

Evaluation of Data

This project aimed to identify barriers that racial-ethnic minority SRNAs experience and acquire suggestions from students who have successfully entered an educational program to better support diverse students. This project involved surveying Student Registered Nurse Anesthetists (SRNAs) who self-identify as a race other than White to better understand their perceptions of their educational experience. We created an electronic survey and sent an email containing the survey link to 127 nurse anesthesia program directors requesting the directors forward the email to their students. The survey consisted of a Likert scale, multiple choice, and open-ended questions. The survey was active for approximately two weeks, and 371 SRNAs responded. The survey responses were anonymous, and the quotes were randomly attributed to protect the participants' identities.

Demographics

Three hundred and seventy-one first, second, and third-year SRNAs participated in the survey. Of the 371 participant responses, 130 racial-ethnic minority students completed 100% of the survey, 101 racial-ethnic minority students did not complete the survey, and 140 students self-identified as Caucasian. Data were analyzed from participants who self-identified as a social-ethnic minority and completed the entire survey (n=130). A total of 241 participants were excluded from the statistical analysis. Demographic data summarized in Table 1, were collected from participants.

Table 1

Demographic Differences of Sample (N=130)

Characteristics	Respondents N (%)
Black, African American, African	50(39%)
Hispanic/Latino	43(33%)
Asian	27(21%)
More than one Race	7(5%)
American Indian/ Alaskan Native	2(1.9%)
West Indian/Guyanese	1(0.1%)
Total	130(100)

Likert scale

A five-point Likert scale was utilized to gain an understanding of the student's perceptions of diversity, equity, and inclusion in classrooms and clinical sites. When asked whether they felt isolated during their education experience, about half (47%) of respondents reported feeling isolated in their didactic courses, and a majority of respondents (61%) reported feeling isolated in the clinical sites. Although 53% of the students agreed that race and racism in healthcare were meaningfully discussed at some point in the curriculum and 75% of the students somewhat or strongly agreed that cultural competency is included in their education, 61% of the students agreed that they felt like preceptors judged their skills or intelligence based on their ethnicity and 41% reported that they were treated differently compared to their White classmates. Finally, 94% of students agreed that diversity in nurse anesthesia is crucial to them; 79% of respondents reported that their anesthesia program makes efforts and promotes DEI.

When asked about the importance of mentorship, a majority of the students (82%) who have a mentorship program at their university agreed that the mentorship program has helped them to improve their didactic performance, while 82% of the students somewhat or strongly agreed that the mentorship program helped them to improve their clinical skills.

Open commentary

We expected to be told stories of overt racism and discrimination, and as expected, we received such stories. However, ethnic minority respondents from diverse programs also reported positive experiences, felt they were treated equally compared to their peers, and felt that race and ethnicity did not play a role in their nurse anesthesia training.

We coded the data obtained from the open-ended items and categorized the data into nine themes. We divided the themes into two categories: barriers and facilitators. In the barriers category, the following themes were identified: isolation, proving, faculty awareness, preceptor awareness, peer awareness, and racism. The themes in the facilitators category included: mentorship, culture and nursing education, and DEI. Although some of these themes were viewed as barriers for some students, to others, these themes were viewed as facilitators and will be elaborated on in the student's statements.

Barriers

The following statements from participants may help to bring to light the experiences that racial-ethnic minority SRNAs face in didactic and clinical education.

Isolation

The statements shown in this section validate what other studies have shown about the higher education experience of racial-ethnic minority students. A majority of students have felt some isolation either during didactic or clinical. This proves that educational success of racial-ethnic minority SRNAs requires more than just education intelligence; these students need to be able to overcome the stigma and stereotypes they encounter (Stokes, 2013).

"I rarely meet Hispanic CRNAs in Tampa. I met a Hispanic CRNA from my country and it finally helped me feel like I belonged there".

"White people get higher acuity cases and more chances at autonomy"

"Feeling of isolation, lack of friendship, white people stick together"

"Clinical was often a challenge mentally - being AA I felt I was "judged" based on my personality (I'm more of the quiet type). Also, as a minority I feel that I am not allowed to have a "bad" day due to perceptions of being a black woman and that people perceive us as standoffish when we're quiet or sassy/aggressive when we Speak"

"When speaking in front of the class or asking questions in class I see others making faces and laughing at me and it makes me feel very alone and isolated."

