
Exploring Minority Underrepresented Aviation/Aerospace Students' Mental Health and Success in Higher Education

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As enrollment trends continue to rise in higher education, mental health-related concerns are also on the rise. Underrepresented minority students are tasked with balancing the general pressures of life along with maintaining grades, and oftentimes having to work to pay for college. Therefore, underrepresented minorities' experiences related to mental health can be unique. Institutions of higher education work to understand the needs of their students so that they can provide better support services and improve retention. The purpose of this study was to understand the perceptions of underrepresented minority students in an undergraduate aviation/aerospace degree program related to mental health. The study focused on how the perceptions of mental health issues, campus climate, social support, and mental health resources enable retention and completion of an undergraduate degree in aviation/aerospace. Targeted focus groups consisting of 17 undergraduate aviation/aerospace students and one graduate aviation student were conducted to understand students' mental health needs and wants to succeed in higher education based on their lived experiences. Three major themes emerged from the findings: (1) healthy environment promotion and education, (2) setting realistic goals, and (3) understanding available resources. The findings of the study indicated that underrepresented minority aviation/aerospace students must fulfill their needs and wants based on the established themes in order to succeed in higher education and maintain their mental health.

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The popularity of obtaining a higher education degree continues to rise. The total number of graduates who earned bachelor's degrees almost doubled from the year 2000 to 2020 (Hanson, 2022). Similarly, the number of underrepresented minorities has also doubled during the same time period (U.S. Department of Education, 2022). Students must manage the stress and pressure to maintain their grades, possibly balance a job to pay for school, and manage any other life situations that may arise. As a result, studies have shown an increase in mental health issues related to students in higher education (Flatt, 2013; Martin, 2009). The aviation/aerospace industry has also been concerned with mental health since multiple accidents have been attributed to pilot depression and suicidal thoughts (Pasha & Stokes, 2018; Wu et al., 2016). Therefore, it is imperative to ensure students' mental health needs are met to improve aviation/aerospace safety and the success of students pursuing an aviation/aerospace degree. The present study aims to specifically understand minority underrepresented aviation/aerospace students' mental health needs in order to succeed in higher education. Rooted in Cavioni et al. (2020) theoretical framework of mental health promotion, the researchers explored how minority underrepresented students' perceptions of mental health issues, campus climate, social support, and mental health resources enable retention and completion of an undergraduate degree in aviation/aerospace. For the purpose of this research, underrepresented minorities in aviation/aerospace refer to non-dominant groups such as people of non-dominant ethnic groups, gender, sexual orientation, or religion. that historically have struggled to enter the aviation/aerospace industry. This qualitative phenomenological study identifies and summarizes underrepresented minority aviation/aerospace students' mental health needs and wants to succeed in higher education based on their lived experiences.

Literature Review

Recent studies found that college students are increasingly struggling with mental health problems. According to Archarya & Collins (2018), about a third of college students report that their mental health gets in the way of performing daily activities. Similarly, Lipson et al. (2022) found that from 2013 to 2021 more than 60% of college students reported struggling with one or more mental illnesses, which was a 50% increase since 2013. In addition, there was a 109.5% increase in anxiety, a 95.6% increase in eating disorders, a 64% increase in suicidal ideation, and a 49.9% increase in lifetime diagnosis among all students from 2013 to 2021 (Lipson et al., 2022). Furthermore, an increasing number of first-year college students report depressive symptoms and suicidal ideation (Francis & Horn, 2017). Francis & Horn (2017) concluded that students of color are less likely to report positive experiences seeking mental health treatment compared to Caucasian students.

Students are under more stress than ever due to poor coping strategies, a need for better time management skills, decreased emotional states, poor sleep quality, and an increase in social media usage, impacting how they perform in the classroom and impacting their relationships, quality of life, and physical health (Garett et al., 2017; Lee et al., 2021). For institutions of higher education (IHE) to better understand the needs of their students and achieve successful

retention of underrepresented minorities, they need to focus on their most vulnerable populations. For example, Archarya & Collins (2018) concluded that international students reported different stress factors and significantly higher levels of stress overall than domestic students, while female students also reported higher levels of stress than their male counterparts. Understanding what is causing stress for various student populations is valuable information for IHE because it gives insight into what students are struggling with and is the first step to managing those stress factors.

