An Aviator Centered Approach to Mental Health: A Preliminary Look at Stressors, Barriers to Care, and Untreated Aviator Mental Health

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ABSTRACT

The purposeful crash of Germanwings 9525 in March 2015 provided a wake-up call to the aviation community on the ramifications of untreated mental health in commercial aviation. While the airline industry and governmental regulating bodies reacted quickly with peer-support networks and attempts to de-stigmatize seeking assistance, few actions or studies have focused on mental health from an aviator's perspective. This presentation explores the possible stressors impacting aviator mental health among three distinct professional categories: commercial aviators, military aviators, and aviators in civilian training programs. After providing an overview of stressors, the discussion transitions into what is known about the psychological barriers to treatment among these differing groups. Finally, the presentation explores the risks to individual and operational safety generated by aviators conducting flight operations with untreated mental health symptoms. Ultimately, this session provides attendees with an understanding of what is currently known in these areas of Aviator-centered mental health and what facets need further quantitative and qualitative research.

Key words: mental health, aviation, stressors, barriers, isolation, fatigue, fear, stigma, presenteeism

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The aircraft assisted suicide-homicide of 150 passengers and crew on Germanwings Flight 9525 brought the issue of aviator mental health into the public eye. Aviation regulatory agencies around the globe, including the U.S. Federal Aviation Administration (FAA) and the European Union Aviation Safety Agency (EASA) implemented new policies and procedures to help tackle mental illness within the commercial aviation community, while requesting pilot unions and airline companies do the same (European Union Aviation Safety Agency, 2022; Federal Aviation Administration, 2015). Yet even after these events, a 2019 study found that 60% of aviators delayed or avoided medical care due to fear of losing their aviation medical certification (Hoffman et al., 2019). Another survey in 2021, six years after Germanwings 9525, found that 56% of pilots had sought unauthorized care rather than utilizing services approved by aviation regulating agencies (Hoffman, 2021). Combined, these studies appear to indicate that pilots want to receive proper mental health care, but they want it from a source and under conditions they feel safe utilizing. This paper provides a brief background on known and perceived stressors and barriers to mental health care in the aviation field and the resulting safety implications, while proposing areas for further research to develop a more aviator-centered approach to mental health.

Aviation Stressors

As one would expect, aviators in training, commercial pilots, and those conducting military operations experience different sources of stress. Yet across these aviation categories, three mental health stressors appear common: Worry and fear, social isolation, and fatigue. Worry and fear present in aviators through fear of the aircraft and financial worries, concerns over medical and annual proficiency recertifications, flight in adverse and challenging environments, and, in the military, possible engagement with a hostile enemy (Acharya et al., 2018; Bor & Hubbard, 2006; Britt et al., 2016, 2018; Cullen et al., 2021; Jacobs et al., 2020). Social isolation is noted based on the issues of atypical schedules, anti-social hours, and time away from home experienced by pilots of all types (Acharya et al., 2018; Bor & Hubbard, 2006; Britt et al., 2016, 2018; Cullen et al., 2021; Jacobs et al., 2020; Mendonca et al., 2019, 2021).

Missing family events, being unable to enjoy typical college social activities, and spending hours alone in the cockpit or weeks and months with only a few other people are common drivers of this stressor. Finally, fatigue presents itself in mental, physical, and emotional aspects (Acharya et al., 2018; Britt et al., 2016, 2018; Cullen et al., 2021; Jacobs et al., 2020; Mendonca et al., 2019, 2021). Regardless of how, or in what combination, one experiences fatigue, it inhibits focus and attention to details needed for flight safety. With these stressors in mind, it is important to understand what barriers aviators face when seeking mental health assistance.

Barriers to Care

Research into barriers that inhibit pilots from seeking medical care have found many psychosocial and logistical factors, the most prevalent being: perceived stigma, mistrust of the system, fear of losing one's career, treatment expense, and a self-reliant pilot personality (Aikins et al., 2020; Britt et al., 2016; Frantell, 2021; Possemato et al., 2018; Wu et al., 2016). Stigma is the most touted barrier with recent studies continuing to confirm a belief among aviators that their peers hold a negative view of those seeking mental health care (Frantell, 2021). Mistrust, in some ways, goes hand in hand with stigma. While some pilots appear to hold a mistrust regarding mental health care in general, others do not believe that regulatory organizations and medical examiners are looking out for the pilots' best interests but, instead, are looking for reasons to medically disqualify them, especially when it comes to mental health (Aikins et al., 2020; Britt et al., 2016; Frantell, 2021; Possemato et al., 2018; Wu et al., 2016).