As shown in the following statement, students may be comforted and encouraged by preceptors from the same diverse backgrounds; this, in turn, may help them to feel comfortable and welcome.

"I have had one preceptor who was my same ethnicity and him and I went out for dinner and discussed opportunities"

Proving

Participants saw themselves as outsiders. Although they possessed the required qualifications, they still felt that they needed to prove that they belonged in the nurse anesthesia program and were smart enough to earn respect from their preceptors and peers. Not only did the participants express these feelings, but this information was passed down from racial-ethnic minority preceptors.

"The only black CRNA I had as a preceptor once stated, "You always have to work harder than your peers to gain the same level of respect in this field." Overall, I feel I'm accorded respect, but I also have less expectation in general to avoid being disappointed."

"One of my mentors prior to CRNA school informed me to be confident and humble in who I was because I would not get respect from my clinical sites because of my ethnicity."

"During my first rotation, I had a clinical preceptor who expected me to know everything and when I didn't, he told me that I am supposed to work twice as hard because I am already being judged due to the color of my skin and that I will always have to prove to preceptors and co-workers that I know what I am doing once I am out there."

One participant reported that they, "Feel like as a black person, I have to be perfect"

"Best piece of advice from a minority CRNA preceptor was to make sure I am always over prepared and knowledgeable because we will be judged on a different scale. That is probably the most honest anyone was with me throughout the entirety of the program."

Faculty Awareness

Academic success of students is largely dependent on the faculty. In the following statements, participants expressed the impact of having culturally competent faculty on their academic success. Some of the experiences were positive, which translated to a positive impact on students, while other students felt that the faculty were not culturally competent.

"A new Latinx professor shared the group, Diversity CRNA, with my class. He has been active in that community and supported me in joining."

"My professor takes time to discuss maternity challenges, based on ethnicity as well as past research challenges faced due to ethnicity"

"Wasn't passing exams. Instead of encouragement of you can do this, I got maybe you should apply to another program"

"I had a teacher discuss ethnicities in pharmacology and used the word "Orientals" to describe a group of persons of Asian descent when discussing blood types. I had another professor lump all Asians into a group he called "Chinese" when discussing pathophysiology."

Preceptor Awareness

Participants felt they are seen as different by the preceptors and other providers in their clinical sites. After going through the rigorous selection process to be admitted into the program and enduring the daily stressors associated with this program, racial-ethnic minority SRNAs would believe that they earned their place in the program; however, based on perceptions that these students have a diminished academic amplitude, racial-ethnic minority SRNAs are subject to different treatment (Strokes, 2013). Not only do ethnic minority students have to deal with the

common stressors of being a student, but they also have to deal with implicit bias, racism, and microaggressions. The following are statements made by participants about their experiences.

"I was told by one of my preceptors that I need to be more Americanized which I think is inappropriate. The beauty of this country is because we have diverse populations. Some hospital staff will ask me, "if the Chinese are going to take over Taiwan." First of all, I didn't know about this political stuff, second of all what is your point of asking me this crap? Some staff will make fun of my accent. Some doctors will ask me if I'm good at math and if I'm the only child in my family due to the "one child policy in China". Overall, I don't feel like it's a friendly environment."

"Asking about where I'm from because I don't speak the way they do. It's embarrassing and frustrating."

"As a Filipino SRNA, I am introduced to many Filipino preop, circulating, and PACU RNs."

"I noticed a difference in how anesthesiologists would greet me versus my white male counterpart/classmate. He was greeted at clinical with more enthusiasm."

"Preceptor inquired where I'm "really from".

"My husband is Korean and therefore my last name is the same as his. I constantly get comments about how a "white woman has an Asian last name". Many preceptors and surgeons make fun of it."

Preceptor perceptions and behavior played a significant role in the participant's experiences. A positive teaching experience can have a significant effect on a student's education, as seen in this student's statement:

"One CRNA encouraged me to stop changing my name to make it easier for others to pronounce. I am proud of my real name, I just kept changing it to help others with the pronunciation. However, this CRNA helped me understand that my name is part of who I am and where I come from. After meeting her, I kept asking everyone to call me by my real name and it just feels fulfilling. I would like to thank this CRNA for helping me feel prouder of my ethnicity!!!"

