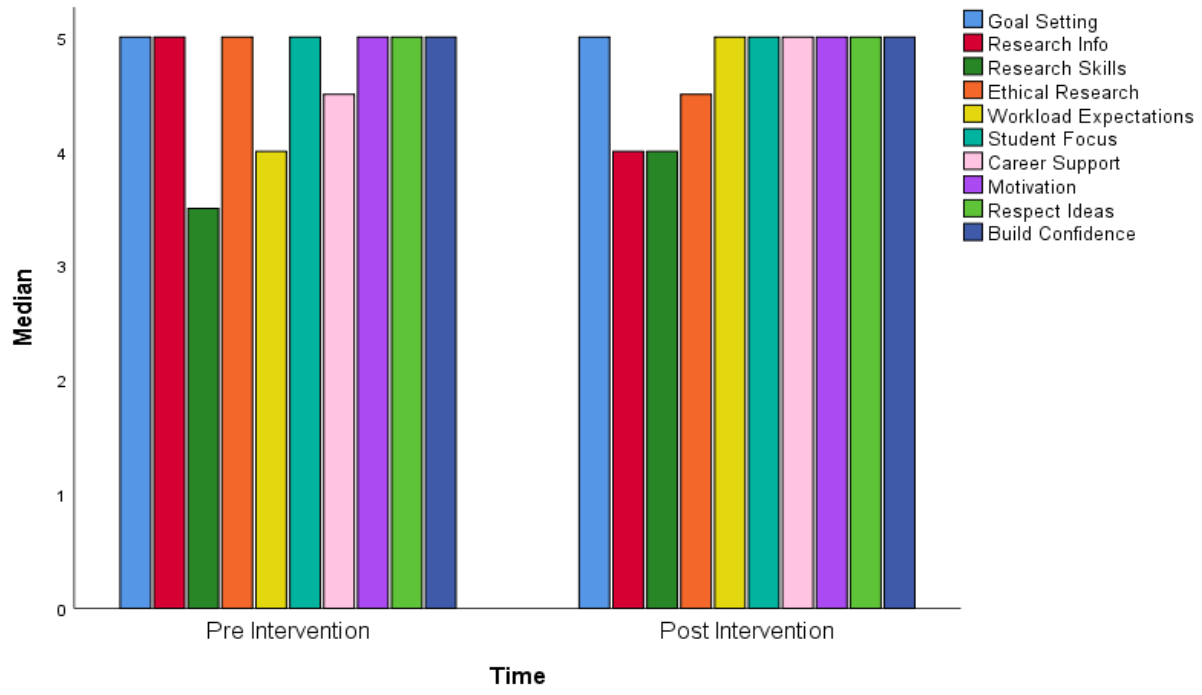
intervention. The median increased from 4.00 (*IQR* = 3.00 - 4.00) to 5.00 (*IQR* = 4.00 - 5.00), although this change did not reach statistical significance, (p = .129).

Table 8: *Changes in Mentees' Perceptions of Goal Setting-Build Confidence Pre- and Post-CIM*

Items	*Time*	*M*	*SD*	*Mdn*	*Q1*	*Q3*	*p*
Goal Setting	Pre	4.50	.84	5.00	4.00	5.00	1
	Post	4.50	.84	5.00	4.00	5.00	
Research Info	Pre	4.33	1.03	5.00	3.00	5.00	.450
	Post	3.83	1.33	4.00	3.00	5.00	
Research Skills	Pre	3.83	.98	3.50	3.00	5.00	1
	Post	3.83	1.33	4.00	3.00	5.00	
Ethical Research	Pre	4.50	.84	5.00	4.00	5.00	.450
	Post	4.00	1.26	4.50	3.00	5.00	
Workload Expectations	Pre	3.83	.75	4.00	3.00	4.00	.129
	Post	4.67	.52	5.00	4.00	5.00	
Student Focus	Pre	4.67	.82	5.00	5.00	5.00	.655
	Post	4.83	.41	5.00	5.00	5.00	
Career Support	Pre	4.33	.82	4.50	4.00	5.00	.785
	Post	4.50	.84	5.00	4.00	5.00	
Motivation	Pre	4.67	.52	5.00	4.00	5.00	.564
	Post	4.83	.41	5.00	5.00	5.00	
Respect Ideas	Pre	4.67	.52	5.00	4.00	5.00	.564
	Post	4.83	.41	5.00	5.00	5.00	
Build Confidence	Pre	4.83	.41	5.00	5.00	5.00	.655
	Post	4.67	.82	5.00	5.00	5.00	

Note. N = 6. Pre = Pre-Intervention; Post = Post-Intervention. *M* = Mean; *SD* = Standard Deviation; *Mdn* = Median; *Q1* = First Quartile; *Q3* = Third Quartile. The Wilcoxon Signed Rank test was used to assess the significance of changes from pre- to post-intervention.

Figure 4: *Median Mentee Perceptions of Goal Setting-Build Confidence Pre- and Post-CIM*



Note. This figure illustrates the median scores of mentees' perceptions of mentor support across items 11-16 on the Educational Support section of the survey, and items 1-4 on the Psychosocial Support section of the survey, before and after the intervention. The data highlights changes in median perceptions, with the pre-intervention scores on the left and post-intervention scores on the right. The Y-axis represents the median value of the Likert scale from 0 – 5; 0 strongly disagree, and 5 strongly agree.

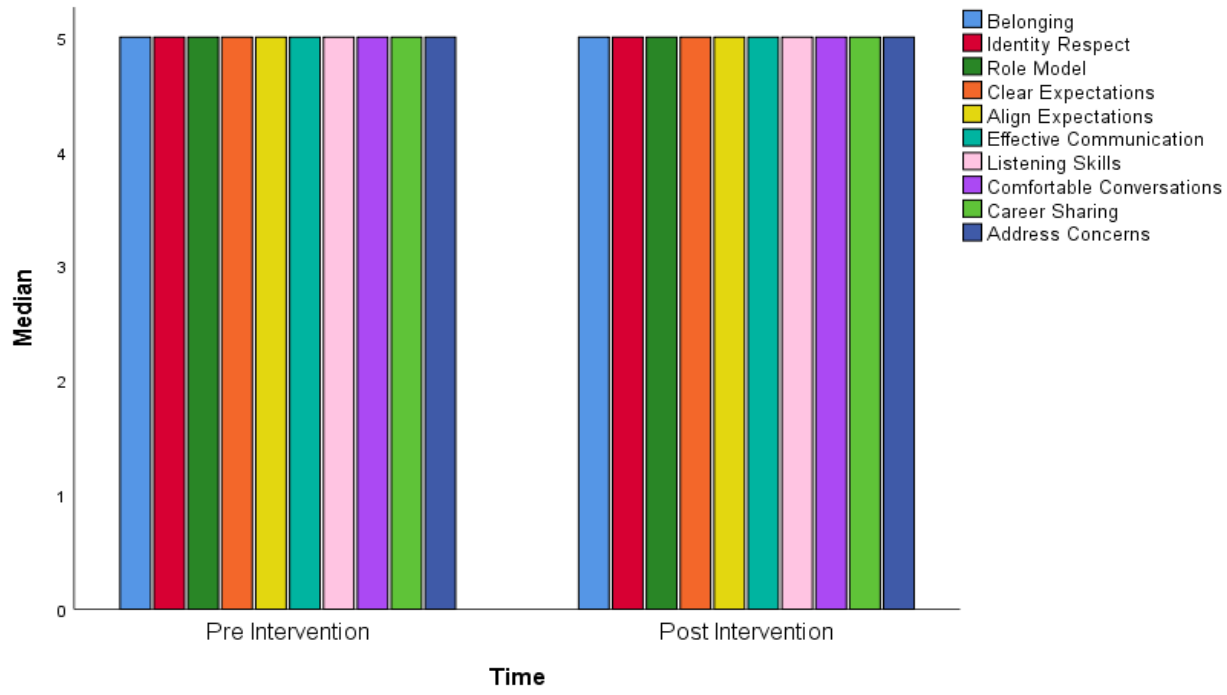
Table 9 presents the changes in various aspects of mentees' perceptions before and after the CIM program. Identity Respect showed improvement, with the mean score rising from 4.67 (*SD* = .52) pre-intervention to 5.00 (*SD* = .00) post-intervention. The median increased from 5.00 (*IQR* = 4.00 - 5.00) to 5.00 (*IQR* = 5.00 - 5.00), although this change did not reach statistical significance, (p = .157). Role Model also saw an improvement, with the mean score moving from 4.33 (*SD* = 1.21) pre-intervention to 4.67 (*SD* = .52) post-intervention, (p = .705).

Table 9: *Changes in Mentees' Perceptions of Belonging-Address Concerns Pre- and Post-CIM*

Items	*Time*	*M*	*SD*	*Mdn*	*Q1*	*Q3*	*p*
Belonging	Pre	4.33	1.21	5.00	4.00	5.00	.593
	Post	4.67	.82	5.00	5.00	5.00	
Identity Respect	Pre	4.67	.52	5.00	4.00	5.00	.157
	Post	5.00	.00	5.00	5.00	5.00	
Role Model	Pre	4.33	1.21	5.00	4.00	5.00	.705
	Post	4.67	.52	5.00	4.00	5.00	
Clear Expectations	Pre	4.67	.52	5.00	4.00	5.00	1.00
	Post	4.67	.52	5.00	4.00	5.00	
Align Expectations	Pre	4.67	.52	5.00	4.00	5.00	1.00
	Post	4.67	.52	5.00	4.00	5.00	
Effective Communication	Pre	4.83	.41	5.00	5.00	5.00	.655
	Post	4.67	.82	5.00	5.00	5.00	
Listening Skills	Pre	4.83	.41	5.00	5.00	5.00	1.00
	Post	4.83	.41	5.00	5.00	5.00	
Comfortable Conversations	Pre	4.67	.82	5.00	5.00	5.00	.655
	Post	4.83	.41	5.00	5.00	5.00	
Career Sharing	Pre	4.83	.41	5.00	5.00	5.00	1.00
	Post	4.83	.41	5.00	5.00	5.00	
Address Concerns	Pre	4.83	.41	5.00	5.00	5.00	1.00
	Post	4.83	.41	5.00	5.00	5.00	

Note. N = 6. Pre = Pre-Intervention; Post = Post-Intervention. *M* = Mean; *SD* = Standard Deviation; *Mdn* = Median; *Q1* = First Quartile; *Q3* = Third Quartile. The Wilcoxon Signed Rank test was used to assess the significance of changes from pre- to post-intervention.

Figure 5: *Median Mentee Perceptions of Belonging-Address Concerns Pre- and Post-CIM*



Note. This figure illustrates the median scores of mentees' perceptions of mentor support across items 5-14 of the Psychosocial Support section of the survey before and after the intervention. The data highlights changes in median perceptions, with the pre-intervention scores on the left and post-intervention scores on the right. The Y-axis represents the median value of the Likert scale from 0 to 5; 0 strongly disagree, and 5 strongly agree.

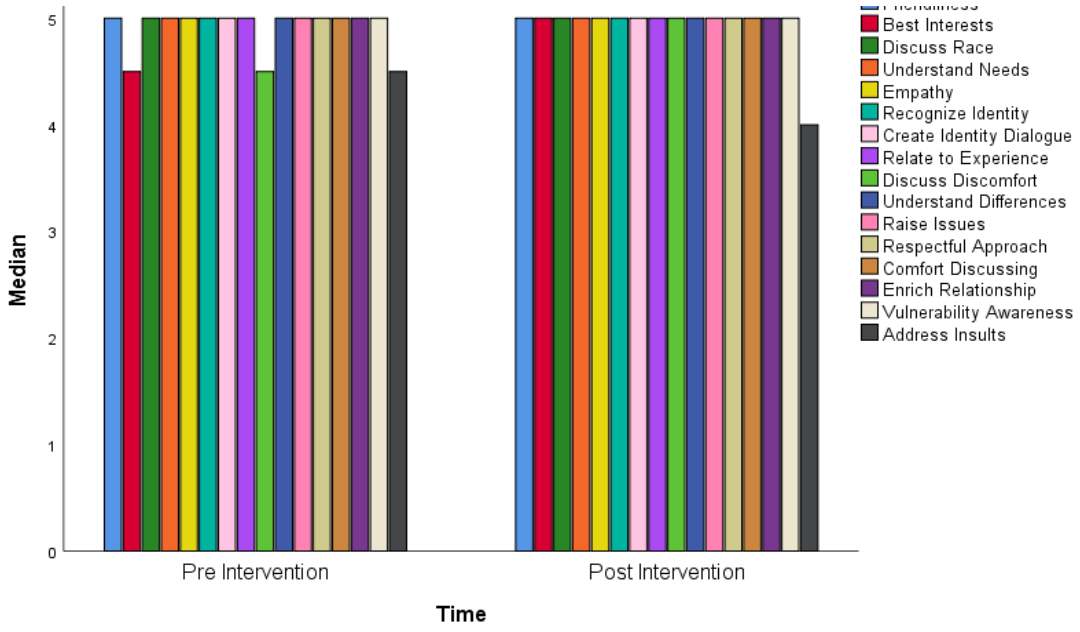
Table 10 presents the changes in items 15-30 on the Psychosocial Support section of the survey, indicating mentees' perceptions before and after the CIM program intervention. Friendliness showed improvement, with the mean score rising from 4.67 (*SD* = .52) pre-intervention to 5.00 (*SD* = .00) post-intervention. The median increased from 5.00 (*IQR* = 4.00 - 5.00) to 5.00 (*IQR* = 5.00 - 5.00), although this change did not reach statistical significance, (*p* = .157). Similarly, Discuss Discomfort saw an improvement, with the mean score moving from 3.83 (*SD* = 1.60) pre-intervention to 5.00 (*SD* = .00) post-intervention. The median rose from 4.50 (*IQR* = 3.00 - 5.00) to 5.00 (*IQR* = 5.00 - 5.00), (*p* = .109).