Losing medical certification based on seeking mental health care carries a perceived risk of losing one's career and livelihood. While the FAA and military describe high rates of recertification, the climate between regulators and aviators fails to overcome the mistrust discussed above (Britt et al., 2016; Frantell, 2021; Possemato et al., 2018; Wu et al., 2016). For those exploring approved mental health services, the expense can become a factor. Commonly required neuropsychological exams are not only expensive on their own, but recertification often requires semi-annual re-examination for many years (Snyder, 2021). Finally, the personality characteristics that make individuals successful aviators, namely a belief in self-reliance and the ability to overcome obstacles, are some of the same characteristics that make them poor

mental health seekers (Aikins et al., 2020; Britt et al., 2016; Possemato et al., 2018; Wu et al., 2016). Due to pilots succumbing to these barriers, many appear to be operating in the commercial, training, and military environment with factors that detract from operational safety.

Safety Implications

Recent studies demonstrate three main areas of safety concern as a result of untreated pilot stress: presenteeism, fatigue, and poor mental health (Johansson & Melin, 2018; Mendonca et al., 2019; Wu et al., 2016). Presenteeism is defined as presenting at work when one is obliged to report out sick (Johansson & Melin, 2018). In Johansson and Melin's (2018) study, 63% of Swedish airline pilots reported occurrences of presenteeism in the last year, with 69% stating they made five or more mistakes on flights directly related to flying when unfit for duty. Fatigue is a major element of presenteeism, with 89% of commercial pilots acknowledging that they reported for duty when already fatigued, and 50% reporting that the fatigue impaired flight operations (Johansson & Melin, 2018; Wu et al., 2016). This included unplanned incidents of pilots falling asleep while flying. In the collegiate training environment, 51% of pilots stated they flew training flights while extremely fatigued, with 78% overlooking mistakes in flight as a result (Mendonca et al., 2019). Exploring general aviator mental health, 36% of airline transport pilots (ATPs) reported up to seven poor mental health days per month, increasing to 44.5% for those 41-50 years of age (Wu et al., 2016). Additionally, 13.6% of ATPs reported symptoms that align with clinical depression, while 4.1% readily admitted having suicidal thoughts within the prior two weeks (Wu et al., 2016). These findings indicate a need to explore a different approach to aid aviators in getting the help they need, along with maintaining a safe aviation environment.

Aviator-Centered Approach

Taking an aviator-centered approach has its roots in the patient-centered, or shared decision-making, approach to healthcare (Bardes, 2012; Spatz & Spertus, 2012). The concept focuses on providing medical advice and care centered on the needs, desires, and limitations of the patient (Bardes, 2012; Mead et al., 2021; Spatz & Spertus, 2012; Turpyn et al., 2015). In the aviation medical setting, this could include providing approved, interactive applications that allow pilots to both quantitatively and

qualitatively determine their suitability to fly. Treatments, if needed to maintain or regain medical qualifications, could focus on therapies that are not only medically proven, but also trusted and desired by the patient. This would include finding delivery methods that fit aviators' scheduling and location needs, such as computer application-based treatment or virtual wellness counseling. Beyond providing the best care for patients, utilizing an aviator-centered approach may assist in building trust and faith, or at least reducing the mistrust, between aviators and the aviation regulator and medical examiners.

The impetus towards an aviator-centered approach focuses on recent studies that indicate the current medical system is missing pilots' mental health issues and needs. A recent survey indicated that 56% of pilots admitted to conducting unauthorized aeromedical behavior (Hoffman, 2021). These behaviors included 45.7% of pilots surveyed seeking informal advice from unauthorized sources for their medical issues (Hoffman, 2021). Another 26.8% readily admitted to misrepresenting their medical conditions on their aviation medical application (Hoffman, 2021). Yet there are indications that pilots want to seek the help they need, but they want it via a method they trust and feel safe using (Daku, 2021; Hoffman, 2021). One recent survey indicated that 74.8% of pilots who previously conducted unauthorized aeromedical behavior would be willing to use an alternative sanctioned intervention if one were available (Hoffman, 2021). In a different study focused on collegiate flight training students, 68% - 69% stated they would be willing to utilize an anonymous mental health hotline if one were available (Daku, 2021). When asked if they would still use this service if names could be identified if the individual were deemed a threat to themselves or others, 43% - 48% still indicated a willingness to use the service (Daku, 2021). These findings indicate that while aviators are hesitant to report their mental health issues, they seem to desire a method for receiving the help they need.