Peer awareness

Strong bonds with peers positively affect students' learning experience (Harper,2006). Sharing the same experiences with peers and forming study groups increases student success rates (Brooms & Davis, 2017). The following statements validate results from previous studies assessing the influence of peer bonding and academic performance (Ackerman-Barger et al.,2020). Some participants expressed frustration with being treated as different in class due to their ethnic backgrounds. The stress of being treated differently in clinical was also experienced in class as their intellect and ability to contribute to group activities were being questioned (Strokes, 2013).

"A classmate made a comment during ethics class about turning in runaway slaves because it was the legal/ethical requirement at the time. A black student took great offense."

"As a minority student, establishing rapport with classmates feels like it takes longer, which can influence the formation of study groups."

"Feelings of isolation and unable to relate with students in my cohort, which as a result gave me intense anxiety. As a 1st generation black female in a DNP program, I find it hard to relate with my cohort because my experiences and how I got to this point has been very different. My background. My upbringings. All very different. I feel intense pressure all the time as if I represent my entire race by being in this program which contributes to my anxiety because it makes me feel as though if I mess this up, they may not want another black student in their program."

"I felt somewhat isolated as there being only 2 Hispanic males in my cohort. It made me want to seek them out since they understand the kind of upbringing I have and what the expectations are being 1st gen students."

Racism

Racial bias is an issue that exists in nurse anesthesia training. Racial bias influences how racial-ethnic minority SRNAs are treated. The bias and stereotypical behavior by preceptors or other staff result in embarrassment, feelings of rejection, and isolation. It takes extreme persistence and determination for these students to endure the treatment they encounter during their educational experience. As a result, these students experience a higher level of stress that leads to depression, low self-esteem, and unhealthy coping strategies (Griffin et al., 2017).

Sometimes the person instigating the acts on the student may not be aware of the harm they are causing (Ackerman-Barger et al., 2020). Therefore, one of the goals of this project is to

highlight, through statements from the students, situations where racism was experienced in hopes of raising awareness of the issue.

"Been asked if I speak English in a room full of people"

"SRNA-NAI doing a kidney transplant. Staff surgeon performing the transplant (Asian man) loudly opining to the OR nurses about how African Americans need to stop using the excuse of slavery for why we are not as prosperous. Conversation goes on for about 5 more minutes, until my CRNA (Caucasian male) who had been quiet so far, points out that is a skewed way of looking at things, considering that in the 50s still, racism was openly displayed. That even now that it is technically illegal, it is still pervasive in several systemic ways. Surgeon stopped talking."

"I had an MDA say I was strong like Bruce Lee. I'm also fortunate enough to be quad lingual and when the opportunity came to interpret for one Korean patient, I was able to do so after she was under anesthesia and before surgery. They weren't sure which knee to operate on and I had to call her family and interpret and clarify. While the ortho surgeon was impressed the rest of the staff seemed more embarrassed than anything. I constantly get questions about where I am from, and people look surprised when I talk about my husband. I guess they assume he's Asian too because we only marry our own kind (eye roll)."

"I'm at a facility right now that is not recommended for minorities. People are very nice but the culture of the area simply doesn't understand the idea of inclusion."

"While I am half Filipino and half White, I physically don't look very Filipino. I was with a preceptor one time who got in an argument with a PACU nurse over orders. When we

left the preceptor started telling me that the nurse was probably Filipino and is going to write her up because Filipino nurses are the worst, and they'll write you up for anything. It was very uncomfortable for me, but I wasn't sure what to say. I hid behind my whiteness, and I am embarrassed to think about that. But I also felt like I was in a position of submission to my preceptor."

"Equity is not implemented in my program. Minorities suffer the most. The two black minorities in my program were both placed on probation and written up within the first semester of clinical for insufficient information on care plan and forgetting suction or connecting etco2. Within the first 6 weeks of clinical both of us were on probation and one was ultimately dismissed. We were both removed from a clinical facility due to "preceptor fatigue" when two other white students that were there were not removed. I face racism and discrimination every day in my program".

Denial

Some students expressed their benightedness regarding diversity, equity, and inclusion. Until race and racism are discussed, actions leading to institutional racism and white privilege prevail and perpetuate an unwelcoming and hostile environment for minorities (Gillespie et al.,2013). Below are the comments that reject that ethnic minority students face challenges that are different from white students:

"Everyone is equal under God's eyes."

"Preceptors and clinical staff do not judge anyone based on their ethnicity, but rather their work ethic."

