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# Mental Health Needs Among Minority Aviation Students

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Higher education, including science, technology, engineering, and mathematics (STEM) education, benefit our society and economic growth. However, overcoming gender disparity and increasing the retention of underrepresented minorities within these programs is challenging. Mental health across higher education has shown to be on the rise, and when it comes to the mental health needs of aviation students, research shows that underrepresented minorities experience unique challenges in achieving academic success. This paper focused on identifying aviation minority students' unique challenges in a small STEM university. This mixed-methods action research study collected quantitative data using an adapted version of the Counseling Center Assessment of Psychological Symptoms-62 (CCAPS-62) and qualitative in-person focus groups. Essential elements evaluated were social support, psychological distress, and psychological well-being needed to thrive in the academic environment. The findings provide educational leaders with research-based strategies to meet the needs of underrepresented minority students and increase their retention in aviation education.

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## STEM Higher Education Mental Health and Stigma

Higher education has been an important factor in our society's development. Science, technology, engineering, and mathematics (STEM) education provides the opportunity for students to develop essential and complex skills such as communication, collaboration, and problem-solving skills. Therefore, STEM plays a vital role in sustaining our economic growth and building the bridge in minority equality. However, from a gender perspective, STEM majors remain male-dominated (VanHeuvelen & Quadlin, 2021). When it comes to gender disparity in STEM, VanHeuvelen, and Quadlin (2021) argue that the gendered expectations of the ideal worker connected to STEM fields escalate gender inequalities. Similarly, Stevenson et al. (2021) found that in the aviation field, women lack equitable access to opportunities in the workforce, such as growth opportunities, work-life balance, and better management practices. The lack of equitable access opportunities could be considered a contributing factor to mental health issues.

According to the United States of America National Academy of Science, Engineering, and Medicine (2016), approximately one in four people will experience some sort of mental health issue during their lifetime. Some negative outcomes experienced by students are depression, hopelessness, suicidal thoughts, and anxiety. According to the American College Health Association (ACHA, 2019), 46.2% of students experienced depression within the last 12 months, 57.5% of students experienced hopelessness, 14.4% seriously considered suicide, and 66.4% felt overwhelming anxiety. Compared to the same report from the ACHA in 2015, depression values increased by 10.9%, and suicide consideration increased by 4.8%. Furthermore, addressing mental health issues is often met with negative stereotypes normalized within a society and referred to as a *stigma*. Within higher education, being stigmatized results in disparity in the quality of education and students' negative outcomes (Hatzenbuehler et al., 2013).

According to Elbulok-Charcape et al. (2021), education, awareness, and a positive atmosphere are some of the top students' suggestions for ending mental health stigma. Perhaps implementing students' direct feedback and guidance can provide a fresh perspective on reducing stigmas. After all, generational perspectives influence how a stigma is defined. Currently, our society limits potential employment opportunities to those who self-disclose mental health problems (Martin, 2010). Given that the aviation industry strives to increase the retention and representation of underrepresented minorities, this research focused on the needs of this population to improve their academic progress and flight training success.

## Methods

Given that improving mental health needs among minority students in aviation education falls under improving educational practice, evaluation, and reflection, the researchers employed a mixed methods approach to achieve action research (Creswell, 2009). Prior to collecting data,

the researchers received institutional review board (IRB #22-143) approval from Embry-Riddle Aeronautical University. First, the researchers adopted the Counseling Center Assessment of Psychological Symptoms-62 (CCAPS-62) (Locke et al., 2011). Then, utilizing Google Docs, the researchers formatted the questions to reflect the same items and scales established from the different CCAPS-64 sections. The instrument was administered to two campuses of an aviation higher education institution. A total of 168 participants completed the instrument in its entirety. Furthermore, qualitative focus group interviews were conducted in person at both campuses. To ensure the confidentiality of the participants, interviews took place in de-identified locations on both campuses, where people passing by could not see the individuals inside the room. The utilization of a private room enabled the participants to feel secure and speak candidly about their mental health concerns. During the interviews, students were asked semi-structured questions that articulated their needs and wants to improve their mental health in college. Also, the questions enable students to unpack their feelings toward the stigmas that currently affect them.

### **Unique Challenges for Aviation Minority Students**

Being a part of an environment in which one might not feel welcome can undoubtedly affect the academic experience of any student. However, for minority students, the sense of belonging can be affected by multiple factors, including institutional inequalities, cultural differences, micro-aggressions, and an unhealthy campus climate. Albelo and O'Toole (2021) concluded that aviation students who feel engaged experience a greater sense of belonging. From an educational leader's point of view, the integration of diversity, equity, and inclusion practices results in greater retention of underrepresented minorities (Albelo & O'Toole, 2021). From an aviation minority student perspective, three elements are essential for them: social support, activities with minimal psychological distress, and promotion of psychological well-being.