Research Needed

Moving toward an aviator-centered approach to mental health requires new research to quantify the approach's benefits and suitability to the aviation community. These areas include investigating the benefits of self-help and self-evaluation training, along with applications that help pilots determine their suitability to fly. Mindfulness training, through computer-based, virtual, and in-person sessions, has

shown promise among other high-risk populations, but requires research specifically towards aviators (Rice et al., 2018). The military has seen success with free-to-user mental health wellness counseling and support, including through the use of 24-hour hotlines managed by mental health professionals (U.S. Department of Defense, 2022; U.S. Department of Veterans Affairs, 2022). Additionally, the Air Line Pilots Association's (ALPA) Pilot Peer Support program provides non-medically trained peers to assist pilots with mental health concerns (Air Line Pilots Association, 2022). Further research is needed to determine the benefits and suitability of similar programs focused on the greater aviation community.

Cognitive Behavioral Therapy (CBT) has shown promise in reducing mental health symptoms both in general civilian and military aviation settings, even when provided solely by a computer-based application (Strid et al., 2016; Sung et al., 2019). There is evidence that CBT is also well received by those averse to seeking mental health care (Possemato et al., 2018). Studies are needed to determine if CBT could provide an early mediator for pilots experiencing early symptoms of mental health strain. Finally, research is needed to determine if adjusting verbiage on airman medical certification questionnaires regarding counseling for psychiatric conditions, to only include counseling for diagnosed psychiatric conditions, could provide a greater discussion of mental health and wellness between aviators and Aviation Medical Examiners (AMEs).

Conclusion

More than seven years after the tragic events of Germanwings Flight 9525, a majority of aviators still report that they fail to seek care for physical and mental health issues due to fear of losing their medical certification and career. Regulating agencies and the airline industry have strived to destigmatize mental health treatment, yet the psychological barriers to seeking care appear to persist. These barriers present operational safety concerns to pilots, their crewmembers, and the traveling public. Aviators show a willingness to seek help, but only in forms that they trust will not result in the loss of flying privileges. Research into a pilot-centered approach to mental health is needed to determine if aviators would benefit from receiving regulator-approved wellness counseling, self-evaluation training, and self-help mental

well-being training. These approaches may provide pilots with the psychological safety they need to overcome their fear and distrust of seeking the physical and mental health care they need and deserve.

References

Acharya, L., Jin, L., & Collins, W. (2018). College life is stressful today – Emerging stressors and depressive symptoms in college students. *Journal of American College Health, 66*(7), 655-664. https://doi.org/10.1080/07448481.2018.1451869.

Aikins, D. E., Pietrzak, R. H., Geraci, J. C., Benham, T., Morrissey, P., & Southwick, S. M. (2020). Beyond stigma: Understanding the "inclined abstainers" in military behavioral health-care utilization. *Military Psychology*, 419-427.

Air Line Pilots Association. (2022, October 15). *Pilot Peer Support*. Retrieved from Air Line Pilots Association: https://www.alpa.org/resources/pilot-peer-support

Bardes, C. L. (2012). Defining "Patient-Centered Medicine". *The New England Journal of Medicine, 366*(9), 782-783. https://doi.org/10.1056/NEJMp1200070.

Bor, R., & Hubbard, T. (2006). *Aviation mental health psychological implications for air transportation.* Ashgate.

Britt, T. W., Jennings, K. S., Cheung, J. H., Pury, C. S., Zinzow, H. M., Raymond, M. A., & McFadden, A. C. (2016). Determinants of mental health treatment seeking among soldiers who recognize their problem: Implications for high-risk occupations. *Work & Stress, 30*(4), 318–336. https://doi.org/10.1080/02678373.2016.1246490.

Britt, T. W., McGhee, J. S., & Quattlebaum, M. D. (2018). Common mental disorders among US army aviation personnel: Prevalence and return to duty. *Journal of Clinical Psychology*, 1-14.

Cullen, P., Cahill, J., & Gaynor, K. (2021). A qualitative study exploring well-being and the potential impact of work-related stress among commercial airline pilots. *Aviation Psychology and Applied Human Factors, 11*(1), 1-12. https://doi.org/10.1027/2192-0923/a000199.

Daku, S. (2021). Mental Health Survey of UND Students. *UND Aviation Mental Health Summit.* Chicago: https://www.youtube.com/watch?v=zNUA7dL_mgo&list=PLwxMPKSgEvgzXjHmB85x86Ts_IICdbhVK&index=4.

European Union Aviation Safety Agency. (2022, October 10). *EASA's response to the Germanwings Flight 9525 accident*. Retrieved from European Union Aviation Safety Agency: https://www.easa.europa.eu/en/domains/aircrew-and-medical/follow-up-germanwings-flight-9525-accident#0

Frantell, K. (2021). Mental Health Help-Seeking. *UND Aviation Mental Health Summit.* Chicago: https://www.youtube.com/watch?v=zNUA7dL_mgo&list=PLwxMPKSgEvgzXjHmB85x86Ts_IICdbhVK&index=4.