"I learn from people of all different races and backgrounds. Anesthesia is based on clinical knowledge, and it does not matter about the person's background. The knowledge needed to perform our tasks is going to be the same no matter who we are. Having worked in many different hospitals under a diverse population of providers has not changed how anesthesia is performed. Why would the color of a person's skin change how they perform their clinical duties. As long as they are experienced and have a good clinical base and are competent, then it doesn't matter their ethnicity or background."

Facilitators

Facilitators help an individual or groups of individuals to successfully achieve their objectives (Loftin et al., 2012). Despite the barriers encountered during their nurse anesthesia education, some students successfully overcame them by using resources provided by their programs. The following are facilitators that have helped racial-ethnic minority students to navigate through their nurse anesthesia programs.

Mentorship

The benefits of mentorship are numerous. Research has found that having a mentor and mentee who are ethnically in concordance can provide the advice and resources to help the mentee manage challenging situations that only someone of the same ethnicity would understand (Ciaramella, 2021 and Matthews et al., 2022, Carter & McMillian-Bohler, 2020). Some students shared whether they had experience with a preceptor of the same ethnicity, and one student reported feeling less isolated because of it.

"My student mentor is the same ethnicity as me. My professor mentor is the same ethnicity as me as well."

"My mentor and I are the only black females in our classes. It helped to have someone who knew how I felt."

Culture and nursing education

Ogbu and Simons (1998), explain that to be valued and become successful in school, students have first to follow a curriculum that may be designed to deprive racial-ethnic SRNAs of their identity; this means that students must give up many particulars that make them unique, such as styles of speech and appearance, values, and preferences, and conform to the school demands (Ogbu and Simmons, 1998). However, a culturally diverse environment and curriculum help students feel welcome and accepted; students thrive and succeed academically (Iheduru-Anderson et al., 2020). The following statements validate the results of studies assessing the importance of diversity in schools (Iheduru-Anderson et al., 2020).

"My program director and co-director for the first time in my career have allowed me to voice my preference to allow time for prayers, made accommodations, and are very open and educated on the importance of allowing one space to practice their faith privately."

"My school is well blended and diverse to the point where it feels like a non-issue. That might seem like avoidant answer but it's actually important to note that it is actually a vital point of inclusion to feel it as a non-issue"

DEI

Ogbu and Simons (2008) defined culturally responsive instruction as instruction that acknowledges and accommodates students' culture, language, and learning styles in the curriculum and classroom. They further explained that culturally responsive instruction is a response designed to close the gap between the students' cultural patterns and the school's

institutional requirements and prevent the type of miscommunication that is caused by the conflict between teachers' and students' culturally determined interactional styles (Ogbu and Simons, 2008). In addition, culturally responsive instruction will also show the students that the teacher recognizes and honors their cultural and personal experiences and will help make school a less alien place (Ogbu and Simons, 2008).

Students shared their experiences with diversity, equity, and inclusion in their program. Some students expressed a desire for their program to make DEI more of an initiative and how having CRNAs from different backgrounds would allow for a different perspective, while others reported their positive experiences with DEI, such as collaboration with Diversity CRNA mentorship group and having diverse preceptors at their clinical sites.

Suggestions to Programs

The survey asked students if they had any suggestions for their program. Suggestions included hiring more diverse faculty and admitting more students from diverse backgrounds, diversity training for preceptors and increasing awareness of racial bias, compensating preceptors for their time, and inviting ethnically diverse students to participate on the interview committee to allow for a different perspective.

Conclusion

Racial-ethnic minority students experience difficulties during their nurse anesthesia education. These difficulties are in addition to the typical challenges nurse anesthesia students face. The results of this project demonstrate the complexity of successful completion of nurse anesthesia education and the barriers these students must overcome. The findings of this project have implications for nursing faculty and program administrators committed to increasing the

diversity and retention of racial-ethnic minority students. Data obtained from this project suggest that racial-ethnic minority students encounter more challenges in their clinical portion compared to the didactic, and students from culturally diverse programs were more likely to thrive and succeed in programs that include diversity, equity, and inclusion strategies in their curriculum. Therefore, preceptor appreciation of their influence while educating these students is important.

Limitations

A substantial limitation of this project is that participants who had been unsuccessful or left the nurse anesthesia program prior to graduation and alumni were not included in the survey. Students who were unable to persist through the program may have dissimilar experiences or additional barriers to identify. Another limitation of this project is that the survey failed to explore further the financial challenges racial-ethnic minority students have during their education. Further study is warranted to identify methods to enhance diversity in the nurse anesthesia program.