Table 10: *Changes in Mentees' Perceptions of Friendliness-Address Insults Pre- and Post-CIM*

Items	*Time*	*M*	*SD*	*Mdn*	*Q1*	*Q3*	*p*
Friendliness	Pre	4.67	.52	5.00	4.00	5.00	.157
	Post	5.00	.00	5.00	5.00	5.00	
Best Interests	Pre	4.50	.55	4.50	4.00	5.00	.317
	Post	4.83	.41	5.00	5.00	5.00	
Discuss Race	Pre	4.83	.41	5.00	5.00	5.00	1.00
	Post	4.83	.41	5.00	5.00	5.00	
Understand Needs	Pre	4.67	.82	5.00	5.00	5.00	.317
	Post	5.00	.00	5.00	5.00	5.00	
Empathy	Pre	4.83	.41	5.00	5.00	5.00	.317
	Post	5.00	.00	5.00	5.00	5.00	
Recognize Identity	Pre	4.50	.84	5.00	4.00	5.00	.180
	Post	5.00	.00	5.00	5.00	5.00	
Create Identity Dialogue	Pre	4.83	.41	5.00	5.00	5.00	.317
	Post	5.00	.00	5.00	5.00	5.00	
Relate to Experience	Pre	4.67	.82	5.00	5.00	5.00	.655
	Post	4.50	1.22	5.00	5.00	5.00	
Discuss Discomfort	Pre	3.83	1.60	4.50	3.00	5.00	.109
	Post	5.00	.00	5.00	5.00	5.00	
Understand Differences	Pre	4.67	.82	5.00	5.00	5.00	.317
	Post	5.00	.00	5.00	5.00	5.00	
Raise Issues	Pre	4.50	.84	5.00	4.00	5.00	.414
	Post	4.83	.41	5.00	5.00	5.00	
Respectful Approach	Pre	4.67	.82	5.00	5.00	5.00	.655
	Post	4.83	.41	5.00	5.00	5.00	
Comfort Discussing	Pre	4.67	.82	5.00	5.00	5.00	.317
	Post	5.00	.00	5.00	5.00	5.00	
Enrich Relationship	Pre	4.83	.41	5.00	5.00	5.00	.317
	Post	5.00	.00	5.00	5.00	5.00	
Vulnerability Awareness	Pre	4.67	.82	5.00	5.00	5.00	.317
	Post	5.00	.00	5.00	5.00	5.00	
Address Insults	Pre	4.50	.55	4.50	4.00	5.00	.414
	Post	3.83	1.47	4.00	4.00	5.00	

Note. N = 6. Pre = Pre-Intervention; Post = Post-Intervention. *M* = Mean; *SD* = Standard Deviation; *Mdn* = Median; *Q1* = First Quartile; *Q3* = Third Quartile. The Wilcoxon Signed Rank test was used to assess the significance of changes from pre- to post-intervention.

Figure 6: *Median Mentee Perceptions of Friendliness-Address Insults Pre- and Post-CIM*



Note. This figure illustrates the median scores of mentees' perceptions of mentor support across items 15-30 on the Psychosocial Support section of the survey before and after the intervention. The data highlights changes in median perceptions, with the pre-intervention scores on the left and post-intervention scores on the right. The Y-axis represents the median value of the Likert scale from 0 to 5; 0 strongly disagree, and 5 strongly agree.

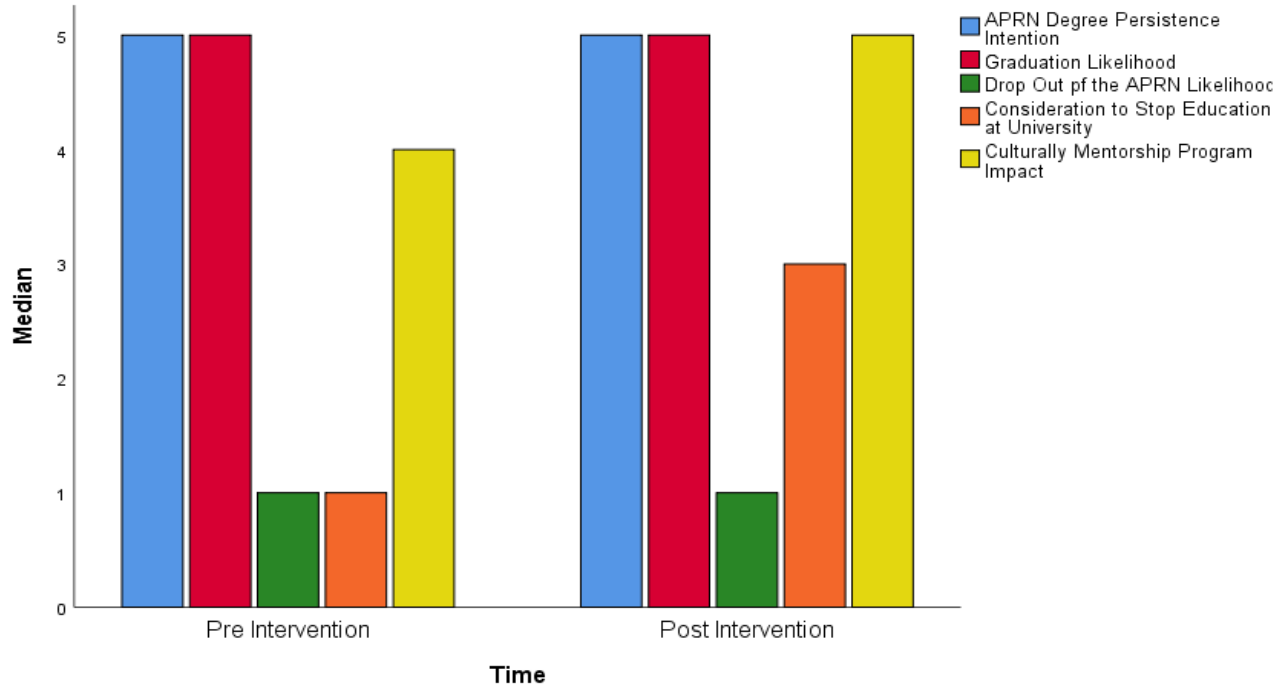
Table 11 presents the changes in mentees' perceptions of academic persistence and graduation likelihood before and after the program intervention. CIM Program Impact showed an improvement, with the mean score rising from 4.17 (*SD* = .75) pre-intervention to 4.67 (*SD* = .52) post-intervention. The median increased from 4.00 (*IQR* = 4.00 - 5.00) to 5.00 (*IQR* = 4.00 - 5.00), although this change did not reach statistical significance, (p = .257). Other items that showed improvement, though not statistically significant, include APRN Degree Persistence Intention (p = .317) and Graduation Likelihood (p = .317).

Table 11: *Changes in Mentees' Perceptions of Academic Persistence and Graduation Likelihood*

Items	*Time*	*M*	*SD*	*Mdn*	*Q1*	*Q3*	*p*
APRN Degree Persistence Intention	Pre	4.83	.41	5.00	5.00	5.00	.317
	Post	5.00	.00	5.00	5.00	5.00	
Graduation Likelihood	Pre	4.83	.41	5.00	5.00	5.00	.317
	Post	5.00	.00	5.00	5.00	5.00	
Drop Out pf the APRN Likelihood	Pre	1.33	.82	1.00	1.00	1.00	.593
	Post	1.83	1.60	1.00	1.00	2.00	
Consideration to Stop Education at University	Pre	1.50	1.22	1.00	1.00	1.00	.102
	Post	3.00	2.19	3.00	1.00	5.00	
Culturally Mentorship Program Impact	Pre	4.17	.75	4.00	4.00	5.00	.257
	Post	4.67	.52	5.00	4.00	5.00	

Note. N = 6. Pre = Pre-Intervention; Post = Post-Intervention. *M* = Mean; *SD* = Standard Deviation; *Mdn* = Median; *Q1* = First Quartile; *Q3* = Third Quartile. The Wilcoxon Signed Rank test was used to assess the significance of changes from pre- to post-intervention.

Figure 7: *Comparison of Median Academic Persistence and Mentorship Effect Perceptions*

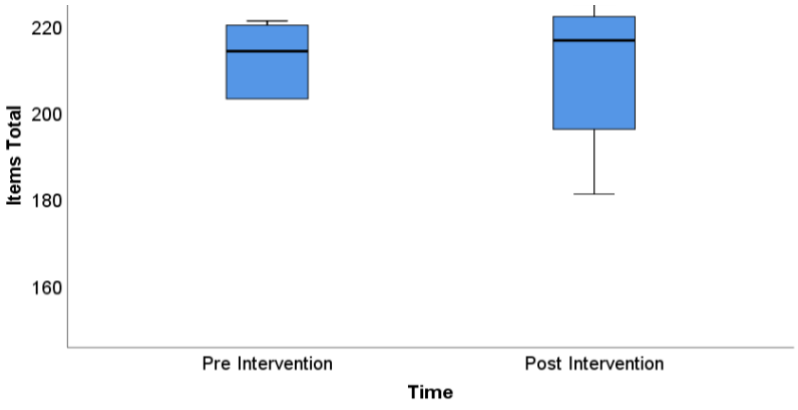


Note. This figure illustrates the median scores of mentees' perceptions of mentor support across academic persistence questions before and after the intervention. The data highlights changes in median perceptions, with the pre-intervention scores on the left and post-intervention scores on the right. The Y-axis represents the median value of the Likert scale from 0 to 5; 0 strongly disagree, and 5 strongly agree.

The total scores of the 52 Likert items the APRN Graduate Student Mentee Survey were summed for each participant to evaluate the cumulative effect of the CIM program. The aim was to determine if the intervention significantly improved the participants' overall perceptions of mentor support.

To assess the significance of the changes in mentees' perceptions from pre- to post-intervention, a Wilcoxon Signed Rank Test was conducted. Table 12 shows the mean pre-intervention total score was 204.67 (*SD* = 24.89), with a median of 214 (*IQR* = 191.25 - 220.25). Post-intervention, the mean total score increased to 209.50 (*SD* = 17.26), with a median of 216.50 (*IQR* = 192.25 - 222.75). Despite these increases, the Wilcoxon Signed Rank Test results indicate that the changes in mentees' perceptions of mentor support were not statistically significant, z = -0.105, *p* = .917.

Figure 8: *Box Plot Comparison of Mentees' Total Perceptions of Mentor Support Pre- and Post-CIM*



Note. This figure presents a box plot comparison of the total scores for mentees' perceptions of mentor support before and after the intervention. The box plots illustrate the median, interquartile range (IQR), and overall distribution of scores for pre-intervention and post-intervention periods. Despite a slight increase in the mean and median scores post-intervention, the changes in perceptions were not statistically significant (p = .917). Total possible score: 260 points (52 items X 5 points [Likert scale 0-5]).

Table 12: *Overall Changes in Mentees' Perceptions of Mentor Support Pre- and Post-CIM*

	Pre-Items Total	Post Items Total
Mentee ID		
501	220	222
201	209	181
401	203	217
601	219	196
101	221	216
301	156	225
Statistics		
M	204.67	209.50
SD	24.89	17.26
Median	214	216.50
IQR (Q1-Q2)	(191.25-220.25)	(192.25-222.75)

Note. The table displays the total scores for mentees' perceptions of mentor support before and after the intervention. The statistics include the mean (M), standard deviation (SD), median, and interquartile range (IQR). The Wilcoxon Signed Rank Test results were z = -0.105, p = 0.917, indicating no significant change in perceptions from pre- to post-intervention.

The results of the open-ended responses were summarized to understand the key strengths in mentor-mentee relationships and the types of mentor support valued by APRN students for their success. Before the intervention, mentees identified several key strengths in their mentor-mentee relationships. These included open and honest communication, mutual

respect and understanding, and a supportive and positive environment. After the intervention, mentees' perceptions of key strengths in their relationships with mentors broadened to include a wider range of specific supportive elements. They valued guidance and support, empowerment and confidence, feedback and expertise, shared background and experience, safe space and comfort, approachability and focus on success, and shared values and growth.

The study results provide a comparison of pre- and post-intervention perceptions of the types of mentor support valued by APRN students for their success. Before the intervention, mentees highlighted several types of support they expected from their mentors to help them succeed as APRN students. These included professional development guidance, emotional support, constructive feedback, confidence building, networking, practical insights, and active listening. Post-intervention, the types of support valued by mentees from their mentors were more consolidated, focusing on the key areas where their expectations were met or exceeded. Mentees particularly valued support and encouragement, professional and personal development, and confidence building.

CHAPTER SIX: DISCUSSION

It should be noted from the outset that this study project's results are underpowered and, therefore, cannot be generalized. However, findings from this study related to culturally informed mentoring are congruent with the existing empiric research (Black et al., 2022; Bonifacino et al., 2021; Byars-Winston & Dahlberg, 2019; Womack et al., 2020). Project findings suggest that some HUEM students may have no prior experience with mentorship yet are eager to seek such experiences. Most HUEM mentees had no mentor gender or communication preferences, and the cohort was evenly split on racial/ethnic congruence. Most participants desired a casual, relaxed communication style and a balance between task-oriented and relationship-focused mentoring. The literature review suggested that although racial/ethnic congruence may be ideal, it was not a requisite for successful mentoring relationships. HUEM students may prefer mentors with similar backgrounds, however, students with cross-congruent mentors have the same academic outcomes as peers with ethnically congruent mentors (Bonifacino et al., 2021). Finding faculty mentors of color can often be challenging because they are few in number and often inundated with mentorship duties. Active listening and trust create the foundational elements of effective communication between mentor and mentee (Hinton et al., 2020). Openness, enthusiasm, encouragement, active listening skills, and setting clear expectations were discussed in the literature as the most important mentor characteristics (Osakwe et al., 2022).

