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# THE IMPACT OF THE COVID 19 PANDEMIC ON AVIATION WORKERS AND THE AVIATION SYSTEM

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This paper presents the findings of an anonymous web-based survey addressing the impact of the COVID 19 pandemic on aviation workers and the aviation system. The analysis indicates that aviation workers are experiencing high level of depression and anxiety. Coping mechanisms are being used by many aviation workers. Considerable barriers still remain in relation to reporting mental health (MH) issues at work. Overall, the response from organisations in terms of helping employees cope with the stress arising from the COVID 19 pandemic and changes to wellbeing is weak. The vast majority of aviation workers indicate that wellbeing is not a priority for their organisation. Wellbeing supports are required for aviation workers who are currently working and those who have lost their jobs. The introduction of tools at individual and organisational levels to support fitness for work assessment and wellbeing monitoring/support would benefit aviation workers and flight safety.

## Introduction

Work is part of our wellbeing and a key driver of a person's health. Worker wellness and mental health is hugely important in safety critical systems such as aviation. Aviation workers need to be fit for duty and aware of risk that compromises their health/wellbeing. Work has the potential to negatively impact on mental health particularly in the form of stress. The World Health Organisation have proposed a model of the healthy workplace in which both physical and psychosocial risks are managed. ISO 45003 will be published in early 2021 and will address worker psychological health.

Prior to the COVID pandemic, there was ample evidence of wellbeing and mental health (MH) issues amongst pilots. For example, studies at Harvard (Wu et al, 2016) and Trinity College Dublin reporting on prevalence of depression (Cullen et al, 2017, Cahill et al, 2021). However, there has been little attention to assessing and supporting wellbeing and mental health for other aviation workers.

The pandemic has put increased stress on aviation workers and the aviation industry. The industry has experienced a decrease in capacity. Many workers working on reduced salary,

furloughed or lost their jobs. This has had a detrimental impact on their sense of purpose and financial security. Those who are still working are working in very different environments with additional stressors.

People vary in relation to their ability to cope successfully with stress (including WRS). The practice of healthy behaviours strengthens the person's resistance to stress. The substitution of maladaptive coping with more adaptive coping is an important component of therapeutic interventions for work related stress (WRS) Common stress coping strategies include exercise, the practice of relaxation techniques and seeking social support and/or social participation. It is likely that some aviation workers may develop psychological issues during the period of being off work. Social isolation and confinement may lead some people to develop maladaptive coping strategies. If off work, some of the occupational barriers to maladaptive coping are not there (i.e. intoxicant testing by employer). Further, access to social support - a key enabler of adaptive coping - is less available. Currently, support from within a person's social network, peer support group and/or support groups within the community is limited and accessible online (i.e. non in person). As such, the current Covid-19 pandemic poses a huge occupational health and safety threat. The Flight Safety Foundation has identified three operational scenarios to be managed during the COVID-19 crisis and beyond. This includes (1) being at work during the COVID outbreak, (2) being off work and (3) returning to work (Nelson et al, 2020). Prior research by the authors had identified the requirements for digital tools to support self care and fitness for work assessment for pilots, and other aviation workers (Cahill et al, 2020).

### **Methodology**

The objective of the survey was to address the impact of the COVID 19 pandemic on (1) job and employment, (2) wellbeing and morale, (3) performance and safety behaviour, and (4) safety oversight. The survey also investigated reporting culture, coping strategies, fitness to work assessment, and the supports provided by aviation companies to workers during the pandemic.

The was a cross-sectional descriptive study. An anonymous web-based questionnaire was developed which elicits feedback pertaining to the topics indicated above. The survey incorporated several standardised instruments to measure levels of common mental health issues. These are these Patient Health Questionnaire -9 (PHQ-9) (Kroenke, Spitzer & Williams, 2001), and the GAD 7 (Spitzer, Kroenke, Williams & Löwe, 2006). Ethics approval was granted by the School of Psychology, Trinity College Dublin (TCD). The survey was administered over three weeks in July and August 2020. Using social media channels, respondents were invited to participate in an anonymous online survey at a time of their choice. Advertising information informed participants that the survey elicits information of a sensitive nature and included a weblink to the survey. Prior to answering survey questions, respondents received background information about the study and completed the electronic consent. Following this, respondents completed questions across the seven survey sections. The survey concluded with a debriefing which included contacts information for relevant support groups. The survey was powered by Qualtrics and did not collect any identifying information about the person. It was assumed that each participant was an aviation worker and only completed one survey. Descriptive statistics were used to describe the respondents and their responses on various survey items. We evaluated depressive symptoms via the Patient Health Questionnaire (PHQ-9) depression module, and anxiety symptoms via the GAD 7. Tests for statistically significant group differences were undertaken.