Underrepresented Minorities

When trying to understand how IHE should improve mental health on campus, it is essential to consider the needs of underrepresented minorities. For example, transgender students are twice as likely to show signs of depression, anxiety, eating disorders, and self-harm than cisgender students (Lipson et al., 2019). Understanding how mental health disproportionately impacts underrepresented minorities in higher education is alarming and needs immediate action. Mayo (2021) found that students who continuously face discrimination are more likely to have declining mental health, suggesting that students often have trouble seeking the necessary treatment. For example, students of color are less likely to utilize mental health services than Caucasian students (Lipson et al., 2022) and individuals in certain socio-demographics often report similar barriers when accessing mental health treatment (Horwitz et al., 2020). These barriers include but are not limited to privacy concerns, judgment from others, logistics, finances, how helpful the treatment might be, and if the treatment is needed (Horwitz et al., 2020).

Horwitz et al. (2020) found that transgender students reported higher financial and cultural sensitivity concerns than cisgender students, cisgender women reported more barriers than cisgender men except for privacy and stigma concerns, and racial and ethnic minorities reported more "barriers related to privacy/stigma, finances, logistics, or cultural concerns" (p.12) than white students. Therefore, understanding what barriers are in place for different student populations is crucial to improving mental health treatment in IHE. Universities can survey students to determine the barriers that are present and take steps to minimize those barriers. One way of minimizing underrepresented students' barriers to mental health is by improving campus climate practices.

Campus Climate

Understanding the campus climate at an IHE enables educational leaders to gain insight into the university's excelling areas and uncovers where there is room for improvement. Wood et al. (2017) defines campus climate as "behaviors, environmental factors, and occurrences that promote or hinder student safety, acceptance, and ability to learn" (p. 1253). Similarly, Amodio et al. (2020) define campus climate as "how individuals and groups experience membership in the campus community. It reflects the inclusivity dynamics of the organization and the degree to which students, faculty, and staff feel included or excluded in the environment" (p. 2). Incorporating campus climate perceptions into mental health research is an excellent way for an IHE to understand its strengths and weaknesses while also tracking progress over time. It is

important to note that campus climate is specific to each IHE at the time the information was gathered.

For example, Ueno et al. (2021) found that campus climate within LGBTQ students and STEM majors were more likely to report a less accepting campus climate because gender and sexual identity are not discussed in classrooms as often as they would be in classes for social science or humanities major. Conversely, LGBTQ students who openly talk about their identities often in the classroom reported a more positive campus climate due to an increased perceived queer visibility (Ueno et al., 2021). Recognizing the disconnect between perceived acceptance concerning queer visibility in the classroom enables improving STEM education for underrepresented minorities. Although this phenomenon is not only experienced by students who are a part of the LGBTQ community, recognizing that each underrepresented minority student's perceptions of campus climate needs are vital for their success in higher education.

While mental health and campus climate can be assessed from multiple lenses, one of the predominant challenges is racial implications on mental health. For instance, predominantly white spaces are challenging for students of color to navigate on college campuses. Williams (2020) suggests that whiteness is a structure that is built into educational institutions and found that the ideas of "colorblindness, epistemologies of ignorance, ontological expansiveness, property, and assumed racial comfort" (p. 96) are harmful to students of color while benefitting white students. The white structure is significant because it outlines how implicit bias and racism thrive in college campus communities. Furthermore, Williams (2020) goes on to discuss how universities can take steps toward creating a more diverse and accepting community by honestly communicating about the racist historical practices of the university, what policies and practices are currently in place that negatively impacts students of color and the numerical representation of underrepresented minorities. IHEs need to take accountability for their wrongdoings to be able to move towards a more diverse and inclusive space. Otherwise, students of color may not feel more seen and cared for by the university, which could be argued to be a form of micro-aggression.

On a day-to-day basis, underrepresented minorities experience microaggressions that can significantly impact student mental health as well as campus climate. Microaggressions can be defined as "the everyday verbal, nonverbal, and environmental slights, snubs, or insults, whether intentional or unintentional, that communicate hostile, derogatory, or negative messages to target persons based solely upon their marginalized group membership" (Amodeo et al., 2020, p. 2) and are proven to be detrimental to the student experience and perceived campus climate in IHE. For example, Mills et al. (2020) found that disproportionate representation of Black faculty and staff, discrimination and racial profiling by the university police, political polarization when race is discussed in classrooms, feelings of being exploited by the university as to appear more diverse, and pressure to hide cultural identities were all factors when determining campus climate.

