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Hidden Dangers on the Flight Deck: A Stakeholder Analysis of the Issues Surrounding Commercial Pilot Mental Health

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ABSTRACT

On October 22, 2023, an off-duty Alaska Airlines pilot who was traveling as a guest in a flight deck jump seat of Alaska Airlines Flight AS2059 from Seattle Paine Field Airport to San Francisco International Airport grabbed the engine shutoff handles mid-flight. The guest pilot was wrestled away by the pilots in command of the aircraft and the aircraft diverted to Portland International Airport. The recent incident relating to airline pilot mental health highlighted the US airline industry's reluctance to address a serious potential aviation safety problem of pilot mental health. During the COVID-19 pandemic mental health issues throughout society were brought into the public spotlight. Olympic athletes made their point in the 2020 Olympics of being vulnerable to mental health issues, meanwhile little was mentioned about the stressful environment of airline pilots' susceptibility to mental health issues. This research was aimed at US commercial pilot mental health from the perspectives of air safety concerns, the Federal Aviation Administration's (FAA) policy and process, the potential failure of pilots voluntarily reporting, the inadequate support for pilots and pilot job security. The research utilized other research related to pilot mental health, aviation accident and incident reports related to pilot mental health and lastly a stakeholder analysis of the primary stakeholder (pilots) in relation to mental health and the role of other major stakeholders. A complex problem emerged on pilot mental health. The stakeholder analysis showed that a solution to the commercial pilot mental health problem would require strong collaboration of the major stakeholders in an environment of transparency and willingness to sincerely address the issues to resolve the problem.

Keywords: Pilot mental health, Commercial aviation, Federal aviation administration regulations

INTRODUCTION

Historically major commercial aircraft accidents where the mental health of the pilot was the cause of the accident seem to be rare. However rare those accidents may seem does not preclude them from highlighting how dangerous a commercial pilot can be in a downward spiralling mental condition. The German Wings Flight 9525 A320 accident in 2015 was such a case where the aircraft crashed in the Swiss Alps as the suicidal pilot not only took his own life but took the lives of 149 other lives with him. This accident caused a flurry of new recommendations from European Union Aviation

Safety Agency (EUASA). In this case the pilot was clearly deemed mentally ill and suicidal by the pilot's doctor and declared unfit for work. The pilot kept this information from his employer and reported for duty. Although disappointing in that there were not substantial changes to helping pilots with mental health issues from the German Wings accident, the accident did start a movement that pilot mental health was an issue to be addressed.

THE GLOBAL COVID-19 PANDEMIC AND PILOT MENTAL HEALTH

In 2019 the global COVID pandemic started to change the outlook on mental health around the world as something that was no longer considered a stigma, but something common that needed to be dealt with more openly as millions of people globally suffered from the mental issues due to the pandemic. While many sectors of society sought help for mental health openly, the airline industry and its pilots seemed to remain quietly going about their business. Despite having many layoffs during the pandemic due to decreased air travel, the industry has bounced back, but have the many stressed out pilots recovered? What is missing from this historical awakening of mental illness by society, is that during this time, pilots were people just as susceptible to mental illness while working in a stressful industry. However, little has been heard from the pilots on mental illness.

IDENTIFYING THE PROBLEM BEHIND PILOT MENTAL HEALTH

Awareness of the potential dangers of pilot mental health in US aviation industry was suddenly heightened on October 22, 2023, when an off-duty Alaska Airlines pilot traveling in a flight deck jump seat of an Alaska Airlines Flight 2059 grabbed the engine shutoff handles mid-flight. The off-duty pilot was wrestled away by the pilots flying the aircraft and the aircraft diverted to Portland International Airport. This recent incident related to airline pilot mental health highlighted a US airline industry that has refused to address pilot mental health as a serious aviation safety problem. No one was injured or killed, and the aircraft was not destroyed, however, aviation safety experts are sounding the alarm that it is time to seriously address the problems of commercial pilot mental health before a serious accident occurs. The incident is currently under investigation by the NTSB.

