White Paper: Impact of COVID 19 Pandemic on Aviation Workers & The Aviation System

In August 2020, researchers from the **Lived Experience & Wellbeing Project at Trinity College Dublin (TCD) Ireland**, investigated the **impact of the COVID 19 pandemic on aviation workers and the aviation system**. This white paper presents the findings of this research.

For further information about this research, please sees:

White Paper Status	Preliminary Findings – Version 1 (more to come)
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Web	https://www.tcd.ie/cihs/projects/pilot-lived.php
Linkedin	https://www.linkedin.com/company/69381076
Instagram	https://www.instagram.com/wellbeing.livedexperience/

Lived Experience
Wellbeing Project
BIOLOGICAL - PSYCHOLOGICAL - SOCIAL

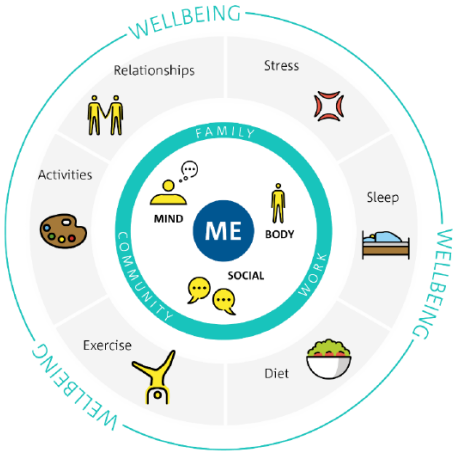
Contents

Background to Survey

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 all risks that compromise their health and wellbeing. Work has the potential to negatively impact on mental health particularly in the form of stress.

The COVID 19 Pandemic has had impacts for people, communities, workplaces, and societies. The COVID-19 pandemic has put increased stress on aviation workers and the aviation industry. The industry has experienced a decrease in capacity. Many workers are working on reduced salary, furloughed, or have 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 work-related stress). **The practice of healthy behaviours strengthens a person's resistance to stress.** The substitution of maladaptive coping with more adaptive coping strategies is an important component of therapeutic interventions for work-related stress. Common adaptive stress coping strategies include exercise, the practice of relaxation techniques and seeking social support and/or social participation.



Peer support programmes have been implemented by airlines for pilots. However, they are less commonplace for other aviation workers including maintenance and cabin crew.

It is likely that some aviation workers may experience significant challenges 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, the enablers of adaptive coping (i.e., support from

social network, access to peer support and access to support groups within the community) are not there.

As such, the current COVID-19 pandemic poses a huge occupational health and safety risk. 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-19 outbreak, (2) being off work and (3) returning to work.

Objectives, Methodology & Research Questions

About Survey

Researchers at Trinity College Dublin, Ireland conducted an **anonymous online survey**, 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.

Method

- **Anonymous online questionnaire, using Qualtrics.**
- Targeted at **ALL aviation workers**.
- Incorporates validated instruments predicting presence of **depression** (PHQ 9) & **anxiety** (GAD 7).
- **Involvement of stakeholders** in survey design
- **Ethics (including GDPR) approval**, REC, School of Psychology, Trinity College Dublin, Ireland
- Administered over **3 weeks** (July/August 2020)

Topics, Research Questions & Measures

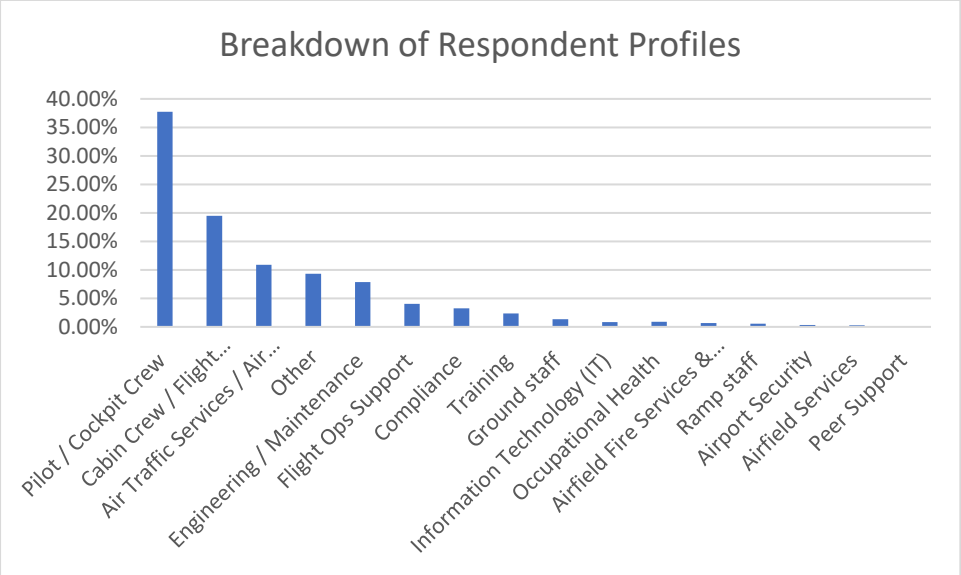
#	Topic	Research Question	Measures
1	**COVID 19 Pandemic and impact on wellbeing**	What is the impact on aviation worker wellbeing and mental health?	• Rating of wellbeing - physical • Rating of wellbeing – psychological and emotional • Rating of impact of COVID on mental health • Impact on mental health – depression (PHQ 9) • Impact on mental health - anxiety (GAD 7)
2	**COVID 19 Pandemic and impact on job and employment**	What is the impact in terms of job/employment?	• Financial wellbeing • Job loss • Employment terms (reduced salary/hours) • Perception of job security • Confidence in future for company
3	**COVID 19 Pandemic and impact on performance and safety (individual level) and safety oversight**	What is the impact on (1) performance and (2) flight safety?	• Perception of fitness to do the job. • Impact on engagement • Impact on safety behaviours/procedures • Rating of change in relation to company safety practices since COVID • Rating of change in relation to regulator safety oversight since COVID

	(organisational level)		
4	**COVID 19 Pandemic and self-care/seeking help**	Are aviation workers coping? Demonstrating healthy behaviours? Seeking help, if needed?	• Use of coping strategies (self-management)? • Willingness to seek support/help if needed? • Willingness to use organisational supports if provided? • Existing use of organisational supports – if provided? • Use of supports/services outside organisation
5	**Attitudes to MH & disclosure**	Attitudes to MH and talking about MH? Willingness to disclose MH issues to others & employer.	• Talking about MH • Attitudes to disclosing MH issues. • Willingness to disclose to others. • Willingness to disclose to employer
6	**COVID 19 Pandemic, requirements for support and organisational wellbeing culture**	Is wellbeing a priority for organisations? Are existing organisational supports fit for purpose? Willingness to disclose MH issues to employer.	• Perception of whether wellbeing is a priority for worker's organisation. • Provision of peer support • Are organisations providing wellbeing supports – since COVID? • Are existing supports being used by aviation workers? • Willingness to disclose MH issue to employer
7	**COVID 19 Pandemic, remote work, impact, and change**	What has the experience of remote work been like for aviation workers? How has it impacted their work and home/work interface?	• Perception of impact on productivity • Perception of impact on workload • Perception of impact on work efficiency • Perception of impact on teamwork • Perception of impact on home/work interface
8	**COVID 19 Pandemic and need for supports**	Do aviation workers in safety critical roles need support in relation to maintaining their wellbeing during pandemic (1) currently working, (2) currently not working	• Perception of need for supports for workers currently in work. • Perception of need for supports for workers currently off work
9	**COVID 19 Pandemic, return to work and**	Do aviation workers need require some form of fitness to work	• Requirements for all • Requirements for safety critical workers

	requirements for aeromedical assessment	assessment on returning to work	

Executive Summary

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).

The key findings are as follows:

1.	**Impact on Wellbeing**
	• 77% (1,383) of respondents rated their physical health as good/very good. • 56% (1,005) rated their mental health as good/very good. • Most participants perceived the MH as worsening since COVID (68% i.e., 1,225 pilots strongly agree or agree that MH had worsened since COVID). • 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. • Higher number meeting threshold for moderate depression (17.7%), moderately severe depression (7.4%), and severe depression (4.5%) – these numbers are higher than our survey in 2018/2019 and the 2016 Harvard survey. • 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).

	• 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. • 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.
2.	**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 (78%) agree or strongly agree that the future of their company looks bright.
3.	**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. • 59.29% indicate no change to safety oversight from the regulator.
4.	**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. • 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%).

5	**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.
6	**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%). • 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.
7	**COVID Experience, Remote Work & Impact**
	• 40% of respondents indicated that the remote working arrangements have had a positive impact in terms of productivity. • Nearly half suggest that remote working arrangements have resulted in an increase in workload (47%). • Just under half indicate that remote work makes it harder to achieve a work life balance (46%).
8	**Requirements for Wellbeing Supports**
	• 94% indicate need for wellbeing supports for those currently in work. • 92% indicate that wellbeing supports are required for those off work.
9	**Requirements for Fitness to Work Evaluation**
	• 61% indicate need for fitness to work evaluation for all people returning to work. • 64% indicate need for fitness for work assessment for safety critical workers

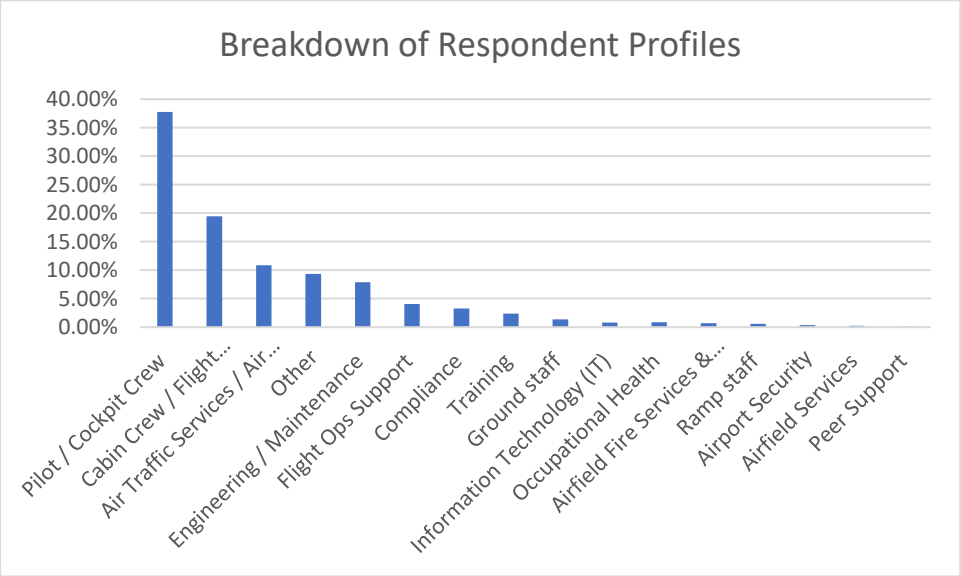
Survey Response & Respondent Profiles

Response Summary

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.