Findings from the MMPMQ overwhelmingly indicated that most mentor participants had positive prior experiences themselves with many positive outcomes. The significance of this could relate to why the mentors were willing to volunteer their time in service to this study project. These mentors may understand the importance of giving back and that networking

connections with the right people at the right time can drastically influence a HUEM APRN student's academic and professional trajectories. Interestingly, financial resource discussions and networking and, to a lesser extent, professional goal setting were important anticipated mentorship discussions that ranked high with mentees and mentors alike. While there was an array of topics that emerged in ascertaining why these student mentees were interested in participating in the CIM program, communication and confidence-building appeared as common aspects. Most responses focused on developing personal assurance and advancing in their professional fields, underscoring the program's role in facilitating substantial growth among its participants. Other responses highlighted the importance of mentorship in offering directional advice, emotional backing, and opportunities for expanding professional circles These topics were consistent with the extant literature (Nelson, 2022). Of note, half of the HUEM mentee respondents expressed interest in working with underserved and minority populations as practitioners. This finding may suggest that similar to minority physician counterparts, HUEM nurse practitioner students are more likely than non-minorities to work in medically underserved communities providing care for indigent, uninsured, and minority populations (Walker et al., 2012). However, that particular study investigated primary care physicians alone.

The APRN Graduate Student survey underscored the critical importance mentees placed on cultural sensitivity and understanding within the CIM program experience, emphasizing mentors' roles in comfortably discussing racial/ethnic backgrounds, understanding the unique needs of HUEM APRN students, and recognizing the association of racial/ethnic identity on the mentoring relationship. These aspects reflected the importance HUEM mentees placed on a foundation of trust and positive intention in the mentor-mentee relationship. HUEM mentees felt that their mentors should be prepared to navigate racial and ethnic conversations even when

those conversations might be difficult, underlining the importance of open dialogue on these matters. This concept is consistent with the existing literature regarding CIM programs (Byars-Winston et al., 2018; CIMER, 2019). These findings highlighted HUEM mentees' significant emphasis on cultural competency, empathy, and personalized support within their mentoring relationships, suggesting a need for mentors to engage deeply with HUEM mentees' identities and experiences to support their professional and personal development effectively. Mentees clearly showed the emphasis on cultural sensitivity within the mentor-mentee relationship by their expectations for mentors to approach discussions of race and ethnicity respectfully, comfortably discuss the experiences of being a minority in advanced nursing education, understand the enrichment racial/ethnic differences bring to the mentoring relationship, and recognize aspects of the APRN student experience that may expose minority students to vulnerability related to stereotypes. These project findings emphasized the critical role of mentorship in acknowledging and actively engaging with the cultural and ethnic dimensions of HUEM mentees' experiences.

The survey provided insights into the academic intentions and considerations of APRN students regarding their degree pursuit, graduation, potential dropout, and the influence of the CIM program on their academic persistence. Results demonstrated notable resilience and determination among the HUEM students to pursue their educational goals despite potential challenges. However, most HUEM mentees agreed to expect a CIM program to positively affect academic resiliency decisions. This response underscored the perceived value of mentorship, which is sensitive to cultural differences, and its potential role in supporting students' academic persistence.

Despite the lack of statistical significance, the overall results from the comparative results reveal that the CIM program likely had a positive association with several aspects of mentee experiences and perceptions. The intervention appeared to improve mentees' perceptions in areas critical to their academic and professional development. Many Likert-scale items showed stability in pre-CIM and post-CIM program intervention scores, reflecting consistent perceptions among mentees. Overall, these results suggest that there were some slight increases in the perceptions of the CIM program following the intervention; however, these changes were not statistically significant. This may be consistent with Byars-Winston et al. (2023) findings of paired mentees of mentors in an experimental CDA group rated mentors higher at respectfully broaching and creating opportunities to address race/ethnicity matters than those with mentors in a comparison group. However, further research is required to further explore these relationships.

Comparing the summarization of open-ended questions regarding pre- and post-intervention perceptions of key strengths in mentor-mentee relationships (see Appendix J), the results indicated that the intervention succeeded in creating a more comprehensive and supportive mentoring environment. Mentees particularly appreciated the safe and comfortable space provided by their mentors. This comparison helps to understand how the intervention influenced mentees' perceptions and which aspects of the mentor-mentee relationship were valued both before and after the mentoring program. Comparing pre- and post-intervention perceptions of the types of mentor support valued by APRN students for their success (see Appendix K) helped to understand how the intervention influenced mentees' perceptions of the support provided by their mentors and which types of support were most appreciated both before and after the mentoring program.

Before the intervention, mentees highlighted areas regarding professional development guidance, emotional support, constructive feedback, confidence building, networking, practical insights, and active listening as types of support they expected from their mentors to help them succeed as APRN students. These forms of support were seen as essential for navigating their academic and professional journeys. Post-intervention, mentees' topics particularly valued support and encouragement, professional and personal development, and confidence building, focusing on the key areas where their expectations were met or exceeded. This possible shift suggested that while specific professional guidance remained important, the emotional and motivational support provided by mentors became even more appreciated, highlighting the critical role of encouragement and confidence-building in their satisfaction. Results indicated a possible shift from broad expectations to more specific appreciations post-intervention.

Pre-intervention, mentees appeared to generally value open communication, mutual respect, and a supportive environment. Post-intervention, they appeared to recognize a wider range of specific strengths in their mentor relationships, particularly valuing the creation of a safe and comfortable space. Similarly, while professional development guidance was a primary expectation pre-intervention, post-intervention feedback may have emphasized the importance of support and encouragement, suggesting that the mentoring program successfully addressed and exceeded initial expectations by fostering a more holistic and supportive mentor-mentee dynamic.

Areas for Improvement

While the overall association of the intervention was likely positive, some areas showed a need for further improvement. Specifically, mentees' consideration of stopping their education at the university may have increased, indicating that additional support may be necessary to address

any lingering doubts or challenges they face. Additionally, the intervention did not significantly impact the discussion of race and addressing insults, suggesting these areas might require more targeted strategies or a larger sample size to achieve meaningful investigation. While the mentoring program showed some positive trends in mentee experiences and perceptions, the statistical analysis did not reveal significant changes in any of the Likert scale items from pre- to post-intervention. Although there were increases in scores for areas such as friendliness, empathy, understanding needs, and the association of CIM, these changes did not reach statistical significance. The program maintained high ratings in communication skills and feedback, suggesting a consistently strong mentor-mentee relationship. However, the intervention did not significantly alter mentees' considerations to potentially stop their education, discuss race, or address insults, indicating these areas may need more targeted approaches. Overall, while the intervention showed promise in certain aspects, further refinement and additional strategies are necessary to achieve more substantial and statistically significant improvements in the CIM experience.

Limitations

Due to the intended small sample size and non-randomized sampling, the findings of this study will not be generalizable. However, the findings further bolstered the EBP of CIM and other diversity mentorship research. Several factors could have affected the implementation of the study project and its timeline, which could have resulted in an unsuccessful program. Other considerations included limited organizational resources and oversight, timing of implementation, participant non-response, miscommunication, inadequate or improper mentor training and preparation, mentee or mentor expectations, and mentor quantity and quality. Participant total scores on the APRN Graduate Student Mentee Study started out relatively high

with a mean of 204.6, leaving limited room for improvement during a short program with a limited sample size. These factors could have substantially affected project data interpretation. Thoughtful strategies may have mitigated bias by utilizing an evidence-based mentor-matching methodology, evidence-based mentor training, and a properly designed CIM program and regularly assessing mentor-mentee engagement to monitor progress.

CONCLUSION

Research has shown that mentorship plays a crucial role in the success and retention of minority APRN students, making it essential for academic institutions and healthcare organizations to prioritize and invest in these programs (Osakwe et al., 2022; Snowden et al., 2018; Williams et al., 2018). This study project examined the outcomes of a novel CIM program model on aspects of the academic success of HUEM APRN students and explored best practices for implementing and sustaining effective mentorship programs within advanced practice nursing education. This ten-week CIM program for first-year APRN students has shown promising results in enhancing student satisfaction and academic resiliency. The findings of this study suggest that a CIM program tailored to the needs of HUEM student populations can have a positive association with student outcomes.

Positive Association on Mentor-Mentee Relationship

The mentoring program may have enhanced the mentor-mentee relationship in terms of friendliness, empathy, and understanding mentees' needs. Mentees likely felt their mentors were more approachable and empathetic after the intervention, which likely contributed to a more supportive and inclusive mentoring environment. These improvements suggest that the intervention effectively fostered a more positive and engaging mentoring dynamic.

Increased Academic Persistence and Graduation Likelihood

One of the likely effects of the intervention was the mild improvement in mentees' intentions to persist in their APRN degree programs and their likelihood of graduating. Mentees consistently reported high confidence in their ability to complete their programs and were less likely to consider dropping out. This indicates that the mentoring program may have played a crucial role in reinforcing their commitment to their educational goals.

Enhanced Workload Management and Cultural Mentorship

Mentees appeared to have reported probable better management of their academic workload and a greater imprint from the culturally informed mentorship they received. The intervention likely helped mentees feel more capable of handling their academic responsibilities and highlighted the importance of culturally responsive mentoring practices. This suggests that the program may have effectively addressed the unique challenges faced by minority students and provided them with the tools and support needed to succeed.

Consistent High Ratings in Communication and Feedback

Participants gave high ratings for improving communication skills and receiving effective feedback, likely demonstrating that the quality of interactions between mentors and mentees remained strong throughout the intervention. This consistency may indicate that the program successfully sustained effective communication and provided valuable feedback, which is essential to a successful mentoring relationship.

These CIM programs would hold value for HUEM students attending predominantly white institutions (PWIs), where the impact on academic success could be much more significant. The study project's results discussed here may provide some insight into the significance of CIM programs that could be integrated into existing academic graduate nursing mentorship programs. Through the implementation of this program, students appeared to have reported higher levels of satisfaction with their academic experience and demonstrated greater resiliency in the face of perceived academic challenges. The mentorship program likely helped to provide students with the support and guidance they needed to navigate the often-unique complexities of their academic journey and develop the skills necessary for success in their future careers. Cultural competency—understanding and communicating across cultures—is

important to protect HUEM mentees of diverse backgrounds from misconceptions and bias. Such competency goes beyond being respectful and nonjudgmental of different cultures. It is a continual, bi-directional, congruent learning process about diverse attitudes, customs, behaviors, and values. Demonstrating cultural competence as a mentor fosters a safe, respectful, and reciprocal relationship with trust and respect for cultural differences, which promotes HUEM APRN student satisfaction and a sense of belonging. By recognizing and addressing the unique needs of HUEM student populations, a more inclusive and supportive learning environment can be created that empowers students to succeed in their academic and professional endeavors.

Implications for APRN Education and Practice

The findings of the study project highlight the importance of cultural sensitivity and its vital interconnectivity in mentorship relationships, as well as the positive association it can have on the academic development of HUEM ARPN students (Black et al., 2022; Campbell & Rodríguez, 2018). Through tailored support and guidance that acknowledges and respects the unique cultural backgrounds and experiences of HUEM students, mentorship programs can enhance their confidence, self-efficacy, and overall academic success. The findings of this DNP scholarly project highlight the importance of CIM programs in promoting student satisfaction and academic resiliency among first-year APRN students. These findings have important implications for nursing education and practice. Incorporating CIM programs into APRN student support services allows graduate nursing educational institutions to better support the diverse needs of their student populations and promote their academic success. In addition, by fostering an institutional and faculty culture of mentorship and support, APRN programs can create a more inclusive and welcoming learning environment for all students. Future mentorship research should explore the long-term effects of CIM programs on student and mentor outcomes and

identify best practices for implementation. Through continuing investments in mentorship research and support for HUEM APRN students, future generations of these vitally needed nurse practitioners will be well-equipped to meet the needs of diverse patient populations and contribute to the advancement of healthcare.

This project addressed culturally informed mentorship as one educational pipeline strategy toward developing effective inclusive mentoring practices. This strategy requires a systematic, multipronged approach to champion, implement, and sustain CIM practices for HUEM APRN students. The project contributed valuable insights into the unique challenges faced by HUEM APRN students. The data revealed that a CIM program can potentially enhance their learning experience, academic development, and overall professional career success. Examining this project's APRN students' experiences and perceptions contributes to the existing understanding of strategies to support and empower ethnic minority students in their educational journey. This scholarly project may shed light on the potential benefits of CIM programs in improving student satisfaction and retention rates. Ultimately, this improvement can lead to a more diverse and culturally competent advanced practice nursing workforce. The results also support research findings that underscore the importance of cultural competence in nursing pedagogy and practice. These relevant understandings for nursing educators, administrators, and policymakers further emphasize the need for innovative strategies. Strategies like CIM support ethnic minority students in their journey to becoming APRNs. The results of this project could be instrumental in informing future research into evidence-based policies and practices in nursing education. These findings could amplify understanding of the program's influence, raising awareness and inspiring institutions to implement similar initiatives. This information can

promote diversity and inclusivity, ultimately improving care and outcomes among diverse patient populations.