PILOTS ARE NOT EXEMPT IN TERMS OF MENTAL HEALTH

According to the World Health Organization (WHO) (2022), one in eight people in 2019 around the world live with a mental disorder where they have significant disturbances in thinking, emotional regulation, or behavior. These mental disorders are wide ranging with anxiety and depressive disorders being the most common. It is estimated that 5% of the global adult population suffers from depression. Additionally, an individual could be diagnosed with an adjustment disorder or posttraumatic stress disorder (McCarter, 2008). It is also estimated that 3.94% of the global population suffers from anxiety to include generalized anxiety disorder and panic disorder (Mayo Clinic, 2023). The WHO (2022) estimated that the pandemic

increased the prevalence of anxiety and depression by 25%. Mental health among pilots is statistically worse when compared to the global population. Recent studies before the pandemic in 2016 found that 12.6% of airline pilots were experiencing depression and 4.1% reported having suicidal thoughts (Wu et al., 2016). Wu et al. (2016) also found that 13.6% of pilots surveyed that worked in the last 30 days met the depression threshold. Three years later, findings by Cahill et al. (2019) showed that depression among pilots had increased to 12.8% and suicidal thoughts had increased to 7.9%. The statistics worsen with Venus and grosse Holtforth (2022) study, where 20% of pilots had positive depression or anxiety. The research over the past 10 years indicates that although airline pilots are held in great esteem and the traveling public trusts them with their lives, pilots and their mental health are no different than the rest of society. Meanwhile commercial airline pilots work in a job of considerable stress, are susceptible to fatigue and have constant pressure to perform at a very high professional level.

CHANGE IS MOVING TOWARDS THE AIR IN US MENTAL HEALTH

The winds of change as related to pilot mental health in the US airline industry should reflect the massive change toward affirming the importance of mental health in American society. According to the American Psychiatric Association (2022) close to four out of five (79%) adults say that the state of mental health in the U.S. is a public health emergency. Recently Mental Health America (2023) reported that 8.4% of U.S. adults suffer from major depression and over 21% of U.S. adults suffer from anxiety each year. Sadly, 15% of U.S. youths (ages 12-17) are affected by major depression, which does not bode well for the future commercial pilots that will come from that pool of youth. However, as mental health has been exacerbated in American society, it has also simultaneously garnered attention. As mental health awareness has grown so has the trend towards mental health to change perception. An article published by the American Psychological Association (APA) (2019), indicated that Americans are becoming more open and accepting about mental health issues. A recent APA survey clearly showcased this changing public attitude in that 87% of Americans agreed that having a mental health disorder is nothing to be ashamed of and that many mental health disorders can be resolved (APA, 2019). The trend is also strongly supported by survey results from the Gen Z population which ranked mental health as their greatest concern over physical health (Deloitte, 2022). APA has also reported that over one third of the Gen Z population has received treatment or therapy from a mental health professional. To further the trend in support of the acceptance of mental health issues, celebrities and star athletes have recently spoken out about mental health struggles. As one of the greatest US Olympians ever, Michel Phelps used his appearances at the 2020 Tokyo Olympics as a strong advocate for addressing mental health issues. At the 2020 Olympic games, super-star and four-time gold medal gymnast Simone Biles withdrew from final events due to mental health struggles (Kallingal, 2021). While American culture is clearly acknowledging the perils of mental health and is more willing to embrace mental health issues, why are airline pilots not able to do the same?

AIRLINE PILOT MENTAL HEALTH IN THE US

As much as the body of research studies have revealed an increase in the number of pilots being affected by mental health over the last seven years, it is difficult to pinpoint how many pilots are really affected by mental health. This is because many pilots are not willing to even participate in a survey that could threaten their job. Given the statistics of mental health issues globally among pilots, in the U.S. it could be inferred that close to 21,200 pilots with Airline Transport Pilot (ATP) certifications could be suffering from depression. This statistic was calculated by having close to 166,000 ATP certificated pilots in 2022 (FAA, 2023) and by utilizing the conservative rate of depression (12.6%) occurring among pilots.