Respondent Profiles

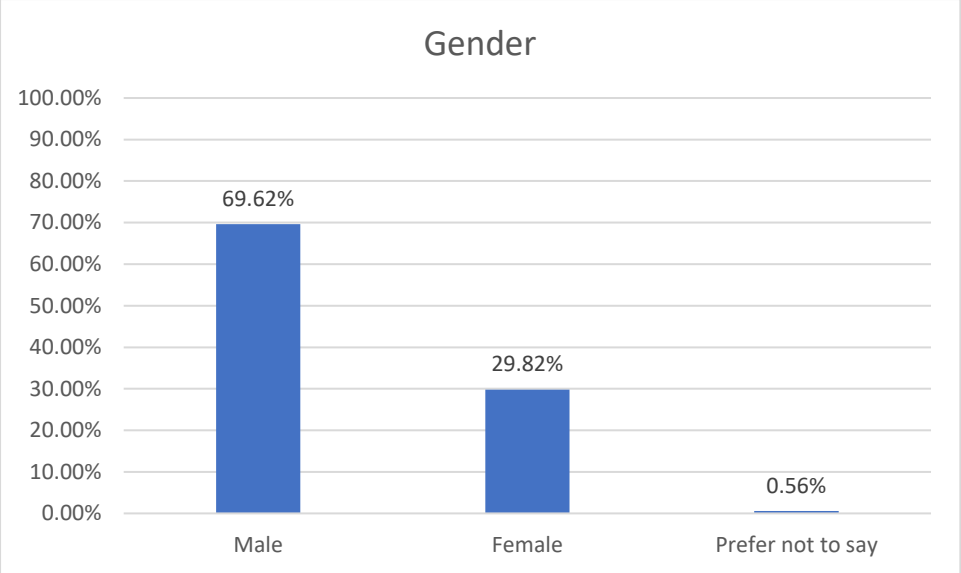
Role/area aviation work in	The respondent breakdown was as follows: 38% Pilots (729), 19% Cabin Crew (376), 11% Air Traffic Control (210), 8% Maintenance/Engineering (152), with the remaining 29% spanning other aviation workers.



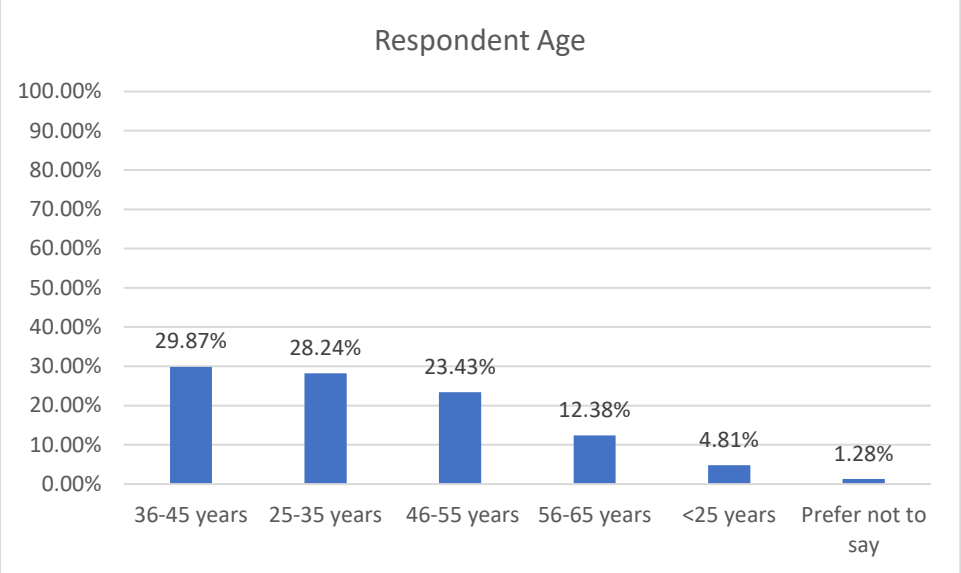
Pilot / Cockpit Crew	37.75%
Cabin Crew / Flight Attendant	19.47%
Air Traffic Services / Air Traffic Control	10.88%
Other	9.32%
Engineering / Maintenance	7.87%
Flight Ops Support	4.04%
Compliance	3.26%
Training	2.38%
Ground staff	1.35%
Information Technology (IT)	0.83%
Occupational Health	0.88%
Airfield Fire Services & Paramedics	0.67%
Ramp staff	0.57%
Airport Security	0.36%

Airfield Services	0.26%
Peer Support	0.10%

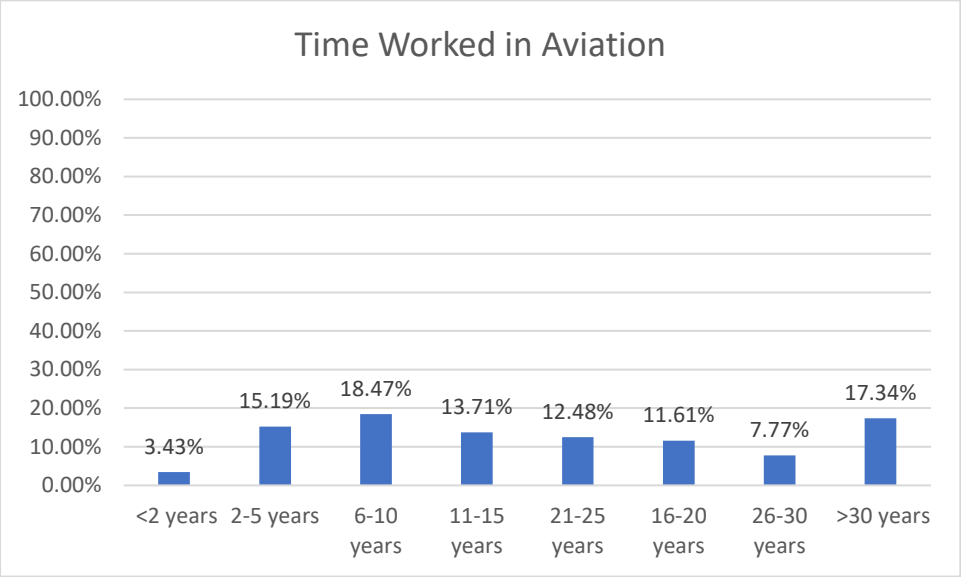
Gender	69.62% (male), 29.82% (female), 0.56% (prefer not to say)



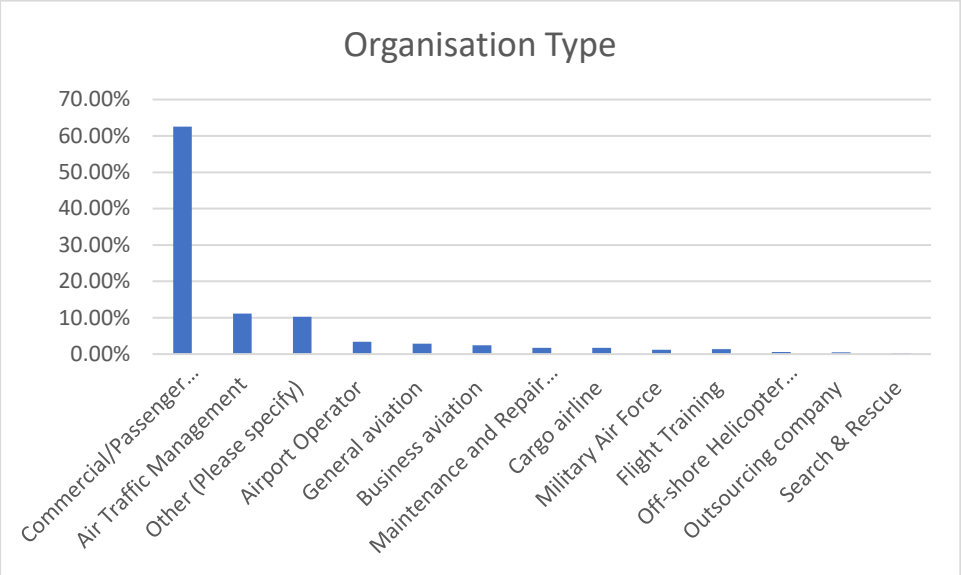
Age:	<25 (5% - 94), 25-35 (28%- 552), 36-45 (30% - 584), 46-55 (23%- 458) and 56-65 (12% - 242)



Time worked in aviation	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).

