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The Mental Health Symposium: An Effective Tool to Improve Collegiate Aviation Students' Knowledge, Understanding, and Comfort with Mental Health

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Introduction: Mental health remains a pressing concern for many in the U.S. and has intensified for those in certain populations, especially students in primary, secondary, and post-secondary institutions. This concern is intensified for college-aged students and collegiate aviation students in particular, as they face a myriad of unique stressors. Despite societal embrace alongside awareness of mental health, many are still reluctant to seek help because of stigma and regulatory barriers, exacerbating risks to academic performance and aviation safety. **Research Question:** The central research question asks: What impact, if any, do Mental Health Symposiums have on the knowledge and understanding of mental health of collegiate aviation students? **Data Collection and Analysis:** A mixed methods design employing pre- and post-symposium surveys was administered to students attending the 2025 UNO Aviation Institute Mental Health Symposium in February 2025. Surveys included 40 questions (35 closed-ended, 5 open-ended); quantitative data were analyzed using descriptive statistics and chi-square tests, while qualitative data were analyzed thematically via NVivo. A total of 68 paired responses were included in the final analysis to ultimately derive the findings/results. **Findings/Results:** Quantitative findings revealed significant increases in students' knowledge and understanding of on-campus and industry-specific mental health resources. However, changes in comfort discussing mental health were less pronounced, indicating persistent interpersonal barriers. Thematic analysis identified five core themes: *Education as Empowerment, Pathways to Awareness, Taboo to Conversation, Soaring Beyond Stigma*, and *Access Granted – Barriers Bypassed*. **Implications:** This study highlights the

effectiveness of mental health symposiums in increasing students' awareness and understanding of mental health. Program leadership should consider sustained, multifaceted mental health interventions to foster a more supportive and stigma-free culture that is also sensitive to the gendered and first-generation student experiences.

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Introduction

Mental health and closely associated topics such as mental fitness, mental well-being, and emotional well-being have grown in importance and prominence within the U.S. over the last five to six years. This growth, in part, has been attributed to the COVID-19 pandemic, specifically the panic, fear, and anxiety many individuals experienced as a result (Panchal et al., 2023). However, for college-aged students, mental health was a prominent concern prior to the onset of the pandemic, and there was a noticeable increase in the number of people who experienced a mental health challenge in the more recent years (Girolimon, 2025). The other contributor to this growth, as explained by Mance (2022), stems from a marked increase in mental health literacy in conjunction with a rise of public figures (e.g., Michelle Obama, Simone Biles, Naomi Osaka, etc.) speaking openly about their own mental health challenges via their respective platforms. Thus, the pandemic, ongoing racial trauma, and continuous fights for social justice across the U.S. have all played a collective role in propelling mental health to the forefront for many Americans (Mance, 2022). Prior to the onset of the pandemic, only 20% of U.S. adults reported experiencing mental health challenges (e.g., anxiety, depression, isolation, etc.), whereas 80% reported something similar three years after the pandemic began (Nealon, 2021). Such growth has led to some positive outcomes and trends as much of the focus on mental health has shifted from pathology to awareness and self-care (Mance, 2022), specifically amongst collegiate students. This has resulted in increased awareness of mental health challenges in society, which is largely due to the younger generation of Americans being more vocal about mental wellness, especially via social media channels (e.g., X and TikTok), according to Mance (2022). The acceptance and discussion of mental health issues within households that traditionally would have dismissed them (Johnson et al., 2024), and improved comfortability sharing mental health concerns with others constitutes another positive outcome that specifically pertains to Black aerospace professionals (Johnson et al., 2024) as well as identifying as minoritized or underrepresented. While it is recognized that the pandemic had an overall positive net impact on the mental health of individuals because of social acceptance and awareness (Reutters et al. 2024), there are still several lingering challenges that require addressing to assist one of our most vulnerable populations: students.

Academic institutions are taking students' mental health concerns more seriously, as evidenced by the provision of support resources and the development of innovative approaches to address this pervasive problem (Abrams, 2022). Despite the improvements, innovation, and forward progress, student mental health is and remains an area of concern for educators and parents. This is adduced by Clarke et al. (2024) who stated that a national survey of college students found that at least 39% will experience depression, one in three (33%) shared having an anxiety disorder, and one in seven (13%) thought about suicide in the past 12 months. These demoralizing statistics depict a grave picture for students' mental health, and the repercussions can be dire. Examples include decreased energy and mental ability, loss of motivation to study, hindered academic performance, and a lower grade point average (Suicide Prevention Resource Center, n.d.). Although these consequences are quite steep for any college student, they are compounded for collegiate aviation students. This is because collegiate aviation students and, in particular, professional flight students, experience the mental health stressors that traditional college students experience, such as heavy courseloads and time management issues (Clarke et al. 2024), but are also subjected to a separate, unique set of stressors that can lead to mental health challenges. These unique stressors include but are not limited to Federal Aviation Administration (FAA) knowledge and practical tests, check ride scheduling, financial constraints and obligations, and time management (Clarke et al., 2024; Robertson & Ruiz, 2010). When considering the duality of the aforementioned stressors[1] in conjunction with barriers to

[1]While professional flight students experience unique stressors that differ from management/administration students, both sets of students experience stressors innate to traditional college students and those incumbent to being an aviation student.

mental health support, such as personal and social stigma (Albelo & McIntire, 2023) and a lack of support resources (Johnson et al., 2024), there is a glaring need to help and support students through some of their bleakest moments. The effective use of mental health symposiums (MHS) is one medium that can be leveraged to bridge this gap and alleviate mental health issues.

While a universal or standardized definition of a MHS does not exist currently, it can still be accurately defined as an essential platform for educators (and other institutional personnel), students, mental health professionals (MHPs), and/or community members to collaborate, share best practiced, and discover innovative strategies that can be utilized to foster positive change in the loves and well-being of students, staff, and anyone in attendance (Sandhills Regional Education Consortium, 2025). The MHS is designed to provide attendees with adequate resources and support to overcome stigma as well as other barriers that adversely impact one's mental health. Typically, the symposia cover a wide range of topics, including, but not limited to: awareness of mental health stigma, cultural barriers, barriers to support, empathy and advocacy skills, warning signs, etc., according to Broward College (2025). As such, MHS are usually developed with a theme or goal in mind and held so individuals can improve their mental health through increased awareness, understanding, and knowledge. For the context of this study, the theme of the UNO 2025 Aviation Institute MHS was to "Soar Beyond Stigma" (University of Nebraska at Omaha, 2025), which was accomplished through the sharing of knowledge, skills, and abilities so attendees could learn how to sustain the support necessary to continue to persist during mental health challenges. MHS can range in duration, with some being a half-day, such as the one at the center of this manuscript, and others spanning several days. Regardless of the duration, the symposia tend to possess certain elements that make it an effective and beneficial event for those in attendance. For instance, a MHS, specifically one tailored for collegiate aviation students, should have institutional faculty and staff present to support and demonstrate a commitment to the cause (Sandhills Regional Education Consortium, 2025; Bush et al., 2024), Aviation Medical Examiners and MHPs to present research or speak about helpful strategies and help facilitate difficulty conversations (Sandhills Regional Education Consortium, 2025), an activity adapted for the event from the classroom to cultivate the soft-skills necessary to engage in mental health conversation (Bush et al. 2024), and panels led by the presenters and students so students can see themselves reflected from both sides of the event.

Statement of the Problem

The mental health of students has been an area of concern and studied for many years (Clarke et al., 2024). Still, the mental health of collegiate aviation students is an under-researched area despite a notable amount of research being conducted in the past 5-10 years (Clarke et al., 2024; Johnson, 2024; Johnson, 2023; Robertson & Ruiz, 2010) and the past 15-20 years within the industry holistically about this topic (Hubbard & Bor, 2006; Ballard et al., 2006; Winter et al. 2017; Winter & Rice, 2015; Hoffman et al., 2024a; Hoffman et al., 2024b; Hoffman et al., 2019). The recent focus on collegiate aviation student mental health was precipitated by two unfortunate student suicides: one in October 2021 and another in January 2024. Both student suicides were accompanied by heart-wrenching notes that revealed the impacted student had been experiencing mental health challenges, specifically depression, and was fearful that mention of it to anyone would result in their immediate grounding (and potentially, loss of their medical certificate) (Clarke et al., 2024). Both students essentially alluded that their life without flying or aviation was not worth living, and they only saw one way out: to take their own lives. Such a fear of losing one's medical and flight privileges speaks to the culture of fear cultivated within aviation/aerospace (Johnson et al., 2024). Due to this culture and the fear of jeopardizing job security (Johnson et al., 2024), or in the case of collegiate aviation students, limiting post-graduate employment opportunities, many opt to suffer in silence and do not share their mental health struggles with anyone. This results in a larger problem in that collegiate aviation students may be more inclined to suppress their feelings or engage in unhealthy coping mechanisms, placing the safety of others at risk due to poor aeronautical decision-making. The collegiate aviation flight student who committed suicide in a plane

crash in October 2021 was a student at the University of North Dakota (UND). His untimely passing placed a spotlight on mental health in aviation/aerospace, specifically within the collegiate environment. It was also the impetus of a positive movement toward redressing a glaring gap in mental health support, education, and awareness within collegiate aviation programs. In the months following the UND incident, an aviation mental health symposium was planned and hosted at UND (University of North Dakota Alumni Association, n.d.). This inaugural event aimed to provide awareness, increase support, and destigmatize mental health in the industry. Since 2021, these mental health symposiums have been held yearly at various institutions, the most recent being in October 2024 at Western Michigan University (UND, n.d.).

Purpose of Study & Research Questions

This exploratory research aims to understand the impact MHS has on the knowledge, understanding, and comfort level of collegiate aviation students regarding mental health. As mentioned earlier, the importance of these symposia is inexplicable because they combat the pervasive stigma that exists within aviation/aerospace (Villarino & Villarino, 2023), enhance the understanding of mental health, promote awareness of resources one can use to overcome related challenges (Villarino & Villarino, 2023), and improve mental health outcomes for attendees (Thacker, 2024). These types of symposiums have been shown to positively impact other fields/disciplines by helping students cope with and mitigate stressors (Till et al., 2024). While aviation/aerospace entities have made forward progress with mental health due to the creation of the FAA Mental Health Aviation Rulemaking Committee (National Business Aviation Association (NBAA), 2024; FAA, 2024b) and the organization of the annual mental health symposiums, the effectiveness of the symposia have not been measured nor researched extensively within aviation/aerospace, hence the need for this study. As such, the authors contend their incorporation into collegiate aviation programs may be an effective and robust way to improve collegiate aviation student mental health and lessen the likelihood of student suicides (and self-harm). The usage of these symposia may inform collegiate aviation program leadership of techniques and/or resources they can leverage to increase mental health support within their program and improve the mental health of aviation students.

The following research questions were addressed by conducting pre- and post-surveys of the collegiate aviation students at the University of Nebraska at Omaha (UNO), a four-year midwestern institution, during their 2025 Aviation Institute Mental Health Symposium (MHS). The surveys included a range of questions designed to assess students' knowledge, awareness, and comfort levels related to mental health. Given the salient purpose of this study, the following central (or primary) research question (CQ) was developed to guide this study:

> CQ: What impact, if any, do Mental Health Symposiums have on the knowledge and understanding of mental health of collegiate aviation students?

There are also three secondary research questions (RQs) guiding this study:

- RQ#1: What is the overall perception (positive, negative, or indifferent) that collegiate students have about symposiums relative to mental health?
- RQ#2: Are collegiate aviation students more comfortable or inclined to discuss mental health-related topics as a result of attending a mental health symposium?
- RQ #3: What barriers or impediments, if any, exist that may deter or prevent collegiate aviation students from seeking help, support, and/or resources to resolve their mental health challenges/issues?

Significance of the Study

Although the extant mental health research on collegiate aviation students offers valuable insights into their perceptions and attitudes toward this issue (Clarke et al., 2024; Albelo & McIntire, 2023), there is limited research that specifically focuses on the effectiveness of mental health symposia regarding students' knowledge, understanding, and comfort with mental health. This study is significant because it yields insights into how students perceive the usefulness of the knowledge gained and resources obtained from the MHS. More importantly, the study may inform collegiate aviation program leadership about methods, techniques, and resources they can utilize to enhance mental health support within their programs and improve the mental well-being of their students. Consequently, the data resulting from the study may help raise awareness and increase support for aviation students, the collegiate aviation community, and the industry as a whole, leading to solutions not previously considered. There are two primary gaps, temporal and empirical, which this study aims to fill. Temporally, there is a scarcity of studies examining the impact of educational advancements related to mental health tools and resources in aviation/aerospace, specifically in the context of mental health symposia. Empirically, there is a lack of studies assessing the effectiveness of MHS on the knowledge, understanding, and comfort of collegiate aviation students concerning mental health. This gap is particularly critical because it involves understanding whether these symposia enhance students' knowledge, awareness, and comfort regarding mental health, and if so, how they can be utilized by program leadership to improve safety and awareness.

Literature Review

U.S. Mental Health

Mental health has become a topic that is more readily embraced by Americans in the U.S. thanks to the pandemic (Johnson et al., 2024), awareness efforts through social media, and an increase in mental health-related research (Winter et al., 2017; Winter & Rice, 2015; Hoffman et al., 2024a; Hoffman et al., 2024b; Hoffman et al., 2019). Discussions surrounding current mental health initiatives are difficult to discuss without considering the context of the post-pandemic reality that has had marked effects on this topic. A recent study found that in populations of U.S. college students, mean depression and anxiety rates skyrocketed during the pandemic. Still, post-pandemic, depression rates returned to pre-pandemic levels, whereas anxiety rates continued to climb (Fruehwirth et al., 2025). Research by Turetsky and Sanderson (2017) focused on collegiate students, where the participants were given three different interventions of social norms, general mental health education, and stress management. The study found that in a collegiate setting, the lack of information surrounding mental health and its nuances has implications for attitudes surrounding the topic. Turetsky and Sanderson also found that presenting normative information does have measurable benefits to student mental health contexts (2017). What is interesting about these findings is that gender continues to be a significant covariate, with female students reporting higher rates of adverse mental health symptoms during and after the pandemic (Roche et al., 2022).

Despite the aviation/aerospace industry largely existing within a different set of standards and expectations surrounding mental health and wellbeing than other sectors of the workforce, that does not mean these professionals and aviation students are somehow exempt from the realities that exist. What is meant by this is best elucidated by Hubbard and Bor (2006), who proposed a similar argument, contending that aviation/aerospace professionals operate under a unique professional culture. This culture is one characterized by high performance standards, rigid safety protocols, and a perceived social status. Such a culture, collectively, does not eliminate nor truly mitigate the presence of stressors nor the susceptibility of these professionals to mental health challenges. Therefore, Hubband and Bor (2006) help illustrate the notion that while aviation/aerospace professionals exist and operate in a specialized environment with different rules, expectations, and standards relative to mental health, the basic realities

of human vulnerability to stress, anxiety, burnout, and other common mental health challenges still apply to these professionals. The difference is not that aviation/aerospace professionals are immune to associated mental health challenges, but more so that the industry's standards, stigma, and historical context surrounding mental health have made non-disclosure the norm, and recognizing and addressing the realities are more complex. Thus, it is for these reasons and more that Maslow's Hierarchy of Needs is one of the first lessons Certificated Flight Instructors (CFIs) are taught in their training (FAA, 2020a).

Mental Health in Aviation/Aerospace

The stigma surrounding the perception of mental health within the aviation/aerospace industry is a resounding issue. Prior to delving into how stigma impacts those within aviation/aerospace, it is first necessary to define the term. Stigma is defined as "Prejudices held towards individuals that are either part of, or perceived to be part of, certain groups" (Johnson & Jones, 2025). Stigma is particularly prevalent within the context of social evaluations in the industry, as the importance of these perceptions is substantial (Sabik et al., 2019). Social evaluations and networking are widely regarded as critical aspects of success within the industry (Johnson, 2024). This is often encapsulated and emphasized by the adage, "It is not what you know, but who you know within the industry." Such a simple statement adds a significant amount of pressure on individuals to make the right first impressions and obtain positive social evaluations from everyone they encounter. Further, the correlation that exists between subjective and external perceptions has marked effects on potential health outcomes. The deeply ingrained stigma surrounding mental health in aviation/aerospace continues to be one of the most significant barriers preventing students from seeking help. This stigma manifests in multiple ways, including internalized shame, peer pressure, and concerns about being perceived as unfit for flight training (Jacobs et al., 2020).