Hoffman, W. (2021). Hiding in plain sight: U.S. aviation healthcare anxiety, aversion and delay. *UND Mental Health Summit.* Chicago: https://www.youtube.com/watch?v=zNUA7dL_mgo&list=PLwxMPKSgEvgzXjHmB85x86Ts_IICdbhVK&index=4.

Hoffman, W., Chervu, N., Geng, X., & Üren, A. (2019). Pilots' healthcare seeking anxiety when experiencing chest pain. *Journal of Occupational and Environmental Medicine, 61*(9), e401–e405. https://doi.org/10.1097/JOM.0000000000001662.

Jacobs, D., Niemczyk, M., Nullmeyer, R., Cooke, N., & Cline, P. (2020). Depression, Anxiety, and Stress in Collegiate Aviators. *Collegiate Aviation Review International, 38*(1), 46-68. http://ojs.library.okstate.edu/osu/index.php/CARI/articl.

Johansson, F., & Melin, M. (2018). Fit for flight? Inappropriate presenteeism among Swedish commercial airline pilots and its threats to flight safety. *The International Journal of Aerospace Psychology*, 84-97.

Mead, K. H., Wang, Y., Cleary, S., Arem, H., & Pratt-Chapman, M. L. (2021). Defining a patient-centered approach to cancer survivorship care: Development of the patient centered survivorship care index. *BMC Health Services Research*, https://doi.org/10.1186/s12913-021-07356-6.

Mendonca, F. A., Keller, J., Levin, E., & Teo, A. (2021). Understanding Fatigue within a Collegiate Aviation Program. *The International Journal of Aerospace Psychology, 31*(3), 181-197. https://doi.org/10.1080/24721840.2020.1865819.

Mendonca, F., Keller, J., & Chientsung, L. (2019). Fatigue identification and management in flight training: An investigation of collegiate aviation pilots. *International Journal of Aviation, Aeronautics, and Aerospace, 6*(5), https://doi.org/10.15394/ijaaa.2019.1365.

Possemato, K., Wray, L. O., Johnson, E., Webster, B., & Beehler, G. P. (2018). Facilitators and barriers to seeking mental health care among primary care veterans with posttraumatic stress disorder. *Journal of Traumatic Stress*, 742-752.

Rice, V. J., Liu, B., & Schroeder, P. J. (2018). Impact of in-person and virtual world mindfulness training on symptoms of Post-Traumatic Stress Disorder and attention deficit disorder and hyperactivity disorder. *Military Medicine, 183*, 413-420.

Snyder, Q. (2021). Aviation Mental Health Summit Overview. *UND Aviation Mental Health Summit.* Chicago: https://www.youtube.com/watch?v=NK0Onz22XGk&list=PLwxMPKSgEvgzXjHmB85x86Ts_IICdbhVK&index=3.

Spatz, E. S., & Spertus, J. A. (2012). Shared Decision Making: A path toward improved patient-centered outcomes. *Circulation: Cardiovascular Quality and Outcomes, 5*(6), e75-e77. https://doi.org/10.1161/CIRCOUTCOMES.112.969717.

Strid, C., Andersson, C., Forsell, Y., Ojehagen, A., & Lundh, L.-G. (2016). Internet-based cognitive behaviour therapy and physical exercise – Effects studied by automated telephone assessment in mental ill-health patients; a randomized controlled trial. *British Journal of Clinical Psychology, 55*, 414-428.

Sung, E., Chang, J. H., Lee, S., & Park, S. H. (2019). The moderating effect of cognitive flexibility in relationships between work stress and psychological symptoms in Korean Air Force pilots. *Military Psychology*, 100-106. https://doi.org/10.1080/08995605.2018.1556083.

Turpyn, C. C., Chaplin, T. M., Cook, E. C., & Martelli, a. A. (2015). A person-centered approach to adolescent emotion regulation: Associations with psychopathology and parenting. *Journal of Experimental Child Psychology*, 1-16. https://doi.org/10.1016/j.jecp.2015.02.009.

U.S. Department of Defense. (2022, October 19). *Specialty Consultations*. Retrieved from Military One Source: https://www.militaryonesource.mil/confidential-help/specialty-consultations/

U.S. Department of Veterans Affairs. (2022, October 19). *Military Crisis Line*. Retrieved from Veterans Crisis Line: https://www.veteranscrisisline.net/get-help-now/military-crisis-line/

U.S. Federal Aviation Administration. (2015). *Pilot Fitness Aviation Rulemaking Committee Report.* U.S. Federal Aviation Administration.

Wu, A. C., Donnelly-McLay, D., Weisskopf, M. G., McNeely, E., & Betancourt, T. S. (2016). Airplane pilot mental health and suicidal. *Environmental Health, 15*(121), https://doi.org/10.1186/s12940-016-0200-6.