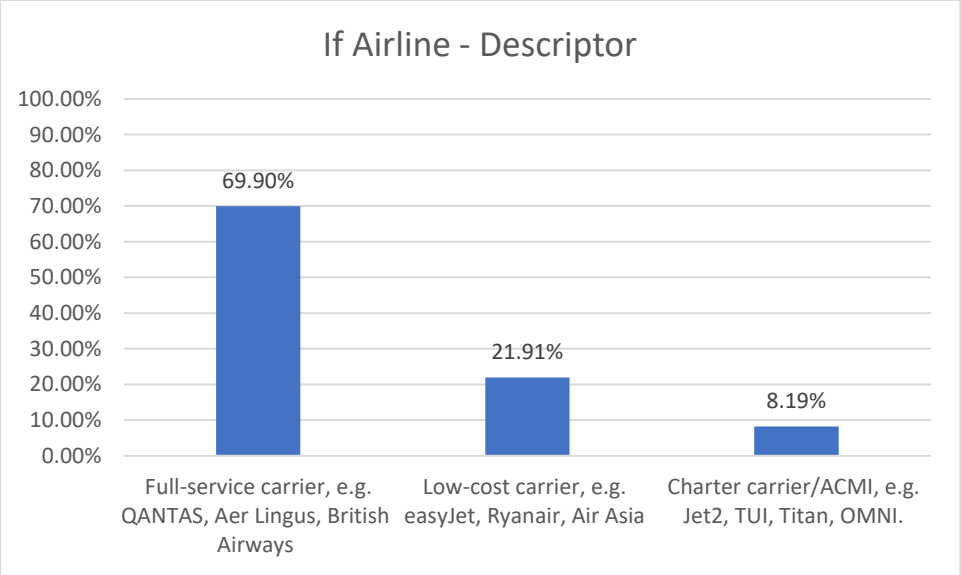


Breakdown of organisation types	

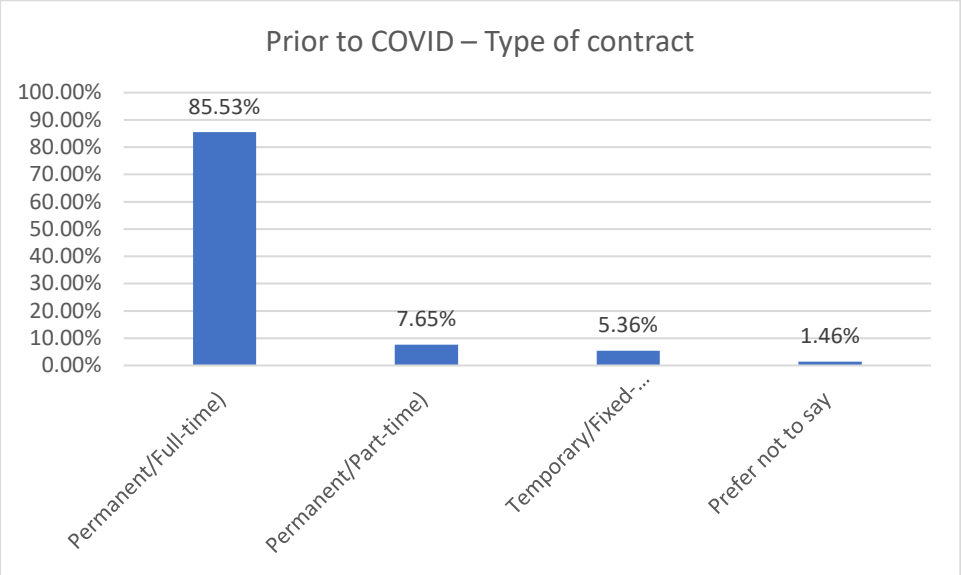


Commercial/Passenger airline	62.56%
Air Traffic Management	11.10%
Other (Please specify)	10.28%
Airport Operator	3.43%
General aviation	2.86%
Business aviation	2.46%
Maintenance and Repair Organisation (MRO)	1.74%
Cargo airline	1.74%
Military Air Force	1.23%
Flight Training	1.33%
Off-shore Helicopter Operation	0.56%
Outsourcing company	0.46%
Search & Rescue	0.26%

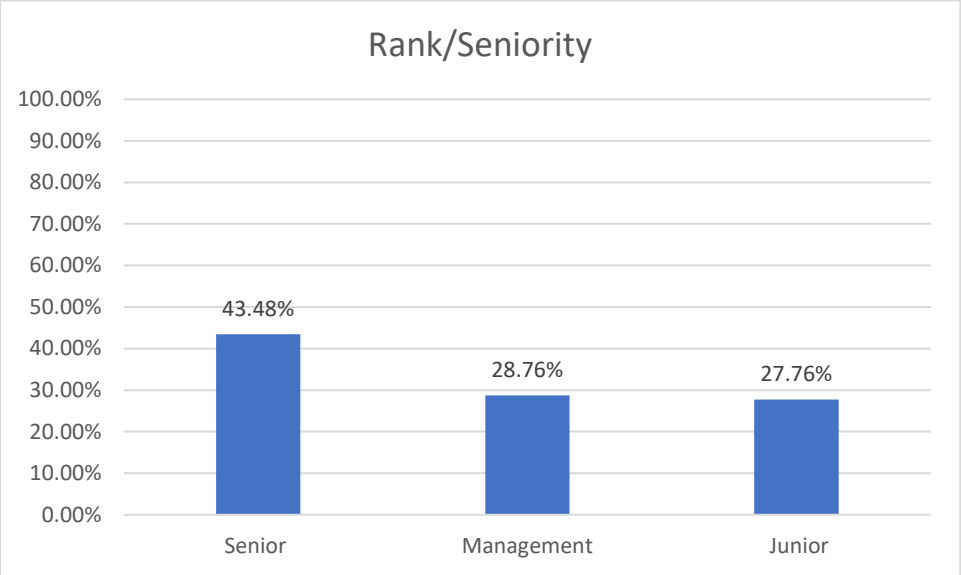
If airline – descriptor	Full-service carrier, e.g., QANTAS, Aer Lingus, British Airways (69.90%), Low-cost carrier, e.g., easyJet, Ryanair, Air Asia (21.91%), Charter carrier/ACMI, e.g., Jet2, TUI, Titan, OMNI. (8.19%)



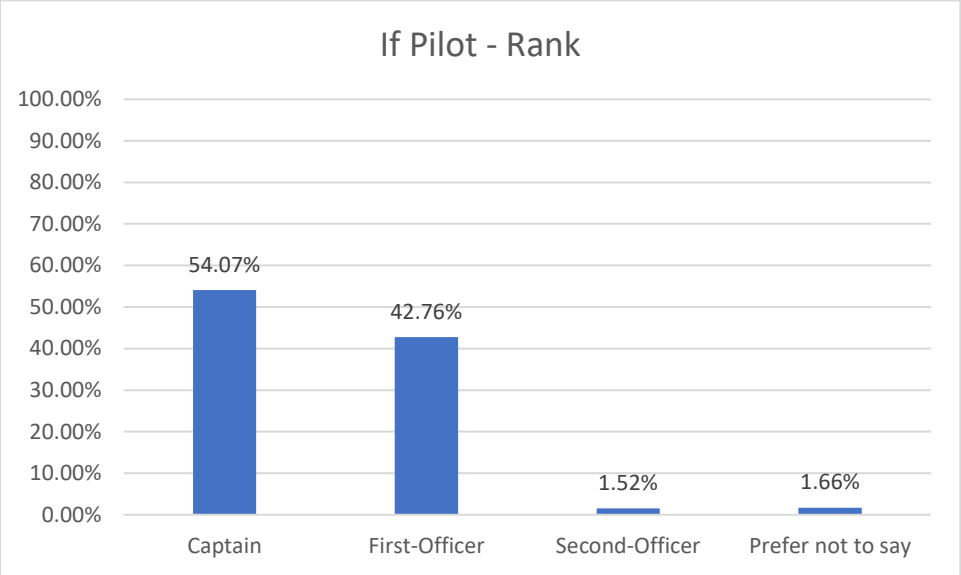
Prior to COVID – type of contract	85.53% (Permanent/Full-time), 7.65% (Permanent/Part-time), 5.36% (Temporary/Fixed term/Contractor) & 1.46% (Prefer not to say)



Rank/seniority	Senior (43.48%), Management (28.76%), Junior (27.76%)



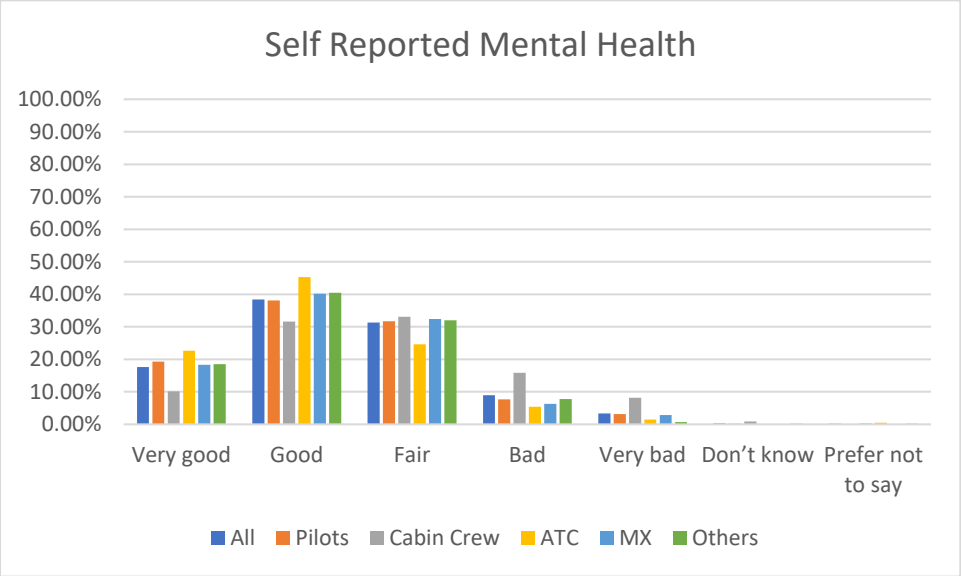
If Pilot – rank	Captain (54.07%), First-Officer (42.76%), Second Officer (1.52%), Prefer not to say (1.66%)



Detailed Findings/Research Questions

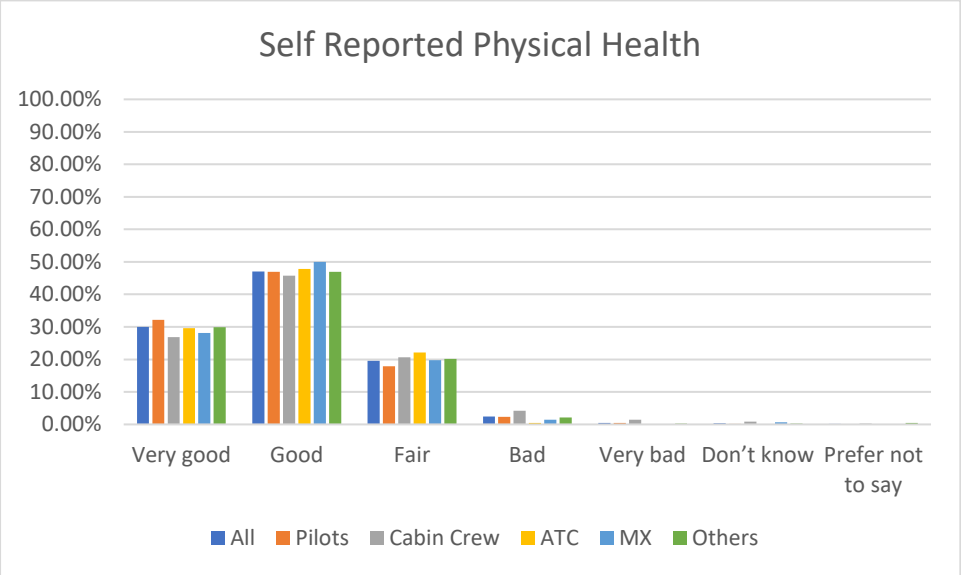
Research Q 1: What is the impact on aviation worker wellbeing and mental health?

Self-Reported Mental Health	56% (1,005) rated their mental health as good/very good.