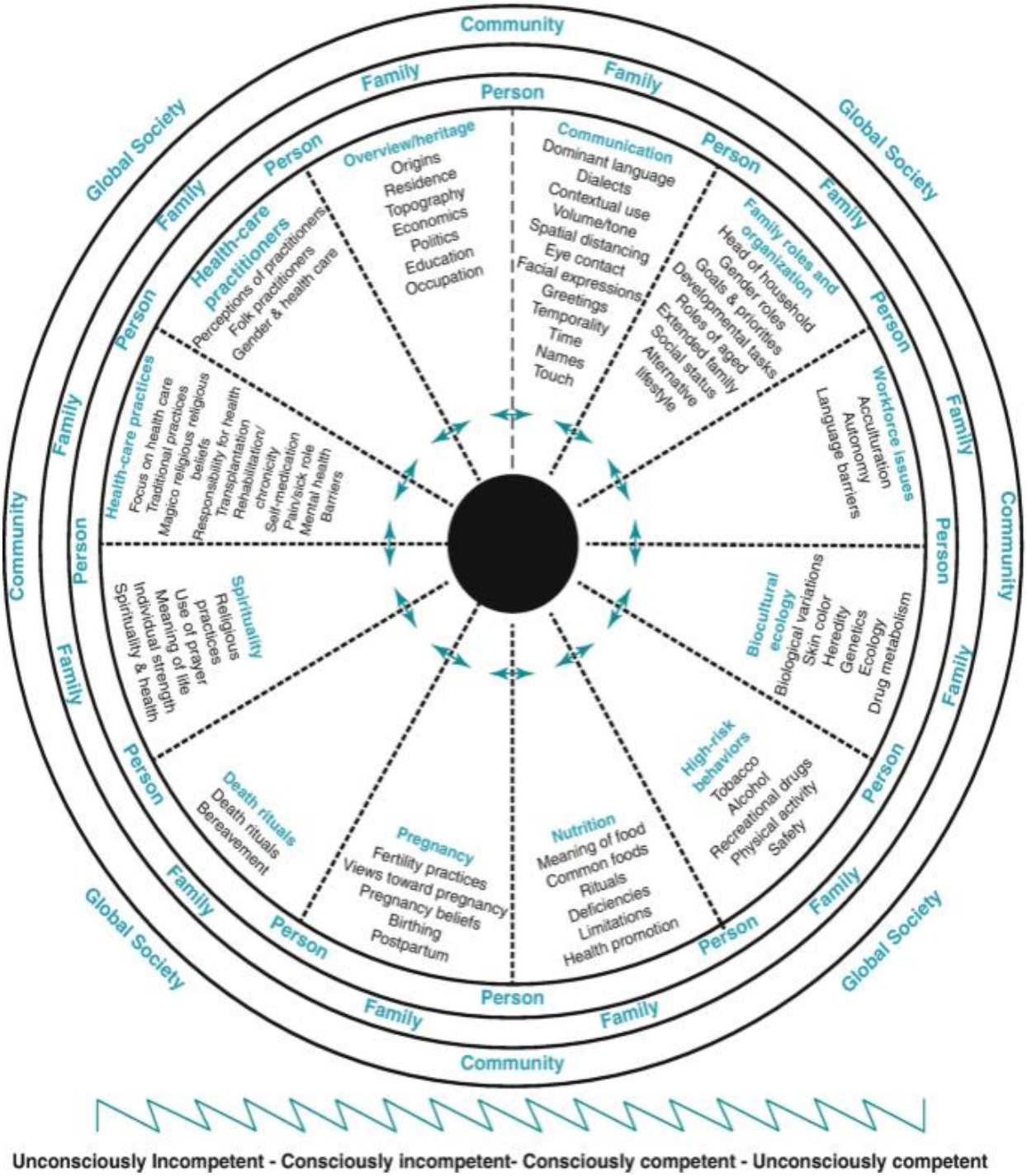
Broad educational utilization of CIM practice programs for HUEM APRN students can have significant implications. With support from CIM programs, HUEM APRN students may be better equipped to provide patient-centered care that respects and addresses diverse patient populations' unique cultural, social, and linguistic needs. Thus, CIM programs may improve patient engagement, consumer satisfaction, treatment plan adherence, and overall health outcomes.

Evidence in this literature supports that mentoring programs can positively impact student success, including academic achievement, professional development, and career satisfaction (Black et al., 2022; Byars-Winston & Dahlberg, 2019; Dowling et al., 2021). Tailoring CIM programs to the needs and experiences of HUEM APRN students is likely to enhance their sense of belonging, engagement, and overall satisfaction. Mentorship programs that specifically target this student demographic can help increase the representation of these individuals in advanced practice nursing roles (Nair & Adetayo, 2019). These initiatives contribute to a more representative APRN workforce that reflects the communities it serves. Future healthcare leaders, such as HUEM DNP leaders, can further promote health equity and social justice by incorporating CIM practices into APRN education. These combined actions help to foster APRN practices that address systemic barriers and promote equitable healthcare access and outcomes for all individuals, regardless of their cultural or ethnic background.

APPENDICES

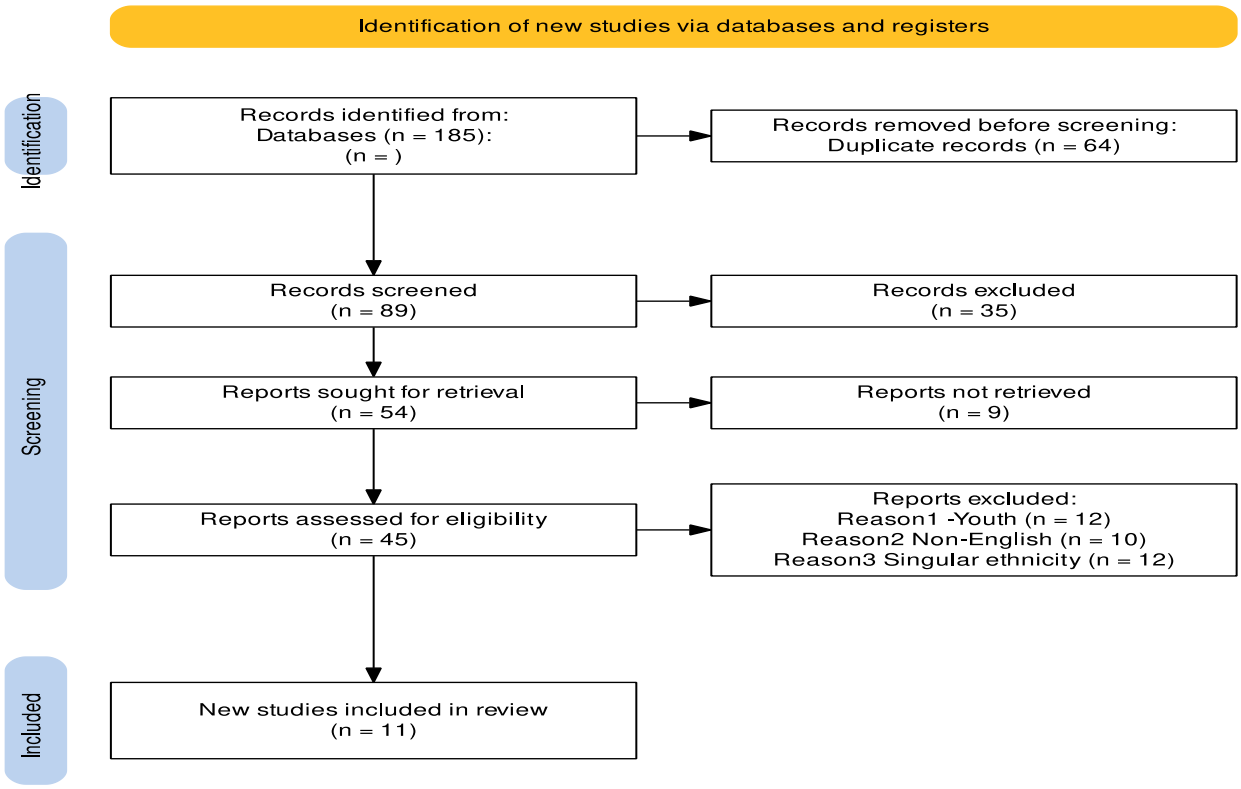
Appendix A

The Purnell Model for Cultural Competence



Appendix B

Preferred Reporting Items for Systematic Reviews and Meta-Analyses
(PRISMA Flow Diagram)



Appendix C

Mentor-Mentee Pre-Mentoring Questionnaire

Assigned Mentor/Mentee Number:

Age:
- 20-29
- 30-39
- >40

Gender Identity:
- Female
- Male
- Non-Binary
- No Preference

For APRN Mentee: Preference for Mentor Gender Identity
- Female
- Male
- Non-Binary/Third gender
- No Preference

For APRN Mentor: Preference for Mentee Gender Identity
- Female
- Male
- Non-Binary/Third gender
- No Preference

Ethnicity / Racial Identity:
- Latin/Hispanic
- Asian-American/Pacific Islander
- Native American
- Black/African-American
- Alaska Native

Mentor-Mentee Pairing Racial/Ethnic Congruence Preference
- Yes
- No
- No preference

What is your experience with mentoring or being mentored, if applicable? If so, did you benefit from it?
Are you currently participating in a program that matches you with a faculty/staff/peer mentor?
Do you currently have other mentors or mentees?

Mentoring Preferences

Work Orientation:

Task-Oriented: Task-oriented: focuses on getting the necessary task, or series of tasks, in hand in order to achieve defined goals by specified deadlines.

Socio-emotional: focuses on overall morale, the needs of individual workers, and cohesion within group relationships.

Personality Type:

Introverted – I keep to myself
I talk to people sometimes or on occasion
I tend to talk to people often
Extroverted – I am very outgoing and social

Communication preference:

Text
Email
Phone
Zoom / FaceTime
No Preference

Communication Style:

Structured and professional (formal)
Casual and more relaxed (informal)
No Preference

Content Preference: *Please rank from 1 to 10*

Implicit and Unconscious Bias
Cultural Competency
Imposter Syndrome / Confidence Building
Addressing Microaggressions, Stereotype Threat, Tokenism, Model Minority
Communication Skills
Time Management / School-Life Balance
Financial Resources
Professional Goal-Setting
Role Models and Academic Support Systems
Networking Opportunities

Questions 16-18 are for **Mentors.**

As a Mentor, please list the specialties or areas of expertise that you feel you have that can benefit a student APRN mentee in the Mentor Program.

What are the Professional skills you have?

What is your clinical area of expertise?

Questions 19 through 23 are for **Mentees**.

As a Mentee, please describe what area(s) of professional development you would like to explore in the Mentor / Mentee relationship? Are there any goals you want to work on with your mentor or mentee during this project?

What are the professional skills you want to be mentored on?
What are your career goals or goals after graduation?
Anything else you want your mentor to know about you?
What do you hope to gain from this CIM program this quarter?

Do you have anyone in mind as a Mentor or Mentee that you would like to be paired up with?

Appendix D

Assessing Graduate Student Mentorship Survey Tool Permission

Survey tool permission

Herring, Lonnie Preston (Student Nurse) Fri, Aug 18, 2023 at 6:31 PM

From: Erin L Dolan < >

Sent: Friday, August 18, 2023 4:44 PM

To: Herring, Lonnie Preston (Student Nurse) < > **Subject:** Re: Survey tool permission

Dear Lonnie-

Please feel free to use it! It is open for anyone to use.

Please cite this paper as the reference:

Fedesco, H. N., Kraner, E. R., & Dolan, E. L. (In press). Evaluating the Feasibility, Utility, and Impact of Engaging in Mentorship Assessment to Improve Doctoral Mentoring Relationships. *New Directions for Teaching and Learning, Nurturing the Faculty-Student Mentoring Dynamic in Higher Education.*

I've attached the manuscript for your reference and so you can see the provenance of the survey items. Please do not share the manuscript with anyone else without checking with me first.

Thanks and best wishes for success with your research!

Erin

From: Herring, Lonnie Preston (Student Nurse) < >
Date: Friday, August 18, 2023 at 5:25 PM
To: Erin L Dolan < >
Subject: Survey tool permission

Hello Dr. Dolan,

I am a second-year Doctor of Nursing Practice (DNP) student at the UCLA School of Nursing. In my research for my upcoming DNP project, I came across your graduate student survey assessing graduate student mentorship. I would like your written permission to utilize and adapt your survey for my DNP proposal, which I will submit soon. My project will examine the effects of a culturally aware mentorship (CAM) program on ethnic minority student satisfaction and academic persistence for advanced practice registered nurse (APRN) students versus a traditional mentorship program. I will look at first-year APRN students enrolled at UCLA. I am interested in further building upon the evidence-based CAM program research, and I will implement my study project beginning in January. Any thoughts or guidance on your survey or this endeavor would be greatly appreciated.

Kind regards,

Lonnie Herring,

Certified Registered Nurse Anesthetist (CRNA)

UCLA 2nd year DNP Student, Class of 2024

Erin L. Dolan, Ph.D. *she/her/hers*

Professor, Biochemistry & Molecular Biology

Georgia Athletic Association Professor of Innovative Science Education

The University of Georgia

Appendix E

CIM Program APRN Graduate Student Mentee Survey

This survey aims to allow APRN student mentees to reflect on their working relationship and identify strengths and areas for improvement that affect their satisfaction and academic perseverance decisions. The results are used to guide actionable feedback.

The APRN student mentee completes a survey in which they provide feedback on the CIM support they receive from their mentor. Everyone is asked to reflect on the following:

- The extent to which educational support is provided (i.e., things the mentor does to help the mentee reach their educational goals) is measured using 16 items on a 5-point Likert-scale used for items (e.g., *strongly disagree* to *strongly agree, extremely dissatisfied* to *extremely satisfied*).

- The extent to which psychosocial support is provided (i.e., things the mentor does to enhance the mentee's self-efficacy as well as their personal and emotional development), measured using 30 items on a 5-point Likert-scale used for items (e.g., *strongly disagree* to *strongly agree, extremely dissatisfied* to *extremely satisfied*).

- The extent to which academic persistence decisions are considered (i.e. dropping out, switching to a different university, deferring your educational program, or pursuit of another degree) measured using 6 items on a 5-point Likert-scale used for items (e.g., *strongly disagree* to *strongly agree, yes/no).*

- Ideas for improving work together to support APRN student success are measured using open-ended questions.

This survey should take ~30 minutes to complete but could be longer if you take more time to reflect. Please complete the survey to ensure all your responses are recorded.

Educational Support
The following questions ask about the educational support *(you feel)* your mentor (*should provide)* provided you over the *(next)* past ten weeks. Please rate the extent to which you agree with the following statements:

1. My mentor (*should be)* was available to me when I needed them.

2. My mentor (*should provide)* provided information about learning opportunities open to me.
3. My mentor *(should encourage)* encouraged me to develop professional relationships with others in the field (e.g., faculty/graduate students at or outside of your institution).
4. My mentor *(should help)* helped advise me regarding necessary financial resources (e.g., grants, assistantships/fellowships, scholarships, travel funds).
5. My mentor *(should help)* helped me improve my communication skills.
6. My mentor (*should provide)* provided opportunities for me to learn about scholarly writing.
7. My mentor (*should encourage)* encouraged academic opportunities for me to grow and develop.
8. My mentor (*should accurately assess)* accurately assessed my competence.
9. My mentor (*should give)* gave me a sufficient level of independence.
10. My mentor (*should provide)* provided me with timely and useful feedback.
11. My mentor (*should work)* worked with me to set educational goals.
12. My mentor (*should provide)* provided me with information about ongoing research relevant to my APRN practice specialty.
13. My mentor (*should encourage)* encouraged me to master the skills, methods, and/or techniques to conduct my research.
14. My mentor (*should help)* helped me consider research in an ethical and responsible way.
15. My mentor (*should have)* had reasonable expectations for how many hours I should study/my school workload.
16. My mentor (*should see)* saw me more as a student mentee than a task.