Microaggressions are dangerous because they often fall under the radar of anti-discrimination policies and are masqueraded as humor (Sue, 2017). Allowing microaggressions to exist on campus significantly impacts the campus climate for underrepresented minorities and hinders their learning experience. Blosser (2019) found that Black women who experience microaggressions are likely to search for a support community outside the classroom. These

women reported seeking Black-only communities to share experiences, and receive and provide support (Blosser, 2019). Microaggressions impact campus climate because underrepresented students may feel they need to seek out other spaces to feel validated and accepted. Moreover, Amodeo et al. (2020) found that students of all sexual orientations reported a negative campus climate associated with heterosexist microaggressions, highlighting the idea that microaggressions are detrimental to all students (Amodeo et al., 2020). Overall, the existing literature findings give insight into how an IHE can better support minority students through affinity groups, community, and policy.

Best Practices in Higher Education to Achieve Diversity and Inclusion in Campus Climate

One common strategy used by IHE to have students assess and report concerns about campus climate is the use of surveys. Slay et al. (2019) found that students report a more negative campus climate when their institutions employ active diversity recruiting strategies to appear inclusive and diverse but fail to provide proper inclusive and safe spaces, especially for minority students. Conversely, students reported a positive campus climate when universities dedicate a website page to highlight faculty members who are conducting research related to diversity and inclusion (Slay et al., 2019).

Similarly, it is critical to highlight the importance of developing cultural competency within the university community through increasing efficacy, increasing satisfaction, and creating a greater sense of responsibility for learning outcomes. Kruse et al. (2018) noted that this process will look different for each institution based on its needs but found that mandatory and voluntary training with "lectures, video, problem-solving simulation, role-playing, experimental exercises, and discussion" have produced positive results (p. 740). Proactive training is important for any IHE to conduct because it sets a precedent on how the institution expects its students and faculty members to treat one another.

Campus Mental Health Resources

In addition to training, having accessible resources to students on campus should be a priority for IHEs. Generally, mental health resources are perceived to be limited to on-campus therapy or counseling; however, there are many other resources IHEs could offer. Given that mental health affects everyone around the world, not just here in the United States, each underrepresented minority group might require specific needs to be met. For example, some IHEs offer help through organizations and the community. Bourdon et al. (2020) found that LGBTQ students utilize campus resources more frequently than cisgender/heterosexual students. Similarly, Arday (2021) mentioned that "all participants expressed difficulties to varying degrees in gaining sufficient and appropriate access to culturally cognizant and suitable psychological intervention within their institutions" (p. 90). Being able to find suitable and appropriate help for the entirety of the campus population proved to be difficult, however, institutions could implement inclusive counseling strategies and healthcare practices, such as narrative therapy (Etengoff, 2020). Moreover, Arday (2021) found that minority groups had a hard time trusting healthcare professionals because they "were not always knowledgeable about the centrality and perniciousness of 'racism'..." (p. 91). Being able to have networks of people that had similar experiences proved to be more beneficial and was often considered as 'safe spaces.'

As previously stated, some universities offer support through on-campus organizations. Having communities on campus is especially beneficial to underrepresented minority students because they often feel alone until they find a group of people with similar backgrounds or interests (Teegan et al., 2021) or some schools look to the teachers or professors for assistance in helping the students because these countries do not offer these services (Ratanasiripon et al., 2011). These certain "services" could be considered social support. Rather than dealing with problems like homesickness, or others on their own, these students look to others for help in hopes someone will understand without a language barrier or cultural understanding. Some international students are more reluctant to go to counseling services because they are either not accustomed to it or they are afraid of the language barrier (Teegan et al., 2021).