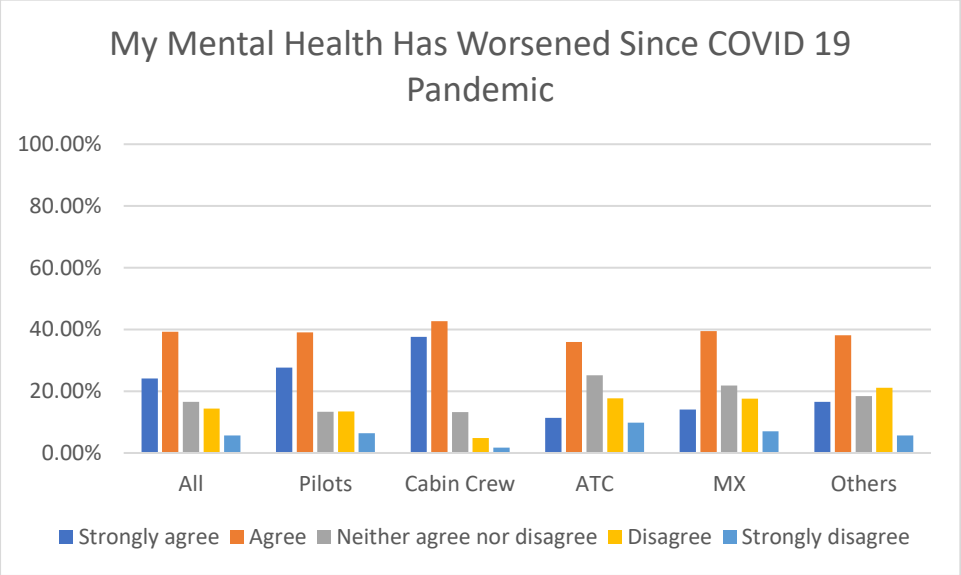
	All	Pilots	Cabin Crew	ATC	MX	Others
Very good	17.59%	19.26%	10.17%	22.66%	18.31%	18.48%
Good	38.36%	38.07%	31.64%	45.32%	40.14%	40.52%
Fair	31.29%	31.70%	33.05%	24.63%	32.39%	31.99%
Bad	8.96%	7.70%	15.82%	5.42%	6.34%	7.82%
Very bad	3.34%	3.11%	8.19%	1.48%	2.82%	0.71%
Do not know	0.28%	0.15%	0.85%	0.00%	0.00%	0.24%
Prefer not to say	0.17%	0.00%	0.28%	0.49%	0.00%	0.24%

Self-Reported Physical Health	77% (1,383) of respondents rated their physical health as good/very good



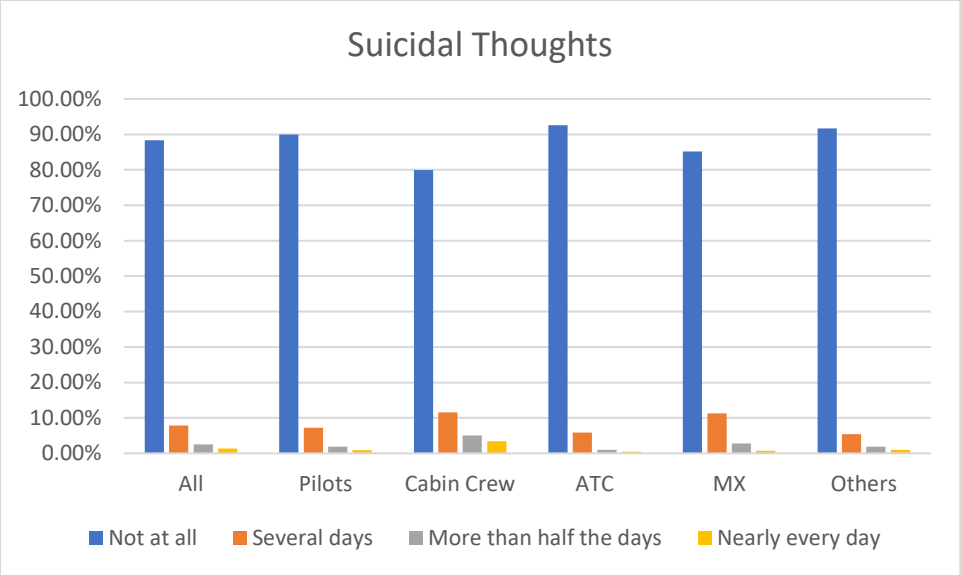
	All	Pilots	Cabin Crew	ATC	MX	Others
Very good	29.96%	32.15%	26.84%	29.56%	28.17%	29.86%
Good	47.05%	46.96%	45.76%	47.78%	50.00%	46.92%
Fair	19.60%	17.93%	20.62%	22.17%	19.72%	20.14%
Bad	2.39%	2.37%	4.24%	0.49%	1.41%	2.13%
Very bad	0.50%	0.44%	1.41%	0.00%	0.00%	0.24%
Do not know	0.33%	0.15%	0.85%	0.00%	0.70%	0.24%
Prefer not to say	0.17%	0.00%	0.28%	0.00%	0.00%	0.47%

My Mental Health Has Worsened Since COVID Pandemic	Most participants perceived COVID to have a negative effect on the mental health – with approximately 63% answering that their mental health has worsened since COVID. Cabin Crew appear to be the group whose self-reported MH is most negatively impacted by COVID.



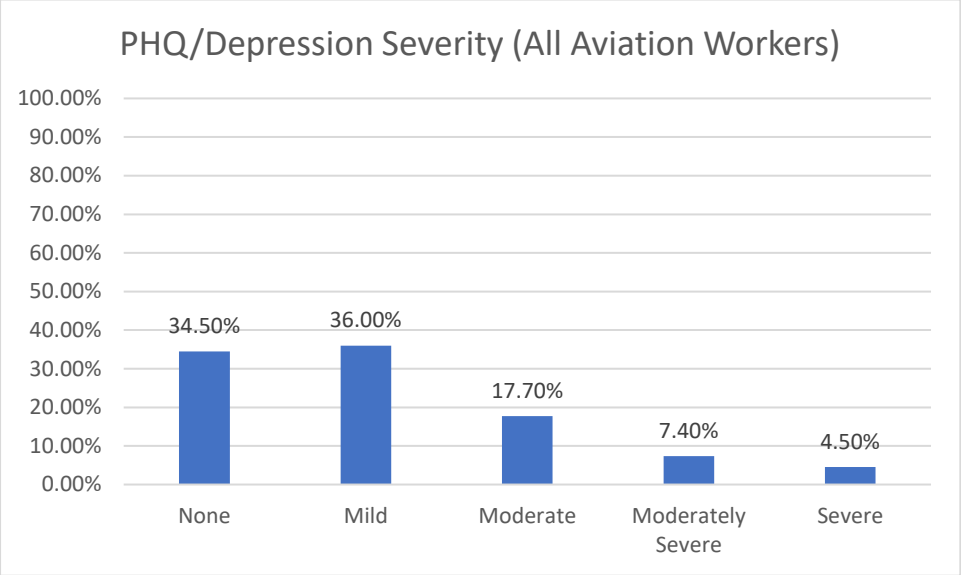
	All	Pilots	Cabin Crew	ATC	MX	Others
Strongly agree	24.11%	27.70%	37.57%	11.33%	14.08%	16.59%
Agree	39.25%	39.11%	42.66%	35.96%	39.44%	38.15%
Neither agree nor disagree	16.54%	13.33%	13.28%	25.12%	21.83%	18.48%
Disagree	14.37%	13.48%	4.80%	17.73%	17.61%	21.09%
Strongly disagree	5.73%	6.37%	1.69%	9.85%	7.04%	5.69%

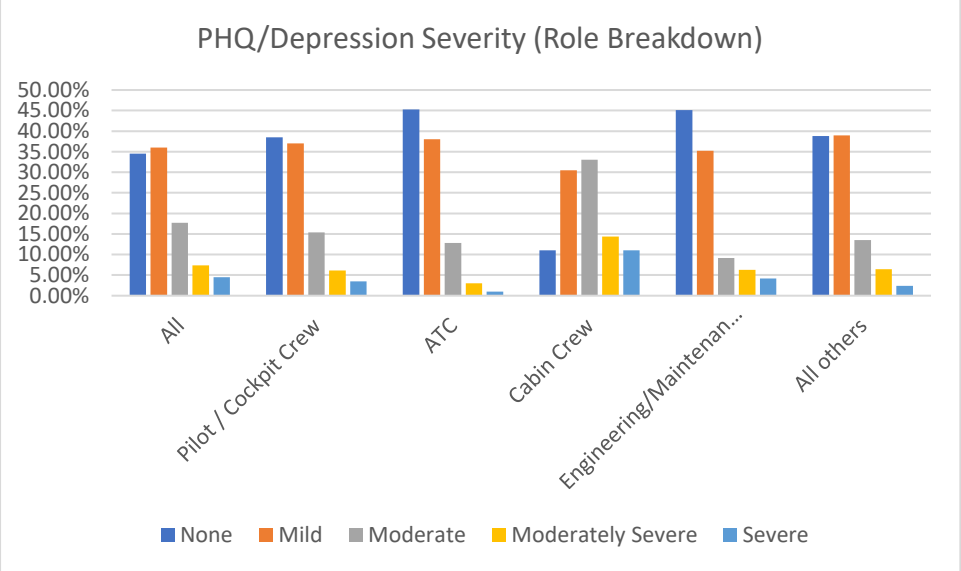
Over the last 2 weeks, how often have you had thoughts that you would be better off dead, or of hurting yourself in some way?	11.69% (all workers) indicate suicidal ideation, with the breakdown as follows: 10% pilots (68), 20% Cabin Crew (71), 7% ATC (15), 15% Engineering/Maintenance (21), 9% all others (35).



	All	Pilots	Cabin Crew	ATC	MX	Others
Not at all	88.31%	89.93%	79.94%	92.61%	85.21%	91.71%
Several days	7.85%	7.26%	11.58%	5.91%	11.27%	5.45%
More than half the days	2.51%	1.93%	5.08%	0.99%	2.82%	1.90%
Nearly every day	1.34%	0.89%	3.39%	0.49%	0.70%	0.95%

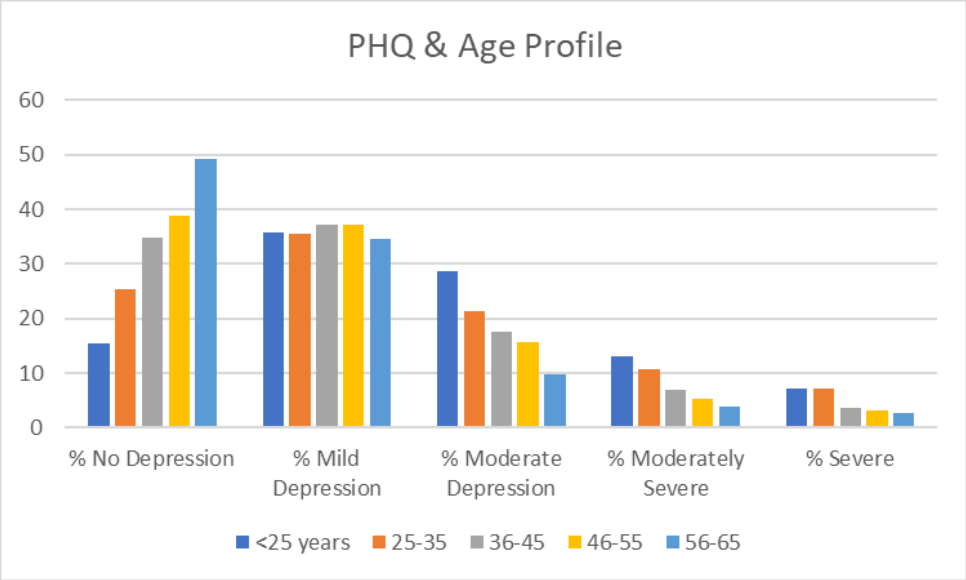
PHQ/Depression Severity	34.5% (619) of all aviation workers reported none or minimal depression. A high number met the threshold for mild depression (36%, 647), moderate depression (17.7%, 317), moderately severe depression (7.4%, 134), and severe depression (4.5%, 80). Cabin Crew appear to be most affected.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