## Results

### Summary of Respondents

The survey was completed by **2,050** aviation workers. **2,050** respondents participated in the survey, with **1,523** completing it fully (74 % rate). The respondent breakdown was as follows: 38% Pilots (729), 19% Cabin Crew (376), 11% Air Traffic Control (210), 8% Maintenance/Engineering (152), with the remaining 29% spanning other aviation workers. 1796 respondents completed the PHQ-9 (87.9%), while 1796 also completed the GAD 7 (87.9%). Overall, the respondents can be described as male (70% - 1361) and working full time (86% - 1643). The respondents can be split into the following age brackets; <25 (5% - 94), 25-35 (28%- 552), 36-45 (30% - 584), 46-55 (23%- 458) and 56-65 (12% - 242). Respondents had worked in aviation related roles for the following lengths of time; <2 years (3% - 67), 2-5 years (15% - 297), 6-10 years (18.5% - 361), 11-15 years (14% - 268), 16-20 years (12% - 227), 21-25 years (12%- 244), 26-30 years (8%- 152) and >30 years (17% - 339).

### Impact on Wellbeing

77% (1,383) of respondents rated their physical health as good/very good, while approximately 56% (1,005) rated their mental health as good/very good. The majority of participants perceived their MH as worsening since COVID (63% strongly agree or agree that MH had worsened since COVID). As indicated in Figure 1 below, Cabin Crew appear to be the group whose self reported MH is most negatively impacted by COVID.

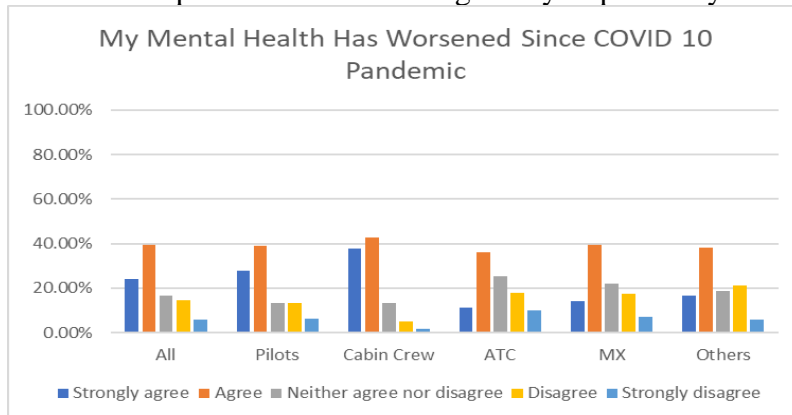
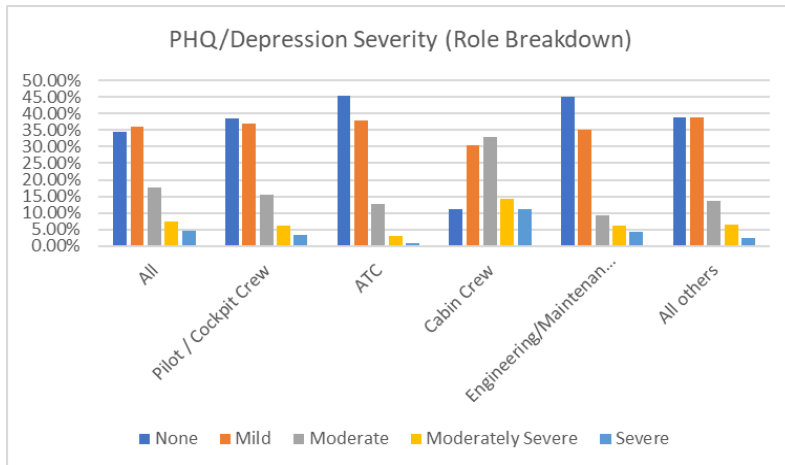


Figure 1: Impact of COVID on Mental Health

34.5% (619) of all aviation workers reported none or minimal depression. A high number met the threshold for mild depression (36%, 647), moderate depression (17.7%, 317), moderately severe depression (7.4%, 134), and severe depression (4.5%, 80). Cabin Crew appear to be most affected. Only 11% (39) Cabin Crew reported no depression symptoms.

Figure 2: Levels of Depression (Role Breakdown)



11.69% (all workers) indicate suicidal ideation, with the breakdown as follows: 10% pilots (68), 20% Cabin Crew (71), 7% ATC (15), 15% Engineering/Maintenance (21), 9% all others (35).