Toughness and self-sufficiency have long been core values in the industry. Research by Hubbard (2016) provides a historical analysis of aviation training and professional culture, which shows a longstanding emphasis on mental fortitude within the culture of the industry and has created an environment where discussing mental health concerns is often equated with weakness. While an illogical maxim, it has become a widely propagated issue. This is demonstrated in the training phases of aviation/aerospace, and many, if not most, aviation students internalize these beliefs, leading them to suppress their struggles rather than seek assistance of any kind (Jacobs et al., 2020). Scholars contend that social isolation and loneliness exacerbate adverse mental health outcomes, especially for those who lack communities of support (Johnson, 2024; Johnson et al., 2024; Bruss et al., 2024). When considering aviation/aerospace professionals, who naturally have a propensity to refrain from discussing mental health issues due to the culture of fear within the industry (Hubbard, 2016; Johnson et al., 2024), merely discussing mental health and/or seeking help can be daunting tasks and inherently form a barrier to obtaining help. Furthermore, this leads to the high probability of mental health symptoms and diagnoses being largely underreported amongst the professionals, specifically pilots (Wu et al., 2016).

Arguably, stigma is one of the most severe barriers to seeking mental health treatment for those afflicted working in aviation/aerospace careers (Raus, 2024). A study conducted by Johnson et al. (2024) sampled a pool of Black aerospace professionals, in which he and his colleagues specifically highlighted that a "Culture of Fear" exists. Many participants discussed the overall anxiety surrounding the potential repercussions that exist from both aviation/aerospace employers and the FAA alike. Amongst collegiate aviation students, the majority believe FAA regulations themselves are too restrictive, and almost half report the regulations have negative effects on their desire to seek out resources or assistance for any mental health issues (Stein, 2023). More aerospace students were surveyed in a study by Waters et al. (2024), who found that nearly half of the respondents (47%) reported that seeking therapy would make them feel less satisfied with themselves. Additionally, 49% of participants expressed concerns that seeking professional help would damage their self-confidence and harm their professional image. These

findings highlight the important role that social perceptions and evaluations play in discouraging mental health discussions within the aviation community, especially at the collegiate level.

Mental Health in Collegiate Aviation/Aerospace Programs

Despite the larger social embrace of mental health in the U.S. recently, there are still subgroups of the population that experience difficulty grappling with mental health and associated challenges. Mental health challenges have become an increasingly pressing issue for collegiate students generally and more specifically for those enrolled in collegiate aviation programs. The number of college students struggling with serious mental health issues has been on a consistent rise in recent history, and barriers to seeking help and accessing resources are not a strife exclusive to aviation/aerospace students (Storrie, 2010). While the rise in mental health challenges is universal amongst college students, collegiate aviation students face unique sets of issues that set them apart from their counterparts. They must navigate the rigorous demands of traditional collegiate life in addition to managing stressors innate to being in an aviation program, such as FAA written and practical testing (Clarke et al., 2024; Robertson & Ruiz, 2010). For students on the professional pilot track, flight training bestows a more inordinate set of stressors, such as adhering to stringent medical certification requirements (Pitts, 2023), which can potentially exacerbate current mental conditions students possess. The stressors of being an aviation student and, in particular, those undergoing flight training, are often compounded by personal burdens or factors that adversely impact their mental health (e.g., the culture of fear innate to the aviation industry that prioritizes resilience and self-reliance) as posited by scholars (Johnson et al., 2024; Johnson, 2024; Boyd & Bliss, 2024). The aforementioned often constitute prominent barriers that cause students, specifically collegiate aviation students, to be less inclined to seek mental health support or help.

The higher education environment is undoubtedly stressful for students due to a myriad of reasons, the majority of which are linked to academic and/or social elements of pursuing higher education (Johnson, 2024). As such, accessing mental health support as a collegiate aviation student, particularly those engaged in flight training, possesses its own set of barriers, which tend to be viewed as burdens by the impacted students. These confounding factors, in conjunction with the already high-pressure and high-stakes environment of being a collegiate aviation student, presumably add to the mounting pressure and mental health challenges these students experience. Although mental health in aviation/aerospace has gained more positive attention and traction in recent years (Nealon, 2021; Panchal & Lo, 2024; PMHC, n.d.), many students remain hesitant to seek professional support or even admit that they may have a mental health challenge or disorder (Lipson et al., 2022). This reluctance to seek support or help and/or admit that they are afflicted by mental health stems from several reasons, most of which are underpinned by a fear of ramifications (Johnson et al., 2024) and stigma (Winter & Rice, 2015). Studies indicate that fear of professional consequences, including the potential loss of one's medical certification (Hubbard, 2016; Johnson et al., 2024) and potentially their future career, prevents these students from obtaining the care they need (Pitts & Faulconer, 2023; Johnson et al., 2024; Hoffman et al., 2024a). Furthermore, the stigma surrounding mental health discussions in the aviation community perpetuates a cycle of suppression, leading to unaddressed psychological distress and increased safety risks in training and flight operations (Hubbard, 2016; Winter & Rice, 2015; Wu et al., 2016).

FAA Policies and Mental Health Disclosure

An in-depth analysis of collegiate aviation students' perceptions of FAA mental health policies conducted by Stein (2023) found that many students frequently operate under false assumptions about the extent to which mental health diagnoses impact certification. The existing widespread misunderstanding of FAA policies and guidelines, in conjunction with the fact that many of these guidelines tend to be overly restrictive and punitive in nature, leads to unnecessary fear. Consequently, collegiate aviation students may be inclined to forgo treatment that might otherwise enhance their well-being and

performance. This highlights how the FAA's medical certification policies play a significant role in shaping how industry professionals and collegiate aviation students perceive and respond to mental health concerns. Research by Pitts and Faulconer (2023) highlights that nearly 50% of collegiate aviators actively avoid discussing mental health concerns due to fear that such disclosures may negatively impact their FAA certification status. This fear is further reinforced by the finding that nearly 90% of students would avoid seeking professional mental health treatment if they believed it would possibly threaten their ability to fly (Pitts & Faulconer, 2023). These alarming statistics reinforce the urgent need for policy reforms that allow for mental health transparency to occur without such severe professional repercussions, with the goal to mitigate healthcare avoidance behaviors (Hoffman et al., 2024) and create a more permissive environment (Johnson et al., 2024).

A growing body of research advocates for revisions to FAA policies that would create a more balanced approach to mental health evaluations. Boyd (2024) and Raus (2023) argue that more transparent and supportive policies could lead to improved mental health outcomes without compromising aviation safety. Proposed reforms include enhanced education about FAA regulations, increased mental health support resources, and mechanisms for pilots to seek treatment without fear of automatic consequences or disqualification. As of April 2025, instrumental legislation, namely the Mental Health in Aviation Act of 2025 and the Aviation Medication Transparency Act of 2025, has been introduced to update the FAA's existing mental health policies. Both pieces of legislation would help ensure aviation/aerospace professionals would be able to seek vital mental health care without the fear of facing professional repercussions (PMHC, 2025). The legislation is significant because it can diminish the fear culture that exists, encourage help-seeking behaviors, and provide a change in the mentalities of collegiate aviation students who may be following incorrect behaviors they see modeled within the industry.

Methodology

Data Collection and Analysis

This study employed a mixed-methods approach to capture both quantitative and qualitative insights from collegiate aviation students who attended the 2025 UNO Aviation Institute MHS. A pre- and post-symposium electronic survey was administered using QR codes placed on tables at the event. Participants were encouraged, though not required, to provide their names to allow comparison of pre- and post-responses to determine the impact of the symposium on collegiate aviation students' knowledge, understanding, and comfort with mental health. The surveys received Institutional Review Board approval from UNO's Office of Regulatory Affairs (IRB #0006-25-EX) (see Appendices C and D) and were placed on each table alongside the informed consent form (Appendix B) for participant review. Survey research was chosen to provide a quantitative description of the students' knowledge, understanding, and comfort regarding mental health, as well as their perceptions of a specified group (Creswell & Creswell, 2018). The pre- and post-surveys, which consisted of 40 questions, included 35 closed-ended (e.g., multiple choice and Likert scale) and five open-ended questions. The survey questions focused on personal information (e.g., demographics), mental health knowledge, understanding of mental health, and comfort with discussing or sharing challenges related to mental health (see Appendix A).

The inclusion of the open-ended questions provided respondents with an opportunity to furnish written responses to some of the more specific and/or sensitive mental health questions (Johnson et al., 2024). The usage of these questions helped elevate individual voices and specific concerns about mental health, which is paramount given the various stressors collegiate students experience. Additionally, the comments provided by respondents aided in contextualizing the data and identifying themes, effectively spotlighting information not obtained through the closed-ended survey questions Therefore, using closed- and open-ended questions allowed a more complete understanding of collegiate aviation students'

knowledge, understanding, and comfortability relative to mental health, and what role or impact, if any, the MHS had on them.

As discussed earlier, the survey questions were developed using previous research studies that examined the mental health perceptions, attitudes, knowledge, and/or challenges individuals within the aviation/aerospace industry experienced. There has been extensive research conducted in recent years about collegiate aviation students' mental health, specifically examining their perception(s) on depression and anxiety and how this perception impacts flight students in particular. Research was also conducted by Albelo and McIntire (2023) who found that minoritized aviation students experienced unique challenges due to a myriad of factors (e.g., institutional inequities and cultural differences), all of which adversely impacted their mental health. While contemporary research exist that explores the mental health and challenges of collegiate aviation students, there is a paucity of research within the industry that assesses the impact MHS have on the mental health of students. There are a few studies that elucidate the positive impact these symposiums have had on participants' mental health, within the STEM field, but none that exclusively focus on aviation/aerospace let alone collegiate aviation programs. For the creation of this survey, the aforementioned studies were reviewed, and questions were derived using some of the survey protocols encompassed within the studies, allowing for the creation of pre- and post-symposium surveys inclusive of questions positioned to address the research questions.

Study Participants

The researchers targeted 150 completed surveys, which was deemed an appropriate sample size as it accurately represented the aviation flight program student body, allowed for over 50% of the students to be surveyed, and minimized sampling error (Boyd & Bliss, 2024; Johnson et al. 2024). To promote the event and encourage registration, the researchers sent an initial email to UNO faculty, staff, and students informing them that registration opened in October 2024. Follow-up emails were sent monthly thereafter until the event date. Registrant information (e.g., first/last name, year, major, etc.) was collected via Qualtrics. The registration link closed the day before the event in February 2025 after being open for responses for 120 days. In total, there were 244 registrants for the 2025 Aviation Institute Mental Health Symposium event. Of the 244 registrants, 225 attended (92.2%). With respect to response rates, 126 pre-symposium and 92 post-symposium surveys were completed, resulting in a maximum of 92 completed survey responses available for comparison analysis. Of the 92 completed responses, only 68 were eligible for analysis based on the inclusion criterion and successful completion of both the pre- and post-symposium surveys. The privacy of the participants was safeguarded by the researchers through de-identification methods, and the additional demographic data collected included race/ethnicity, age, sex/gender, year/status in school, and major.

Validation Process

To ensure reliability and clarity, the pre- and post-survey instruments were reviewed by the research team and pre-tested with six individuals who were known to the researchers in a professional capacity (Johnson et al. 2024; Lutte et al. 2024). These reviewers provided feedback on the readability, content relevance, and logical flow of the questions. Additionally, to enhance the drafting and clarity of the survey questions, each researcher independently reviewed the pre- and post-surveys and provided feedback via track changes. This process allowed any comments or revisions made during the independent review to be integrated into the final interview protocol (Appendix B). This multi-perspective review process added another layer of reliability and validity to the survey instrument. The final survey was designed to align closely with the study's research questions and to minimize ambiguity.

To assist in presenting the data and specifically elucidate the similarities and differences between the themes, points of convergence and divergence were utilized. Convergence occurs when the outcomes

of different approaches lead to the same conclusion, whereas divergence occurs when the results of different approaches show different outcomes, leading to divergent conclusions (Fouad, 2024). The combined use of these are essential in helping researchers understand the complexity and variation that are inherent to the data while also supporting the triangulation method (Fouad, 2024).

Statistical Analysis

Quantitative – Closed-Ended Questions. The collected data were analyzed using a range of widely accepted statistical methods to identify key trends and relevant patterns. This analytical process enabled the researchers to present a comprehensive findings section and to offer evidence-based conclusions grounded in the data. To begin, all Likert scale questions from both the pre-symposium and post-symposium surveys were analyzed using descriptive statistics. Specifically, the authors focused on the mean and standard deviation of each question to identify which questions received the highest and lowest average scores, as well as which questions exhibited the greatest and least variability in responses. This initial step helped understand overall response patterns and highlight areas of consistent or divergent perceptions among participants. Next, the authors calculated the difference in mean scores between the pre-symposium and post-symposium surveys for each question. This comparison allowed the authors to determine which questions showed the most notable increases or decreases in perceived importance, satisfaction, or awareness following the symposium. These differences provided insight into the impact of the symposium on participants' attitudes or knowledge. Finally, the authors conducted chi-square tests on all closed-ended survey questions to examine whether response patterns differed significantly across various demographic and experiential subgroups. These subgroups included race/ethnicity, gender, age, academic year or status, affiliation with a registered student organization, residential status (on-campus vs. off-campus), employment status, first-generation college student status, and whether the respondent had previously attended a mental health symposium. The chi-square analyses enabled the authors to assess the extent to which background characteristics influenced participants' responses and to identify statistically significant associations.

Qualitative – Open-Ended Questions. The qualitative data were analyzed through thematic analysis, a process typically consisting of six steps, yet only four were used based on the purpose of the study and the needs of the researchers. Prior to importing the data into NVivo, a qualitative data management software, the PI cleaned and deidentified the data to ensure only completed responses were included for comparative analysis. The data was analyzed through open coding the data line-by-line in Nvivo to identify the themes based on the respondents' comments.

Thematic analysis began with transcription and familiarization (Naeem et al., 2023), constituting the first step. This is where researchers thoroughly reviewed open-ended survey responses from both the pre- and post-symposium surveys. This process involved reading each of the five open-ended questions and their 68 corresponding responses to gain a comprehensive understanding, or "gestalt", of participant perspectives (Groenwald, 2004; Johnson et al., 2024). During this initial phase, salient phrases and incomplete or redundant entries were removed, and significant quotations were compiled into a "master bank" within NVivo to preserve participant voice and prepare for deeper analysis. Following familiarization, researchers identified keywords that captured recurring ideas and emotionally or conceptually significant terms related to mental health in aviation/aerospace, denoting the second step. These keywords served as the foundation for the coding process, where responses were broken into smaller units, each labeled with a code to represent its thematic meaning. Codes were then organized into broader categories to reveal patterns and relationships aligned with the research questions, signaling the third step. The keywords play a critical role in this step because they form the backbone of the thematic analysis, helping to convert raw data into insightful, informative, and manageable units (Naeem et al., 2023) that provide a holistic perspective of respondents' experiences and perceptions. This culminated in the development of core themes, constituting the fourth step, which synthesized participants' experiences

into an analytically rich and structured format, ultimately informing the findings presented in a tabular form within the *Findings* section. At the end of this step, there were eight themes formulated.

Findings

Participant Information

A total of 126 participants completed either the pre-symposium or post-symposium survey. However, only 68 participants completed both, and thus the quantitative analysis focuses exclusively on this group for pre- and post-comparisons. Table 1 presents the participants' background information. Among these 68 participants, the majority were White (59 participants, 86.8%), male (54 participants, 79.4%), aged 19 to 20 (49 participants, 72.0%), freshmen (37 participants, 54.4%), and employed (48 participants, 70.6%). Approximately half lived on campus, while the other half lived off campus. Fewer than half (25 participants, 36.8%) were affiliated with a Registered Student Organization (RSO). Additionally, only nine participants (13.2%) identified as first-generation college students, and 12 participants (17.6%) had previously attended a mental health event.

Table 2 presents the descriptive statistics of the survey questions. Before attending the symposium, students had limited knowledge about mental health in aviation and were unfamiliar with available resources, although they generally felt comfortable listening to others and learning about mental health topics.

Participants' comfort discussing mental health with friends or family, in group settings, and with someone they trust showed considerable variation. This suggests that while some individuals felt very comfortable, others were significantly less so. In contrast, participants expressed more consistent views on abstract concepts and overall satisfaction with available resources, highlighting a stark difference between shared understanding and personal comfort levels.

In the post-symposium survey, participants reported feeling satisfied with mental health resources and more knowledgeable about on-campus support services. However, their comfort in discussing mental health with others remained relatively low, suggesting that interpersonal comfort is more difficult to improve in a short period of time.

Similar to the pre-symposium survey, participants' comfort level varied persistently, reflecting differences in personal experiences, cultural attitudes, and readiness to be vulnerable—even after the symposium. In contrast, as with the pre-survey, responses to knowledge-related questions were more consistent across participants.