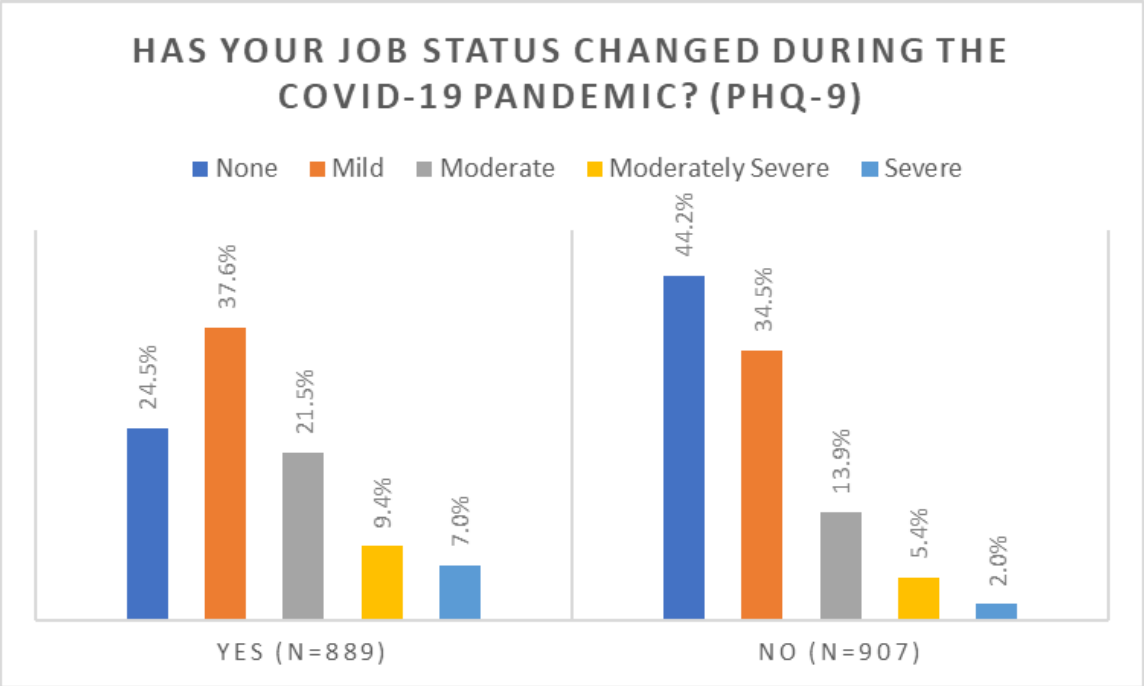
	None	Mild	Moderate	Moderately Severe	Severe
All	34.50%	36.00%	17.70%	7.40%	4.50%
Pilot / Cockpit Crew	38.50%	37%	15.40%	6.10%	3.50%
ATC	45.30%	38.00%	12.80%	3.00%	1.00%
Cabin Crew	11.00%	30.50%	33.05%	14.40%	11.00%
Engineering/Maintenance	45.10%	35.20%	9.20%	6.30%	4.20%
All others	38.80%	39.00%	13.50%	6.40%	2.40%

PHQ & Age Profile	Older aviation workers (49% in age group 56 to 65) have the best mental health (highest number below the threshold for depression). Conversely, younger aviation workers (15% in age group <25 years) lowest number meeting the threshold for depression. Mild depression evenly spread across age groups. Younger aviation workers (<25 years) have highest levels of moderate depression, (28.57%) and moderately severe depression (13%). Aviation workers aged between 25 to 35 years have the highest levels of severe depression (7.21%) closely followed by aviation workers <25 years (7.14%).

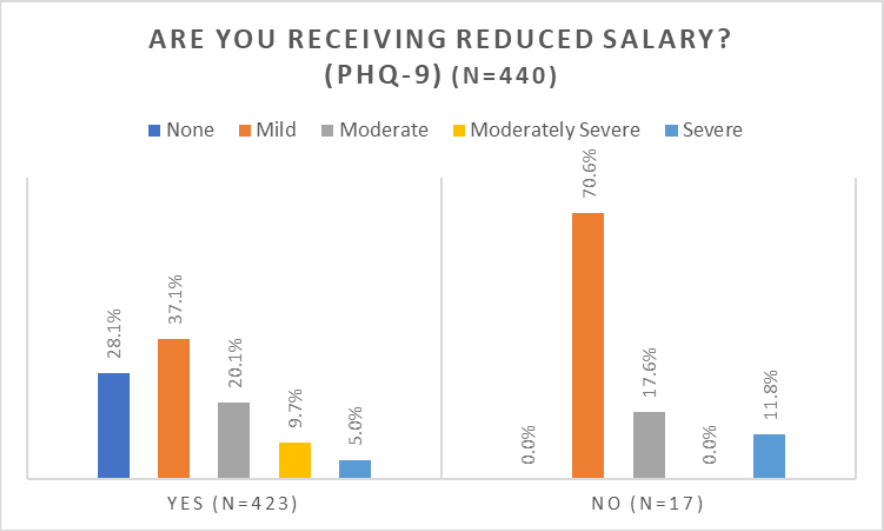


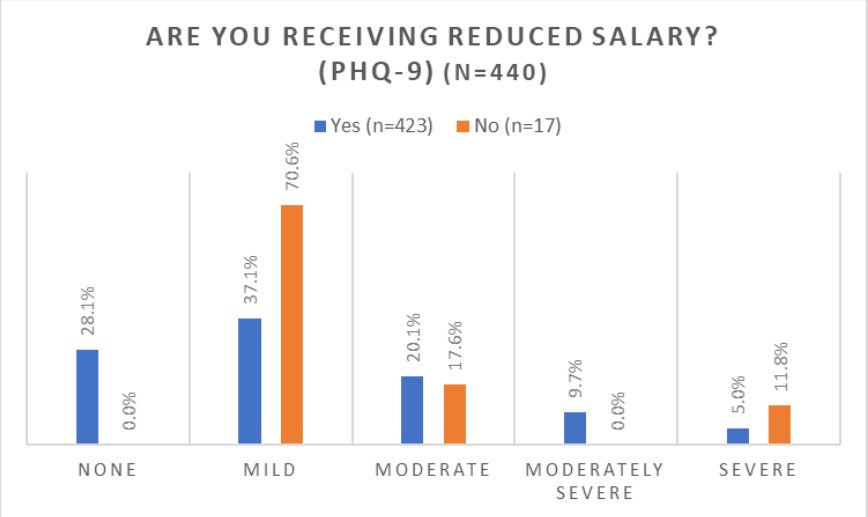
	% No Depression	% Mild Depression	% Moderate Depression	% Moderately Severe	% Severe
<25 years	15.47619	35.71429	28.57143	13.09524	7.142857
25-35	25.2505	35.47094	21.44289	10.62124	7.214429
36-45	34.88806	37.12687	17.53731	6.902985	3.544776
46-55	38.87588	37.23653	15.69087	5.152225	3.044496
56-65	49.12281	34.64912	9.649123	3.947368	2.631579

PHQ & Job Status	Job loss seems to be having an impact on depression prevalence. Overall, those aviation workers who have lost their jobs are experiencing more depression, than those who have not. Of those aviation workers who have lost their jobs, only 24.5% are not meeting the threshold for depression. Conversely, of those aviation workers who have not lost their jobs, 44.2% are not meeting the threshold for depression. Those who have lost their jobs are experiencing the highest levels of mild depression (37.6 % versus 34.5%), moderate depression (21.5% versus 13.9%), moderately severe depression (9.4% versus 5.4%) and severe depression (7% versus 2%).

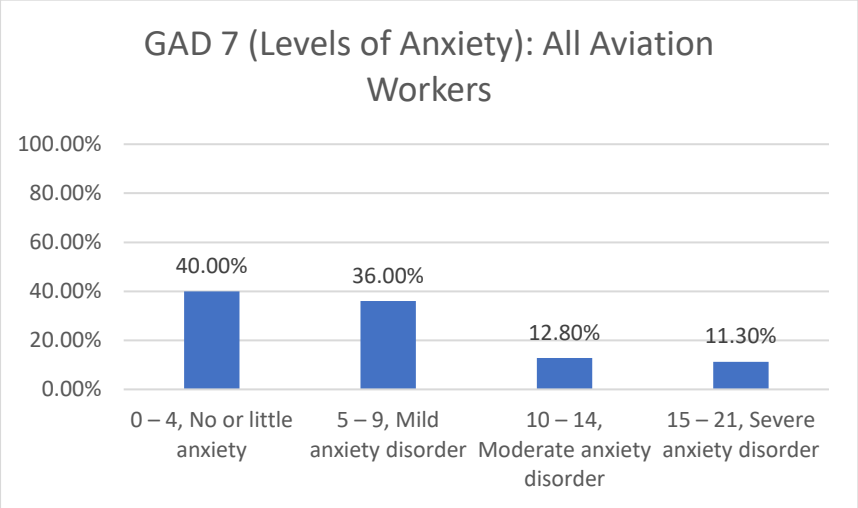


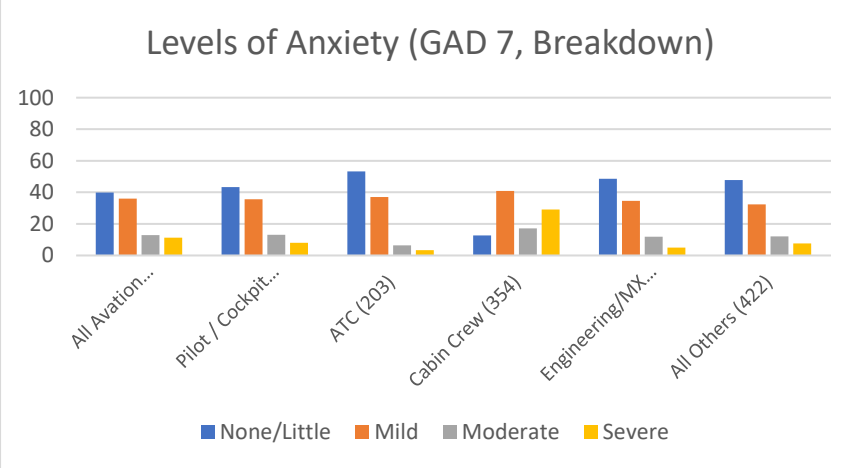
PHQ & Reduced Salary	Those aviation workers who are Not receiving reduced salary are showing higher levels of mild depression (70% versus 37%) and severe depression (11.8% versus 5%). Those aviation workers who are receiving reduced salary are showing higher levels of moderate depression (20.1% versus 17.6%) and moderately severe depression (9.7% versus 0%).