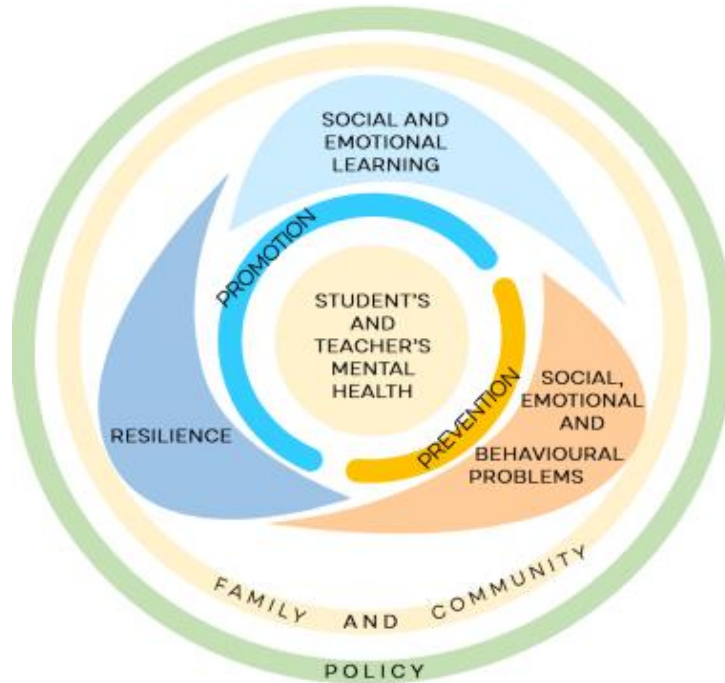
Theoretical Framework

Research has provided educational institutions with the necessary information to aid their students, especially underrepresented minority students. One of these studies focuses on the importance of social and emotional learning (SEL), resilience, and social, emotional, and behavioral problems. Cavioni et al. (2020) proposed the mental health promotion theoretical framework which enables educational leaders to promote mental health in IHE and establish prevention programs. Some of the key domains of Cavioni et al. (2020) theory are the promotion of educational learning and resilience, and the prevention of behavioral problems. As shown in Figure 1, students' mental health is sustained by promotion and prevention practices rooted in resilience, social, emotional, and behavioral problems, and social and emotional learning. Each of the components of mental health is supported by family and community cooperation in guaranteeing sustainable mental health promotion in schools. In summary, coaching and guiding students to "[enhance] social and emotional competencies" and to "[reduce] internalizing and externalizing problems" could lead to a "significant positive impact ... on students' behavior" (Cavioni et al., 2020, p. 69). It is important to note social and emotional competencies skills go further than the classroom and allow students to exceed in many other aspects of life, including attaining a higher education degree.

In addition, Taylor et al. (2017) found that SEL is equally as effective with students of color and low-income students as it is with white students and middle/upper-class students. Integrating SEL practices gives all students, regardless of background, equal opportunity to develop crucial life skills. For instance, resilience plays an important role in setting students up for emotional success. In fact, students who are more resilient are less likely to develop mental health issues and more likely to develop positive coping and stress management skills (Cavioni et al., 2020; Middleton et al., 2020). Similarly, Konaszewski et al. (2021) found that resilience is positively associated with mental well-being and suggested that stress-coping strategies increased among students in education centers. In summary, resiliency is a crucial tool for all students to learn and develop over time to strengthen their emotional competency and allow them to thrive in stressful situations.

Figure 1

Cavioni et al. (2020) Mental Health Theoretical Framework



Lastly, Cavioni et al. (2020) argue that educational programs focused on preventing social, emotional, and behavioral problems result in less emotional distress such "as depression, anxiety, social withdrawal, substance use, self-harm, rule-breaking, delinquency and aggressive behaviour" (p. 70). Cavioni et al. (2020) found that schools that develop programs designed for all students as well as programs designed for students who are high-risk or show signs of the symptoms previously listed have proven to be successful. However, students are more likely to report feeling stigmatized when they are selected to be a part of one of these high-risk groups (Cavioni et al. 2020). When an IHE is deciding on how to structure its educational programs, it is crucial to weigh the possible risk of stigmatizing students who are in high-risk groups. By having a clear understanding of the emerging mental health issues in higher education, the needs of underrepresented minorities, the campus climate of IHE, and employing best practices to promote mental health resources, an educational leader within aviation/aerospace education can improve the retention and success of aviation/aerospace students while minimizing the mental health burdens.

Methodology

Phenomenology is a qualitative methodology that enables researchers to understand the lived experiences of an individual through an objective measure (Moustakas, 1994). The researchers followed Moustakas's (1994) heuristic phenomenological approach as the intent of the research was to discover and summarize the aviation/aerospace students' needs and wants to succeed in higher education based on their lived experiences. Within the context of aviation/aerospace mental health and academic success, since participants tend to experience

intense affective, emotional, and often intense human experiences, phenomenology was the best suitable qualitative approach to examine the targeted phenomena (Merriam & Tisdell, 2016).