Respondents showed the greatest improvement in their knowledge of on-campus resources and support services (Q16, Q22, and Q25) after attending the symposium. However, their comfort with listening to others share mental health challenges (Q30) or discussing their own mental health with close friends or family (Q28) slightly declined, though the scores remained relatively high. These findings suggest that comfort-related attitudes may be more resistant to change and could require sustained, long-term interventions.

Table 1
Participant Information

	Count	Percentage
Race/Ethnicity		
White	59	86.8%
Asian	4	5.9%
Hispanic or Latino	2	2.9%
Two or More	2	2.9%
Black or African American	1	1.5%
Gender		
Male	54	79.4%
Female	13	19.1%
Non-binary	1	1.5%
Age		
19-20	49	72.0%
21-24	13	19.1%
25-29	4	5.9%
30-34	1	1.5%
35+	1	1.5%
Year/Status in school		
Freshmen	37	54.4%
Sophomore	14	20.6%
Junior	10	14.7%
Senior	7	10.3%
Affiliated with a Registered Student Organization (RSO) on campus		
Yes	25	36.8%
No	43	63.2%
Living on campus		
Yes	32	47.1%
No	36	52.9%
Currently employed		
Yes	48	70.6%
No	20	29.4%
First-generation student		
Yes	9	13.2%
No	59	86.8%
Attended a mental health event before		
Yes	12	17.6%
No	56	82.4%

Table 2
Descriptive Statistics

	N	Mean	SD	Min	Max
Q14. Do you know the definition of mental health and/or mental well-being?	68	0.853	0.357	0	1
Q14_Post. Did this event/program provide you with a clear definition of mental health and/or mental well-being?	68	0.882	0.325	0	1
Q15. What is your overall level of understanding of mental health as a concept or topical area?	68	3.412	0.674	1	5
Q15_Post. What is your overall level of understanding of mental health as a concept or topical area?	68	3.750	0.720	1	5
Q16. How would you rate your knowledge level about on-campus resources and support services focused on navigating mental health challenges?	68	2.897	0.831	1	5
Q16_Post. How would you rate your understanding of on-campus mental health resources and support services after the event?	68	3.809	0.738	1	5
Q17. How knowledgeable are you regarding mental health initiatives, support, and resources that are available within the UNO AI?	68	2.588	0.918	1	5
Q17_Post. How has your knowledge of mental health initiatives, support, and resources within the UNO AI improved due to the program?	68	2.485	1.029	0	4
Q18. Do you feel that peer support systems are accessible and effective within your collegiate aviation program?	68	0.882	0.325	0	1
Q18_Post. Do you feel that peer support systems became more accessible and effective within your collegiate aviation program after attending the event?	68	0.809	0.396	0	1
Q19. How knowledgeable are you regarding mental health initiatives, support, and resources that are available within the aviation/aerospace industry?	68	2.515	0.970	1	5
Q19_Post. How has your understanding of mental health initiatives and resources within the aviation/aerospace industry changed since the program?	68	2.574	0.834	1	4
Q20. How confident are you that future aviation/aerospace employers will support mental health initiatives?	68	3.044	0.836	1	5
Q20_Post. How confident are you now that future aviation/aerospace employers will support mental health initiatives?	68	3.206	0.939	1	5
Q21. What is your overall level of understanding of mental health as a concept or topical area?	68	3.235	0.775	1	5
Q21_Post. What is your current understanding of mental health as a concept or topical area now that the event has concluded?	68	3.750	0.720	1	5
Q22. What is your level of understanding of the resources or support services one can access on campus to assist with mental health challenges/issues?	68	2.868	0.809	1	5
Q22_Post. What is your current understanding of the resources or support services available on campus to assist with mental health challenges now that the event has concluded?	68	3.735	0.704	1	5
Q23. Do you know where you could go to receive psychological services on-campus and how to access these services?	68	0.632	0.486	0	1
Q23_Post. Do you now know where and how to access psychological services on-campus?	68	0.926	0.263	0	1
Q24. How satisfied are you with the mental health resources available on-campus?	68	3.397	0.672	1	5
Q24_Post. How satisfied are you with the mental health resources currently available on-campus, based on what you learned?	68	3.853	0.885	1	5

Q25. How familiar are you with the resources or support services one can access in the Greater Omaha community and/or on-campus to assist with mental health challenges/issues?	68	2.735	1.031	1	5
Q25_Post. How familiar are you with the resources or support services one can access in the Greater Omaha community and/or on-campus to assist with mental health challenges/issues?	68	3.441	0.983	1	5
Q26. What is your level of understanding of what factors or elements can contribute to, worsen, and/or improve one's mental health?	68	3.382	0.792	1	5
Q26_Post. How has your understanding of factors that contribute to, worsen, or improve mental health changed?	68	3.118	1.153	1	5
Q27. What is your level of understanding of the common signs of mental health struggles or challenges?	68	3.338	0.765	1	5
Q27_Post. How would you rate your understanding of the common signs of mental health struggles or challenges now that the event has concluded?	68	3.676	0.742	1	5
Q28. How comfortable are you talking about your mental health with close friends or family?	68	3.382	1.107	1	5
Q28_Post. How comfortable are you now discussing your mental health with close friends or family?	68	3.368	1.050	1	5
Q29. How comfortable are you talking to an education professional (i.e., teacher, professor, instructor, etc.) about your mental health?	68	2.897	1.024	1	5
Q29_Post. How comfortable are you now discussing mental health with an education professional (e.g., teacher)?	68	3.309	1.069	1	5
Q30. How comfortable are you listening to others share their mental health challenges or issues?	68	3.809	0.935	1	5
Q30_Post. How comfortable are you now listening to others share their mental health challenges?	68	3.735	0.857	1	5
Q31. How comfortable are you talking about mental health topics in a group setting?	68	3.000	1.093	1	5
Q31_Post. How comfortable are you now discussing mental health topics in a group setting?	68	3.235	1.024	1	5
Q32. How comfortable are you learning about mental health resources and coping strategies?	68	3.529	0.906	1	5
Q32_Post. How comfortable are you now learning about mental health resources and coping strategies?	68	3.632	0.862	1	5
Q33. How comfortable are you seeking help or assistance for mental health challenges or struggles?	68	3.191	0.950	1	5
Q33_Post. How comfortable are you now seeking help for mental health challenges or struggles?	68	3.529	0.819	1	5
Q34. How comfortable are you with participating in mental health awareness events or activities (e.g., Mental Health Symposiums)?	68	3.206	0.907	1	5
Q34_Post. How comfortable are you now participating in mental health awareness events or activities (e.g., Mental Health Symposiums)?	68	3.397	0.979	1	5
Q35. How comfortable would you be informing someone you trust if you were experiencing mental health challenges?	68	3.397	1.067	1	5
Q35_Post. How comfortable would you now feel informing someone you trust if you were experiencing mental health challenges?	68	3.603	0.831	1	5

To better understand whether participants with different backgrounds had significantly different responses, we conducted 549 chi-square tests, comparing participants' backgrounds with each binary or five-point Likert scale question. Table 3 presents the significant results of these chi-square tests.

The chi-square analyses reveal several important patterns regarding how different demographic groups responded to the pre-symposium and post-symposium surveys in terms of knowledge, comfort,

and perceptions of mental health resources. These results highlight both equity considerations and targeted opportunities for future interventions.

One of the most prominent findings is the difference in responses by race/ethnicity. Non-White participants consistently reported higher comfort levels in key areas such as discussing mental health with education professionals, participating in awareness events, and learning about mental health resources. These findings challenge generalized assumptions that students of color are less likely to engage in mental health conversations and instead suggest that when provided with safe and inclusive environments, these students may be especially receptive. This also underscores the importance of culturally responsive mental health programming, validating the experiences and perspectives of racially diverse populations.

Gender also emerged as a significant differentiator in how students responded to the symposium. Female students showed greater change—positive or negative—in both their understanding and comfort levels, suggesting a more dynamic response to the mental health content. This may reflect a greater willingness among female students to engage with emotionally or personally challenging material. These results imply that mental health programming should remain sensitive to gendered experiences, potentially offering more nuanced content or follow-up opportunities tailored to specific needs.

Differences by year in school and age further underscore the role of educational maturity and life experience in shaping mental health perceptions. Seniors and students aged 21 or older generally demonstrated higher levels of understanding and were more critical of the mental health infrastructure, particularly peer support systems. This group's more skeptical view may reflect both accumulated institutional knowledge and a higher standard of expectation. Conversely, younger students—especially freshmen—appear to benefit significantly from foundational knowledge-building efforts and may require more robust, entry-level mental health education and peer connection opportunities.

Additional group differences emerged by employment status and first-generation status. Employed students tended to report greater post-symposium gains in understanding and comfort, possibly reflecting greater real-world exposure or motivation to manage stress effectively. Meanwhile, first-generation students reported lower familiarity with mental health resources, indicating a possible gap in access to informal support networks or institutional knowledge. These findings suggest a need for targeted outreach to first-generation students to ensure they are aware of and feel empowered to access available services.

Interestingly, no significant differences were observed between students affiliated with RSOs and those who were not. This suggests that mere involvement in campus groups may not correlate with improved mental health awareness or comfort, and that deeper forms of engagement, such as participation in mental health-specific events, may be more impactful. Indeed, prior attendance at mental health events proved to be a strong predictor of greater confidence in employer support, increased understanding, and greater comfort seeking help, demonstrating the positive cumulative effect of repeated exposure to mental health content.

In summary, the chi-square results illustrate that the MHS was not experienced uniformly across the student body. While many groups benefited in measurable ways, the degree and nature of that benefit varied. These differences offer valuable insight into how future mental health initiatives can be more intentionally inclusive, data-informed, and responsive to the unique needs of diverse student populations.

Table 3
Results of the Chi-Square Test

Demographic Variables	Survey Questions	Pearson Chi-Square Values (Significance Level)
Race (White vs. Others)	Q29_Post – Comfort discussing mental health with an education professional	12.67 (**)
	Q32 – Comfort learning about mental health resources and coping strategies	12.22 (**)
	Q34 – Comfort participating in mental health awareness events	12.42 (**)
	Q35_Diff – Change in comfort informing someone trusted	12.10 (**)
Gender (Male vs. Female)	Q21_Diff – Change in understanding of mental health as a concept	12.71 (**)
	Q27_Diff – Change in understanding of signs of mental health challenges	9.62 (**)
	Q30_Diff – Change in comfort listening to others share struggles	14.99 (**)
	Q32_Diff – Change in comfort learning about resources	16.19 (**)
Year/Status (Class Standing)	Q15 – Pre: Understanding of mental health concepts	21.55 (***)
	Q18 – Perceived effectiveness of peer support systems	8.08 (**)
	Q21 – Understanding of mental health as a concept or topical area	25.99 (**)
	Q24 – Satisfaction with the mental health resources available on-campus	17.69 (**)
	Q29 – Comfort talking to an education professional	32.13 (***)
	Q33_Diff – Change in comfort seeking help or assistance	32.83 (***)
Age (19–20 vs. 21+)	Q18 – Effectiveness of peer support systems	5.38 (**)
	Q22_Post – Understanding of available support services post-event	7.76 (**)
	Q27 – Understanding of common signs of mental health struggles	9.57 (**)
	Q35 – Comfort informing someone trusted	18.00 (***)
RSO Involvement	No significant difference.	
On- vs. Off-Campus	Q35 – Comfort informing someone you trust	9.99 (**)
Employment Status	Q26_Post – Change in understanding of contributing/worsening factors	10.02 (**)
	Q35_Post – Post comfort informing someone trusted	10.54 (**)
First-Gen Student	Q25 – Familiarity with resources	9.67 (**)
	Q30_Diff – Change in comfort listening to others share struggles	16.03 (**)
	Q35_Diff – Change in comfort informing someone trusted	11.85 (**)
Prior Event Attendance	Q20_Post – Confidence in employer support	9.74 (**)
	Q26_Post – Understanding of contributing/worsening factors	13.76 (***)
	Q32_Post – Comfort learning about mental health resources	11.48 (**)
	Q33_Post – Comfort seeking help	9.96 (**)
	Q33_Diff – Change in comfort seeking help	11.99 (**)

Note: 1. ** indicates *p*-values less than 0.05, and *** indicates *p*-values less than 0.01.
2. Due to space limitations, we report only the significant results.

Table 4
Pre-Symposium & Post-Symposium Themes

Associated Survey Question	General Theme	CQ/RQ Addressed
Q40	Education as Empowerment – Mental Health Understanding	**CQ**: What impact, if any, do Mental Health Symposiums, have on the knowledge and understanding of mental health of collegiate aviation students?
Q39	Pathways to Awareness – Mental Health Knowledge	**RQ #1**: What is the overall perception (positive, negative, or indifferent) collegiate students possess about symposiums relative to mental health?
Q38	Taboo Topics to Comfortable Conversations	**RQ #2**: Are collegiate aviation students more comfortable or inclined to discuss mental health related topics as a result of attending a mental health symposium?
Q37	Soaring Beyond Stigma to Sustaining Support	**RQ #2**: Are collegiate aviation students more comfortable or inclined to discuss mental health related topics as a result of attending a mental health symposium?
Q36	Access Granted – Barriers Bypassed	**RQ #3**: What barriers or impediments, if any, exist that may deter or prevents collegiate aviation students from seeking help, support, and/or resources to resolve their mental health challenges/issues?

Thematic Analysis Overview

Table 4 outlines the themes derived from the respondents' comments on the open-ended survey questions. In qualitative research, it is common for themes to be ranked or presented based on the frequency with which participants mention them or their prevalence in the study (Johnson, 2023; Johnson, 2024). For this study, the aforementioned ranking system was not utilized to preserve the richness of the themes derived from the thematic analysis process; such richness and detail could be lost if the themes were categorized hierarchically. Furthermore, since this was an exploratory study covering a relatively under-researched topical area, ranking the themes might have suggested a level of precision and finality that is inappropriate given its exploratory nature. It should be noted that due to the profound nature of the information garnered from this study and the seriousness of the subject matter itself, certain words or phrases were explicitly enumerated and stated, which is a tactic researchers have used in similar mental health studies to underscore the pervasiveness and gravity of the topic at hand (Johnson et al., 2024). The findings below provide in-depth detail about each of the emergent themes conveyed by the respondents and their connection to the stated research questions.

Education as Empowerment – Mental Health Understanding

The *Education as Empowerment – Mental Health Understanding* theme effectively addresses the CQ guiding this study as well as RQ #1 because it provided salient insight into the degree to which collegiate aviation students' understanding of mental health was impacted by attending an MHS, in addition to revealing what their overall perception of the MHS was at its conclusion. As a reminder, Q40 from the surveys inquired about what the participants found beneficial in improving their understanding of mental health before and after attending the MHS.

In the pre-symposium survey, participants shared statements centering a large reliance on themselves to treat and manage mental health challenges they experienced through coping strategies (e.g., counseling), self-guided research, self-care, and, in rare instances, support[ive] systems, whereas in the post-symposium survey, participants consistently cited various communities of support they intended to lean on or had used, reluctantly, in the past to overcome these challenges. This denotes a divergence in how support systems, such as communities of support, were perceived and understood before and after the MHS, with more students expressing they felt inclined to rely less on themselves and more on others to navigate their mental health. Such a transition in mentality was denoted by one participant who had a significant epiphany and said, "Realizing that I'm not the only one [experiencing mental health issues or challenges]" and another participant who, when detailing how they planned to give and receive support, stated, "Giving space to listen to others and trying to gain clarity on where they are coming from." The remarks about self-reliance were often conveyed in a negative or solemn context. While mental health is an intimate and sensitive topic, it is not something individuals have to deal with on their own, but this is something not everyone is cognizant of or knows how to do. Instead, some individuals opt to rely on themselves and their own devices to guide independent research as a means to intrinsically manage and understand their mental health.

The notion of self-guided research and utilizing information from the internet or textbooks presents another point of divergence. Prior to the MHS, participants' understanding of mental health was limited, as were their abilities to manage it. By the end of the MHS, participants were enamored by the symposium and proffered that by attending, they learned about a multitude of resources and tools they could utilize to manage their mental health, with the speakers themselves and their presentation serving as key resources. This indicates a clear and pivotal divergence in the parochial understanding and limited resources the participants entered the MHS with compared to the numerous individuals and resources on-campus they were aware of once they left the MHS. The sense of empowerment and confidence respondents conveyed between their pre- and post-symposium responses, as it relates to their understanding of mental health, was stark. This newfound confidence was especially prominent when respondents discussed resources and accessing them. For instance, one participant shared, "I feel like I now know where I can go to get help if I need it". Respondents also attributed the increase in their understanding to the presenters and speakers, praising them highly in their remarks because of the poise, information, and content delivery. This was captured by one participant who said, "I liked that each presentation and presenter hit a topic that made mental health even broader," and another who noted: "Hearing about the common issues students come to the student counseling resources with was insightful." The provision of even the most basic information, such as the definition and symptoms of mental illnesses/disorders was, for some in attendance, a difference maker in their understanding and an element they found beneficial in expanding their overall cognizance of mental health.