Psychosocial Support

The following questions ask about the psychosocial support *(you feel)* your mentor (*should provide)* provided you over the *(next)* past ten weeks. Please rate the extent to which you agree with the following statements:

1. My mentor (*should support)* supported me in any career path I choose.
2. My mentor (*should motivate)* motivated me in a positive way.
3. My mentor (*should treat)* treated my ideas with respect.
4. My mentor (*should help build)* helped build my confidence.
5. My mentor (*should help)* helped me feel like I belong in my APRN program.
6. My mentor (*should respect)* respected how my identities (e.g., ethnicity, gender, social class, international student status) contribute to my experience as an APRN student.
7. My mentor (*should serve)* served as a role model for me.
8. My mentor (*should work)* worked with me to set clear expectations for the mentoring relationship.
9. My mentor (*should work)* worked with me to align our expectations.
10. My mentor and I (*should communicate)* communicated effectively.

11. My mentor (*should demonstrate)* demonstrated good listening skills during our conversations.
12. My mentor and I (*should feel)* felt comfortable talking about things other than school.
13. My mentor (*should share)* shared her/his career history and experiences with me as an alternative perspective.
14. My mentor (*should address)* addressed my questions or concerns regarding feelings of competence, commitment to educational advancement, relationships with peers and faculty, or school/family conflicts.
15. My mentor (*should be)* was friendly to me.
16. My mentor (*should act)* acted in my best interests.
17. My mentor and I (*should feel)* felt comfortable talking together about racial/ethnic backgrounds.
18. My mentor (*should understand)* understood my needs as a historically underrepresented ethnic minority APRN student.
19. My mentor (*should be)* was understanding when I (*experience)* experienced difficulties that may be related to my race or ethnicity.
20. My mentor (*should recognize)* recognized that racial/ethnic identity may be relevant to my APRN mentoring relationships.
21. My mentor (*should create or allow)* created or allowed opportunities for me to talk about racial/ethnic identity as it relates to my graduate nursing education experience if or when they *(arise)* arose.
22. My mentor (*should encourage)* encouraged me to consider how advanced practice nursing relates to my lived experience.
23. My mentor (*should be)* was willing to discuss race and ethnicity, even if it may *(be)* have been uncomfortable for him/her.
24. My mentor (*should understand)* understood how the student APRN experience might differ for mentees from different racial/ethnic groups.
25. My mentor (*should create)* created opportunities for me to bring up issues of race/ethnicity when relevant.
26. My mentor (*should approach)* approached the topic of race/ethnicity with me in a respectful manner.
27. My mentor (*should be)* was comfortable discussing with me how it feels to be a minority in advanced nursing education.
28. My mentor (*should understand)* understood that racial/ethnic differences between mentors and mentees can enrich the graduate nursing mentoring relationship.
29. My mentor (*should recognize)* recognized aspects of the APRN student experience (e.g., didactics, clinical, research) that may make racial/ethnic minority students feel vulnerable to confirming stereotypes.
30. My mentor (*should notice)* noticed interactions in the mentoring relationship that could be insulting or dismissive to me because of my race/ethnicity.

Academic Persistence / Perseverance Decisions

The extent to which your academic persistence decisions are considered.

1. How strong is your intention to persist in your pursuit of your APRN degree here?
2. How likely is it that you will graduate from this university's APRN program?

3. How likely is it that you will drop out of this APRN program before you complete your degree?
4. How much thought have you given to stopping your education at this university, perhaps transferring to another program or university, or leaving for other reasons?
5. How likely is it that *(a)* this culturally informed mentorship program *(would affect)* affected your academic persistence decision?
6. What is the highest academic degree you expect to earn? [Master of Science or other Master's; Ph.D., D.N.P., or other Doctorate; J.D. (Law); M.D. (Medicine)]

Open-ended Questions

The following feedback **WILL BE** shared with your mentor. Because your feedback for these two questions will be shared verbatim, it would be best to write in complete sentences. **Note**: Your response is most helpful if you provide specific information.

1. Name aspects of your relationship with your mentor that you believe *(would help)* helped you work well together.
2. What are 1-3 things you feel that your mentor (*can do)* did to help you be successful as an APRN student?

End of Survey Message

Thank you so much for completing this survey. You will receive results and tailored resources within a few weeks of completion of the DNP project.

Appendix F

CIM Program Session Agenda Discussion Topics

Week 1:
Session 1: **Introduction and Expectations**
- Introduction
- Establishing mentor-mentee expectations and goals

Week 2:
Session 2: **Implicit and Unconscious Biases**
- Understanding the unique challenges faced by HUEM graduate students
- Discussing the importance of HUEM representation in APRN education and practice

Week 3:
Session 3: **Cultural competency**
- Exploring the importance of cultural competency in APRN practice
- Discussing strategies for conducting culturally informed care

Week 4:
Session 4: **Belongingness and Self-efficacy**
- Discussing strategies for overcoming imposter syndrome and building confidence
- Exploring micro- and macroaggressions, stereotype threat, tokenism, and model minority myth

Week 5:
Session 5: **Communication**
- Discuss the importance of effective communication and presentation skills
- Discussing strategies for navigating academic and professional environments

Week 6:
Session 6: **Time Management and School-Life Balance**
- Developing effective time management and productivity techniques
- Discussing strategies for managing multiple responsibilities in graduate school
- Identifying resources for academic support and time management tools

Week 7:
Session 7: **Financial resources**
- Exploring funding opportunities and financial literacy in graduate school
- Discussing strategies for securing grants, scholarships, and fellowships
- Identifying resources for financial education and support

Week 8:
Session 8: **Professional goals**
- Exploring career aspirations and potential APRN pathways and beyond
- Discussing strategies for preparing CVs and cover letters

Week 9:
Session 9: **Role models and Networking opportunities**
- Discussing strategies for finding mentors and sponsors in academia
- Identifying resources and support systems within the university
- Exploring the importance of mentorship and building a professional network
- Identifying opportunities for internships, collaborations, or research experiences
- Discuss networking and building professional relationships

Week 10:
Session 10: **Achievement Recognition and Reflection**
- Celebrating achievements, career clarification, and setting future goals
- Sharing personal stories and experiences in graduate school
- Reflecting on the mentorship experience and progress made
- Possibly discuss strategies for maintaining the mentor-mentee relationship beyond the program.

Appendix G

Study Information Sheet

OHRPP IRB# 23-001998

Culturally Informed Mentorship and Historically Underrepresented Ethnic Minority Advanced Practice Registered Nursing Students

INTRODUCTION

Lonnie Herring, DNP (c), and Faculty Sponsor Dr. Jian Li from the Graduate School of Nursing at the University of California, Los Angeles are conducting a research study. This study is being funded by the DNP Project Lead, Lonnie Herring. You were selected as a possible participant in this study because you self-identified as a historically underrepresented ethnic minority advanced practice registered nursing student in your first year of study. Your participation in this research study is voluntary.

WHAT SHOULD I KNOW ABOUT A RESEARCH STUDY?

- Someone will explain this research study to you.
- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

WHY IS THIS RESEARCH BEING DONE?

Culture has a significant role in how we learn, grow, our perspective, and how we interact with our patients. It is essential to have a healthcare workforce that reflects the diverse communities we serve to impact diverse patient outcomes. Minority advanced practice registered nursing (APRN) students may often face unique challenges and barriers that hinder their success and professional growth. To address these issues, I developed a 10-week culturally informed mentorship program designed to empower and support ethnic minority APRN students.

HOW LONG WILL THE RESEARCH LAST AND WHAT WILL I NEED TO DO?

Participation will take a total of about sixteen hours over eleven weeks. No long-term or longitudinal analysis will be conducted.

If you volunteer to participate in this study, the researcher will ask you to do the following:

- Respond to the recruitment email sent to your secure sonnet email account.
- Complete one Mentor-Mentee Pre-Mentoring Questionnaire online to assess your preferences and expectations to assist in pairing you with a mentor. Completion time may require up to 30 minutes.
- Complete the APRN Graduate Student Mentee Survey Pre-test online to assess your perspectives and expectations for educational and psychosocial support within a mentoring relationship and personal academic persistence decisions.
- Select a mentor or one can be assigned upon your request. Completion time may require up to 60 minutes.
- Engage in a structured ten-week consecutive mentorship program with your trained mentor guided by assigned topics for discussion. Conversational topics may be uncomfortable, but it is your choice to respectfully decline to discuss any topic that you deem too sensitive. This evidence-based culturally informed mentorship program serves as the intervention.
- Complete the APRN Graduate Student Mentee Survey Post-test online to assess your satisfaction with the educational and psychosocial support provided during your mentoring relationship and academic persistence decisions. Completion time may require up to 60 minutes.

ARE THERE ANY RISKS IF I PARTICIPATE?

1. Breach of confidentiality: There is a risk that the personal information and experiences shared by the student mentees may be disclosed unintentionally, compromising their privacy and confidentiality.
2. Emotional distress: Discussing personal experiences and challenges related to academic perseverance may evoke negative emotions or traumatic memories for some student mentees.
3. Cultural sensitivity: The study project aims to be culturally informed, but there is a risk of unintentionally perpetuating stereotypes or biases, if not approached with sensitivity and cultural competence.
4. Time commitment: Participating in the study project may require a time commitment from the student mentees, potentially impacting their academic or personal responsibilities.

ARE THERE ANY BENEFITS IF I PARTICIPATE?

You may benefit from the study through:

1. Personal and professional growth: The program provides a supportive environment for you to develop your skills, knowledge, and confidence, enabling academic and career satisfaction

2. Cultural sensitivity and competency: By engaging with trained mentors and participating in weekly discussions, you may gain a deeper understanding of cultural nuances in healthcare, enhancing your ability to provide culturally sensitive care to diverse patient populations.

3. Networking opportunities: Building connections with experienced professionals opens doors to mentorship, career advancement, and collaboration, fostering long-term professional relationships.

4. Increased self-advocacy: Through mentorship and education, students may learn to better advocate for themselves, navigate challenges, and overcome barriers, empowering them to succeed in their academic and professional pursuits.

The results of the project study may help build up the burgeoning research that addresses the unique challenges and barriers that can hinder the success and professional growth of historically underrepresented ethnic minority APRN students. This educational initiative is meant to increase APRN workforce diversity to improve patient and healthcare outcomes among increasingly diverse communities. This program aims to provide a nurturing environment where students can thrive, gain valuable insights, and build a strong foundation for their future careers.

What other choices do I have if I choose not to participate?

Your alternative to participating in this research study is to not participate without penalty.

HOW WILL INFORMATION ABOUT ME AND MY PARTICIPATION BE KEPT CONFIDENTIAL?

The researchers will do their best to make sure that your private information is kept confidential. Information about you will be handled as confidentially as possible, but participating in research may involve a loss of privacy and the potential for a breach of confidentiality. Study data will be physically and electronically secured by the project lead. As with any use of electronic means to store data, there is a risk of breach of data security.

Use of personal information that can identify you:
Each student participant will be assigned a random number to be used for the completion of the questionnaires and surveys.

How information about you will be stored:
Data and personal information will be stored in a password and biometrically-protected file solely used by the project lead.

People and agencies that will have access to your information:
No other people or agencies outside of the project lead, DNP project team, and authorized UCLA personnel will have access to your personal information. If a situation arises where your personal information is required, the project lead will contact you via phone or email for prior written consent via email.

The DNP project team, authorized UCLA personnel, and the project lead may have access to study data and records to monitor the study. Research records provided to authorized, non-UCLA personnel will not contain identifiable information about you. Publications and/or presentations that result from this study will not identify you by name or demographic data.

How long information from the study will be kept:
Data from this project will be maintained in keeping with UCLA IRB standards.

USE OF DATA FOR FUTURE RESEARCH
Your data, including de-identified data, may be kept for use in future research.

WILL I BE PAID FOR MY PARTICIPATION?
At the completion of the program, you will receive your choice of $150 applied to your BruinCard Deposit or $150 parking vouchers.

WHO CAN I CONTACT IF I HAVE QUESTIONS ABOUT THIS STUDY?

The DNP Project Lead:
If you have any questions, comments or concerns about the research, you can talk to the project lead or the Project Chairperson. Please contact: Lonnie Herring at LPHerring@sonnet.ucla.edu or Dr. Jian Li at jianli2019@g.ucla.edu.

UCLA Office of the Human Research Protection Program (OHRPP):

If you have questions about your rights as a research subject, or you have concerns or suggestions and you want to talk to someone other than the researchers, you may contact the UCLA OHRPP by phone at (310) 206-2040, by email at participants@research.ucla.edu, or by mail at Box 951406, Los Angeles, CA 90095-1406.

WHAT ARE MY RIGHTS IF I TAKE PART IN THIS STUDY?

- You can choose whether you want to be in this study or not, and you may withdraw your consent and discontinue participation at any time.
- Whatever decision you make, there will be no penalty to you, and no loss of benefits to which you were otherwise entitled.
- You may refuse to answer any questions that you do not want to answer and still remain in the study.

You will be given a copy of this information to keep for your records.

Appendix H

Mentee - Detailed categorizations of responses to open-ended questions

Areas of Professional Development Interest

Participants	Groups	Responses
Mentee 1	Professional Development and Networking	Overcoming imposter syndrome, improving communication skills, advocating for myself, networking opportunities, and helping me navigate the transition into a professional role with confidence.
Mentee 2	Confidence and Role Transition	I would like to learn how to build the confidence level as I transition from being a registered nurse to a provider. I would like to also know if there's any opportunities to learn how to have a school-work-life balance. Seek guidance and support in developing new knowledge and skills. Also possibly gaining some information of what career opportunities are available as a practitioner that is not always advertised
Mentee 3	Confidence and Role Transition	how to build confidence, communicate more effectively with people who are different than myself.
Mentee 4	Work-Life Balance and Support	I have worked as a registered nurse close to 10 years now and transitioning into a practice where I am working as a provider can definitely be challenging. Being a minority female, there will be struggles and I hope learn how to survive in the real world as an APRN, collaborating effectively with other providers.
Mentee 5	Communication Skills and Cultural Competency	Share experiences, improve communication skills, expand knowledge, cultural competency
Mentee 6	Work-Life Balance and Support	I would like to be exposed to diverse perspective, and have support while going through graduate program.