To capture the underrepresented minorities' lived experiences in relation to mental health and academic success in aviation/aerospace education, the researchers chose to conduct targeted focus groups to enable the participants to describe their experiences as authentic as possible (Merriam & Tisdell, 2016). Throughout the process, the researchers followed the six steps of basic heuristic phenomenology: initial engagement, immersion into the topics and question, incubation, illustration, explication, and culmination of the research in a productive synthesis (Moustakas, 1994). The keen aspect of the research focused on obtaining descriptions of experience through first-person accounts in informal conversations in the form of a focus group. The researchers viewed the experiences and behaviors of the participants as an integrated and inseparable relationship between subject and phenomena (Moustakas, 1994).

Participation

The participants of the focus groups were 18 current students of Embry-Riddle Aeronautical University (ERAU). 17 students were undergraduate students, and one student was beginning graduate school. Eight students were in the Aerospace Engineering program, three students were in the Aeronautical Science program, two students were in the Aeronautics program, two students were in the Applied Meteorology program, one student was an Aviation Business Administration major with an area of concentration in flight, one student was in the Aerospace and Occupational Safety program, and one student recently graduated with an undergraduate degree in Aviation Maintenance Science and will be pursuing a Master's in aviation. The female-to-male ratio was 1:3, which is representative of the institution's student population. The participation requirements were for students to be at least 18 years of age and currently enrolled in either an aviation or aerospace engineering degree path. As a means to preserve anonymity, students were given numbers at the beginning of each focus group session and asked to identify themselves by their numbers before speaking. A list of student demographic data and student numbers can be found in Table 1.

Table 1

Participant Demographics

Pseudonyms	Age	Gender	Academic Standing	Degree
DB Student 1	26	Male	Senior	BS in Aeronautical Science
DB Student 2	28	Male	Senior	MS in Aviation
DB Student 3	26	Male	Senior	BS in Aerospace & Occupational Safety
DB Student 4	24	Male	Senior	BS in Aeronautical Science
PC Student 1	22	Female	Senior	BS in Aerospace Engineering
PC Student 2	20	Male	Senior	BS in Aerospace Engineering
PC Student 3	20	Male	Senior	BS in Aerospace Engineering
PC Student 4	25	Male	Sophomore	BS in Aerospace Engineering
PC Student 5	20	Female	Junior	BS in Aerospace Engineering
PC Student 6	23	Female	Senior	BS in Applied Meteorology

PC Student 7	21	Female	Junior	BS in Aerospace Engineering
PC Student 8	27	Male	Senior	BS in Aeronautical Science
PC Student 9	22	Male	Senior	BS in Aeronautics
PC Student 10	20	Female	Senior	BS in Aerospace Engineering
PC Student 11	20	Male	Junior	BS in Aerospace Engineering
PC Student 12	21	Male	Senior	BS in Aerospace Engineering
PC Student 13	22	Male	Senior	BS in Aviation Business Administration
PC Student 14	20	Female	Senior	BS in Meteorology

Data Collection

As an ethical research practice, the researchers obtained Institutional Review Board (IRB) approval to conduct the present study [#22-099] from ERAU. 12 open-ended questions were developed for the focus groups based on the literature review and theoretical framework. The focus group questions are noted in Table 2. The questions developed by the researchers stemmed from the literature review: underrepresented minorities challenges, campus climate, and best practices in higher education to achieve diversity and inclusion. Furthermore, when crafting each question the researchers observed careful consideration for the central research question, study objectives, and target population. Depending on the completeness of the answers, some follow-up questions were asked as a means to elaborate or clarify. All focus group sessions were audio-recorded and then transcribed. The transcriptions were then put through member checking to increase accuracy.

Table 2

Standardized Semi-Structured Focus Group Questions

- 1) Tell me about yourself
 - a) Background
 - b) How was your experience transitioning to college?
 - c) Career aspirations
 - 2) Why did you choose to participate in this project?
 - 3) What are some of the mental health issues, if any, for which you have sought support?
 - 4) How would you define mental health stigma?
 - a) What has your experience been when sharing (e.g., counselor, professor) your struggles with mental health?
 - 5) Describe a healthy campus climate.
 - 6) How has being a minority in aviation/aerospace education affected your ambitions for your future?
 - 7) Describe any micro-aggressions that you might have experienced on campus.
 - 8) What would you do to ensure others don't suffer from micro-aggressions?
 - 9) What are your recommendations for improving the success rate of underrepresented minorities in completing a four-year degree in aviation/aerospace?
 - 10) How would you define success in college?
 - 11) What factors kept you motivated to complete your degree?
 - 12) What social support do you feel is needed to improve students' mental health during college?
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Data Analysis and Trustworthiness