Pathways to Awareness – Mental Health Knowledge

The *Pathways to Awareness – Mental Health Knowledge* theme effectively addresses the CQ and RQ #1 while complementing the aforementioned theme: *Education as Empowerment – Mental Health Understanding.* As a reminder, Q39 from the surveys inquired about what the participants found beneficial in improving their knowledge of mental health before and after attending the MHS. This particular theme underscored the immense benefit participants received from attending the MHS as it relates to their knowledgeability of mental health, and because they benefitted from the symposium through edification, their overall perception of the symposium was more positive at the end than in the beginning. The benefit and educational importance of the MHS were elegantly stated by one respondent who cited, "The symposium was a general benefit to my knowledge of mental health, nothing specific; it was just good to have mental health talked about in such an open way." Part of this positive perception can also be attributed to the fact that participants were more confident in their ability to manage their mental health and that of others while also knowing how to navigate and access on- and off-campus

resources by the end of the MHS. Such confidence was communicated by several different participants as indicated by the following statements: "The AME speaker was a good resource, I learned how to access the medical certification requirement, and that mental health issues aren't a death sentence for your medical." And "Bringing and showing the school's resources."

In the pre-symposium survey, respondents shared a profound need for a safe space to exist for them to receive knowledge about mental health and embrace the information received. Without such a space, respondents reported feelings of reluctance and lacking the openness necessary to truly absorb any/all information related to increasing their mental health knowledge base. A similar sentiment was expressed in the post-symposium survey, as respondents cited the environment as an element that aided in improving their knowledge of mental health and a necessary precursor to engage in conversations surrounding the topic. For the context of this study, the safe space and environment the respondents appreciated were the MHS itself, as noted by one participant who said, "The openness and understanding [of the MHS]." This similarity between the pre- and post-symposium indicates a convergence in the paramount nature of the MHS, especially the conducive, open, and embracive environment or safe space that was cultivated by the presenters/speakers, attendees, faculty/staff, and volunteers. While the support of others, specifically students in attendance, aided in creating a conducive environment to have a serious conversation about mental health, it segues into another convergence point. This point of convergence was between the support of others and the presenter/speaker and topic diversity sub-themes. Across both surveys, respondents expressed a want or need to support others but did not necessarily know how to do so, or rather, the most appropriate way to approach such a sensitive topic. Due to the information shared by the diverse group of speakers/presenters, respondents obtained knowledge on how they could provide support to those in need. This signals a convergence in the role of supporting others and how the knowledge provided by the speakers/presenters equipped them with the necessary to feel comfortable doing so. The change in mentality, increase in knowledge, and underscoring of the importance of support is encapsulated briefly by one participant who stated, "Being able to put myself in others shoes and try to relate to them that way, instead of thinking about how it's a burden and annoying to me, because someone else might just be having a rough day" and another who said, "Every speaker improved my knowledge."

Before attending the MHS, participants described two primary approaches they used to enhance their overall mental health knowledge and better understand how to manage their own mental well-being: coping strategies and social media, particularly TikTok. Frequently mentioned coping strategies included mindfulness, meditation, and various breathing techniques. According to one respondent, these strategies were beneficial to their mental health knowledge and management as evidenced by the following statement, "It gives me more mental clarity and allows me to focus on other parts of my life closer instead of living in my own head all the time." Several respondents noted they learned some of these techniques through social media platforms, with TikTok being a prominent source. One participant noted the positive benefit of using these strategies, positing, "It has helped me to stay balanced as a person." The mention of social media generally and one specific site conveys a limited knowledge base of mental health resources. When considering attendees largely leveraged social media for their mental health edification and knowledge pre-symposium, attendees were shocked to learn about the plethora of resources available to them, and they expressed intent to capitalize on them post-symposium. This underscores a key divergence in how parochial the mental health knowledge of respondents was pre- and post-symposium.

Taboo Topics to Comfortable Conversations

The *Taboo Topics to Comfortable Conversations* theme directly addresses RQ #2 because, as the thematic nomenclature suggests, MHS attendees explicitly expressed a more positive inclination to and a higher level of comfort with having discourse about mental health-related topics post-MHS as opposed to pre-MHS. As a reminder, Q38 from the surveys inquired about what made the participants feel uncomfortable when discussing mental health. This theme accentuates the positive impact participants

experienced from attending the MHS relative to the sense of discomfort they felt discussing mental health and highlights the dramatic shift in comfortability once the symposium concluded. Prior to the MHS, respondents expressed a strong reluctance to be vulnerable and open to discussing mental health for a variety of reasons. The most profound included a fear of judgement by/from others (e.g., friends/peers), a fear of repercussions (e.g., loss of medical certificate) if someone were to learn about their mental health challenges, and an immense worry about the lack of privacy if they were to talk to someone such as a mental health professional (MHP) about their challenges as well as a lack of understanding from others.

The fear of being judged by others, as conveyed by several participants, was a notable factor that inhibited their want/need to be open about any mental health challenges afflicting them, and the mere thought of it made them uncomfortable in mental health-related discussions. Such a fear was simply stated by one participant who said, "Feeling judged". Interestingly, some respondents expressed a desire to support others being impacted by mental health, but were uncomfortable doing so because they were unsure of the best way to do so without causing additional harm or injury unintentionally. This was encapsulated by one participant who shared, "When people talk about things I can't relate to or don't know how to answer." The fear of repercussions was another prominent factor that made participants feel uncomfortable discussing mental health and less inclined to share challenges with others. The root of this fear largely stemmed from the belief that doing so would negatively impact their aviation/aerospace career, especially those aspiring to be professional pilots. Such a belief was posited by one respondent who said, "The possible negative outcomes for my career."

This widely held belief amongst those in the industry connects to sentiments shared about the worry about a lack of privacy and understanding regarding mental health. Due to this belief and past experiences, specifically with those who claimed to be confidants, respondents shared a deep sense of concern about the lack of privacy surrounding mental health conversations. This concern was shared by two participants: one stated, "[The] lack of privacy and threats," and the other stated, "It [the mental health conversation] is not being private." The privacy concern, as conveyed by numerous respondents, was often accompanied by the angst of others not understanding their feelings or challenges, even if they were to share them. Such concern was proffered by two different participants, with one saying, "That they would not understand, I guess," and another postulating, "People that do not listen/care or understand."

Participants also cited, albeit to a lesser extent, mental health as a factor that made them more reluctant and uncomfortable with/in mental health-related conversations. The rationale underpinning this reluctance and discomfort was multi-faceted, but generally centered around the gravity and intimacy of the topic itself, in addition to not making it a common practice to discuss personal issues with others. With respect to the gravity and intimacy that are innate to mental health conversation, these feelings were described by various respondents, with one saying, "The weight of the issues," and another citing "Mentions of suicide" as reasons aiding in their discomfort. With respect to mental health not being a personal issue up for discussion, one respondent said, "Just not really a fan of talking about that stuff."

After the MHS, participants expressed a higher inclination to be vulnerable and experienced less discomfort when engaging in mental health-related conversations than they did pre-MHS. This underscores a key divergence in how and why attendees felt discomfort with mental health while also showcasing the beneficence of such an event in improving their openness to discuss an intimate topic. The positive impact on the discomfort and improved vulnerability or openness to mental health-centric conversations was evidenced as 28 respondents, or 41.2%, stated there was nothing that made them uncomfortable when discussing mental post-MHS, compared to the various remarks given pre-MHS. Participants attributed part of the diminishment in their discomfort to the MHS organizers, presenter/speakers, panelists, and faculty/staff who were present because of their genuine interest, concern, and support provided. This was adduced by one respondent who noted, "The program seemed like they had people who were passionate and cared." While this indicates positive progress, some

participants still conveyed sentiments that MHS content made them uncomfortable. The most common reason for the lingering discomfort was discussion about suicide and high suicide rates, particularly of teen- and college-aged individuals.

Across both pre- and post-MHS contexts, respondents' shared sentiments of fear and worry of the consequences that could result from being open about their mental health with anyone, including MHPs, even if they followed the proper protocol outlined by the FAA. This was stated by one participant who said, "The FAA can still strip my license even if I go through the proper steps." Specifically, respondents noted fearing having their medical certificate revoked and potentially jeopardizing their aviation career if information about their mental health status were to be shared outside of the circle of confidence. This indicates a convergence in the role of the taboo topic of mental health, which has been steeped in a culture of fear within the industry, regardless of the information shared at the MHS. Despite this convergence point, there were some attendees who experienced epiphanies during the MHS and latched onto pivotal information that showed them that all was not lost if they had a mental health challenge. This was eloquently encapsulated by one attendee who shared, "Understanding that the presence of a mental health issue does not automatically disqualify you from becoming an Aviation professional."

Soaring Beyond Stigma to Sustaining Support

The *Soaring Beyond Stigma to Sustaining Support* theme addresses RQ #2 and complements the previously discussed theme. This is because the shared consensus amongst the MHS attendees was that the event made them more comfortable and inclined to discuss their mental health (with others) and related topics due to several factors. As a reminder, Q37 from the surveys asked participants what made them feel comfortable when discussing mental health before and after the MHS. While the previous theme of *Taboo Topics to Comfortable Conversations* detailed the factors or elements that contributed to respondents' discomfort with mental health and negatively impacted their willingness to have conversations about mental health, this theme focuses on the opposite: outlining the factors that positively contributed to the MHS respondents' sense of comfort when discussing mental health, especially their own, with others such as peers/colleagues and MHPs.

Prior to the MHS, respondents posited needing two things to feel comfortable engaging in mental health discourse. The first is confidentiality from others, and the second is that the individual they would confide in needed to be relatable. Knowing that respondents could trust others they confided in with sensitive information and that it would remain private was a major factor in determining their level of comfort discussing mental health. This was accentuated by one different participant who noted, "Knowing it won't leave the room". Additionally, respondents expressed the need for relatability between them and the person they opened up to; this relatability was beneficial in creating a rapport to begin the difficult conversation(s). More importantly, the sense of familiarity helped the respondents feel more understood with their feelings and challenges shared, especially if the individual listening had experience with/in similar situations being described. This particular sentiment was proffered by several respondents as indicated by the following statements: "When someone else has been in that situation.", "Someone who understands what I'm going through.", and "Knowing who I'm talking to knows and understands what I've been through."

In the post-symposium survey, respondents shared a collective sense of relief that was nearly palpable due to critical information they learned from the MHS. This sense of relief stemmed from the demystification of mental health, which was facilitated by the speakers/presenters delineating fact from fiction with respect to mental health and its intersection with aviation. The edification and relief were captured by one participant who said, "Understanding that the presence of a mental health issue does not automatically disqualify you from becoming an Aviation professional." While respondents in the pre-symposium survey stressed the importance of having confidentiality and relatability as necessary

elements for them to be comfortable enough to discuss mental health, they also emphasized the importance of demystifying the mysteries of aviation mental health and how this delineation positively impacted their comfort levels. This highlights a key divergence in how comfort was determined and perceived. By understanding what was true versus not true regarding mental health treatment, reporting to the FAA, and insurance and diagnostic processes, participants expressed a higher inclination to not be impeded by stigma and seek support. At the conclusion of the MHS, respondents indicated a more sensible approach to and understanding of mental health, realizing that experiencing mental health challenges was not abnormal and that no one is immune to some of the innate struggles associated with it.

Before attending the MHS, attendees asserted that the environment played a salient factor in their comfort level to discuss mental health. Specifically, attendees described needing and wanting a calming, welcoming, loving, and understanding environment that contained familiar faces. These elements effectively cultivated a space conducive to a nuanced topic. Similar sentiments about the environment were shared post-MHS by the attendees, signaling a point of convergence in the role environment and in particular the MHS environment, had on the experiences, perceptions, and comfortability of the attendees regarding mental health discourse. A "safe space" was effectively created for the attendees by the organizing personnel, faculty/staff, speakers/presenters, and other attendees present. The aforementioned elements effectively created the environment that individuals expressed they needed and wanted.

Similar to the previous theme, participants shared some concern prior to the MHS about the subject matter of the event, specifically noting that mental health was just not a topic they were comfortable discussing. This was attributed to several reasons, and as one participant plainly stated, "Just how serious the topic is" as a prime reason why they were not willing to converse about it. Still, there were some participants who, despite not being as comfortable as they may have liked, saw the benefit in engaging in mental health discussions. Such an attitude was conveyed by one participant who said, "I love to learn how everyone thinks, and that involves talking about mental health". Both participants' comments demonstrate the importance of talking about mental health and being comfortable when doing so. Although participants shared reservations about their comfort levels relative to mental health discourse pre-MHS, participants expressed a higher level of comfortability and confidence post-MHS because of the information gleaned from the diversity of presenters/speakers and resources available to/for them. This stark difference signals a divergence in how mental health comfortability was perceived and altered (positively) by the participants. Specifically, participants described that they appreciated the knowledge level and expertise of the speakers/presenters as well as how genuine, sincere, and friendly they were when engaging in the topic. This sentiment was shared by two participants, one who noted, "Some of the speakers sound very friendly and open to hearing about people's mental health," and another who said, "How all the speakers seemed to be very understanding and open about their own experiences."

It should be noted that participants appreciated the representativeness of the speakers/presenters who comprised both panels for the events. The representation enhanced the relatability of the information shared and made it easier for attendees to engage in and understand the content being shared, especially from the student perspective. This sentiment was supported by many participants, with some making statements such as "I like to see people like me on stage speaking" and "Stories and students giving their opinions." Participants also expressed a sense of gratitude for being made cognizant of the resources available to them. Despite some being more seasoned students at the university and relatively comfortable with mental health discussions, they were unfamiliar with on-campus resources designed to aid with mental and emotional health challenges. This was adduced by one participant who noted, "Learning [about] CAPS was good," and another who said, "Information about the amount of resources the university has available [for students]."

Access Granted – Barriers Bypassed

The *Access Granted – Barriers Bypassed* theme explicitly addresses RQ #3 because it furnishes salient insight into the various barriers participants perceived as deterrents in seeking support and/or resources to navigate mental health challenges pre-MHS and how their perception was altered (or not) post-MHS. As a reminder, Q36 from the surveys inquired about what barriers existed that prevented them from seeking mental health support when experiencing a challenging time. This theme highlighted the multitude of barriers that negatively impacted participants' inclination and ability to obtain support and/or treatment for mental health challenges. Across both pre- and post-MHS contexts, participants shared that access to resources was a prominent barrier for them seeking support for their mental health challenges. This indicates a point of convergence in the salience of ensuring students have access to paramount services, specifically those for mental health, particularly after they are informed of and/or become knowledgeable about the resources they can and should use. The issue of inadequate access to resources went beyond knowing where to go or how to gain access to them, as participants shared that the unaffordability of mental health treatment posed a frequent barrier. This was communicated by one participant who stated, "The financial aspect once the University resources are no longer available as an enrolled student." It is clear that participants rely heavily on the free resources provided by the university because some lack the financial security to utilize them otherwise. This was adduced by one participant who posited, "For me personally, the lack of health insurance, but I am working on it…I know that there are free services on campus." Such a comment demonstrates just how much of an access barrier financial constraints pose to some MHS attendees.

In responses across both surveys, respondents described a sense of reluctance and fear for losing their medical certificate and thereby jeopardizing their job security as future aviation professionals. This fear was outlined as a prominent barrier to/their seeking mental health support services. The associated worry was summarized by one participant who said, "In aviation, the risk of losing your passion or dream", when explaining why it was a barrier. Other respondents shared similar sentiments about the potential loss of their medical certificates, as adduced by the following statements: "Risk of loss of flight medical." And "The fear of getting my medical taken."

Despite information being conveyed to participants about how they can seek mental health support and not be penalized for it, some still expressed trepidation about doing so because of the potential ramifications to their aviation career. Part of this trepidation stems from respondents not trusting the confidentiality that is assured when speaking to someone such as an MHP, as well as them not fully trusting the person they are confiding in. The concern about jeopardizing their job security, losing their medical certificate, and forfeiting an aviation career pre- and post-MHS denotes a convergence in the role a permissive environment has on mitigating perceived barriers, regardless of the education, awareness, and discussion of resources that can help. The lack of such an environment presents a barrier that was a common undertone amongst the responses and was encapsulated by one participant who noted, "Most employers and the FAA do not allow it." Additionally, it should be noted that respondents also highlighted how cumbersome the process was to seek mental health support as a barrier. One attendee briefly said, "Too much time", as a factor that made them less inclined to seek help.