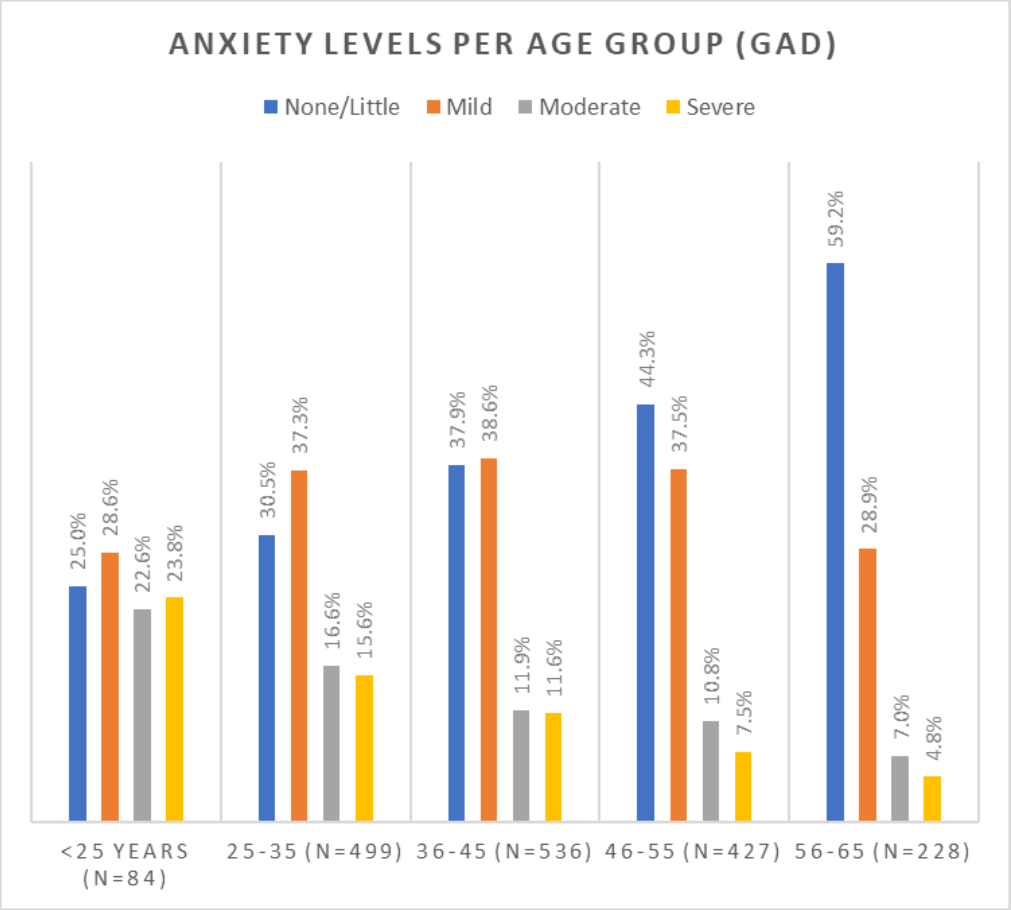
GAD-7 – Levels of Anxiety	Overall, aviation workers reported high levels of anxiety, with 36% (646) meeting the threshold for mild anxiety, 12.8% (230) moderate anxiety, and 11.3% (203), severe anxiety. Cabin Crew are most affected, with only 13% (45) reporting feeling no anxiety.



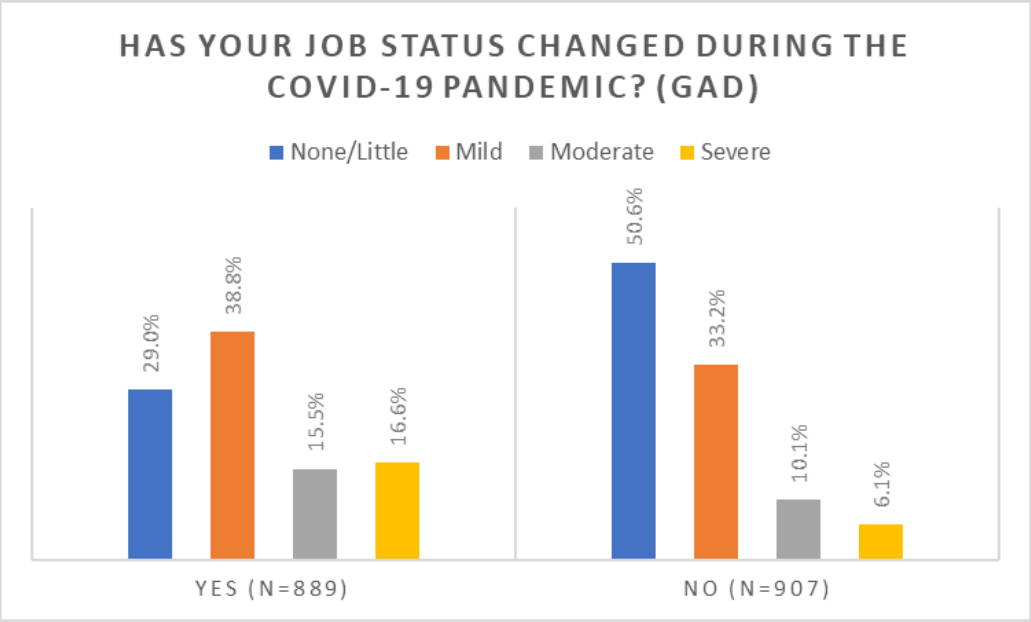


Profile	None/Little	Mild	Moderate	Severe
Pilot / Cockpit Crew	43.40741	35.55556	13.03704	8
ATC	53.20197	36.94581	6.403941	3.448276
Cabin Crew	12.71186	40.96045	17.23164	29.09605
Engineering/Maintenance	48.59155	34.50704	11.97183	4.929577
All Others	47.8673	32.46445	12.08531	7.582938

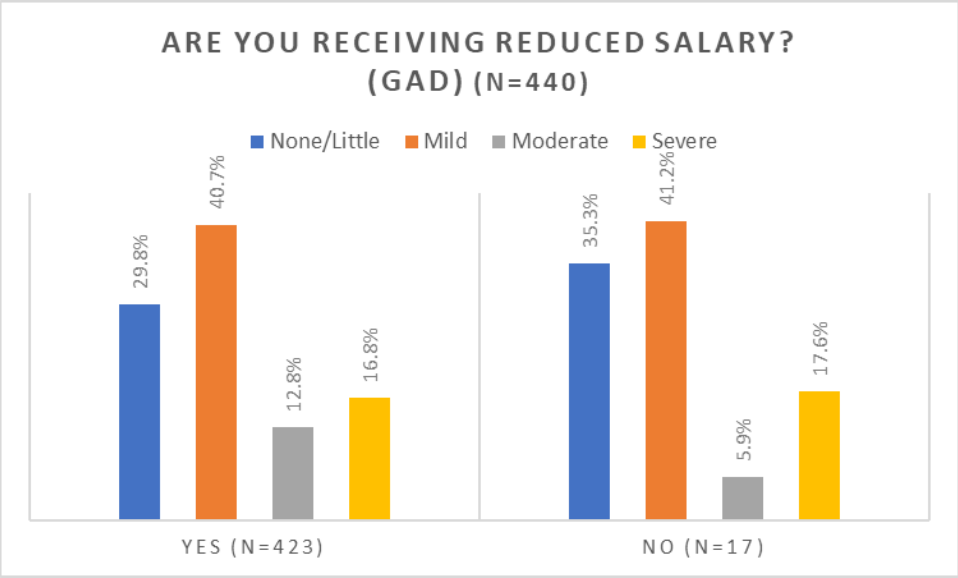
GAD-7 – Comparison Across Age Groups	Older aviation workers are experiencing the lowest levels of anxiety – with 59.2% of those in the 56 to 65 age reaching the threshold for none or little anxiety. Conversely, only 25% of those aviation workers in the age group <25 years are reaching the threshold for none or little anxiety. Moderate anxiety (22.6%) and severe anxiety (23.8%) is highest for those aviation workers <25 years. The highest numbers for mild anxiety are closely distributed between those aged 25 to 22, 36 to 45 and 46 to 55.



GAD-7 –Job Status	Those aviation workers who have lost their jobs are experiencing greater levels of anxiety as compared with those who have not lost their jobs. Only 29% of those aviation workers who have lost their jobs reached the threshold for none or little anxiety, as compared with 50.6% who have not lost their jobs. Mild, moderate, and severe anxiety is higher for those who have lost their jobs.

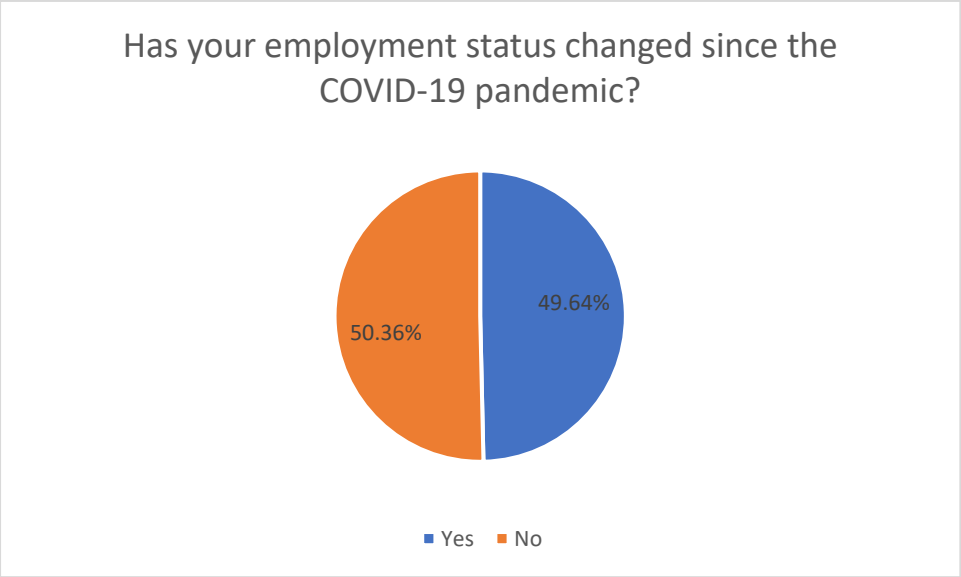


GAD-7 –Receiving Reduce Salary	Those aviation workers who are receiving reduced salary are experiencing greater levels of anxiety as compared with those who have not lost their jobs. Only 29.8% of those aviation workers who have lost their jobs reached the threshold for none or little anxiety, as compared with 35.3% who have not lost their jobs. However, there is not much difference between these groups in relation to level of mild anxiety.