After transcribing the interviews, the researchers followed Moustakas's (1994) phenomenological reduction, which consisted of epoché, horizontalizing data and clustering into themes, creating structural descriptions, and synthesizing the meanings. The first epoché, also known as bracketing, was achieved through a reflection process in which the researchers documented their personal opinions, biases, and assumptions to ensure staying focused on the main phenomena. After reading the interviews several times and making annotations throughout, all statements were treated with equal value and significance (Moustakas, 1994). Horizons were formed after all irrelevant and overlapping topics were deleted. Following Moustakas's (1994) systematics process, all remaining horizons were then clustered into themes, and each theme was supported with explicit references from the participants' transcripts.

Additionally, the senior researchers engage in two analytical strategies simultaneously: causation coding to analyze the data and extract causal beliefs and label mental models related to the way a person thinks about the relationship between a cause and an outcome; and inductive coding to capture any additional information related to the participants' experience (Saldaña, 2016). Following the data clustering by theme, a textural description was formed from the descriptions of what the participants experienced (Creswell & Poth, 2018). Furthermore, the researchers combined some of the textural descriptions to convey the phenomenon's overall essence. As the researchers continued to combine the textural descriptions, syntheses started to emerge that allowed the attachment of meaning to the findings. All syntheses provide a meaningful answer to the central research question and support the findings and how the findings relate to the current literature review.

Lincoln and Guba (1985) stress the importance of establishing trustworthiness in qualitative research. The credibility of this research study was captured through analyst triangulation. Through the use of multiple observers and analysts, the researchers were able to check on selective perceptions and identify any blind spots that were present (Creswell & Poth, 2018; Merriam & Tisdell, 2016). The goal was to understand multiple ways of seeing the data (Creswell & Poth, 2018; Lincoln & Guba, 1985). Furthermore, the research sought member checks to obtain feedback on the findings and capture the participants' lived experiences. Transferability was achieved by developing questions grounded in current literature that yield thick descriptions of the main phenomena. The use of an audit trail was established to ensure the findings were consistent and repeatable to demonstrate dependability. Lastly, confirmability was achieved by engaging in bracketing and identifying the biases of those involved in the data analysis (Lincoln & Guba, 1985; Merriam & Tisdell, 2016). All prejudices and past experiences were recorded in an external document to ensure the findings reflected solely the participants' lived experiences.

Findings

After analyzing the data, the findings were organized into themes based on Cavioni et al. (2020) theoretical framework. Phenomenological reductions were then employed to develop meaning from the texts (Creswell & Creswell, 2018), and after significant statements across participants were identified, three major themes emerged that answered the research question.

Figure 2 serves as a visual representation of the most prominent codes that emerged from the data.

Figure 2

Codes Visual Representation



Theme 1: Healthy Environment Promotion and Education

The first major theme that emerged from the data was healthy environment promotion and education. Students who share intellectual experiences tend to be connected to other students through social interactions (Israel et al., 2020). Within Cavioni's et al. (2020) mental health theoretical framework, social and emotional learning (SEL) is the process of developing self-control and interpersonal skills that are vital for school success. To promote a healthy environment full of good people, educating about micro-aggressions is one of the initial steps toward students' academic success. For example, DB Student 1 mentioned, "I'm sure that everybody will learn how not to get disrespected themselves, but for the people that you know are still learning how to get disrespect others, it is our civil duty to educate them." Furthermore, the participants seem to agree that advocating for a healthy college environment starts by not engaging in microaggressions. DB Student 1 exemplified this notion when they stated, "whether it be sexual jokes or ethnic jokes, laughing about it or 'playing it cool' advocates for more microaggressions." While for minority students it is uncomfortable to present microaggression

slurs or jokes, DB Student 1 explained that "it is already an uncomfortable situation, might as well make it even more uncomfortable and express how the other person's expressions are unnecessary and how it affects others."