RESEARCH METHOD AND ANALYSIS

From studying related literature and research along with the accident and incident reports surrounding the problem of pilot mental health, five major themes emerged in relation to the major stakeholders:

1) Air Safety concerns of pilot mental health
2) The FAA mental health policy and process
3) Voluntary pilot mental health reporting
4) Mental health support for pilots
5) Pilot job security and financial well-being

This study used mixed methodology consisting of a safety accident/incident analysis and content analysis to explore how the major themes of pilot mental health affect the primary pilot stakeholders in relation to the other major industry stakeholders of the FAA, airline companies and pilot's unions.

PILOT MENTAL HEALTH AND SAFETY CONCERNS

Pilot mental health is a complicated issue which is affected by the varying triggers and stresses that can affect an individual pilot. Pilot mental health issues can have a significant effect on aviation safety. Participants from the Cahill et al. (2019) study identified potential negative impacts to pilots in the form of: potential reduction in situational awareness, impaired decision making, inability to focus on the current task, difficulties managing multiple tasks/workloads, task omission, withdrawal of pilot, poor quality communication with fellow pilot, and reduction in quality of error identification along with poor management behaviour. These negative impacts are further intensified by mental illness being one of the main contributing factors poor sleep and fatigue (Dehoff & Cusick, 2018). Over 90% of patients suffering from a major depressive disorder have reported issues with fatigue (Ghanean et al., 2018). Fatigue can affect a person physically, cognitively, impair work performance, and disturb social relationships (Targum & Fava, 2011). The environment in which the professional pilot operates could increase the risk of developing a mental health issue. The professional pilot endures many job and family related stresses. Job related stresses include heavy workload, irregular working hours, and performance checks (Mulder & de Rooy, 2018).

Family stresses include being away from home, family health issues, and lack of support. Pilots are impacted by negative life events such as divorce, financial problems, and loss of work. "Fatigue and poor work-life balance are common sources of psychological distress in airline pilots" (Minoretti & Emanuele, 2023, p. 2). When it comes to issue of mental health and safety, pilots further complicate the issue by masking mental suffering and poorly assessing themselves (Cahill et al., 2019).

AVIATION SAFETY ACCIDENT/INCIDENT ANALYSIS

On March 24, 2015, an Airbus A320 crashed into the French Alps. 160 people died in the crash including six crew members and 144 passengers. According to the BEA accident report, the Germanwings Flight 9525 accident is an example of a pilot who had a history of mental illness intentionally crashing the aircraft. The BEA (2016) report indicated the first officer locked the captain out of the cockpit and flew the plane into the mountains. Based on the pilot's history, at an unidentified point between April 9, 2008 and April 9, 2009, the pilot suffered a severe depressive episode without psychotic symptoms. He was denied a renewal for his Class 1 medical on April 9, 2009, due to depression and took medication to treat it. He was issued a Class 1 medical on July 28, 2009, with a waiver. The waiver restrictions included specific regular medical examinations, annual renewal, and it was invalid if there was a relapse into depression (BEA, 2016). The first officer was flying on a Class 1 medical certificate issued in July 2014 with the waiver attached. The first officer's last operator proficiency check was completed on January 14, 2015, with an above standard performance evaluation. The pilot started to show symptoms of a psychotic depressive episode in December 2014, one month before the operator proficiency check. There is no report, comment, or observation by training instructors that he was exhibiting disqualifying symptoms. The investigation concluded that the crash was caused by the first officer intentionally crashing the aircraft after a reemergence of a psychiatric disorder. The first officer was flying on a medical certificate that contained a waiver due to a severe depressive episode without psychotic symptoms that occurred from August 2008 until July 2009 (BEA, 2016). The key to this tragedy was in 2014 when the first officer started to show symptoms of a psychotic depressive episode again and was prescribed an anti-depressant and sleeping medication in February 2015. The pilot was told by his Medical Doctor not to fly but reported for duty.