### **Social Support**

Admitting the truth can be challenging and sometimes not an option for minority groups. Minority students seem to have profound cultural beliefs that make them feel mental health is a sign of weakness. However, the participants in this research indicated that when presented with the correct social support, they experienced higher emotional stability and better physical and mental health. Affiliation with different affinity groups (e.g., Organization of Black Aerospace Professionals, Latino Pilot Association, Women in Aviation, and National Gay Pilot Association) seems to benefit students by enabling them to cope with stress. Affinity groups provide a specialized space where students can share their experiences and encourage others to grow in their respective fields. For example, minorities who struggle with aviation English can receive support from near-peer mentors who have learned how to overcome the same challenges. These findings align with Mai et al. (2021) conclusion that individuals who receive support from individuals who share the same lived experiences can cope with stress more effectively, reduce their anxiety, and improve their mental health thanks to existing social support.

## **Minimal Psychological Distress**

One element the participating students in this study reached a consensus on was microaggressions. Microaggressions, though harmless at first glance, inflicted feelings of shame and degradation for underrepresented minorities in aviation. The two most predominantly microaggression shared by the cohort of aviation students was the continuous mispronunciation or lack of effort from faculty (or peers) to properly pronounce their names and task based on gender role expectations. First, a person's name is part of their identity; failing to practice the correct pronunciation can be perceived as worth less than their peers. Often people can reinforce a negative identity in an individual by simply not addressing it. The cohort of students that their many lived experiences in the aviation field have changed how they see themselves and what beliefs matter the most in their career progressions. By minimizing the psychological distresses minority students face related to their identity, they can thrive academically with greater openness.

Similarly, gender roles and stereotypes influence the quality of interpersonal communication among aviation students. Specific norms and expectations for how an individual should behave in a particular space constrains their behavior and has consequences on their identity. Although the participants in this study acknowledge that aviation remains a male-dominated field, the lack of inclusive language usage in the classroom further reflects stereotypical ideas that cis-gender men are naturally better suited to be pilots. Furthermore, the participants agreed that most faculty members employ the usage of male pronouns when referring to the flight crew in different scenarios presented in class. These gender role stereotypes could be broken if educators and educational leaders develop critical consciousness and learn to identify implicit bias (Albelo & O'Toole, 2021). Albelo and O'Toole (2021) suggested strategies such as becoming mindful of our prejudice and increasing empathy and kindness toward our students and colleagues.

## **Psychological Well-Being**

The results from the quantitative instrument indicate that aviation students are experiencing higher depression, anxiety, and stress. While alarming, the reality is that mental health among college students in the United States has been on a steady decline (ACHA 2019; ACHA 2015). Minority aviation students expressed that they would like to see a more proactive approach to promoting mental health well-being by administrators. The students acknowledge the value of being able to speak openly about the resource on campus for mental health and knowing that they are not alone in their journey. A strategy that administrators could employ is using social media to reach out to more students effectively about their institution's wellness center and the services they provide. In turn, students will be able to learn crucial information, access resources that build and promote a positive mental health climate and increase their success and retention. Seppala et al. (2020) suggest the promotion of positive psychology, yoga/meditation, and community service as promotion strategies that improve mental health. Currently, the Empowering Latina Leaders Aviators subcommittee (ELLAs) of the Latino Pilot Association (LPA) focuses on providing cis-gender and transgender women a space in which they can meditate and share positive psychological conversations. Colleges and universities

should encourage students to either join this organization or support their students in creating a social support group that enables them to thrive psychologically.

### **Conclusion**

As aviation education leaders, we must learn to appreciate the true complexity of the unique challenges our students face within higher education. Mental health issues continue to be met with a negative stigma even though efforts are being made to normalize mental health conversations. This negative stigma can inhibit some students from seeking help. Additionally, students aspiring to enter the aviation industry are even more likely to refrain from disclosing mental health concerns, including underrepresented minority students. Therefore, aviation educators need to create a sense of belonging through integrating diversity, equity, and inclusion practices, be intentional in using a more inclusive language within the classroom and take a more proactive approach to promote mental health well-being across campus. More research can be conducted to educate faculty, staff, and students about micro-aggressions and to improve campus climate. Such topics are essential to meet the needs of underrepresented minorities and increase retention in a small STEM university.

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