The most profound and vividly described barrier shared across pre- and post-MHS contexts was stigma. This signals a convergence in the drastic impact and role stigma has on individuals' willingness to seek support for their mental health, regardless of the education or knowledge they receive about it, the resources available to treat it, and the support they may have to manage it. Attendees detailed the numerous ways the stigma surrounding mental health adversely impacted their willingness to seek mental health support and specifically cited themselves as a barrier for not being able to overcome the implications. Two participants explicitly stated this, with one saying, "Myself" and another saying "Me". Additionally, the stigma of being viewed or perceived as a burden or causing unnecessary trouble for

others by seeking mental health support was also explicated. Such a belief was expressed by one respondent who stated, "Not wanting to burden loved ones…have felt in the past, guilt over struggling with mental health, when I feel I shouldn't be." This feeling was supported by a different participant who said, "Embarrassed and causing others trouble." Despite the information and testimonies shared by the plethora of speakers/presenters, stigma still served as a barrier for some attendees. The stifling impact of stigma as a barrier post-MHS was cited by one participant who said, "I think just being scared to go and thinking my problems aren't enough". It is important to note that while some attendees still possessed barriers to mental health support post-MHS, as expressed by one participant who noted, "My perceived barriers to accessing mental health support have not changed; they were and still are personal barriers…" this was not the case for all. Based on respondent feedback post-MHS, at least 26 attendees, or 38.2%, expressed that they had no barriers to seeking mental health support as a result of attending.

Discussion

Central Research Question (CQ)

The CQ guiding this study sought to understand what impact, if any, MHS had on the knowledge and understanding of mental health of collegiate aviation students. Through an analysis of the survey data, which entailed examining the open-ended and Likert scale questions as well as a review of the emergent themes, it was determined that the theme *Education as Empowerment – Mental Health Understanding* was the most apt to address and expound upon the posited CQ. Further, it was revealed that the 2025 UNO Aviation MHS had two major positive impacts on the collegiate aviation students who attended. The first impact is that collegiate aviation students believed the information received from the MHS through the various speakers and presenters was empowering, and positively impacted their understanding of mental health overall (Table 1). The second impact is that collegiate aviation students believed their knowledge about mental health was positively impacted by the MHS because of the awareness and exposure to resources, strategies, and environment they were subjected to (Table 1). As a result, those students in attendance learned about the various pathways they could embark on toward mental health awareness, positively impacting their overall knowledge and understanding of the topic, thereby addressing the CQ.

The *Education as Empowerment – Mental Health Understanding* theme yielded insight into the perceptions UNO aviation students held with respect to their understanding of mental health pre- and post-MHS. This perception and their understanding were ascertained through open-ended Q40.[2]. Within this theme, there were two points of divergence. The first point of divergence pertains to the difference in reliance of support (self v. community), participants expressed pre- and post-MHS. As noted earlier, pre-MHS, collegiate aviation students expressed a large reliance on themselves, as evidenced by engaging in self-guided research and self-care, and many shared reluctances in using their community of support or support systems to navigate their mental health challenges. This expression by the students supports research by Labouilere et al. (2015) a commonly-reported reason for youth/young adults not seeking help due to the perception that they should solve problems on their own, which is an illogical maxim.

The mention of self-reliance was often shared in a negative manner, and while some may deem this reliance as a positive attribute due to the sense of autonomy conveyed, it can quickly become problematic, especially for young adults similar to those sampled in this study. Specifically, over reliance on oneself can actually serve as a barrier to mental health support as cited by Ishikawa et al. (2023) who found that young adults who experience mental health challenges that do not seek support tend to develop growth in self-reliance, which results in a barrier to help-seeking. The navigation of mental health

[2]Q40 asked participants what they found beneficial to improving their understanding of mental health before and after the MHS.

challenges is something individuals should not have to handle on their own, even if they are extremely independent or exhibit a strong self-reliance, because of how pervasive and nuanced mental health is/can be. Self-reliance, relative to mental health, should be thought of as a spectrum where it can be extremely safe on one end and unsafe on the other. Research by Labouilere et al. (2015) shared instances of when self-reliance can be unsafe for individuals and found that reducing this extreme self-reliance, particularly for younger individuals, may increase their likelihood of seeking help. Several participants conveyed that they engaged in self-guided research as a way to improve their understanding of mental health, specifically their own and that of others. This behavior can and should be viewed on the "safer" side of self-reliance because it constitutes a data collection phase that individuals can use to make informed decisions on what first step(s) they should take to treat their mental health, such as leveraging support systems or speaking with an MHP.

The aforementioned provides a stark contrast to the sentiments expressed post-MHS, where collegiate aviation students shared a robust understanding of and inclination to utilize their support systems, signaling a divergence in how their communities of support were perceived and can be used to navigate mental health challenges. This constitutes the first point of divergence mentioned earlier. The divergence point supports research by Johnson et al. (2024) who found that having access to support programs and/or communities of support had a positive impact on mental health as well as the ability to navigate similar mental health challenges in the future. Such a finding confirms what is already known amongst those who are afflicted by mental health challenges, particularly in their ability to persist and overcome difficult situations that may exacerbate their mental health. The MHS aided the collegiate aviation students, especially those who were unaware or did not know, in understanding what a support system looked and felt like. This enabled the students to obtain a better idea of how to effectively leverage these systems to obtain the socioemotional support needed for their mental health challenges.

For some students, their community of support primarily consisted of colleagues and friends, constituting a more informal peer support network. Although informal in nature, the effectiveness of such a network still bears the same positive effect as a structured peer support program, like one would find in a professional organization. This positive effect stems from the fact that these support programs, comprised of peers, allow students to share their challenges in a judgment-free zone, as adduced by Miller (2024a). These zones, often filled with individuals who can relate to items shared more closely because of age and experience proximity compared to teachers or advisors who may be notably older, create a sense of comfortability and relatability for the students. In a similar vein, the inclusion of colleagues and friends in one's support systems connects to and accentuates research by Johnson (2023) who found that Black Americans in aviation relied on socioemotional support from the "3Fs", friends, family, and faculty, to overcome certain mental health challenges pertaining to a lack of belonging, inadequate representation, and other elements incumbent to the industry. Some of this is applicable to the collegiate aviation students included in this sample because they shared leveraging friends (one of the 3Fs mentioned). They did so to overcome mental health challenges they experienced that stemmed from traditional collegiate stressors (Clarke et al., 2024), a lack of belonging – their program or the industry (Johnson, 2023; Johnson et al., 2024), and program-specific stressors (Clarke et al., 2024; Robertson & Ruiz, 2010).

The second point of divergence pertains to the difference in participants' understanding of mental health resources available and how to manage their mental health pre- and post-MHS. As noted earlier, prior to the MHS, the collegiate aviation students' understanding of mental health was rather limited. This presents a contrast to their understanding post-MHS, which improved because they learned about a litany of resources they could utilize to manage their mental health from the MHS. The divergence point here elucidates the parochial understanding and limited resources that collegiate aviation students possessed pre-MHS. It is also worth noting that pre-MHS, the students were not as confident in their ability to use or access resources that would help their mental health, compared to post-MHS, where they had a newfound sense of confidence and expressed that they felt "empowered". This difference in understanding and,

more importantly, the confidence levels pre-MHS v. post-MHS support and underscore research by Benwell et al. (2022), who found that confidence is linked to mental health and wellbeing. Individuals with high levels of anxiety and depression, which are common mental health challenges, particularly for collegiate students, tend to possess lower levels of confidence.

The lack of confidence students expressed pre-MHS makes sense and aligns with the consensus posited by Benwell et al. (2022) because they were likely anxious and unnerved at the thought of attending a MHS and not truly knowing what would be discussed, who would be speaking, and/or what their presence may result in. However, the positive improvement to their confidence post-MHS can likely be attributed to lessened anxiety and stress over the course of the event as students became acclimated and comfortable, in addition to the presenters/speakers making intentional efforts to create a welcoming environment. In other words, students felt more secure, prepared to succeed, and cultivated a growth mindset, all of which are characteristics confident individuals possess (Miller, 2024b). Consequently, collegiate aviation students began to enhance their understanding of mental health and how to apply what was being communicated to their own personal life. Additionally, the newfound sense of confidence impacted their innate ability to manage mental health because they were more comfortable using some of the techniques shared and less timid in their approach to seek mental health support, which also stems from a stronger understanding. This underlines the importance of the MHS because of their ability to enhance one's understanding of mental health as contended by Villarino & Villarino (2023). The two points of divergence outlined above significantly contribute to the body of research by showing MHS are an effective tool to improve the mental health understanding in STEM fields as posited by Till et al. (2024), and demonstrates this effectiveness for aviation/aerospace disciplines. This constitutes an under researched area for mental health and thereby adds a new, critical lens to the literature.

Research Question #1 (RQ #1)

The first research question centered on the overall perception collegiate aviation students possessed about MHS. There was one open-ended question, Q39[3], leveraged to help address this RQ. Through an analysis of the open- and ended-questions in the survey, it was clear participants were positively impacted by the MHS as elucidated earlier in the CQ discussion, but also found the MHS to be extremely beneficial in improving their mental health knowledge (Tables 1 and 3). Several participants alluded to how educational the MHS was as shared by one participant who stated, "The symposium was a general benefit to my knowledge of mental health...." Other participants shared positive sentiments and remarks about the MHS, specifically praising the speakers and presenters for being excellent resources. This was captured by one participant who noted, "The AME speaker was a good resource, I learned how to access the medical certification requirement and that mental health issues aren't a death sentence for your medical." Both quotes connote a positive perception of the MHS, thereby addressing RQ #1. More importantly, this positive perception signals collegiate aviation students found the MHS to be a beneficial way to spend their time due to information gained regarding resource availability, meeting people they could speak to about mental health, and the reassurance that having mental health issues were not a "death sentence" for a career in aviation/aerospace contrary to popular belief (Hubbard 2016; Johnson et al. 2024).

Refuting such a stigmatized and widely propagated belief is where this theme, *Pathways to Awareness – Mental Health Knowledge,* truly shines because it supports research by several scholars (Hubbard, 2016; Johnson et al. 2024; Albelo and McIntire, 2022) regarding the negative notion about aviation mental health, and underscores s research by Villarino and Villarino (2023) by demonstrating how MHS combat the pervasive stigma that exist within the industry. Further, the findings from this study

[3]Q39 sought to understand what elements from the MHS participants found beneficial in improving their mental health knowledge.

make a significant contribution to the aviation/aerospace literature by showcasing that MHS can be and are an effective tool to increase the mental health knowledge of aviation/aerospace students and is not just a tool exclusive to certain STEM disciplines where research has been conducted (Till et al. 2024).

It is important to note participants explained that their knowledgeability relative to mental health improved around knowing what type of environment they needed to be in to engage in candid mental health discussions, how to support and show up for others afflicted by mental health challenges, and expanded their foundational knowledge about mental with respect to resources utilization and availability. Simply, by attending the MHS, participants were made aware of the various pathways to/for mental health support, making the *Pathways to Awareness – Mental Health Knowledge* theme was most apt to address RQ#1. Within this theme there were two points of convergence and one point of divergence. The first point of convergence pertains to the immense need for an environment, or safe space, to engage in mental health-related conversations. Pre-MHS, attendees expressed they yearned for safe space that would allow them to be in an appropriate mental mindset to receive mental health knowledge being conveyed, embrace, and process it. Post-MHS, attendees cited the environment as an element that aided in the improvement of their mental health knowledge and a necessary pre-cursor to engage in discourse about the sensitive topic of mental health. The fact respondents shared similar sentiments pertaining to a safe space pre- and post-MHS indicates a convergence about the open and embracive environment was created during the MHS by the faculty/staff, speakers and presenters, student volunteers, and attendees.

For an effective discussion, it is important to first understand what "safe spaces" and "brave spaces" are, how they are defined, and what the difference(s) between them are. According to Trowell (2024) safe spaces are, "Environments that allow for students to express themselves in a manner that feel materially different – safer – than in the classroom or in the town square." These spaces are created to allow students to be themselves without fear of attack or reprisal from others when having discourse about sensitive, difficult, and/or contentious topics. By definition a "brave space" is a learning space where risk-taking, discomfort, and fear are understood as fundamental elements (Lopez-Littleton et al. 2018). Simply, it is a space where students are open to serious, respectful, and empathetic discourse (Trowell, 2024), which is ideal to discuss mental health because students can be confident in their ability to engage in genuine discussions pertaining to controversial issues without feeling the need to conform to dominant behaviors (Lopez-Littleton, 2016). A brave space supersedes that of a safe space and the main difference between them is that brave spaces are created to encourage students to take risks to participate in sensitive conversations such as mental health, that will take them outside their comfort zone rather than allowing them to seek refuge in a "safe space" (Trowell, 2024). While the environment created during the MHS was a safe space because of the guidelines and tone established by institutional personnel– a pivotal requirement to develop trust and safety (Trowell, 2024) – one could argue that what was actually cultivated was a brave space with "brave instructors" who facilitated the event. These brave instructors, session moderators and faculty/staff, played a pivotal role in navigating difficult dialogue in the space and modeled non-defensive attitudes during tense times rather than deflecting or projecting, which are important elements for brave spaces to be successful (Trowell, 2024).

The effectiveness and embrace of the brave space was evident in the way the students interacted with one another at their tables, during the intermissions, and most prominently, during the question-and-answer sessions at the conclusion of the panels. It was during these sessions where students took the necessary risks to stand in front of their peers, be vulnerable, and ask questions others had on their minds, but may have been too apprehensive to pose. Such an action demonstrates the risk-taking behavior these spaces were created for as posited by scholars (Lopez-Littleton, 2016; Lopez-Littleton et al. 2018; Trowell, 2024). This is important to highlight because the use of safe and brave spaces are uncommon in STEM disciplines and are arguably a foreign concept within aviation/aerospace programs despite their profound impact as showcased with this study. These spaces are more commonly used within social science programs to assist with the incorporation of equity-related concepts in public administration

curricula (Lopez-Littleton et al. 2018), but clearly have a place within aviation/aerospace programs. While these are terms innate to public administration and social justice education, their application in the context of this manuscript underscores the intersectional, pervasive nature of mental health. Thus, this particular point of convergence and finding notably contributes to the aviation/aerospace literature by showcasing that MHS can serve as the safe and/or brave space necessary for students to engage in genuine conversations about mental health and are a paramount factor in initiating that discourse for those who may be reluctant to do so. This notion is further supported by Meherali et al. (2025) who found that safe spaces offered youth mental health support and guidance while highlighting the need to expand safe space initiatives within educational environments.

The second point of convergence pertains to the ability to provide social support to others experiencing mental health challenges. Prior to the MHS, participants shared a want/need to socially support others, but did not know how to do so nor were they aware of how to approach such a sensitive topic to start the conversation. This want/need of collegiate-aged individuals to support others is important to emphasize because of the critical role they play for those who need or want someone to talk about mental health, but are reluctant to do so because of stigma (Hubbard, 2016), fear of consequences (Johnson et al. 2024), are experiencing suicidal thoughts and depressive symptoms (Rickwood et al. 2007), and/or are overly self-reliant when handling their mental health problems (Labouilere et al. 2015). Due to the information shared by the presenters and speakers, attendees obtained salient knowledge they could use to support others experiencing mental distress post-MHS. This could be in the form of general support by taking a measured approach to start the conversation and ask how an individual would want to be supported. Such an approach taken by these collegiate-aged individuals is an important element of providing mental health support because younger people often seek help through talking to their family and friends first rather than an MHP (Rickwood et al. 2007). While the want/need to provide social support during times of mental health distress is admirable, there is often a cost associated students are unaware of. This cost is identified as emotional labor (Strazdins and Broom, 2007), and depending upon the type of social support given, namely companionship or help, those who assist others with mental health challenges should be cognizant of the impact (neutral, beneficial, or costly) to their own mental health. According to Strazdins and Broom (2007) companionship involves showing care to people, building feelings of happiness, pride, and belonging, whereas help involves assisting with feelings of distress, anger, and conflict. The latter is potentially much more stressful and as such, negatively impacts the mental health of the individual providing the help compared to the provision of companionship which has a much more neutral to positive impact on the support givers' mental health.