JetBlue Flight 191 diverted to Amarillo International Airport on its way to Las Vegas on March 27, 2012, due to the captain suffering from a suspected psychotic disorder, neurological event, or intoxication by medication (CBS, 2012). The captain was locked out of the cockpit by the first officer after he was making strange comments such as 'I can't be held responsible when this plane crashes' (Finlay, 2022). The captain, was charged with interference with a flight crew, but was found not guilty by reason of insanity (Staff writer, 2015). Resulting litigation from the incident contends that JetBlue was aware of possible fitness for duty issues concerning Captain Osbon and kept him

on the flight line (Staff writer, 2015). The Germanwings accident, and JetBlue incident demonstrate some of mental health issues and its impact on air safety. These situations are examples of how mental illness can manifest and impact a flight. Germanwings Flight 9525 characterizes the scenario where there is a history of mental illness in a pilot, but the airline is unaware of its reemergence due to voluntary reporting and privacy laws. JetBlue Flight 191 represents the scenario where the airline is perhaps aware of the mental health concerns but does not take the appropriate action to support the pilot. Both cases related to pilot mental health illustrate poor policy and procedures and why improving aviation safety is a constantly evolving process which requires continued research and understanding of mental health among pilots. No one solution or approach is going to mitigate all flight safety risk.

THE ROLE OF THE FAA IN ADDRESSING PILOT MENTAL HEALTH

The FAA published its report on the comprehensive evaluation of pilots with mental health challenges in July 2023. The FAA (2023) acknowledged mental health is a concern in the aviation community and had two actionable items. The two items included: enhanced Aviation Medical Examiner (AME) training along with assembling and disseminating information on pilot support programs (FAA, 2023). Since the Germanwings accident, the FAA has been keenly aware of the issue of mental health and indicated it wants to help reduce the stigma of mental health among pilots and increase AME training to identify warning signs. The agency is unwilling to require psychological testing (Marsh, 2016). In the FAA's pursuit to destigmatized mental health issues, in 2010, it started to loosen the regulations regarding pilots' use of Selective Serotonin Reuptake Inhibitors (SSRIs) on a case-by-case basis (FAA, 2023a). SSRIs are commonly prescribed to help individuals overcome depression (Mayo Clinic, 2019). The Germanwings accident, triggered the FAA to expend resources to support industry-wide research and clinical studies on pilot mental health (FAA, 2023b). After the Alaskan Airlines incident in October of 2023, in November 2023, the FAA announced the formation of a Pilot Mental Health Aviation Rulemaking Committee (ARC) to recommend changes to regulations regarding pilot mental health.

FAA PILOT MENTAL HEALTH PROCESS; CULTURE OF SECRECY

A Part 121 pilot is required to have medical certification every 6 to 12 months depending on age (FAA, 2019). Question '18m' on the medical certification form 8700-2, clearly asks the airmen if they have or had any mental disorders of any sort (depression, anxiety, etc.) any time in their life. This is an intimating question due to the fact if the pilot checks "yes" it has the potential to send the pilot down the path of a FAA medical special review and special issuance. The FAA's Medical Examiners Guide states on page 171, an adjustment disorder or minor depression may constitute a denial or deferral of the airmen's medical certificate (FAA, 2021). After a deferral or denial, the airmen would be required to apply for a special issuance out of Oklahoma City, Oklahoma. The special issuance process can take a minimum of

four to six months or longer and directly affects the pilots' financial livelihood. With such an ambiguous timeline and processing requirements, one can understand and sympathize why pilots under report or deny having any mental health issues. Since 2010, the FAA has allowed pilots to continue to fly while stable on SSRIs on a case-by case basis through the Human Intervention Motivational Study (HIMS) program (FAA, 2023a).