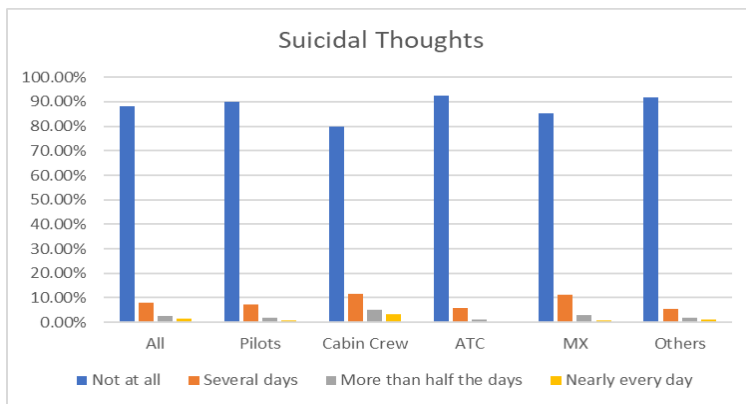


Figure 3: Suicidal Thoughts (Role Breakdown)

Overall, aviation workers reported high levels of anxiety, with 36% (646) meeting the threshold for mild anxiety, 12.8% (230) moderate anxiety, and 11.3% (203), severe anxiety. Cabin Crew are most affected, with only 13% (45) reporting feeling no anxiety.

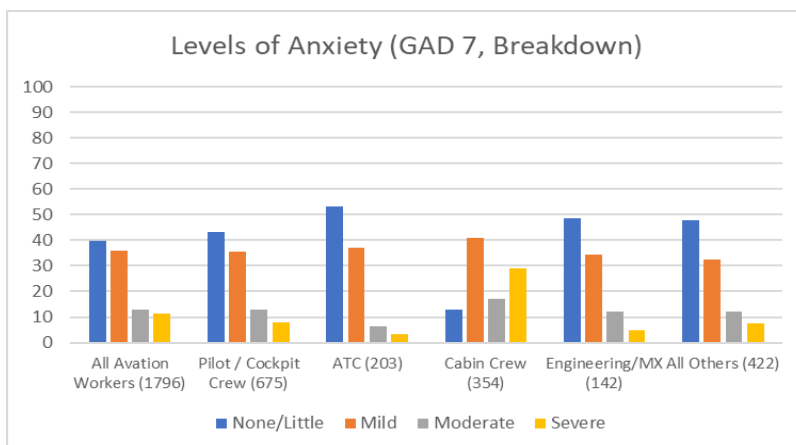


Figure 4: Levels of Anxiety

47.16% (847) indicate that over several days in the last 2 weeks they have felt down, depressed, or hopeless. 29.68% (533) indicate that over several days in the last 2 weeks they have felt bad about yourself, that you are a failure or have let yourself or your family down. 57% strongly agree or agree that wellbeing of family has been negatively affected by changes in their work situation.

### **Impact on Employment & Job Security**

50.95 % (485) of respondents have lost jobs, with 41.41% (200) indicating that this is permanent. Of the 50.95% who have lost jobs, 81.37% (393) not secured another job. 95.07% (444) of those still employed working reduced salary and 93.36% (436) working reduced hours. Of those whose job loss is permanent, 88.94% (370) intend to return to work after pandemic, while 65.84% (239) are actively seeking reemployment within aviation. 56.70% obtaining financial support from government or another agency. Large number (68%) worrying about meeting financial obligations. Only 20% confident about future employment within aviation. A small number of aviation workers (22%) feel that the future of their company looks bright.

### **Impact on Performance & Flight Safety**

69% of aviation workers either agree or strongly agree that changes in morale are negatively impacting on aviation worker engagement. 47% indicate that job motivation has either deteriorated or greatly deteriorated since the COVID 19 Pandemic. Overall, the majority (86%) feel they will be fit to return to work, post the COVID-19 pandemic. 63.44% indicate no change in competence and ability to do the job safely and to the required standard now, as compared to before the COVID-19 pandemic, while 25% of respondents feel their competence to do their job safely has deteriorated. 53.35% indicate that there has been no change to company safety practices since COVID 19, while 14% agree that safety practice has greatly improved or improved. 56.63% indicate no change to company safety oversight, since COVID 19 pandemic, while 59.29% indicate no change to safety oversight from the regulator.

### **Coping & Seeking Help**

58.27% of respondents indicated that they are using coping strategies/self-care to deal with work related stress (WRS) and wellbeing challenges since COVID. 86% feel they will be fit to return to work, post the COVID-19 pandemic. Overall, survey feedback indicates a strong willingness to seek help if had MH issue (68%), to use org supports if provided (60.14%), and to approach peer support service if provided (68.92%).