Although MHS participants noted wanting to give social support to those within their network, they did not differentiate how they wanted to support, rather if the support provided would be via companionship or help. Based on the generality and language of the comments surrounding social support, it is presumed the participants would like to provide social support via companionship (e.g., watching a movie or studying together), but instead use the term "help" loosely and interchangeably not realizing that helping could cause them to do things they really are not inclined to do (e.g., anticipating and preventing problems) (Strazdins and Broom, 2007). The contrast between the two is clear; one is more manageable for a collegiate student managing their own mental health and obligations, would be expected of a peer, and has fewer negative ramifications while the other is more emotionally laborious and would be expected of a family member due to the emotional investment required. Therefore, while commendable that many attendees expressed a need/want to socially support those within their network, students should be intentional in the type of support given to avoid overloading themselves. Thus, the difference between the two is important to delineate because of the potential impact on/to the giver. This particular finding contributes a new dimension to the aviation/aerospace literature because students are likely unaware of the difference between companionship and help, and they need to know the difference(s) so they can discern which to give to whom and when to prevent harming themselves.

The first and only point of divergence with this theme pertains to the level of knowledge relative to mental health and strategies participants possessed and used, respectively. Pre-MHS, there were only two primary approaches participants identified they used to enhance their mental health knowledge and/or manage their mental health. These included coping strategies and social media, most notably "X" (formerly Twitter). There was a stark difference post-MHS where participants expressed significant improvement in their mental health knowledge and felt they had a stronger foundation to work from. Specifically, participants exclaimed their attendance at the MHS made them aware of the pathways (at UNO and within the Omaha community) to support mental health, indicating a divergence from their once parochial knowledge and mentality pre-MHS. This divergence also supports research by Giroux and Geiss (2019) regarding the effectiveness of mental health interventions in improving attendees' knowledge. Specifically, Giroux and Geiss (2019) found that a student-led mental health awareness campaign on campus (i.e., a mental health intervention) helped reduce stigma towards mental health and increased students' attitudes towards help-seeking. This increase was attributed to the resources provided, educational sessions by the school counselor, and social support offered by the counselor to the students.

Ultimately, participants left the MHS with more knowledge than they entered with and knew how to effectively use that knowledge for their benefit and to benefit others. Therefore, based on the fact that they gained pivotal knowledge such as where to go for help, who they can or should contact for assistance, and how to navigate certain mental health challenges, participants possessed an overall positive perception of the MHS. It should be noted that while the vast majority of participants possessed an overall positive perception of the MHS, there were some who held a negative perception, which is to be expected. The common thread amongst those who attended and felt negatively about the event cited the mandatory nature of the MHS by program leadership and believed it was too long. Despite their negative perception, they still benefited because they likely learned something new about mental health they can use in the future, connected with peer(s), and/or discovered a resource they can access should the need arise. This finding supports and accentuates research by Giroux and Geiss (2019), Villarino and Villarino (2023), and Shim et al. (2022), who contend that mental health education is an effective tool for improving mental health awareness among collegiate students. This adds an important lens to the aviation/aerospace literature by showing proof of concept external to STEM-specific fields (Till et al., 2024).

Research Question #2 (RQ #2)

The second research question inquired about the level of comfort collegiate students possessed and how inclined they were to discuss mental health as a consequence of attending the MHS. There were two open-ended questions employed to aid in addressing this RQ: Q38.[4] and Q37[5]. Based on an analysis, students' comfort with discussing mental health slightly declined post-MHS, although overall scores in this metric remained relatively high. Specifically, participants expressed less comfort with listening to others share mental health challenges or discussing their own mental health with those closest to them, such as family or friends (Table 2). This was evidenced by a diminished willingness to be more vulnerable with others when engaging in mental discourse over the duration of the MHS and was also shown by the lower completion rates of the voluntary post-MHS survey. The aforementioned also shows less of an inclination to have uncomfortable conversations and strained efforts to push past the stigma associated with mental health to seek support from others, thereby addressing RQ #2.

Despite the information provided and supportive environment cultivated during the MHS, the slight decline in mental health comfort is not surprising. This supports research by Raja et al. (2022), who found participants were less comfortable discussing sensitive topics such as trauma, an element of mental health, because of privacy concerns. This study's findings suggest that comfort-related attitudes may be

[4]Q38 asked participants about what made them feel uncomfortable when discussing mental health.
[5]Q37 asked participants about what made them feel comfortable when discussing mental health.

more resistant to changes in the short term and require more long-term interventions to truly improve one's comfort. Such a notion parallels sentiments made by scholars who underscore the use of community education (Raja et al., 2022), such as an MHS and an anti-stigma campaign (Henderson et al., 2017), as tools to improve comfort discussing mental health, disclosing a mental health challenge, and engaging in help-seeking behaviors. Therefore, routine utilization of MHS within collegiate aviation programs appears to be a viable strategy to help participants overcome intra- or interpersonal barriers that negatively impact their comfort with mental health discourse by normalizing it and potentially improving mental health/well-being. As such, the most appropriate themes to address this RQ were *Taboo Topics to Comfortable Conversations* and *Soaring Beyond Stigma to Sustaining Support*.

Beginning with the *Taboo Topics to Comfortable Conversations* theme*,* there was one point of convergence. Participants expressed a strong reluctance to be vulnerable and were not comfortable with discussing mental health due to three main reasons: 1. A fear of judgment by friends/peers, 2. A fear of consequences or ramifications, and 3. Extreme discomfort talking about specific aspects of mental health (e.g., suicide and depression). The fear of being judged, especially by one's peers/colleagues, is a well-known impediment for those who would like to seek help or support for their mental health, but do not. Generally, this is referred to as Social Anxiety Disorder (National Institute of Mental Health, 2022), which is a persistent fear of being watched and/or judged by others. In the context of this study and discussion, there is more depth to this fear, and it is actually better characterized by a fear of poor social evaluations. According to Abdai and Miklósi (2016), social evaluation is a process during which an individual assigns different values (positive or negative) to particular behavioral patterns that are performed in a social interaction. This evaluation dictates how the individual is perceived and interacted with by others in society, meaning if others avoid or prefer them (i.e., their likability is impacted). That said, individuals tend to fear receiving adverse social evaluations from those close to them and/or in their network. The receipt of a poor social evaluation runs counter to the internal wiring of human beings, as they possess an innate want and borderline need to be liked by others (Sawhney, 2023).

Since conversing about mental health challenges carries a high likelihood of being viewed negatively by many in society, despite the recent societal shifts, it is not surprising that participants expressed a reluctance to be vulnerable, especially since collegiate-aged individuals can be harsher than necessary towards their peers. The harshness may manifest in the form of alienation of the individual who expressed their sentiments about mental health and consequently received a negative social evaluation, resulting in a type of social punishment, per se. This phenomenon of receiving a social punishment because of poor social evaluations supports research by Pederson (2023), who concluded that a fear of poor social evaluations is a stressor that impacts the psychological well-being of individuals. It also accentuates research by Sabik et al. (2019) and Johnson et al. (2024), who allude to the notion that poor social evaluations adversely impact one's comfort level and inclination to discuss mental health unless in a safe space. More importantly, these phenomena compound the already existing fear of judgment and provide a compelling lens to the notion of peer support that is widely propagated as a first line of defense for those afflicted. Peer support has been posited by scholars as a safe, effective, and efficient method to help aviation/aerospace professionals manage mental health challenges in a healthy way. Research by Winter and Rice (2015) stated that strong social support may help act as a buffer against stress in the workplace, which can also mean the collegiate environment. However, if collegiate aviation students are fearful of being judged by their peers for sharing their mental health and, as such, are not comfortable doing so, then where can or are they expected to seek help without judgment? Therefore, it can be surmised that students and especially collegiate aviation students, require a "safe space", "brave space", "brave instructors" or some combination within their program to be comfortable enough to discuss their mental health without the potential for social persecution from others, thereby reinforcing the importance of and need for a safe/brave space as noted earlier in the *RQ #1* discussion.

The fear of consequences or ramifications was the second reason participants cited for their reluctance and discomfort discussing mental health. Specifically, participants shared they were scared of losing their medical certificate and being "grounded" if the FAA were to learn of their mental health distress. This fear of the FAA and what action they may take against them is yet another widely known and shared fear amongst those in the industry, especially those working as or aspiring to be professional pilots. Given the pipeline that exists between collegiate aviation programs and the industry, it is not surprising that this same fear has permeated to the collegiate level. Due to the fear around reporting mental health-related challenges to others, especially Aviation Medical Examiners (AMEs), because of the impact it could have on one's medical, a subculture of a lack of reporting has been created within the industry. This lack of reporting can be seen within the commercial airline sector as well as within collegiate aviation. The latter was showcased by Pitts and Faulconer (2023) who conducted an anonymous online survey of collegiate aviation students and found that 67.7% of the sample expressed concerns about seeking mental health treatment because of the potential impact on their medical certificate, and 29.3% admitted to withholding mental health issues from AMEs for the same reason.

The fact that such a fear is present amongst collegiate aviation students supports research by Johnson et al. (2024), who discussed and explained the "culture of fear" that is present within the industry. This culture of fear stems from the uncertainty of what action the FAA will take against an airmen's medical certificate once they learn of an airmen's mental health challenges. Any decision other than no action will likely result in the jeopardizing of their job security since they may not be permitted to fly until they have satisfied the numerous and often costly stipulations outlined by the FAA's aeromedical division (Johnson et al., 2024). Consequently, rather than having their medical certificate and livelihood jeopardized (Hubbard, 2016), these professionals opt to engage in behaviors similar to what the students in this study expressed: be less vulnerable, less comfortable, and less inclined to share mental health distress. The aforementioned coalesce to constitute healthcare avoidance behaviors, which are prevalent amongst industry professionals (Hoffman et al., 2023; Hoffman et al., 2024a; Johnson & Jones, 2025) because of the steep consequences these professionals may receive, as well as the outdated approaches to aerospace medicine utilized by the FAA. While the reluctance to discuss mental health challenges, which may result in healthcare avoidance, is an undesirable outcome, it is the harsh reality many experience in the industry because they feel forced to choose between protecting their medical certificate and job or seeking help. This is an impossible decision many collegiate aviation students appear to be making in their young careers, and unfortunately, for some, they feel they cannot make the best decision and instead, opt to take their life.

The extreme discomfort when talking about specific aspects of mental health, namely suicide and depression, was the third reason participants detailed to explain their discomfort with mental health discussions. Given the sensitive and contentious nature of mental health within the U.S. and even more so in aviation/aerospace, the discomforting feelings some participants expressed relative to suicide and depressive symptoms are to be expected, as these conversations can be extremely awkward for anyone, including MHPs (Norman, 2021). Research by Helman et al. (2024) asserts that researching suicide is emotionally challenging work and could be considered a difficult research topic even for seasoned professionals in the field who deal with these issues frequently. Thus, if researching suicide and hearing stories of distress can prove to be too much for professionals in the space, then it is understandable why collegiate aviation students, who possess fewer life and emotional experiences, may have inordinate difficulty and a less comfortable level with the topic. Participants also conveyed their trepidation regarding discourse about suicide and depression stemmed from a fear that by discussing or merely uttering the word "suicide" to someone they suspected was in mental distress would place the idea in their head, thereby increasing their probability of conducting self-harm or suicide. Although an understandable concern, this belief is a myth that has, unfortunately, been enhanced by stigma. Research has shown that asking someone if they are having suicidal thoughts is more likely to save a life (Murphy, 2021) rather than take one. This myth was one dispelled during the MHS by one presenter from UNO's School of

Social Work. While this was the least prevalent or commonly noted reason amongst the participants, it was still worth discussing because of implications on help-seeking behavior(s) and the divergence that occurred post-MHS.

The only point of convergence within this theme centered the fear and worry of consequences imparted by the FAA, which was thoroughly discussed earlier. Despite the wealth of information shared during the MHS about what mental health conditions, issues, and diagnoses are reportable and what counts as a diagnosis from AMEs and MHPs, participants still possessed trepidation and discomfort with sharing mental health information. This hesitation and discomfort stemmed from the participants not fully trusting the medical process, rather they believe that their privacy and confidence will be infringed upon. The lack of trust and confidence within the medical process, some medical professionals – including MHPs, and regulators conveyed by the participants supports research by Raus (2023). Additionally, the lacking confidence in the aforementioned is another well-known contributor to avoidance behaviors by industry professionals. While these professionals, specifically professional pilots must disclose medical visits, this disclosure is further confounded by the fact that there is ambiguity about which mental health services qualify as "treatment" and which do not. Unfortunately, the ambiguity exacerbates the problem and worsens the healthcare avoidance behavior and since these industry professionals tend to already possess a negative perception about mental health services that is underpinned by fear and anxiety, they typically opt to avoid them altogether to avoid reporting them as noted by Raus (2023). By avoiding the disclosure process and not reporting, these professionals do not have to put their faith or trust in the medical system or its operators, thereby mitigating their fears.

It is important to note that there were some attendees who experienced an enlightening regarding their career trajectory as it relates to the impact mental health could have. Specifically, some attendees realized that they could still have a viable and long career in aviation/aerospace if they experienced mental health distress or possessed a mental health disorder/condition (under certain circumstances). This realization runs counter to the widely propagated belief that having a mental health issue means you cannot be successful in aviation/aerospace particularly as a professional pilot and helps combat the horror stories about individuals' careers being cut short due to losing their medical certificate (Hubbard, 2016). This was provided in response to Q37, which asked, "What aspects of the program made you feel comfortable when discussing mental health?". As noted earlier, one monumental myth that exist within aviation/aerospace is that if you experience a mental health challenge, then you will lose your medical certificate and be "grounded" until proven "fit for duty". While just one example, it is a widely propagated and deep-rooted belief held by many within the industry that impacts the comfort of industry professionals, including collegiate aviation students. The refutation of such a belief and concerted efforts to replace fiction with fact from credible and experienced individuals exemplify why these MHS are a necessary tool within the industry, especially at the collegiate level.

The findings within this theme and theme itself, *Taboo Topics to Comfortable Conversations*, both contribute to the aviation/aerospace literature in a unique manner regarding the profound lack of trust many industry professionals have in the FAA medical certificate process, their perspective on mental health treatment, and the confidentiality and privacy promised by MHPs. Specifically this theme highlights professionals' low levels of comfort and inclination to use the commonly suggested support and treatment methods, thereby exposing a flaw in the current system that is known, but has experienced difficulty being addressed. This is because the requisite trust from industry professionals has not been established and cannot be cultivated due to breaches in their trust that has occurred over time, which further compounds the stigma around mental health (Winter and Rice, 2015; Johnson et al. 2024) culture of fear (Wu et al. 2016; Hubbard, 2016; Johnson et al. 2024), and potential consequences one may face. However, this flaw provides an opportunity to enhance mental health treatment options for these professionals, decrease healthcare avoidance behaviors, and improve both safety and the aerospace medical system, thereby constituting the literature contribution. Research by Hoffman (2021) and Daku (2021) found that 75% of pilots who reported at least one avoidance behavior stated they would utilize

sanctioned intervention if available and up to 60% reported they were open to using an anonymous hotline to obtain mental health assistance, respectively. The aforementioned demonstrates industry professionals want help, are open to treatment, and would like to manage their mental health if viable options were available to them. However, little to no options similar to the proposed alternatives exist or are FAA-approved, underscoring the need for their creation.

The aforementioned contribution connects to the *Soaring Beyond Stigma to Sustaining Support* theme, which also aids in addressing RQ #2, because of the divergence in comfort level attendees possessed pre- and post-MHS. This divergence stemmed from the demystification of the FAA medical process that was provided by the speakers and presenters during the MHS. The information shared helped attendees delineate what was fact from fiction relative to conditions and challenges that would result in a medical disqualification. They also debunked common myths and clarified rumors regarding the reporting process and several other items that cause aviation/aerospace professionals to exhibit healthcare avoidance behaviors. The genuine conversations and information shared empowered attendees and made them feel more comfortable talking about and seeking support for their mental health. This was because they received credible information from reputable sources to refute the myths, which helped destigmatize mental health for them to an acceptable level to where they could transcend the stigma and seek support.

Research Question #3 (RQ #3)

The third research question inquired about what barriers prevented collegiate aviation students from seeking support and/or services to manage their help when experiencing distress. There was open-ended question leveraged to aid in addressing this RQ, namely Q36[6]. There were several barriers attendees noted that prevented or made them less inclined to seek support for their mental health, thereby addressing RQ #3. Specifically, participants cited a lack of access to resources with an emphasis on financial inaccessibility and stigma as the most prominent barriers they faced, preventing them from engaging in help-seeking behaviors. As such the *Access Granted – Barriers Bypassed* theme was the most apt to address RQ #3. Within this theme there were three points of convergence.