Part of the self-control developing process for aviation/aerospace minority students to thrive in aviation/aerospace education comes from responsible decision-making. Aviation/Aerospace minority students understand that making certain decisions can impact them in every aspect of their lives. DB Student 3 mentioned that "My experiences have shaped my current mindset. Someone is just going to say something that you don't like, so I have learned to choose when it is necessary to speak up." While minority students could lead the promotion of SEL, the Dean of Students Office, for example, can also provide a positive foundation upon which students can learn about themselves and others in a nurturing college environment. PC Student 13 suggested, "perhaps having more programs that are there to support the uplifting of students by allowing them to share bad experiences in a confidential manner." Higher education administrators could focus on centralizing the well-being of students. Existing literature supports that friends, faculty, advisors, and counselors facilitate a healthy transition for students into higher education (Carter et al., 2013; Scott-Sheldon et al., 2014). SEL offers an approach to education that enables students to create positive habits that foster healthy personal and mental growth.

Theme 2: Setting Realistic Goals

The second theme that emerged from the data was the need to be able to set realistic goals. One major aspect that played a key factor in realistic goal-setting expectations was resilience. Cavioni et al. (2020) state that "resilience is a key protective capacity that contributes to maintaining positive mental health and preventing and mitigating mental health problems" (p. 69). For aviation/aerospace minority students, understanding how to set realistic goals helps with social and emotional competence and decreases anxiety (Cavioni et al., 2020). DB Student 1 shared that "coming to the United States of America broadened my ambitions, but the challenge was in comprehending the opportunities that I now have." Aviation/Aerospace minority students seem to share the struggle of determining what goal to prioritize: adapting to US cultural norms, mastering the English language, or excelling in their aviation/aerospace academics.

Resilience has been linked to greater well-being for a variety of populations (Shih et al., 2019). Through resilience, aviation/aerospace minority students are able to refine their set goals, despite environmental stressors and set back as outlined in Cavioni's et al. (2020) theoretical framework for mental health. The consensus among the focus group was that tackling one set goal helped them persevere throughout their academics. For example, DB Student 1 shared that "I don't have a set path, I just have goals to reach." Furthermore, PC Student 4 mentioned that "although sometimes it feels like an uphill battle to prove myself as a minority, [sic] and it is unfair, breaking down my challenges into small goals has helped me where I am right now." The general consensus among the group appeared to be that setting multiple, small, specific goals enable them to succeed in aviation/aerospace education.

Theme 3: Understanding Available Resources

Transitioning from high school to college adds an extra layer of complexity for aviation/aerospace students' mental health challenges. The consensus among the participants in this study was that the amount of information given the first few days prior to starting the semester was overwhelming. DB Student 1 mentioned, "I felt I was mentally prepared for just how hard classes can get, but I underestimated what college is [sic] going to be." During orientation, students mentioned that they were presented with multiple resources such as counseling services, a wellness center, multiple tutor labs, and countless student groups that offered social networking and mentorship. Yet, minority aviation/aerospace students felt that they did not know what to do with the information. For example, PC Student 14 explained that "No one was like pushing me or be like 'hey do this' or 'you should be at the tutoring center by X time'." Furthermore, PC Student 14 said, "I felt that not truly understanding what was made available to me increased my anxiety, but I guess that is [what was meant by] being more independent."

In addition, the sweet freedom and self-discovery afforded by being in college inhibited minority aviation/aerospace students from developing a balanced life with good time management. DB Student 3 shared that "I have never had an issue with the college experiences, but managing the workload is something that I still need to work on." Perhaps college recruiters should highlight key resources during academic fairs and recruitment events, beyond their main programs and successful projects. Aviation/Aerospace minority students felt that arriving on campus with the "tedious stuff" planned in advance could decrease their stress and make the college experience more enjoyable. For instance, PC Student 7 shared that "I came with a different mindset than most, and when I started feeling a lot of anxiety about the program, I knew I needed to seek help from counseling services." Therefore, making clear the *how*, *where*, and *why* students should use the resources offered by the college could lead to a few pre-planned habits that could decrease the pressure of college.