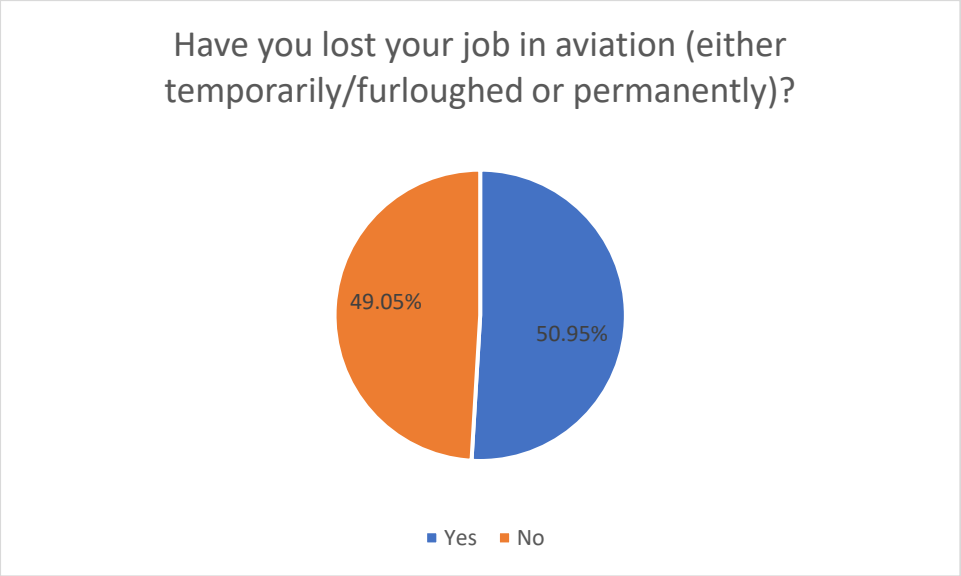


Research Q 2: What is the impact in terms of job/employment?

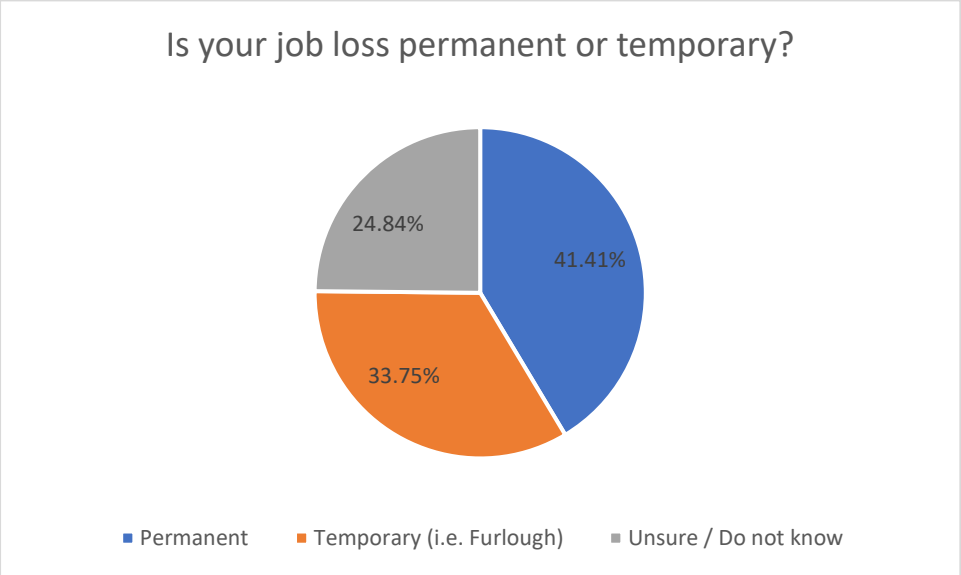
Has your employment status changed since the COVID-19 pandemic?	49.64% indicated that their employment status has changed since the COVID-19 pandemic



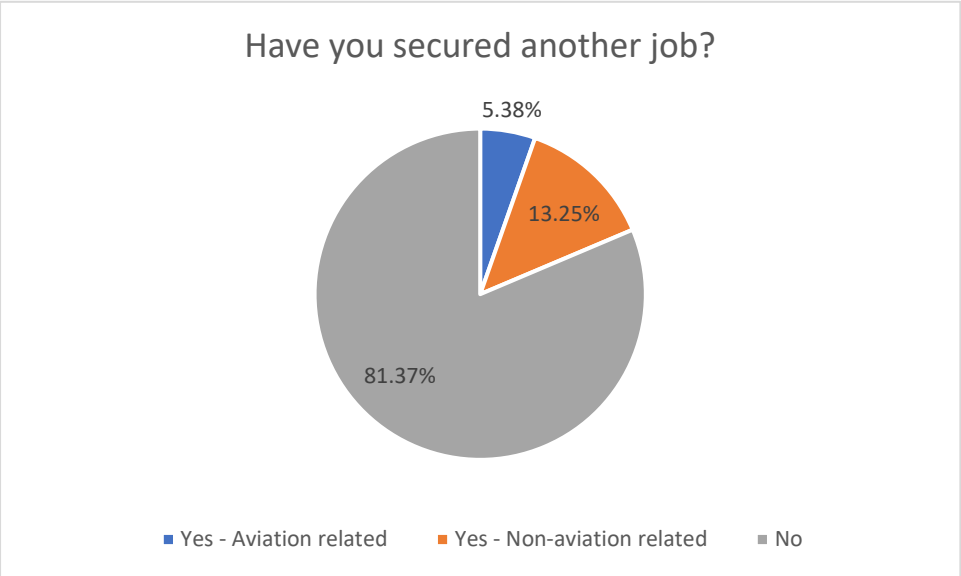
Have you lost your job in aviation (either temporarily/furloughed or permanently)?	50.95 % of respondents have lost jobs.



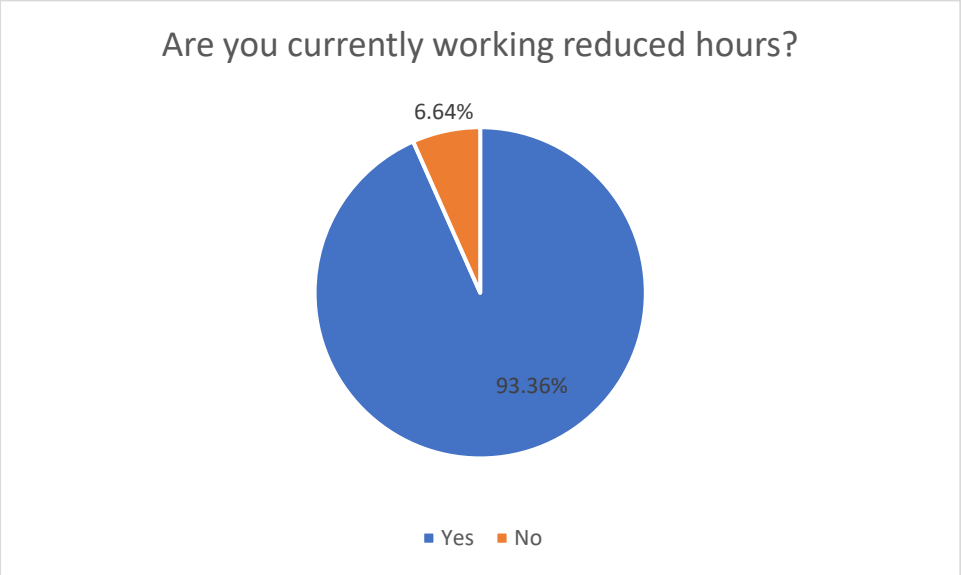
Is your job loss permanent or temporary?	41.41% indicating that this is permanent, 33.75% (temporary/furlough) and 24.84% do not know.



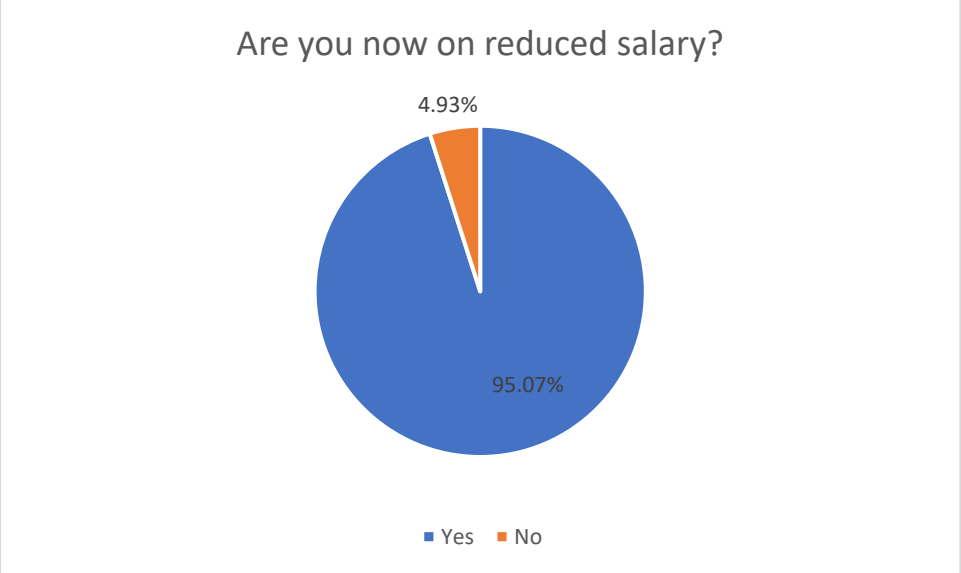
Have you secured another job?	81.37% (No), 13.25% (Yes - Non-aviation related) and 5.38% (Yes - Aviation related)



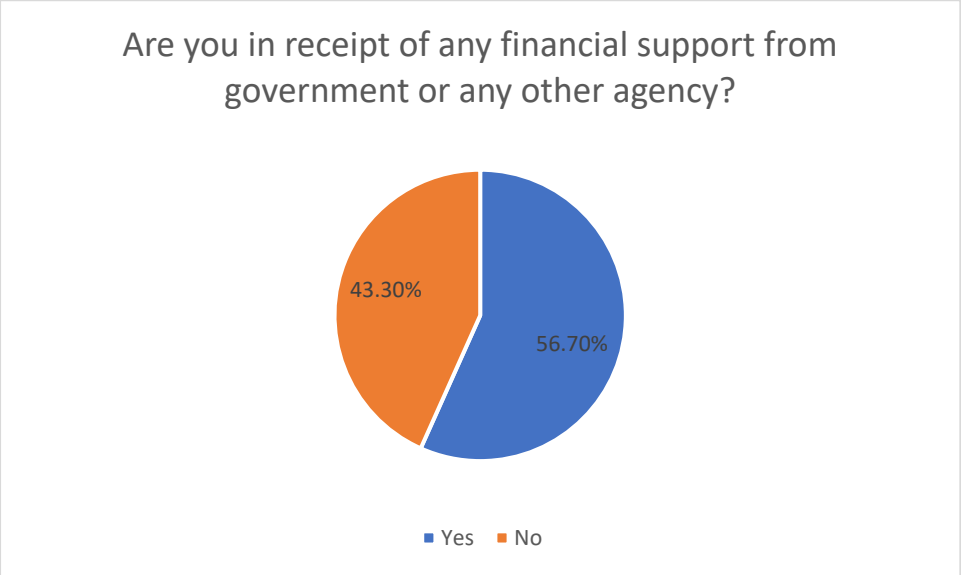
Are you currently working reduced hours?	93.36% (Yes), 6.64% (No).