The first point of convergence pertained to the lack of access to mental health resources participants detailed they had. Pre-MHS, participants shared they did not know where to go nor how to access the mental health resources located on their campus. This lack of knowledge about pivotal resources points to a critical issue underpinning the surface-level access problem initially stated, signaling that there is also a larger lack of awareness and/or exposure to any/all resources (not just those relative to mental health) that may exist on their campus. Therefore, the lack of access referenced by many attendees presents a more nuanced problem connected to the institution's and/or aviation program's inability to effectively communicate where resources are located and how they could be utilized. While not every participant shared or expressed this lack of access and knowledge issue, those that knew of the resources and how to access them were likely aware because they were: 1. An older, more experienced student who possessed institutional knowledge or 2. Learned about the resources through their communities of support on-campus. Both relate to a student's ability to circumnavigate the academic and social environments of their institution and for those participants who were aware of the mental health resources on-campus, it is likely they "Networked to Navigate". This is a term derived by Johnson (2024) that entails collegiate aviation students leveraging their various communities of support or "networks" to obtain pivotal information or resources. For those participants' who were not as fortunate to have a network to navigate to become cognizant of the resources, the MHS likely filled this paramount access gap.

[6]Q36 asked participants what barriers prevented them from seeking mental health services or support when they experienced a mental health challenge.

The lack of access to resources for student mental health is not a new phenomenon and could be considered the "norm". According to Mowreader (2024), roughly 54% of students who attended four-year institutions (similar to that of the sample institution) reported their institution provided adequate mental health resources for students, whereas 56% of students at two-year colleges reported the same. This particular convergence point and finding support the research by Mowreader (2024) and provide a compelling contrast to Chessman and Taylor (2019), who reported that student mental health and well-being are campus-wide priorities at most institutions, with over 80% of presidents indicating student well-being is mentioned within their strategic plan. What is even more concerning is that only 40% of these strategic plans mention mental health specifically (Chessman & Taylor 2019). The problem with these figures is that a vast majority of institutional leadership proclaim student well-being are priorities for their institution, yet less than half of the strategic plans explicitly mention mental health and a little more than half of the students sampled believed their institution provided adequate mental health resources. Clearly, this is a disconnect between what leadership states is a priority and what actually gets created, funded, and/or implemented for students to use and access. There is gross misalignment between leadership and students, which adversely impacts the benefactors of the institution, the students, by limiting their access to and knowledge of the resources available to them, especially mental health resources.

The financial inaccessibility of mental health resources is another facet of the lackluster access to resources participants noted and may pose an even larger barrier for collegiate aviation students, especially those identifying as underrepresented, minoritized, low-income, and/or first-generation. It is well-known and documented that the cost of healthcare and specifically, mental health care, within the U.S. has increased significantly (Rowan et al. 2013). The cost of mental health treatment is a problem and often insurmountable barrier for many Americans as 42% of untreated U.S. citizens cited cost as barrier to them obtaining the necessary help needed. This is evident as the cost of psychotherapy within the U.S. is listed, on average, as $100 to $200 (with insurance or a co-pay) according to Laswell (2022), and is an expense many cannot afford. For collegiate students, IHEs are essentially a gateway to mental health services (Mossakowsi, 2021), especially since most institutions provide students with up to 12 psychological sessions per year as long as they are enrolled. Anything beyond the allotted amount means they will be forced to seek external treatment and pay out-of-pocket for services. This expense is not something most college students can bear given the average four-year tuition rates of $40,000-$150,000 depending upon the type (Mossakowsi, 2021) and the average income of $3900-$13,880 for student workers (Urban Institute, 2017). Simply, collegiate students tend to have lower income levels, which means less disposable income, rely on work study or part-time jobs, and nearly 1.6 million still lack medical coverage according to the House Committee on Education and the Workforce Democrats (2025). The situation and number only worsens when considering those who come from historically disadvantaged backgrounds (Vargas and Dancy, 2023) and/or identify as low-income or first-generation. Despite the impact of the MHS, access still served as a barrier for some, particularly the financial inaccessibility of certain resources. However, participants expressed that because of the MHS, they became cognizant of where to go on-campus to access mental health support such as Counseling and Psychological Services (CAPS) and off-campus such as the Charles Drew Health Center.

Although MHS participants were provided with pertinent information, the unaffordability of mental health support still serves as a prominent barrier for them; one that explicitly and consciously hinders their ability to seek help when they want/need it. As noted earlier, but cannot be overstated due the tantamount and paramount nature, colleges and universities are a prime gateway for students to access and receive mental health services (Mossakowsi, 2021), and there are some students that heavily rely on these institutions to obtain the support needed and worry about what future treatment will look like once they are no longer enrolled due to the immense financial burden. It is clear that students would use the services if they were financially accessible. This particular finding should serve as an alarm for institutional leadership to make their actions match their proclamations and expedite those actions to truly prioritize mental health with an emphasis on accessibility, which may save lives and aid in enrollment and

retention rates as well according to Carrasco (2024). If nothing else, it is the hope that the opportunity to increase the touted student metrics of enrollment and retention, rather than saving and impacting student lives, will finally be the catalyst leadership needs to remedy the inequities surrounding access to vital resources, such as mental health support, that exist across many U.S. IHEs.

The second point of convergence pertained to the immense fear participants had about losing their medical certificate and potentially jeopardizing their job security as a future aviation/aerospace professionals, especially those wanting to be professional pilots. This fear was thoroughly discussed in *RQ #2,* specifically within the *Taboo Topics to Comfortable Conversations* theme. Given the elaborate discussion in the aforementioned section, it will not be expounded upon further. Instead, the third point of convergence, which revolves around stigma, will be elucidated. Both pre- and post-MHS, participants explained that stigma was a notable barrier they experienced to seeking help or support for their mental health distress challenges. The fact stigma served as a barrier before and after the MHS despite the wealth of information conveyed in addition to the resources shared is shocking, but not surprising. Further, it denotes how paralyzing and much of a deterrent it is and can be for individuals, especially collegiate aviation students, who lack experience in navigating stigma and are soon-to-be professionals.

Given the prominence of stigma, it is necessary to define it. According to Winter and Rice (2015) stigma is defined as, "Prejudices held towards individuals that are either part of, or perceived to be part of, certain groups." The main issue with stigma is that it can influence, typically in an adverse manner, a person's perspective towards others or things, resulting in a diminishing effect. Within the context of this study, stigma can cause collegiate aviation students who may want or need help from seeking it due to fear of being viewed or labeled as "less than" or as "a burden" by those within their network. Collectively, this can be referred to as receiving poor social evaluations and participants alluded to this notion in their statements by mentioning they avoided seeking help because they wanted to prevent being perceived as a burden for others, thereby supporting research by Johnson et al. (2024). Unfortunately, this rationale participants shared is a commonly held belief within aviation/aerospace, underscoring the pervasiveness and gravity of the stigma. Many believe seeking help and/or merely having a mental health condition or distress is a sign of personal weakness according to the National Alliance on Mental Illness (2020), which is completely untrue, and work must continually be done to refute it within society.

Within the context of aviation/aerospace, this stigma is more pronounced due to the nature of the industry and tends to manifest itself in two types of behaviors: 1. Pilot reporting (or a lack thereof) and 2. Self-reliance. Due to the fear of being labeled as "less than" via poor social evaluations in conjunction with a perceived fear of consequences, aviation/aerospace professionals – specifically professional pilots – tend to not report certain mental health issues. This same reporting behavior is and can be seen amongst collegiate aviation students, highlighting that stigma exist at all levels of the industry as evidenced by the quotes within this manuscript. There is also the behavior of being overly self-reliant, which is a form of "self-stigma" according to Labouliere et al. (2015) and more commonly impacts youth such as those included within this sample. This type of stigma forces students to believe that they should handle all their problems on their own because they "own" the problem and may believe they are not worthy of help from others. Such a self-stigma may be more prevalent amongst collegiate aviation students given its likelihood to impact younger individuals.

The importance of this theme, particularly its discussion around stigma as a barrier, is the outlining of how stigmatization of mental health can be harmful for anyone, but especially detrimental for collegiate aviation students, who need or want to seek treatment. An element not largely considered that heightens the personal weakness facet of stigma is that aviation/aerospace professionals, specifically professional pilot and crew members, hold high responsibility positions (Winter & Rice, 2015; Winter et al. 2017). These positions intensify the duty to execute at a high level of safety, which usually results in the suppression of mental health ailments that would impact their ability to perform these duties. Consequently, succumbing to the notion of personal weakness is not something industry professionals

believe they can afford to do as there is little room for error within the industry. Subsequently, this is also a notion that has permeated to the collegiate level and is now negatively impacting students who are engaging in unhealthy behaviors modeled by professionals they look up to based upon the analyzed comments. Therefore, this theme supports research by scholars who detail the various barriers that deter individuals from seeking help for their mental health with the most prominent being a lack of access (Johnson et al. 2024), financial inaccessibility (Laswell, 2022; Carascco, 2024; Vargas and Dancy, 2023), and stigma (Johnson et al. 2024, Sabik et al. 2019; Raus, 2024; Waters et al. 2024). This theme also underlines the potential grave impact financial inaccessibility and stigma can have on collegiate aviation students, and adds a sense of urgency to redress the aforementioned barriers for the benefit of all students, especially those who desire to work in an industry that is highly stigmatized and where help-seeking behavior(s) are not the norm, but the exception.

Limitations and Assumptions

For this study, the following limitations and assumptions existed:

1. Due to the voluntary nature of survey research, this study was limited based upon the participation of the collegiate aviation students who attended the MHS and were asked to complete the pre- and post-surveys via Qualtrics.
2. The study was limited to only enrolled students at UNO, specifically those enrolled in the collegiate aviation program as a professional flight, administration/management, and/or unmanned aircraft systems major.

It is assumed the collegiate aviation students answered both surveys (pre- and post-) honestly, to the best of their knowledge and ability, and with the intent to contribute to the greater good of the aviation/aerospace industry, with special emphasis on collegiate aviation.

Recommendations for Policy and Practice

Based upon the findings and discussion, the following recommendations around policy and practice should be considered:

Policy

1. Call-to-Congress: Make the current Mental Health Aviation Rulemaking Committee a permanent body of the FAA. This was a recommendation made by Johnson et al. (2024) that should and needs to be re-iterated because of the quality and expeditious work they conducted to provide FAA with a set of actionable recommendations. Further, given the tantamount nature of mental health, its pervasiveness, and increasing prevalence amongst a vulnerable population, the permanent solidification of such a body is proving necessary if regulators and the industry want to become proactive in addressing mental health challenges.
2. Call-to-Congress: Enhance the financial accessibility of/to mental health treatment and associated resources to mitigate a prominent barrier that inhibits and deters collegiate aviation students from seeking mental health services they may need/want.

Practice

1. Collegiate aviation program leadership should host or organize an MHS for their students at least once per year. This would be done to educate, expose, and connect students to vital mental health resources that exist on- and off-campus, as well as to the individuals they may need to contact to obtain those resources. If collegiate aviation programs are unable to host or organize their own symposium, then program leadership should aim to attend the larger annual MHS that is coordinated by the consortium. This would be done to remain current on contemporary mental

health information and knowledge, be cognizant of changes to/in FAA aerospace medicine that may impact the students, and to relay pertinent information to the student body.
2. Collegiate aviation programs should conduct "safety stand-downs" that center on or emphasize mental health at least once per year, but ideally, once per semester. While these can be done under the umbrella of traditional safety stand-downs, the mental health-centric stand-downs may be more effective and impactful if they are held on their own, especially since they focus on more specific information. The implementation of these events add a source of support for collegiate aviation students, provide faculty/staff with an opportunity to demonstrate their prioritization of mental health as well as their commitment to enhancing safety, and helps destigmatize the topic.
3. Collegiate aviation programs should adopt mandatory mental health training for all aviation faculty/staff to demonstrate a strong commitment to mental health and to lead by example. The training could be included in the annual training requirements for faculty/staff and completed at the same time as other mandatory trainings.

Future Research

Given the exploratory nature of this study, the first recommendation centers extending the crux of the study itself. The purpose of this research was to understand how MHS affect the knowledge, understanding, and comfort level of collegiate aviation students regarding mental health. To understand this, collegiate aviation students were sampled, but only those enrolled at UNO. While this provided a strong reference point for future studies, it also furnishes an opportune platform for future research. Specifically, future research would benefit from studying the effectiveness of MHS on the collegiate aviation students at larger institutions such as UND. This would be done to determine how the symposia impacted the knowledge, understanding, and comfort level relative to mental health of the collegiate aviation students enrolled at those institutions. The provision of support and in particular, peer support, was a commonly cited factor that positively impacted the mental health of collegiate aviation students who were sampled. Some of this support was furnished through their aviation-centric or non-aviation-centric Registered Student Organization (RSO) as well as their social networks (e.g., study) had access to. Nonetheless, future research should examine how collegiate aviation students' mental health challenges are managed when involved in peer support groups such as a RSO, TGBP, or an akin program.

Conclusion

The overarching goal of this exploratory study was to understand how MHS affect the knowledge, understanding, and comfort levels of collegiate aviation students regarding mental health. Existing research on the mental health of collegiate aviation students has been relatively sparse in conjunction with the fact that the impact of MHS constitutes a rather under-researched area. As such, this study aimed to fill two primary gaps, one temporal and one empirical, in the contemporary literature while building upon research already conducted on aviation/aerospace mental health, mental health in STEM, and that of minoritized students in collegiate aviation programs. The temporal gap was filled by conducting research on mental health resources within aviation/aerospace, specifically a MHS tailored for collegiate aviation students, that adds breadth/depth to the scarcity of studies examining such an issue/topic. The empirical gap was filled by conducting a robust, mixed-methods study that showcased the positive impact and effectiveness of an aviation-centric MHS on collegiate aviation students with respect to their knowledge, understanding, and comfort level regarding mental health.

The study demonstrated, qualitatively and quantitatively, that MHS are an effective tool, especially for improving the knowledge and awareness of mental health support and resources for collegiate aviation students. While comfort levels surrounding mental health discourse remained relatively unchanged, indicating that interpersonal comfort is more difficult to improve in a short period of time, the MHS provided a solid start to increase this comfort and suggests that sustained efforts are

likely needed to collectively improve one's comfort when engaging in such discourse. This may be accomplished by holding mental health safety stand-downs at the start of each semester and/or having MHPs visit aviation/aerospace classes, especially lower-level courses, to speak since first-generation students and minoritized students tended to be the most unfamiliar with mental health resources and the least comfortable, respectively. The study also informs collegiate aviation program leadership of techniques and/or resources they can leverage to increase mental health support for their students, which may also be beneficial for industry leadership due to the transferability of the findings.

There are several prominent takeaways centering the mental health of collegiate aviation students that warrant emphasis. The first is that there is a difference in comfort levels between White and non-White students (i.e., underrepresented students/students of color) relative to discussing mental health discourse and awareness with students of color having a lower reporting tendency. This points to the need for these students to have a safe and inclusive environment or space that will empower them to feel comfortable enough to engage in such discourse, underscoring the salience of culturally responsive and sensitive mental health programming. The second is the difference between male and female responses to mental health activities such as the MHS. Specifically, female students demonstrated a greater change in both their understanding and comfort with mental health discussions, highlighting the need for mental health programming and programmers to remain sensitive to gendered experiences. The third is that employed students benefitted more from the MHS, particularly their understanding of and comfort with mental health, than unemployed students, which may stem from their real-world exposure to various work environments and ability to manage stress more effectively. The fourth is that first-generation students typically possess lesser familiarity with mental health resources compared to non-first-generation students, indicating potential gaps in their access to pivotal resources and institutional knowledge.

At its core, this study clearly illustrates that MHS may serve as a transformative learning experience for collegiate aviation students and college students generally, and is an effective way to reframe stigmatized narratives surrounding mental health while promoting awareness and understanding of salient resources to support those afflicted by mental health challenges. Ultimately, MHS have shown to be a positive, effective, and efficient tool to counter institutional, regulatory, and societal barriers that adversely compound mental health and as such, are a tool that should be strongly considered for adoption and implementation within collegiate aviation programs, IHEs, the aviation/aerospace industry at-large, and any entity/organization that is predicated upon safety and has positions/roles with high levels of responsibility. Consequently, comfort levels may also be increased, which will help expedite the normalization of mental health discourse in various disciplines and sectors as a means to soar beyond the stigma that inclines individuals to bear a heavy load by themselves and suffer in silence.

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Appendix A – Pre- and Post-Survey Question Protocols

Please note that any information (e.g., name, age, gender, etc.) obtained through this survey will be kept confidential. We only ask your name to allow for question comparison between the pre- and post-surveys. Personal information we obtain will only be used for analysis purposes.