### **Attitudes to MH and talking about MH**

Discussion of MH amongst colleagues is low – 33.86% indicated less than once per month, while 31.48% indicated never. 46.32% had previously talked to somebody (other than an employer or colleague) about a mental health issue they are experiencing/have experienced. 67% of respondents either agreed or strongly agreed that there are low levels of speaking out/reporting MH problems amongst colleagues. 78% indicate a lack of willingness to disclose MH issues to employer. Aviation workers are more likely to disclose to spouse (23%) or medical professional (22%) – low figures for Peer Support Service (2.55%) and EAP (1.52%). 59% answered trust in employer has either deteriorated or deteriorated since COVID 19 Pandemic.

### **Company Supports & Wellbeing Culture**

23% indicate that their companies are providing supports for employees to manage wellbeing issues since COVID, but the use of these supports is very low (24.27%).

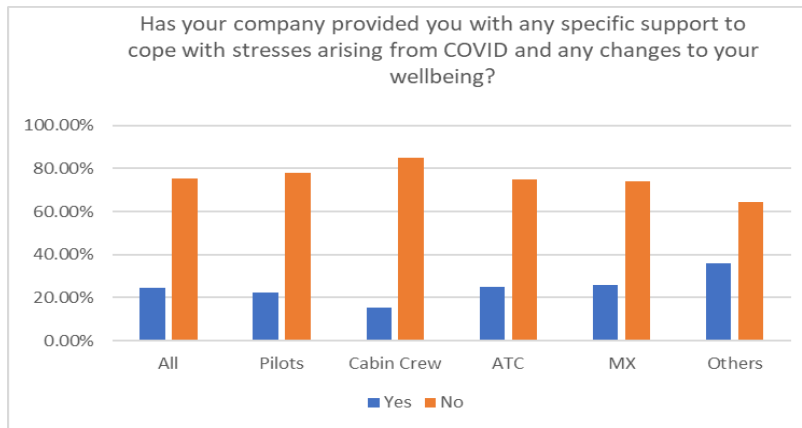


Figure 5: Company Support

A small number of respondents (24.27%) had used existing supports provided by their company to cope with the stresses arising from COVID and any changes to their wellbeing. Only 19.83% had accessed supports outside the company. A very low number of participants (19.83%) agreed or strongly agreed that their company care for employee wellbeing. 80% feel that wellbeing is not a priority for their organisations. Low number reporting supporting and maintaining positive mental health for aviation 'Safety-Critical Workers' during the COVID-19 pandemic is a priority for their company (32% strongly agree or agree). Many companies providing peers support service (69.62% aware of service in company). Almost zero access to Peer Support Programmes provided to Maintenance Engineers.

#### **COVID Experience & Impact on Work**

40% report positive impact in terms of productivity. Nearly half suggest resulted in increase in workload (47%). Just under half indicate that remote work makes it harder to achieve a work life balance (46%).

#### **Requirements for Wellbeing Supports**

94% indicate need for wellbeing supports for those currently in work, while 92% indicate that these are required for those off work.

#### **Requirements for Fitness to Work Evaluation**

61% (1003 aviation workers) indicate need for fitness to work evaluation for all people returning to work. 64% (1060 aviation workers) indicate need for fitness for work assessment for safety critical workers returning to work.

### **Discussion & Conclusion**

In terms of prior studies – which focus on Pilots – survey feedback indicates an increase in depression prevalence. A higher number is meeting threshold for moderate depression as compared with the findings of an equivalent survey in 2018/2019 (Cahill et al, 2019, 2021), and the 2016 Harvard survey (Wu et al, 2016). There is a notable increase in numbers at the higher end of scale. That is a small number with significant levels of depression (this applies to Pilots and other aviation workers).

Those people who have lost their jobs and/or are experiencing mental health difficulties require immediate support. The roles and responsibilities of different stakeholders in relation to managing wellbeing require rethinking and clarification. Aviation organisations need to rethink their objectives and approach to providing wellbeing supports for those currently in and off

work. Organisations and workers need to manage specific sources of stress and anxiety – arising from the job and the specific impact of COVID 19 on aviation workers. Aviation workers are practising self-care – this should be encouraged. A preventative approach is required to ensure that all aviation workers are fit for duty when they return to work. Potentially, the existing supports provided to aviation workers are not fit for purpose. New tools to support wellbeing management on the part of pilots and other aviation workers have been proposed and might be considered (Cahill et al, 2020). There is a real need for aviation organisations to actively promote and enable a wellbeing culture – supporting healthy behaviour, promoting awareness of mental health and enabling workers to talk about their mental health. The regulator needs to address the timeline for new regulation in relation to the management of wellbeing and mental health for safety critical workers. The results of this study should be interpreted with potential limitations in mind. Next steps will involve detailed analysis of survey data. Participatory co-design activities will also be undertaken with different stakeholders to address wellbeing interventions at different levels.

### Acknowledgements

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