FAA PILOT MENTAL HEALTH PROCESS; CULTURE OF DIFFICULTY

Currently, a pilot suffering from mental health issues has three options. These options include to not use a medically prescribe SSRI, stop using medically prescribed SSRI, or enter the HIMS program and be recommended for a special issuance medical from the FAA. The history of the HIMS program is rooted in helping commercial pilots get back to flying after having an alcohol or substance abuse addiction (Blue, 2020). AMEs in the FAA HIMS program fully admit that the HIMS program is expensive and cumbersome for pilots with mental health issues. The SSRI initial certification process is six steps that includes face-to-face meetings with a HIMS AME, treating physician, board certified psychiatrist, and FAA neuropsychologists. Each visit to these professionals represents an out-of-pocket expense for a pilot. None of these evaluations are considered medically necessary and thus insurance does not cover the cost. In addition to the visit expense, there is also the travel related expenses for the pilot to attend face-to-face meetings. As of 2022, there were 183 HIMS AMEs in the U.S. with five states having none and there were 127 FAA neuropsychologists in the U.S with ten States having none (FAA, 2022). Once a pilot starts the HIMS process with an AME, it is difficult to transfer to a new HIMS AME. The FAA must approve the transfer.

FAA PILOT MENTAL HEALTH PROCESS; CULTURE OF DISTRUST

The FAA medical certification process is widely seen as punitive relative to pilot mental health and thus there is deep seeded distrust in the U.S. commercial pilot community concerning the FAA medical certification process. An internet search reveals endless pages of articles, blogs, and chatrooms of horror stories of pilots not being able to fly while entangled in government bureaucracy for a mental health issue (Weis, 2023). Medical professionals are expensive, causing pilots to spend thousands of dollars to have the opportunity to get their medical reinstated. It is not uncommon to hear patients state, "they feel like they are being punished" for having a mental health issue. The red tape, expense, and inefficient process project a stigma by the FAA of punishing pilots with mental health issues.

AIRLINE PILOT MENTAL HEALTH VOLUNTARY REPORTING

The FAA relies on voluntary reporting of a pilots' mental health during the medical certification process and voluntary reporting is deemed by the FAA to be a sufficient process to assess the mental health of pilots. In the FAA's 2023 report on mental health, it was stated by the Aviation Rulemaking

Committee, "there is no convincing data to conclude that adding psychological testing to the hiring process or to the routine medical examinations enhance the ability to assess the mental fitness of the pilot workforce" (FAA, 2023a). However, any diagnosis of mental health issues can be career ending for a pilot. An adjustment disorder diagnosis is a relatively benign issue; however, the FAA can still view this as a disqualifying condition. Voluntary Reporting Pilots have no incentive to be honest for fear of discrimination by Airlines. The burden of admitting they have a mental problem is placed on pilots and the FAA and the airlines are often unaware of a pilot's mental issues if not reported. Instead, it could cause the pilot to be dishonest or hide mental health issues. The culture of not reporting and secrecy permeates through the aviation community. Cahill et al. (2019) discovered in a survey that over 80% of the surveyed pilots agreed that there are low levels of speaking out/reporting of mental health issues among pilots. Pilots can avoid being labelled with a diagnosis by paying cash for a counsellor. A diagnosis is not required if a patient is paying out of pocket. If a person wants insurance to help pay for counselling sessions, then a diagnosis is required showing sessions are deemed medically necessary. The fear, secrecy and expense cause some pilots to avoid seeking treatment. A study conducted by Hoffman et al. (2022) included 3765 pilots and indicated 56.1% of pilots reported a history of healthcare avoidance behaviour due to fear of losing their aeromedical certificate. 45.7% of those pilots sought informal medical care and 26.8% of the pilots withheld information on a healthcare questionnaire fearing the loss their aeromedical certificate.