Professional Skills for Mentorship Focus

Participants	Groups	Responses
Mentee 1	Communication and Confidence Skill	Communication, increasing confidence, and improving networking skills.
Mentee 2	Communication and Confidence Skill	learning how to transition and effectively communicate to colleagues and patients as a practitioner
Mentee 3	Communication and Leadership Skill	communication, leadership
Mentee 4	Communication and Leadership Skill	Communication skills; how to be a leader; how to deal with microaggression; how to strive as a minority APRN.
Mentee 5		
Mentee 6	Communication and Confidence Skill	I would like to develop communication skills and build confidence in clinical setting.

Career Goals and Post-Graduation Aspirations

Participants	Groups	Responses
Mentee 1	Work-Life Balance and Respectful Practice Environment	Career goals are to find a work-life balance environment in my soon to be new role as an FNP. Family is the most important to me, especially after having a child and balance is key for me. One of my biggest goals is to find a respectful environment to practice in, where we all encourage learning opportunities and professional and personal growth along with self-care. As of right now I hope to work with underserved populations in a primary care/community setting or in an urgent care. I am hoping to see all populations from pediatrics to adults and women's health.

Mentee 2	Serving Underserved and Minority Populations	I am unsure what direction I want to go with my professional career after graduation. I do have an interest in working in a community-based setting that focuses on minority/under-represented population
Mentee 3	Serving Underserved and Minority Populations	work at an FQHC
Mentee 4	Serving Underserved and Minority Populations	I am not too sure but I hope to work in a clinic that servers the underserved population, or perhaps a clinic that specializes like orthopaedics, allergy, or urgent care.
Mentee 5	Specialized Clinical Areas	Geriatric outpatient primary care clinic or nursing home
Mentee 6	Specialized Clinical Areas	Working as FNP is my career goal, but I am not too sure what opportunities there are. Currently, I have an interest in occupational and environmental health specialty.

Additional Insights for Mentor Understanding

Participants	Groups	Responses
Mentee 1	Enthusiasm for the Mentorship Program	Just that I am very excited to have this mentorship opportunity and that I am looking forward to see both of us grow in this mentorship.
Mentee 2	Openness to Learning and Feedback	I am open and willing to receive any type of advice that can help me advance and transition in my career as a practitioner. I take constructive criticism well as I believe that having feedback will help me to identify areas and opportunities for growth
Mentee 3		-
Mentee 4	Enthusiasm for the Mentorship Program	I am enthusiastic about participating in this program and grateful for the opportunity to work alongside the mentor who will be assigned to me.

Mentee 5	Language and Confidence Challenges	English is not my primary language and I do not have confidence in myself. Sometimes I feel like I do not belong.
Mentee 6	Background Information	I am first year FNP student at UCLA.

What do you hope to gain from this CIM program this quarter? (For Mentor and Mentee)

Participants	Groups	Responses
Mentee 1	Confidence and Professional Growth	Confidence
Mentee 2	Confidence and Professional Growth	I hope to potentially gain a long term mentor who can potentially assist in the transition from being a novice to "expert"
Mentee 4	Guidance, Support, and Networking	I hope to gain a deeper understanding of the cultural nuances and obstacles encountered by minority APRNs and discover strategies to overcome these challenges. I hope to receive guidance and support during this journey.
Mentee 5	Confidence and Professional Growth	To gain confidence and get support
Mentee 6	Guidance, Support, and Networking	By having a mentor, I would like to receive guidance and support. Also would like to get networking opportunities.
Mentor 1	Confidence and Professional Growth	To guide mentee to achieve the goals and build professional relationship.

Appendix I

Mentors - Detailed categorizations of responses to open-ended questions

Specialties or Areas of Expertise Beneficial to APRN Students

Participants	Groups	Responses
Mentor 1	Professional Skills and Personal Development	Assertiveness, collaboration and communication, confidence
Mentor 2	Cultural and Emotional Intelligence	Cultural bias, with diversity, goal setting, time management, stress reduction
Mentor 3	Career Pathways and Leadership	Extensive experience with medical start-ups and alternative medicine. Networking and negotiating. Going from western medicine and "traditional" jobs to more "new age" medicine.
Mentor 4	Cultural and Emotional Intelligence	How to acknowledge and express emotions. How to validate feelings and realities of situations. Emotional regulation, setting healthy boundaries. Adaptability and acceptance. Resilience and self-confidence
Mentor 5	Career Pathways and Leadership	Pediatrics, leadership, communication, work-life balance
Mentor 6	Authenticity and Strength Identification	Staying true to yourself. Identify and cultivate professional strengths

Clinical Area of Expertise

Participants	Groups	Responses
Mentor 1	Chronic and Specialized Medical Care	Anesthesia

Mentor 2	Mental Health and Psychotherapy	Psychiatric and mental health
Mentor 3	Integrative and Functional Medicine	Hormone replacement therapy, functional medicine, peptide therapy, mental health, ketamine/psychedelic assisted psychotherapy
Mentor 4	Mental Health and Psychotherapy	Adult Psychiatric and Mental Health, Interpersonal Psychotherapy
Mentor 5	Pediatrics and Leadership in Nursing	Pediatric nursing, nurse management
Mentor 6	Chronic and Specialized Medical Care	Endocrinology, hematology, chronic disease management.

Greatest Clinical Strengths

Participants	Groups	Responses
Mentor 1	Professional and Team Dynamics	Organization and planning
Mentor 2	Interpersonal and Emotional Intelligence	Understanding and connectiing
Mentor 3	Clinical Skills and Knowledge	History taking! And diagnosing
Mentor 4	Interpersonal and Emotional Intelligence	Effective communication and trust building with patients. I genuinely care for the other and I believe with the right support every person can live up to the life they aspire to have.
Mentor 5	Interpersonal and Emotional Intelligence	Listening, supportive, presence, critical thinking, creativity
Mentor 6	Professional and Team Dynamics	Knowing when and how to collaborate for the best patient outcomes

Appendix J

Key Strengths in Mentor-Mentee Relationships as Identified by Participants

Pre-CIM Program Intervention

Participants	Groups	Responses
Mentee 1 (601)	• Open and Honest Communication • Mutual Respect and Understanding • Supportive and Positive Environment	Clear communication, respect, goal alignment, support would help us work well together.
Mentee 2 (201)	• Open and Honest Communication	Effective communication Honesty Telling me what I need to hear, not what I want to hear(ties in with honesty)
Mentee 3 (101)	• Supportive and Positive Environment	friendly, approachable, non judgmental
Mentee 4 (501)	• Mutual Respect and Understanding • Supportive and Positive Environment	Having mutual respect is important to maintain a healthy relationship. I would love to have an open relationship with my mentor whom I can share my experiences and feelings.
Mentee 5 (401)	• Open and Honest Communication • Mutual Respect and Understanding • Supportive and Positive Environment	I believe having a clear and open communication that allows both of us to feel comfortable expressing our thoughts, concerns, and goals. Also having the empathy and understanding when it comes to the mentee's experience as a new APRN. Lastly, having trust and respect for each other's experience and perspectives to create a positive environment.
Mentee 6 (301)	•	No responses given

Post-CIM Program Intervention

Participants	Groups	Responses
Mentee 1 (601)	• Guidance and Support • Empowerment and Confidence • Feedback and Expertise	1. Guidance and support: My mentor provided valuable guidances, resources through our interactions, enabling me to navigate challenges effectively. 2. Empowerment: My mentor empowered me to challenge myself to learn and grow as an APRN, and built a sense of confidence and competence in my abilities, and also as an minority. 3. Feedback Loop: During idea exchanges, my mentor offered unique insights from a psychological perspective, enriching our problem-solving approach. Her expertise in a different specialty was invaluable in broadening my understanding and skills as a mentee.
Mentee 2 (201)	• Shared Values and Growth	I think our shared values and commitment to person and professional growth created a supportive environment.
Mentee 3 (101)	• Approachability and Focus on Success	Immediately on the first call my mentor was friendly and approachable. She went over what her goals were for me and what I should expect from her. Everything was focused on my success. She acknowledged racial/ethnic disparities she has faced with examples and opened the conversation for me to feel comfortable expressing myself. We further got to discuss gender identity and how this plays a role in cultural behaviors in healthcare. She was flexible with scheduling and organized. I am truly so grateful for having her be part of my journey.
Mentee 4 (501)	• Safe Space and Comfort	Her friendliness and wellness to listen what I need to say. It is so easy to connect with her and share my opinions openly without being judged. I really appreciate for providing this safe space to discuss and express my concerns.

Mentee 5 (401)	• Safe Space and Comfort	I was very nervous in the beginning because I'm introverted and it can be difficult for me to talk to people I have just met. My mentor provided a safe space where I was comfortable sharing my personal experiences. I also enjoyed hearing my mentor's stories, which helped alleviate the sense of isolation I often felt as a minority in certain situations.
Mentee 6 (301)	• Shared Background and Experiences	common ethnic background, both first generation college students with immigrant parents. similar issues in terms of gender roles, pressure from family, expectations from family.

Appendix K

Mentor Support Valued by APRN Students for Success

Pre-CIM Program Intervention

Participants	Groups	Responses
Mentee 1 (601)	• Professional Development Guidance • Confidence Building • Emotional Support	1. Provide guidance and advice to offer valuable insights, advice, and guidance related to clinical rotations and profession development. 2. Foster professional identity and help to promote confidence. 3. Support emotional well-being. Someone who is honest and real.
Mentee 2 (201)	• Professional Development Guidance • Networking • Practical Insights	I feel that mentor could help me be successful as a APRN student by providing guidance, support, facilitating networking and professional development and offering clinical insights from their own experience.
Mentee 3 (101)	• Active Listening • Professional Development Guidance • Constructive Feedback	listen, mentor and feedback
Mentee 4 (501)	• Constructive Feedback • Professional Development Guidance • Emotional Support	Offer feedback and guidance Offer emotional support
Mentee 5 (401)	• Professional Development Guidance • Emotional Support • Confidence Building	Share how to navigate this program because I am stressed and feel overwhelmed with my assignments. Share time management skills to find a balance between work and school.

Post-CIM Program Intervention

Participants	Groups	Responses
Mentee 1 (601)	• Support and Encouragement • Professional and Personal Development	My mentor consistently provided support and encouragement throughout our sessions, aiding me in navigating the challenges of graduate studies and maintaining motivation. She placed a strong emphasis on professional development, emphasizing communication skills, time management, and networking within the healthcare community, while also highlighting the importance of remaining active in the role of a healthcare provider. Through her guidance and encouragement, my mentor equipped me with the essential skills for success in my future APRN career. With a whole-hearted listening approach, she shared solutions drawn from her experience, incorporating psychological techniques and demonstrating effective documentation and resource utilization, as well as fostering positive relationships with colleagues. Overall, the mentorship program was very beneficial in my development as a future APRN. The structured guidance and weekly sessions were valuable, offering me a roadmap to success.
Mentee 2 (201)	• Support and Encouragement	She was emotionally supportive and encouraging during challenging times, She also provided valuable feedback and guidance
Mentee 3 (101)	• Confidence Building • Support and Encouragement	My mentor truly listened with care and helped me push through the challenges I was having that were making me question if being in school and going into an APRN role was the best fit for me. She provided me with different perspectives when I could only see things with tunnel vision. She taught me how to advocate for myself and communicate better. Additionally, she reassured me many times and normalized the experiences I was having as being part of the journey and helped me build so much confidence.

Mentee 4 (501)	• Professional and Personal Development • Support and Encouragement	She inspired me to pursue higher education and showed me path to reach my professional and person
Mentee 5 (401)	• Confidence Building • Professional and Personal Development	1. How to become more assertive and confident in communication when dealing with passive-aggressive situations. 2. Provided academic and personal advice whether it is in school, work, or home.
Mentee 6 (301)	• Confidence Building	build confidence speak out i am where i am because i earned it

TABLE OF EVIDENCE

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
Black, S. J., Byars-Winston, A., Cabrera, I., & Pfund, C. (2022). Enhancing research mentors' cultural awareness in stem: A mentor training intervention. *Understanding Interventions Journal*, *13*(1), 36522.	Evaluate novel evidence-based mentorship education intervention for Enhanced Cultural Awareness (ECA) developed to build the cultural awareness of research mentors.	**Sample**: Participants from 16 research experiences for undergraduate programs; mentors of all levels (graduate students through full professors and academic leaders). **Sample size**: n = 92 participants; data from 62 used d/t attrition. **Setting**: Virtual/Online synchronous classroom. ECA module evaluation implemented as the second of four 2-hr mentor training sessions in the larger randomized control trial study.	**Design**: Qualitative, descriptive study **Procedure**: Two-hour synchronous online training. ECA module curriculum developed to assess *knowledge, awareness, & skills* using tenets of Multicultural Competency model; 8 facilitators underwent 4-hour training for implementation. **Intervention**: ECA module education training focused on raising mentors' awareness about cultural diversity in themselves and others, examining benefits and complications of cultural diversity in mentoring. **Measurement**: Survey of Likert-type	**Statistical analysis**: Descriptive statistics series of paired *t*-tests analyses for changes in participants' rating of their CAM skills after training; Effect size estimate Cohen's d_Z for standardized difference between paired means; open-ended items illustrating examples of mentors' reactions to ECA module and intended changes to mentoring practices. **Results**: *Reaction* – 96% ECA had value; nearly 70% 'very' or 'extremely' valuable; benefit of learning from collective voices normalizing challenges and potential solutions about CAM discussion topics. *Learning* – statistically significant improvement in all 5 CAM skill items. *Behavior* – 96% planned	**Discussion**: Benefit and value in discussion-based design of ECA module. Improved confidence to intentionally engage in diversity discussions with mentees. ECA module can change mentor's self-reflection of abilities and behaviors related to CAM. 'Safe' learning environment for potential intensity of race-based conversations. **Interpretation**: ECA module may be effective intervention for STEM faculty professional development or mentors' capacity for CAM practices. **Limitations**: Self-reported data; Reported intentions may or may not relate to mentoring behaviors. Follow-up with longitudinal data. **Evidence level:** Level VI