Pre-Survey

Nº	Question	Relational Area to Study
	What is your first and last name?	Personal Information
2.	What is your race/ethnicity?	Personal Information
3.	What is your sex/gender?	Personal Information
4.	What is your age?	Personal Information
5.	What is your year/status in school?	Personal Information
6.	What is your major?	Personal Information
7.	Are you affiliated with or involved in a Registered Student Organization (RSO) on-campus?	Personal Information
8.	If you are affiliated with a RSO, which one?	Personal Information
9.	Do you live on-campus or off-campus?	Personal Information
10.	Are you currently employed?	Personal Information
11.	If you are employed, how many hours per week do you typically work?	Personal Information
12.	Are you a first-generation student (i.e., are you the first person in your family to attend college)?	Personal Information
13.	Have you ever attended a mental health symposium, seminar, town hall, or similar event prior to this?	Personal Information - Baseline
14.	Do you know the definition of mental health and/or mental well-being?	Mental Health Knowledge
15.	How would you rate your current knowledge level of mental health (and closely-related topics such as mental fitness and emotional well-being)?	Mental Health Knowledge
16.	How would you rate your knowledge level about on-campus resources and support services focused on navigating mental health challenges?	Mental Health Knowledge
17.	How knowledgeable are you regarding mental health initiatives, support, and resources that are available within the UNO AI?	Mental Health Knowledge

18.	Do you feel that peer support systems are accessible and effective within your collegiate aviation program?	Mental Health Knowledge
19.	How knowledgeable are you regarding mental health initiatives, support, and resources that are available within the aviation/aerospace industry?	Mental Health Knowledge
20.	How confident are you that future aviation/aerospace employers will support mental health initiatives?	Mental Health Knowledge
21.	What is your overall level of understanding of mental health as a concept or topical area?	Mental Health Understanding
22.	What is your level of understanding of the resources or support services one can access on-campus assist with mental health challenges/issues?	Mental Health Understanding
23.	Do you know where you could go to receive psychological services on-campus and how to access these services?	Mental Health Understanding
24.	How satisfied are you with the mental health resources available on-campus?	Mental Health Understanding
25.	What is your level of understanding of the resources or support services one can access in the community and/or in general to assist with mental health challenges/issues?	Mental Health Understanding
26.	What is your level of understanding of what factors or elements can contribute to, worsen, and/or improve one's mental health?	Mental Health Understanding
27.	What is your level of understanding of the common signs of mental health struggles or challenges?	Mental Health Understanding
28.	How comfortable are you talking about your mental health with close friends or family?	Mental Health Comfortability
29.	How comfortable are you talking to an education professional (i.e., teacher, professor, instructor, etc.) about your mental health?	Mental Health Comfortability
30.	How comfortable are you listening to others share their mental health challenges or issues?	Mental Health Comfortability
31.	How comfortable are you talking about mental health topics in a group setting?	Mental Health Comfortability
32.	How comfortable are you learning about mental health resources and coping strategies?	Mental Health Comfortability
33.	How comfortable are you seeking help or assistance for mental health challenges or struggles?	Mental Health Comfortability
34.	How comfortable are you with participating in mental health awareness events or activities (e.g., Mental Health Symposiums)?	Mental Health Comfortability

35.	How comfortable would you be informing someone you trust if you were experiencing mental health challenges?	Mental Health Comfortability
36.	What barriers, if any, prevent you from seeking mental health services or support during/when you experience a mental health challenge?	Mental Health Support
37.	What makes you feel comfortable when discussing mental health?	Mental Health Comfortability
38.	What makes you feel uncomfortable when discussing mental health?	Mental Health Comfortability
39.	What have you found beneficial, if anything, in improving your knowledge of mental health?	Mental Health Knowledge
40.	What have you found beneficial, if anything, in improving your understanding of mental health?	Mental Health Understanding

Post-Survey

Nº	Question	Relational Area to Study
1.	What is your first and last name?	Personal Information
2.	What is your race/ethnicity?	Personal Information
3.	What is your sex/gender?	Personal Information
4.	What is your age?	Personal Information
5.	What is your year/status in school?	Personal Information
6.	What is your major?	Personal Information
7.	Are you affiliated with or involved in a Registered Student Organization (RSO) on-campus?	Personal Information
8.	If you are affiliated with a RSO, which one?	Personal Information
9.	Do you live on-campus or off-campus?	Personal Information
10.	Are you currently employed?	Personal Information
11.	If you are employed, how many hours per week do you typically work?	Personal Information
12.	Are you a first-generation student (i.e., are you the first person in your family to attend college)?	Personal Information
13.	Prior to this event/program, had you ever attended a mental health symposium, seminar, town hall, or similar event?	Personal Information - Baseline

14.	Did this event/program provide you with a clear definition of mental health and/or mental well-being?	Mental Health Knowledge
15.	How would you rate your current knowledge of mental health topics compared to before attending the program/event?	Mental Health Knowledge
16.	How would you rate your understanding of on-campus mental health resources and support services after the event?	Mental Health Knowledge
17.	How has your knowledge of mental health initiatives, support, and resources within the UNO AI improved due to the program?	Mental Health Knowledge
18.	Do you feel that peer support systems became more accessible and effective within your collegiate aviation program after attending the event?	Mental Health Knowledge
19.	How has your understanding of mental health initiatives and resources within the aviation/aerospace industry changed since the program?	Mental Health Knowledge
20.	How confident are you now that future aviation/aerospace employers will support mental health initiatives?	Mental Health Knowledge
21.	What is your current understanding of mental health as a concept or topical area now that the event has concluded?	Mental Health Understanding
22.	What is your current understanding of the resources or support services available on-campus to assist with mental health challenges now that the event has concluded?	Mental Health Understanding
23.	Do you now know where and how to access psychological services on-campus?	Mental Health Understanding
24.	How satisfied are you with the mental health resources currently available on-campus, based on what you learned?	Mental Health Understanding
25.	What is your current understanding of resources or support services available in the community for mental health challenges?	Mental Health Understanding
26.	How has your understanding of factors that contribute to, worsen, or improve mental health changed?	Mental Health Understanding
27.	How would you rate your understanding of the common signs of mental health struggles or challenges now that the event has concluded?	Mental Health Understanding
28.	How comfortable are you now discussing your mental health with close friends or family?	Mental Health Comfortability
29.	How comfortable are you now discussing mental health with an education professional (e.g., teacher)?	Mental Health Comfortability
30.	How comfortable are you now listening to others share their mental health challenges?	Mental Health Comfortability

31.	How comfortable are you now discussing mental health topics in a group setting?	Mental Health Comfortability
32.	How comfortable are you now learning about mental health resources and coping strategies?	Mental Health Comfortability
33.	How comfortable are you now seeking help for mental health challenges or struggles?	Mental Health Comfortability
34.	How comfortable are you now participating in mental health awareness events or activities (e.g., Mental Health Symposiums)?	Mental Health Comfortability
35.	How comfortable would you now feel informing someone you trust if you were experiencing mental health challenges?	Mental Health Comfortability
36.	What barriers, if any, do you still perceive when seeking mental health services or support?	Mental Health Support
37.	What aspects of the program made you feel comfortable when discussing mental health?	Mental Health Comfortability
38.	What aspects of the program made you feel uncomfortable when discussing mental health?	Mental Health Comfortability
39.	What elements of the program improved your knowledge of mental health, if any?	Mental Health Knowledge
40.	What elements of the program improved your understanding of mental health, if any?	Mental Health Understanding

Appendix B – Informed Consent Form

The Mental Health Symposium: An Effective Tool to Improve Collegiate Aviation Students' Knowledge, Understanding, and Comfortability with Mental Health

IRB # 0006-25-EX

You are invited to participate in a research study. This form has information to help you decide whether or not you wish to participate; please review it carefully as your participation is completely voluntary, meaning you can stop at any time. The purpose of this exploratory research is to understand the impact mental health symposiums have on the knowledge, understanding, and comfortability of collegiate aviation students regarding mental health (and related topics such as emotional well-being). Doing so may inform collegiate aviation program leadership of methods, techniques, and/or resources they can leverage to increase mental health support within their program.

You are eligible to participate in this study if you are currently enrolled as an aviation student at the University of Nebraska at Omaha (UNO) between the ages of 19 and 50 and are in attendance of the 2025 UNO Aviation Institute Mental Health Symposium held at the Milo Bail Student Center Ballroom on February 21st, 2025. If you agree to participate, you will be asked to:

- Complete the requested pre- and post-surveys, comprised of multiple choice, Likert-scale, and open-ended questions. There are two surveys to be completed - one pre-Symposium and one post-Symposium, each consisting of 40 questions, and each taking approximately 10-15 minutes to complete.
- Answer a series of questions, which will be directed at understanding what your knowledge, understanding, and comfortability with the mental health (and closely-related topics) are/is. The type of questions that will be asked will be in the form of, 'How would you describe…' or 'What has…'.) and relate to your mental health knowledge, understanding, and comfort level.

Risks involved in this study are minimal or unlikely to occur. You may experience discomforts from answering sensitive questions during the interview. Additional minimal risks include potential breaches of confidentiality or privacy, although every effort will be made to safeguard your data.

During the survey, you may skip any questions that you do not wish to answer. Your choice to participate or not will have no impact on you. Your participation in the study may be ended if it is learned that you do not meet the inclusion criteria mentioned earlier. Research records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available without your permission. However, it is possible that other people and offices responsible for making sure research is done safely and responsibly will see your information. This includes auditing departments of the University of Nebraska at Omaha and the University of Nebraska Medical Center's Office of Regulatory Affairs (ORA) (a committee that reviews and approves human subject research studies) - study records may be copied and/or inspected for quality assurance and data analysis. These records may contain private information. You are encouraged to ask questions at any time during this study.

For further information *about the study,* contact Dr. Theodore W. Johnson, Ph.D. at 734-330-3131 or theodorejohnson@unomaha.edu. If you have further questions or concerns regarding your rights as a research participant, then please contact the Office of Regulatory Affairs at (402) 658-6463 or IRBORA@unmc.edu.

Appendix C – Pre-Symposium QR Code

Pre-Symposium Survey
SCAN ME!

Principal Investigator (PI): Theodore W. Johnson, Ph.D.
Institution: University of Nebraska at Omaha (UNO)
Project Title: The Mental Health Symposium: An Effective Tool to Improve Collegiate Aviation Students' Knowledge, Understanding, and Comfortability with Mental Health
IRB Number: 0006-25-EX
Activity Statement: This voluntary survey is part of a research project being conducted by the PI that focuses on collegiate aviation students and their mental health.
Purpose Statement:
The purpose of this exploratory research is to understand the impact mental health symposiums have on the knowledge, understanding, and comfortability of collegiate aviation students regarding mental health (and related topics such as emotional well-being). Doing so may inform collegiate aviation program leadership of methods, techniques, and/or resources they can leverage to increase mental health support within their program.

Appendix D – Post-Symposium QR Code

Post-Symposium Survey
SCAN ME!

Principal Investigator (PI): Theodore W. Johnson, Ph.D.
Institution: University of Nebraska at Omaha (UNO)
Project Title: The Mental Health Symposium: An Effective Tool to Improve Collegiate Aviation Students' Knowledge, Understanding, and Comfortability with Mental Health
IRB Number: 0006-25-EX
Activity Statement: This voluntary survey is part of a research project being conducted by the PI that focuses on collegiate aviation students and their mental health.
Purpose Statement:
The purpose of this exploratory research is to understand the impact mental health symposiums have on the knowledge, understanding, and comfortability of collegiate aviation students regarding mental health (and related topics such as emotional well-being). Doing so may inform collegiate aviation program leadership of methods, techniques, and/or resources they can leverage to increase mental health support within their program.

Appendix E – Pre- and Post-Symposium Scores and Variation(s)

Table 5: Pre-symposium survey questions with the highest average scores:

Number	Category	Question	Average
Q30	Comfortability	How comfortable are you listening to others share their mental health challenges or issues?	3.8088
Q32	Comfortability	How comfortable are you learning about mental health resources and coping strategies?	3.5294
Q15	Knowledge/ Understanding	What is your overall level of understanding of mental health as a concept or topical area?	3.4118

Table 6: Pre-symposium survey questions with the lowest average scores:

Number	Category	Question	Average
Q19	Knowledge/ Understanding	How knowledgeable are you regarding mental health initiatives, support, and resources that are available within the aviation/aerospace industry?	2.5147
Q17	Knowledge/ Understanding	How knowledgeable are you regarding mental health initiatives, support, and resources that are available within the UNO AI?	2.5882
Q25	Knowledge/ Understanding	How familiar are you with the resources or support services one can access in the Greater Omaha community and/or on-campus to assist with mental health challenges/issues?	2.7353

Table 7: Pre-symposium survey questions with the most variation:

Number	Category	Question	Std Dev
Q28	Comfortability	How comfortable are you talking about your mental health with close friends or family?	1.1067
Q31	Comfortability	How comfortable are you talking about mental health topics in a group setting?	1.0927
Q35	Comfortability	How comfortable would you be informing someone you trust if you were experiencing mental health challenges?	1.0670

Table 8: Pre-symposium survey questions with the least variation:

Number	Category	Question	Std Dev
Q24	Satisfaction	How satisfied are you with the mental health resources available on-campus?	0.6723
Q15	Knowledge/ Understanding	What is your overall level of understanding of mental health as a concept or topical area?	0.6744
Q27	Knowledge/ Understanding	What is your level of understanding of the common signs of mental health struggles or challenges?	0.7651

Table 9: Post-symposium survey questions with the highest average scores:

Number	Category	Question	Average
Q24_Post	Satisfaction	How satisfied are you with the mental health resources currently available on-campus, based on what you learned?	3.8529
Q16_Post	Knowledge/ Understanding	How would you rate your understanding of on-campus mental health resources and support services after the event?	3.8088
Q15_Post	Knowledge/ Understanding	What is your overall level of understanding of mental health as a concept or topical area?	3.7500

Q21_Post	Knowledge/ Understanding	What is your current understanding of mental health as a concept or topical area now that the event has concluded?	3.7500

Table 10: Post-symposium survey questions with the lowest average scores:

Number	Category	Question	Average
Q20_Post	Confidence	How confident are you now that future aviation/aerospace employers will support mental health initiatives?	3.2059
Q31_Post	Comfortability	How comfortable are you now discussing mental health topics in a group setting?	3.2353
Q29_Post	Comfortability	How comfortable are you now discussing mental health with an education professional (e.g., teacher)?	3.3088

Table 11: Post-symposium survey questions with the most variation:

Number	Category	Question	Std Dev
Q29_Post	Comfortability	How comfortable are you now discussing mental health with an education professional (e.g., teacher)?	1.0686
Q28_Post	Comfortability	How comfortable are you now discussing your mental health with close friends or family?	1.0496
Q31_Post	Comfortability	How comfortable are you now discussing mental health topics in a group setting?	1.0239

Table 12: Post-symposium survey questions with the least variation:

Number	Category	Question	Std Dev
Q22_Post	Knowledge/ Understanding	What is your current understanding of the resources or support services available on-campus to assist with mental health challenges now that the event has concluded?	0.7043
Q15_Post	Knowledge/ Understanding	What is your overall level of understanding of mental health as a concept or topical area?	0.7202
Q21_Post	Knowledge/ Understanding	What is your current understanding of mental health as a concept or topical area now that the event has concluded?	0.7202

Table 13: Pre-and-Post comparison: the questions whose score increased the most:

Number	Category	Question	Increase
Q16_Diff	Knowledge/ Understanding	How would you rate your knowledge level about on-campus resources and support services focused on navigating mental health challenges?	0.9118 (from 2.8971 to 3.8088)
Q22_Diff	Knowledge/ Understanding	What is your level of understanding of the resources or support services one can access on-campus assist with mental health challenges/issues?	0.8676 (from 2.8676 to 3.7353)
Q25_Diff	Knowledge/ Understanding	How familiar are you with the resources or support services one can access in the Greater Omaha community and/or on-campus to assist with mental health challenges/issues?	0.7059 (from 2.7353 to 3.4412)

Table 14: Pre-and-Post comparison: the questions whose score decrease the most/increase the least:

Number	Category	Question	Increase/ Decrease

Q30_Diff	Comfortability	How comfortable are you listening to others share their mental health challenges or issues?	-0.0735 (from 3.8088 to 3.7353)
Q28_Diff	Comfortability	How comfortable are you talking about your mental health with close friends or family?	-0.0147 (from 3.3824 to 3.3676)
Q32_Diff	Comfortability	How comfortable are you learning about mental health resources and coping strategies?	0.1029 (from 3.5294 to 3.6324)