AIRLINE PILOT MENTAL HEALTH AND MENTAL HEALTH SUPPORT

Currently many pilots struggle with a lack of support when dealing with a mental health issue. Pilots have no clear path to receive help and the advice for a mental health problem. The FAA encourages pilots to use a company sponsored Employee Assistance Program (EAP) when they are having a mental health issue. An EAP is a workplace program offered to employees to mitigate risk, address wider mental health issues, and assist employees with personal and work-related problems (Bouzikos et al., 2022). EAPs use interventions that include workplace mediation, facilitation, counselling, and supervisor mentoring. The interaction between an EAP and pilot does not need to be disclosed to the FAA on the medical health form 8700–2 according to the FAA's Medical Examiners Guide (2021). This gives support for pilots, but it also potentially allows pilots to have to live with the stigma and discrimination of mental health by getting company help. Unfortunately, pilots tend to distrust in company sponsored programs because they want their identity and issues left private and the risk of being exposed in an EAP could jeopardize their career. Furthermore, the largest pilot union, ALPA, advises pilots to not utilize company EAPs (ALPA, 2023b). ALPA argues, "EAP is not aviation-savvy, and in the current FAA environment, EAP may unwittingly jeopardize a pilot's medical certificate inappropriately through diagnostic brinksmanship or careless use of terminology" (ALPA, 2023b, paragraph 13). Success of Airline EAPs has been documented. Bouzikos et al. (2022) research showed

EAP intervention significantly reduced the participates psychological distress. Studies have shown that EAPs do help individuals, however it should be cautioned that peer support programs, such as EAPs, are staffed by non-medical volunteers and thus might not be an adequate alternative when professional help is needed (Keegan, 2023). Although it might work great for other airline employees, it is not best suited for pilots who want to remain anonymous. Pilot unions do offer help and guidance of their members and members families on mental health (ALPA, 2023). There are some pilots that do not qualify for membership and thus do not have access to those resources. Another common argument by pilots for not seeking help is the fear of financial repercussions. If a pilot seeks help and is not issued a medical certificate, then he/she is unable to work and could cause financial hardship for the pilot and the pilot's family. One option for pilots to avoid financial loss is to carry additional disability insurance designed for pilots to be used in the instance of loss of a medical certificate. Additional insurance is expensive and not all pilots qualify. This was identified as an issue in the Germanwings crash when the first officer stated he was having difficulty adding an additional insurance policy since he had a waiver attached to his medical certificate (BEA, 2016).

CONCLUSION

The fact that a mental health issue could cause an airline pilot to lose their job and suffer financial repercussions all from losing their medical certificate is a tough place to put a top professional in. This financial burden further reenforces secrecy and mental healthcare avoidance by many airline pilots. The financial repercussions are magnified by the FAA's inefficient bureaucratic policy and process for mental health. The paradox of the pilot mental health problem is that pilots fear being unable to work and lose their income due to a mental problem, but when they do work with a mental problem it could potentially jeopardize flight safety. Airline pilots are big part of the heart and soul of the commercial airline industry and when it comes to their mental health the current system is failing them. If not dealt with promptly that failing system could endanger the traveling public. The stakeholder analysis on pilot mental health points to the primary stakeholder (pilot) being trapped in a complicated web of pilot mental health related problems of the pilot mental health FAA policy and process, a broken system of voluntary pilot mental health reporting and a weak support system for pilots to deal with mental health issues. To rescue the pilots of the future and create a safe flight environment to deal with pilot mental health issues, it is time for the commercial aviation industry to first recognize the magnitude and complexity of the pilot mental health problem. Then fix the current FAA pilot mental health policy and process, make pilot voluntary reporting a mental health issue safe and easy and have all stakeholders (FAA, Airline Companies, Pilot Unions) strongly support pilots with mental health issues. Society is accommodating mental health; it is now time for the US aviation industry to do the same before society becomes a victim of a pilot with mental health issue having a bad day on the flight deck.

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