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
			questions and open-ended responses.	to make changes in mentoring practice. *Virtual learning platform* – participants adapted quickly & enjoyed facilitated group engagement of case scenarios.	
Williams, L. B., Bourgault, A. B.,Valenti, M., Howie, M., & Mathur, S. (2018). Predictors of underrepresented nursing students' school satisfaction, success, and future education intent. *Journal of Nursing Education, 57*(3), pp. 142-149. . https://doi.org/10.3928/014	Fourfold purpose of secondary data analysis. Data for all underrepresented minority (URM) students selected from NCIN survey results to predict: first-time NCLEX pass rates satisfaction with accelerated nursing programs; intent to pursue advanced	**Sample**: -2,250 non-White nursing students. -Age 28.5 years (+/- 6.6). -Accelerated programs-students who have bachelor's degrees in non-nursing disciplines. **Sample size**: -n = 2,250 **Setting**: -Accelerated BSN and MSN nursing programs with New Careers in Nursing (NCIN) programs.	**Design**: -Tinto's model of student retention -Five conditions associated with enhanced student retention. **Procedure**: -Survey items Likert style, multiple choice, multiple select, and open-ended. **Intervention**: -Student surveys **Measurement**: -Variables Significant to Success Levels for URM Nursing Students.	**Statistical analysis**: -Likert scale responses converted binary answers. -Chi-square and Fisher's exact tests of association -Logistical regression model **Results**: -Aim 1: Those without barriers and satisfaction with interaction with non-teaching faculty more likely to pass NCLEX on first attempt. -Aim 2: Students' satisfaction with faculty's attitude toward students almost six times as likely to be satisfied with nursing program. -Aim 3: Students having positive interactions with other URM more	**Discussion**: -Largest data set of URM accelerated nursing students. -Variables significantly associated with NCLEX success occurred at midpoint -Satisfaction associated with PIP, faculty gender representation, and factors about faculty's overall attitudes toward students and faculty's response to older and nontraditional students. **Interpretation**: -To increase nursing diversity, access to social support increases, and financial barriers are reduced. **Limitations**: -Secondary data analysis.

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
84834-20180221-03	education in nursing; association of psychological, social, and cultural factors with micro-aggressions.			than four times more likely to intend to pursue advanced education. -Aim 4: Not statistically significant.	-Revisions made to midpoint survey after program's second year. -No validated survey instruments available. **Evidence level:** Level VI
Byars-Winston, A., Womack, V. Y., Butz, A. R., McGee, R., Quinn, S. C., Utzerath, E., Saetermoe, C. L., & Thomas, S. B. (2018). Pilot study of an intervention to increase cultural awareness in research mentoring: Implications for diversifying the scientific workforce. *Journal of Clinical and Translational*	Pilot study assessed outcomes of culturally responsive effort to create and disseminate a new intervention titled Culturally Aware Mentoring (CAM) for research mentors.	**Sample**: Research mentors from 3 US research-intensive universities **Sample size**: n = 64 **Setting**: Six-hour CAM training at 3 separate sites, each affiliated with the NIH-funded Diversity Program Consortium.	**Design**: Qualitative, descriptive study **Procedure**: Four theoretical foundations key in guiding approach to curriculum development and intervention design. Pilot test with two iterative revisions to training at 3 different universities. **Intervention**: Intervention development resulted in 4 products: a 6-hour CAM training curriculum, a facilitator guide, an online pre-training module, and metrics to evaluate the	**Statistical analysis**: Descriptive statistics and statistical tests of significance using IBM SPSS Statistics version 23. Dependent samples *t*-tests conducted for each of 4 *skill gain* items. In addition to examining *p* values to determine statistical significance, also examined practical significance using the effect size d_z. **Results**: *Perceived value of training* - likely or very likely to recommend training to other mentors; *Perceived skills gain* - Significant skill gains reported across all	**Discussion**: CAM training achieved goal of intentional, open, honest conversations re: race, privilege, discrimination, unconscious bias, and lived experiences of HUEM groups in sciences. CAM training shows promise as intervention to build mentors' capacity to engage directly with racial/ethnic topics in research mentoring relationships. CAM training mentors report significant skill gains in intentionality to address race & ethnicity & increased openness to broach racial, ethnic, and cultural topics in mentoring and willingness

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
Science, *2*(2), 86–94. https://doi.org/10.1017/cts.2018.25			effectiveness of CAM training **Measurement**: Quantitative Qualtrics pre-training and post-training evaluation survey data collected. Qualitative interviews 18–24 months post-intervention.	4 skills from attending CAM training; *Value of CAM pre-training online module* – Regardless of familiarity, rated module components as highly valuable in preparation to participate in CAM training; *Impacts of CAM on participants' perceptions and actions post-training* – Almost all could easily identify examples of lasting changes in self-reflections and behaviors as a result of CAM.	to go outside of comfort zone. **Interpretation**: Mentors told to consider cultural diversity during CAM, race/ethnicity in particular, in mentoring relationships not from just mentees' vantage point but from the vantage point of how each's cultural identities play out in relationships. Foundational knowledge of research mentoring principles better prepared to incorporate CAM into mentoring practices. **Limitations**: Participants' gender intersecting with race and ethnicity might be important interactional aspect. Self-report of evaluation data. **Evidence level:** Level VI

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
Gates S. A. (2018). What works in promoting and maintaining diversity in nursing programs. *Nursing Forum*, *53*(2), pp. 190–196. https://doi.org/10.1111/nuf.12242	Explore faculty perceptions of what they believe are successful strategies in attracting and maintaining diverse students in their institutions.	**Sample**: -10 faculty recruited from 3 nursing schools with >30% UREM student population. -Mean of 17.3 years of teaching experience. -Age range 40-67 years old. -7 White and 3 Black participants. **Sample size**: -n=10 **Setting**: -Large midwestern U.S. public college; large eastern U.S. public college; and a smaller southern U.S. faith-based private college.	**Design**: -Qualitative, descriptive study **Procedure**: -Websites evaluated for diversity and audio-taped telephone interviews conducted with nursing faculty **Intervention**: -Taped telephone interviews with semi-structured set of open-ended questions to elicit perceptions of respective nursing program's diversity efforts. **Measurement**: ▪ Website characteristics evaluated ▪ Interviews transcribed ▪ Themes identified ▪ Data categorized ▪ Findings compared.	**Statistical analysis**: -Qualitative, descriptive approach **Results**: Diversity improvement initiatives: -partner with community colleges -promote international programs -promote mentoring -provide remediation & outreach - offer online education -provide scholarships & financial aid.	**Discussion**: -Diversity improvement initiatives **Interpretation**: -Commitment to improving and maintaining diversity in nursing programs requires a sustained & concerted faculty effort to make programs fit for minority student **Limitations**: -No rates of retention for schools of nursing. -Small qualitative study -No UREM NCLEX pass rates. **Evidence level:** Level VI

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
Snowden, K., Foronda, C., Gonzalez, J., Ortega, J., Salani, D., de Tantillo, L., Hooshmand, M., & Peragallo Montano, N. (2018). Developing Minority Nursing Students: Evaluation of an Innovative Mentorship and Leadership Program. *The Journal of nursing education*, *57*(9), 526–534. https://doi.org/10.3928/01484834-20180815-04	Describe and evaluate an innovative program designed to provide mentorship and increase leadership skills of minority nursing students.	**Sample:**-42 participants (29 women, 13 men) **Sample size**: -n=40 **Setting:** -University of Miami participating in 1-year New Careers in Nursing Program of Robert Wood Johnson Foundation and American AACN.	**Design**: -Descriptive qualitative study **Procedure**: -One-year mentorship-leadership training program designed to support minority nursing students. **Intervention**: -Multifaceted approach involving financial aid, incorporating technology, enacting and online pre-immersion course, choosing and training mentors, and intensive review sessions and tutoring. **Measurement**: -Program evaluation by program director meeting regularly with scholars and faculty mentors.	**Statistical analysis**: -Descriptive quantitative data analyzed by two nurse researchers using Sandelowski's content analysis method. Qualitative data categorized with supportive quotes, and consensus established on emerged categories. Categories supported with supportive quotations from student participants. **Results**: -All 40 participants passed the NCLEX-RN and obtained employment. -Qualitative data about program revealed categories of leadership, networking, mentorship, more time, and gratitude.	**Discussion**: -Program was highly successful. -Qualitative data supported success. **Interpretation**: -This program was successful in promoting retention, graduation, and development of future minority nurse leaders **Limitations**: -Conducted at single site; generalizability limited. -Survey participation low. -Quantitative and qualitative data obtained subjectively but NCLEX pass rate verified objectively. **Evidence level:** Level VI

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
Womack, V. Y., Wood, C. V., House, S. C., Quinn, S. C., Thomas, S. B., McGee, R., & Byars-Winston, A. (2020). Culturally aware mentorship: Lasting impacts of a novel intervention on academic administrators and faculty. *PLOS ONE*, *15*(8), e0236983. https://doi.org/10.1371/journal.pone.0236983	Describe how participation in the implementation of a CAM intervention influences the attitudes, beliefs, and behaviors of research mentors, staff, and administrators.	**Sample**: Academic administrators and faculty participants from the 3 previous CAM trainings in interviews. Six from large public university and nine each were from the other two sites. Eighteen are women. Includes African American, Hispanic, White, and Asian men and women. **Sample size**: n = 24. Seventy-four previous participants were contacted and 24 (32.4%) agreed to participate. **Setting**: Telephone interviews of participants from a private, minority serving institution in the south; a consortium of state universities in the west, with significant focus on inclusion of administrators and program directors of mentoring and/or diversity programs; and	**Design**: -Qualitative, descriptive study **Procedure**: Audio-taped telephone qualitative interviews lasting 18-45 minutes conducted with academic administrators and faculty, 18–24 months post-participation in CAM training. **Intervention**: Interview protocol addressed: memorable activities from intervention; emotions and thoughts during intervention; personal, interpersonal, or institutional changes that they have attempted since intervention; facilitators to changes and barriers to activation of such changes after CAM; and recommendations	**Statistical analysis**: Qualitative analysis software NVivo was used to facilitate data coding and analysis. **Results**: Continuing influences of CAM on participant awareness of cultural differences, assumptions about and approaches toward interactions with colleagues and students, and efforts to change behaviors to promote inclusive practices in mentoring and teaching of HU students in STEM. Three observed impacts of the CAM intervention—changes in intrapersonal awareness, interpersonal relationships, and skills-based behaviors—work together in facilitating participants' development into culturally aware mentors.	**Discussion**: Positive impact of CAM training on diverse participants ranging from skeptical and novice to experienced and converted, and from those working directly with trainees to those working on institutional efforts to advance effective mentoring. **Interpretation**: Findings provide evidence that CAM can be incorporated into existing mentor training programs designed to improve confidence and capacity of senior research faculty mentors to make culturally aware, scholar-centered decisions to recognize and respond to cultural differences within their mentoring and collegial relationships more deliberately. **Limitations**: High percentage of previous participants not interviewed (67.5%).

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		3) a west coast large urban, minority serving state university.	for future CAM sessions. **Measurement**: Inductive and iterative approach using "constant comparison" to identify themes in interviews and compare our interpretations across participants. Themes include: what activities participants remembered from CAM and extent they associated those activities with change; what changes they reported in attitudes, norms, skills and behaviors; what facilitators and barriers to change they experienced after CAM; and finally, what recommendations they had for improving CAM.		Participant may be motivated by positive updates. Small sample size. Data not individually identifiable, correlations from the earlier study could not be made. **Evidence level:** Level VI

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
Byars-Winston, A., Rogers, J., Thayer-Hart, N., Black, S., Branchaw, J., & Pfund, C. (2023). A randomized controlled trial of an intervention to increase cultural diversity awareness of research mentors of undergraduate students. *Science Advances*, *9*(21), 1–11. https://doi.org/10.1126/sciadv.adf9705	Test effectiveness of established mentor training curriculum with its original equity & inclusion module compared to same curriculum with unique module designed to increase research mentors' cultural diversity awareness (CDA).	**Sample**: Mentors- women (54%) and White (68%). Majority either in faculty positions or graduate students. Paired mentees- women (67%) and White (53%) or Hispanic (37%). **Sample size**: -n=197 mentors (110 experimental & 87 control groups; 117 mentees (53 experimental & 64 control groups). **Setting**: 32 under-graduate research training programs in US.	**Design**: -Experimental RCT **Procedure**: Mentors randomized into experimental & comparison groups to receive four 2-hr sessions (8 hrs total) of mentor training delivered synchronously online. After mentor training, mentors and mentees completed previously validated measures through electronic survey platforms. **Intervention**: Experimental group received Entering Mentoring (EM) with ECA module instead of original Equity & Inclusion (E&I) module, and comparison group received EM with original E&I module. **Measurement**: Focused on retrospective pre-to postintervention	**Statistical analysis**: Mann Whitney U and Spearman rank correlations **Results**: Mann Whitney U tests - experimental group reported statistically significant higher pre-to postintervention gains in CDA attitudes item, [0.795 (experimental) versus 0.301 (comparison); Z = −2.64, P <0.01]. Mann Whitney U tests for individual items comparing paired mentees' perception of mentors' CDA behaviors. Found support for hypothesis in that paired mentees of mentors in experimental group rated mentors higher compared comparison group on CDA. Approached race/ethnicity topics in respectful manner [3.94 (experimental) versus 3.28(comparison); Z =	**Discussion**: Mentors in experimental group reported greater gains than comparison group re: relevance of racial/ethnic identity to mentoring and confidence to mentor students across diverse cultural identities. Paired mentees of mentors in experimental group rated mentors higher at respectfully broaching and creating opportunities to address race/ethnicity matters than those with mentors in comparison group. **Interpretation**: Results support efficacy of culturally focused mentorship education. **Limitations**: Self-reported data. Possible influences of power dynamics and hierarchy. **Evidence level:** Level II

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
			change scores on measure of CDA and mentoring effectiveness. CDA assessed using Byars-Winston and Butz's scale. The mentor version assesses attitudes, behaviors, and confidence, and mentee version assesses attitudes and mentor behaviors. Mentoring effectiveness assessed with measures of participants' mentoring skills using Mentoring Competency Assessment (MCA), mentoring self-efficacy, overall mentoring quality, and culturally aware mentoring (CAM) skills items from previous study.	−1.98, P <0.05] and on the CDA behaviors item asking whether their mentor created opportunities to bring up issues of race/ethnicity as they arose [2.98 (experimental) versus 2.39(comparison); Z = −2.14, P <0.05). Spearman rank correlations indicated preintervention CDA attitudes were positively correlated with postintervention CDA confidence [correlation coefficient (r)=0.33, P <0.01] and CDA behaviors (r =0.38, P <0.01). In correlations between gains scores on study measures, observed strongest (in absolute value) positive correlation coefficients among gains in mentoring skills, mentoring self-efficacy, overall quality, and CAM skills.	