Discussion

The results of this study suggest several possible practical implications for aviation/aerospace higher education leaders and stakeholders. First, the finding about the implications of a healthy environment promotion and education could lead to an increased perception of the quality of interpersonal, academic, and professional interactions of aviation/aerospace minority students. A healthy campus climate is grounded in an environment free of micro-aggressions, nurtured by an open and judgement-free dialogue between those of differing perspectives. From the perspective of Cavioni et al (2020) mental health theoretical framework, a healthy campus climate is not the same as a positive climate among students. Minority aviation/aerospace students could experience different developmental and learning outcomes as a result of their campus climate and experiences. The findings of this study support the idea that "interpersonal development is centered on one's willingness to interact with persons with different social norms and cultural backgrounds, acceptance of others, and being comfortable when relating to others" (Glass, 2012, p. 204). This notion was exemplified by PC Student 13 "I think a healthy climate would be seeing students supporting students, professors supporting students where it is okay to open up with people and everyone is on the same page."

In Cavioni et al. (2020) theoretical framework, policy holds in place all the components necessary to improve mental health. To meet the needs of aviation/aerospace minority students, perhaps IHEs should strive to improve student-to-student relationships and reduce microaggressions while positively changing university policy and advertising the changes the university is actively taking to improve diversity and inclusion on campus. Thinking outside the box is a necessary first step. Colleges are incorporating a broader culture of wellness into their policies; however, these policies should be studied in depth by collecting data through the college counseling services to see if and/or how aviation/aerospace minority students respond. Studying the impact of current college policies not only increases the promotion of a healthy environment but also enables the students to understand the available resources and how to use them well.

Lastly, while it is evident that guiding aviation/aerospace underrepresented minority students in setting realistic goals will help them thrive in higher education, as an institution, educational leaders should be mindful of how the current policies affect students' self-confidence. IHE could capitalize on the promotion of the available resources and point out that seeking counseling services has a direct relationship between self-confidence and self-esteem. Nguyen et al. (2019) found that increased depression, anxiety, and even suicide increase when someone experiences low self-esteem. Evidently, high self-confidence is needed to achieve success. In the words of DB Student 1 "is not about graduating, [success] is about growing as [an] individual." IHE can help students succeed by showing them how to achieve high self-confidence through their current practices and procedures that promote a healthy campus environment.

Limitations and Future Research

While a qualitative phenomenological study enables researchers to explore and describe the experiences of individuals in relation to a particular phenomenon, it also has some limitations. First, phenomenology relies on subjective interpretations of individuals' experiences, and therefore, it can be challenging to achieve a consistent understanding of the phenomenon being study across multiple disciplines. By extent because phenomenological research is often based on a small sample of individuals' experiences, it can be challenging to generalize the findings to other contexts. Furthermore, the researchers were also mindful that while the findings help improve the mental health needs of underrepresented minorities aviation/aerospace students, these findings are not a comprehensive understanding of the broader social factors that shaped those experiences.

Therefore, future research on underrepresented minorities in aviation/aerospace mental health should focus on intersectionality. Particularly, intersectional identities of underrepresented minorities, such as race, ethnicity, socioeconomic status, gender, and immigration status. This approach will provide a more comprehensive understanding of the unique mental health needs and experiences of diverse students in aviation/aerospace higher education. Moreover, future research should include longitudinal studies that examine the mental health trajectories of underrepresented minorities over time. This approach will provide a better understanding of how mental health changes and evolves over time and can identify factors that promote or hinder mental health and well-being.

Conclusion

All in all, from the qualitative data collection, three themes emerged: healthy environment promotion and education, setting realistic goals, and understanding available resources. Based on these findings, underrepresented minority aviation/aerospace students must fulfill these needs and wants in order to succeed in aviation/aerospace higher education and maintain their mental health. While seeing an improvement in campus climate and students' mental health can take time, it is crucial that more underrepresented minorities in aviation/aerospace find interest and willingness to persevere in higher education. In order to ensure minority students persevere in their field, educational leaders should partner with industry professionals to continuously highlight the opportunities the aviation and aerospace industry have to offer.

Moving into the future, social justice demands changes in IHE policies. For IHEs that have aviation and/or aerospace programs, future studies should explore how faculty influences the mental well-being of underrepresented minorities and its effect on retention. Moreover, there is a need for a theoretical framework that incorporates mental health into diversity, equity, and inclusion practices so that future studies can use the same foundation to improve current and emerging social problems for our underrepresented populations. Lastly, the key takeaways of this study for educational leaders are:

1. Actively revise and promote current policies that foster a healthy campus environment in which underrepresented students are able to build a sense of community and belonging;
2. Sponsor workshops in which students are able to identify and set realistic goals to become a part of the aviation/aerospace industry;
3. Survey students to identify the effectiveness of the resources made available to students and their current mental health state.

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