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Crooks, N. (2013). Mentoring as the key to minority success in nursing education. *The ABNF journal: Official journal of the association of black nursing faculty in higher education, 24*(2), 47-50.	To outline the change project, Mentoring Ethnically diverse Nursing students to increase Overall Retention (MENTOR). Purpose is to provide mentoring to ethnically-diverse nursing students to increase retention rates.	**Sample**: -Mentors and mentees. **Sample size**: -n=0 **Setting**: -Adaptable to any nursing curriculum using semester system.	**Design**: -Qualitative, descriptive program **Procedure**: -Biweekly face-to-face meetings with session agendas. **Intervention**: -Prescriptive 16-week mentoring program. **Measurement**: ▪ Online survey of Likert-scale questions ▪ Written additional comments/concerns ▪ Shared pros and cons and potential suggestions ▪ Themes identified.	**Statistical analysis**: -Qualitative, descriptive approach **Results**: Diversity improvement initiatives.	**Discussion**: Narrow gap between white / non-white healthcare providers numbers may improve patient outcomes. Minority nurses crucial to positive health care outcomes to improve workforce diversity. Minority nursing faculty and practitioners more knowledgeable about minority healthcare needs and issues. Minority patients more likely to seek out care from healthcare providers who share ethnic background. Minority health care professional may improve communication, increase patient satisfaction, and result in greater use of preventative services. Patients more likely to use health care services with diverse providers more and costs better maintained. **Interpretation**: Nursing diversity more reflective of patient diversity. Institutional commitment

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					to diversity requires intentional faculty effort to tailor for minority student. Student preparation for rigorous course of study and dedicated to own success (resilience). **Limitations**: -No retention for nursing schools or longitudinal studies assessing effectiveness. -No evidence of implementation or pilot study. **Evidence level:** Level VI
Osakwe, Z., Obioha, C. U., Minuti, A., Atairu, M., & Osborne, J. C. (2022). Barriers and facilitators to success in undergraduate nursing education among minority students; A systematic review. *Nurse*	To determine barriers and facilitators to success among minority students in nursing education.	**Sample**: Most of the studies used convenience samples. **Sample size**: -n= 14 articles. combined search strategies yielded 10 articles, and 4 articles identified through a hand search. **Setting**: Eleven US studies included only baccalaureate degree students. One study included a sample of baccalaureate and associate degree students. The remaining	**Design**: -Systematic review **Procedure**: Two reviewers. Review of existing published evidence published between January 1980 and August 2020. PubMed, Embase, PsycINFO and CINAHL for English language studies focused on online and in-person nursing education. Inclusion criteria: (1)	**Statistical analysis**: None **Results**: Six factors identified as barriers as social isolation and stress, lack of mentorship and poor student-to-student interactions, caregiving demands, and financial barriers. Six factors identified as facilitators of success in undergraduate nursing programs. resilience, family support, faculty-student interactions,	**Discussion**: Findings reflective of broader literature identified barriers and facilitators for URM students in undergraduate nursing programs. Potential strategies to enhance successful outcomes for URM nursing students, including high-quality mentorship programs, positive faculty-student interactions, and diverse and inclusive learning environments.

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Educator, *47*(2), E18–E23. https://doi.org/10.1097/nne.0000000000001154		two studies included a combination of baccalaureate and master's degree students.	investigated undergraduate nursing students in the United States; (2) published in English; (3) target population included at least URM population: African American, Hispanic/Latinx, Asian American or Asian-Pacific Islander nursing students, Alaska natives, Pacific Islanders, Native Americans, and North Americans; (4) qualitative or quantitative study design; and (5) published in a peer-reviewed journal. **Intervention**: None **Measurement**: Study quality appraised by 2 reviewers using the Mixed Methods Appraisal Tool (MMAT)—Version 2011. Based on MMAT quality	mentorship, and financial factors.	**Interpretation**: High-quality mentorship programs, such as CIM, positive faculty-student interactions, and diverse and inclusive learning environments **Limitations**: Relevant articles were missed; limited to article published in peer-reviewed journals; most studies focused on Black and Latin students; studies predominantly qualitative and convenience sampling **Evidence level:** Level I

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			assessment tool, all 14 studies met criteria for further assessment, following the screening process. Of these 14 studies, all met the criteria for satisfactory quality. Two studies of satisfactory quality (50%). Three studies of high quality (100%). Quality scores ranged from 50% to 100%, with a mean score of 75% Barriers and facilitators data extracted by the second author and subsequently independently verified by first author.		
Tranter, S., Gaul, C., McKenzie, S., & Graham, K. (2018). Initiatives aimed at retaining	Identify initiatives aimed at retention ethnically diverse nursing students. Review	**Sample**: -ProQuest, PubMed, CINAHL, ERIC and COCHRANE using keywords "student nurse," combined with "attrition" or "retention". Ethnically diverse students or EAL	**Design**: -Integrative review **Procedure**: -2 authors utilized CASP to assess quality of research articles published January 1, 2006 to	**Statistical analysis**: -None **Results**: Using thematic analysis, four themes emerged: prediction, recruitment & retention, single approach, and multiple approaches.	**Discussion**: Implementation of broad range of strategies from recruitment to graduation likely more appropriate. Participants felt that institutional strategies, such as financial aid,

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ethnically diverse student nurses in undergraduate programmes: An integrative review. *Journal of Clinical Nursing*, *27*(21-22), 3846–3857. https://doi.org/10.1111/jocn.14609	focused on identifying strategies attempting to address attrition of ethnically diverse student.	**Sample size**: -n= 17 **Setting**: Baccalaureate nursing students in studies from Australia, Canada, New Zealand, the United Kingdom, and the United States.	December 31, 2015. Inclusion criteria: Ethnically diverse students or EAL **Intervention**: -None **Measurement**: The authors independently read and applied the CASP tool to each of the articles that met the inclusion criteria.		support networks, like mentoring, and personal approaches, were effective. **Interpretation**: Supporting mentorship and mentoring circles across continuum leads to higher HUEM graduation rates. No "one size fits all" approach as the issues facing HUEM students often complex and specific to them. **Limitations**: Limited number of articles included; studies predominantly qualitative and convenience sampling; non-US study. **Evidence level:** Level III
Bonifacino, E., Ufomata, E. O., Farkas, A. H., Turner, R., & Corbelli, J. A. (2021). Mentorship of underrepresented physicians and trainees in academic	Identify and describe mentoring programs for HUEM physicians in academic medicine and describe salient themes from existing	**Sample**: PubMed, PsycINFO, ERIC, and Cochrane databases, and included original publications describing US mentorship program for academic medical doctors at the faculty or trainee level and HUEM physicians. **Sample size**: -n= 31	**Design**: -Systematic review **Procedure**: -Two authors independently evaluated all records for eligibility using DistillerSR (Evidence Partners), a web-based systematic review data	**Statistical analysis**: -None **Results**: Using thematic analysis, 4 themes for the development of mentorship programs for HUEM physicians and trainees in academic medicine emerged from the review. Included study results consistently	**Discussion**: Review describes a range of successful mentoring programs for HUEM physicians as effective. Institutional support has added benefit of contributing to overall climate of inclusivity that encourage HUEM faculty recruitment and retention.

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medicine: A systematic review. *Journal of General Internal Medicine*, *36*(4), 1023–1034. https://doi.org/10.1007/s11606-020-06478-7	literature that aid in the development of HUEM mentorship programs.	**Setting**: Mentorship programs in academic medicine within the US.	management system.for articles published until September 11, 2019. Inclusion criteria: (1) described a defined mentorship program; (2) involved (not exclusively) academic physicians or trainees (medical students, residents, fellows); (3) program designed for HUEM persons or provided results stratified by race/ethnicity; (4) a US program; and (5) published in English language. **Intervention**: -None **Measurement**: Two study authors independently abstracted data. unable to perform quality/bias assessment on 24 / 31 included publications that presented descriptive data only, as no validated	demonstrate mentorship programs had positive impact on participants, and no results of any included study present evidence that contradicts these four themes. 1) Alignment of mentorship programs with institutional goals and resources. 2) Mentorship programs should be tailored to address local needs and maximize available resources. 3) Lack of racial/ethnic concordance, though not ideal, did not adversely impact satisfaction with or success of mentorship program. 4) Essential to train mentors to ensure effectiveness for all mentees.	**Interpretation**: No "one size fits all" approach as the issues facing HUEM students often complex and specific to them. There are a range of successful mentoring programs for HUEM physicians. Recommendations include the importance of institutional support for diversity, tailoring programs to local needs and resources, training mentors, and utilizing URiM and non-URiM mentors. **Limitations**: Limited number of articles included; no control group and small sample sizes; studies predominantly qualitative and purposive sampling; no quality or bias assessment; **Evidence level:** Level I

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			measures exist to assess quality of bias, and due to the heterogeneity of study design, outcome and assessment methods. One study a randomized controlled trial (RCT) and five presented data at two or more time points. For these, authors used the National Heart, Lung and Blood Institute Quality Assessment Tools for Controlled Intervention Studies and for Before-After Studies with No Control Group, respectively. One study was qualitative and authors applied the Critical Appraisal Skills Program (CASP) Checklist for Qualitative Studies.		

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
Trent, F., Dwiwardani, C. (2021). Factors impacting the retention of students of color in graduate programs: A qualitative study. *Training and Education in Professional Psychology, 15*(3), 219-229. . https://doi.org/10.1111/jocn.14609	Explore factors contributing to HUEM student retention while pursuing a graduate degree at a predominantly White institution.	**Sample**: -10 HUEM participants. -Age from 23 to 31 years (Mean 26.3; SD 2.26) and ethnic backgrounds (1 Asian, 6 Black/African American, 3 Hispanic/Latino) -Current educational position (i.e., current student, non-completer, graduate) to gain perspective at various stages of degree completion -Recruitment conducted through snowball sampling. **Sample size**: -n=10 **Setting**: - Predominantly White Institutions (PWIs) in US Pacific Northwest, Mid-Atlantic, Southeast, and Southwest.	**Design**: -Qualitative, descriptive study **Procedure**: -Semi-structured interviews via Skype in private study room in joint-use library and simultaneously audio-taped and transcribed into Word document **Intervention**: -Semi-structured interview protocol with set of open-ended questions to elicit perceptions of respective program at PWIs. **Measurement**: Interviews were analyzed through consensual qualitative research. Domains and core ideas were derived and coded and information agreed upon by the coding team was sent to independent auditor.	**Statistical analysis**: -Qualitative, descriptive approach **Results**: Eight domains were identified as central themes across the interviews: (1) goals and motivations, (2) disparity between expectations and experiences, (3) racism and discrimination incidents, (4) reactions to perceived and experienced racism, (5) racial identify and influences, (6) sources of support, (7) types of support, and (8) challenges to success. Students' perception of program's commitment to HUEM students most evident in domains 2, 3 6, 7 and 8. Participants emphasized importance of relationships defined by principles of care and concern. Noted that graduate programs that embodied the core principles of	**Discussion**: -Diversity retention initiatives for PWIs **Interpretation**: -Keen sense of racial identity highlighted instances of discrimination and differential treatment and this identity gave HUEM students fortitude and resilience to persevere despite treatment. Participants described personal grit kept them motivated despite stressors. Emphasized importance that support systems play in HUEM students' success. Positive and negative relationships significantly influenced students' impressions of academic environment. With supportive relationships, sense of belonging grew. Faced with bitter, callous, and exclusionary interactions from faculty and peers, students experienced a desire to withdraw. Participants emphasized

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				collectivism (i.e., group harmony, cohesion, and inclusion) afforded HUEM students opportunity to have close, supportive relationships with individuals in their academic and social community. The extent to which HUEM perceived their race impacting their experience of support highlighted in domains 2 and 3. HUEM students stressed importance of match between their core values with respective institution. When inclusivity not a prioritized, students perceived the environment as harsh, unwelcoming, and unsupportive of needs. Domains 4 and 5, HUEM students shared highly distinct nature of racial identity created awareness of differences but equipped them with	that mentorship plays key role in giving professional guidance and access to opportunities. Also described professional organizations as important resources in connecting them to potential mentors. Program faculty should take active role to bridge HUEM students with mentorship opportunities. **Limitations**: -Self-selected participants. -Small qualitative study -May not be representative of the experience of HUEM within the larger graduate context. -Lack of information regarding other demographic variables and participant progression limits ability to make inferences about their influence on participant experiences and persistence **Evidence level:** Level VI

CITATION	PURPOSE	SAMPLE/SETTING	METHODS (Design, Interventions, Measures)	RESULTS	DISCUSSION, INTERPRETATION, LIMITATIONS
				resilience to navigate challenging situations. Domains 1, 5, 6, and 7, stressed complementary roles internal and external resources played in success. Factors in domains 3 and 8 identified as more likely to lead to non-persistence.	

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