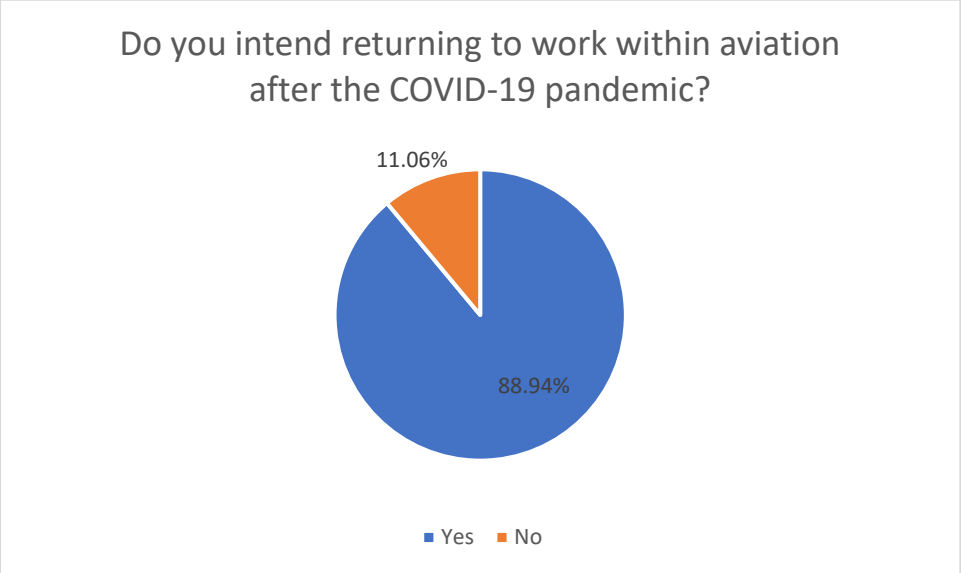
Are you now on reduced salary?	95.07% (Yes), 4.93% (No).



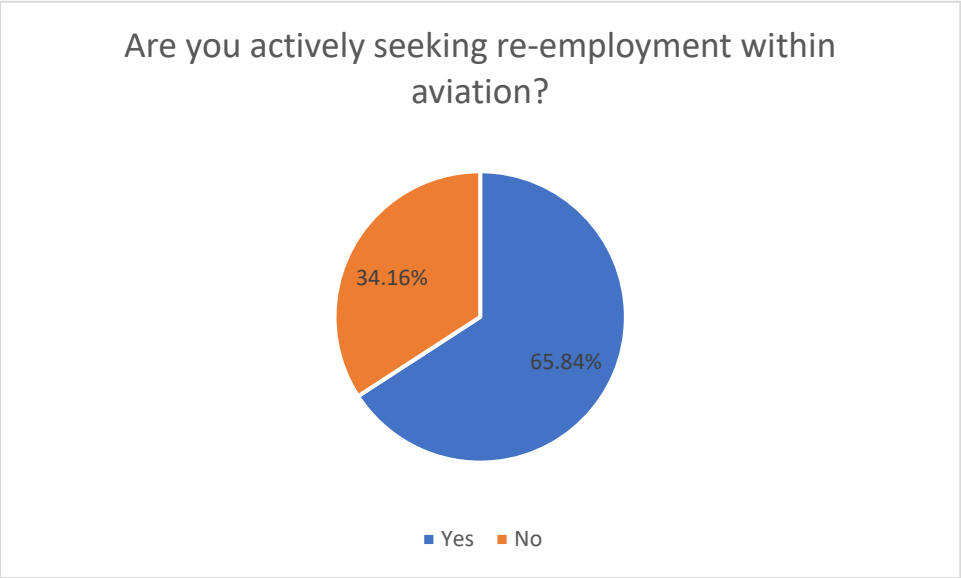
Are you in receipt of any financial support from government or any other agency?	56.70% (Yes), 43.30% (No).



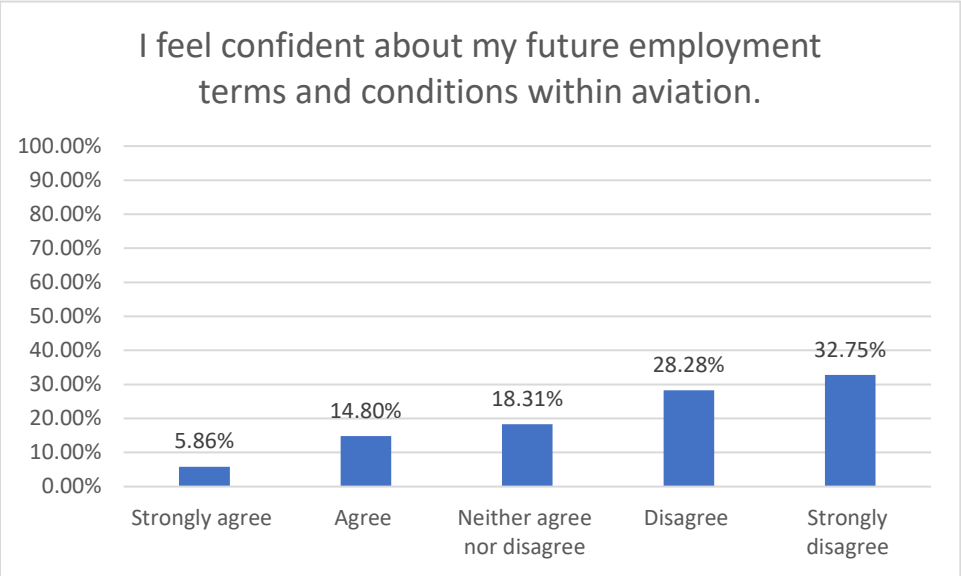
Do you intend returning to work within aviation after the COVID-19 pandemic?	88.94% (Yes), 11.06% (No).



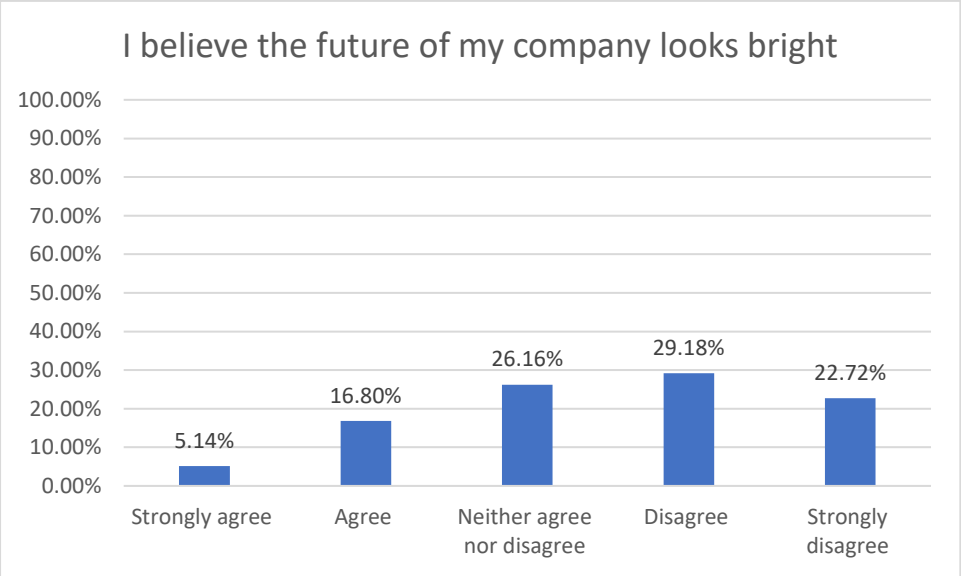
Are you actively seeking re-employment within aviation?	65.84% (Yes), 34.16% (No)



I feel confident about my future employment terms and conditions within aviation.	5.86% (Strongly agree), 14.80% (Agree), 18.31% (Neither agree nor disagree), 28.28% (Disagree), 32.75% (Strongly disagree)

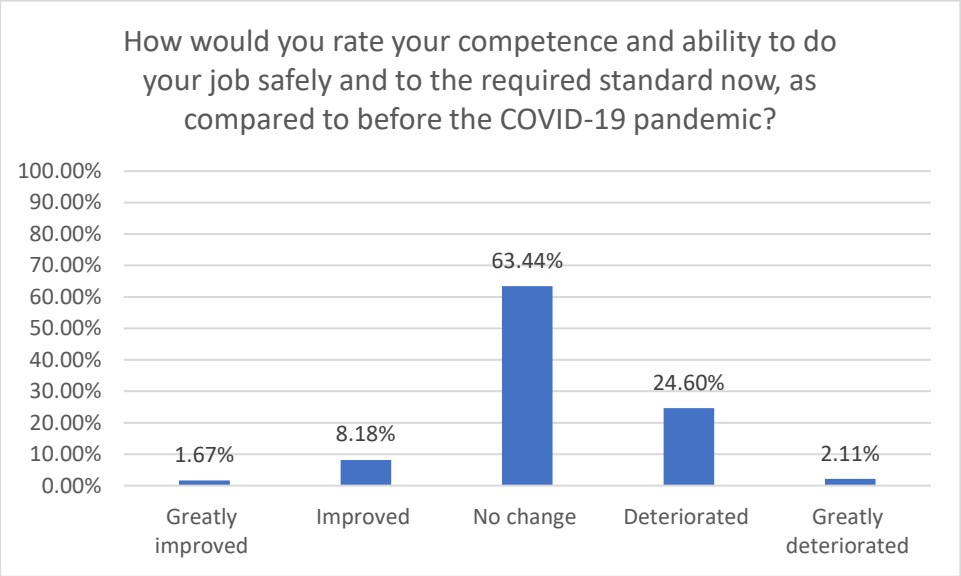


I believe the future of my company looks bright.	Only a small number of aviation workers feel the future of their company looks bright – 22%. 5.14% (Strongly agree), 16.80% (Agree), 26.16% (Neither agree nor disagree), 29.18% (Disagree), 22.72% (Strongly disagree)

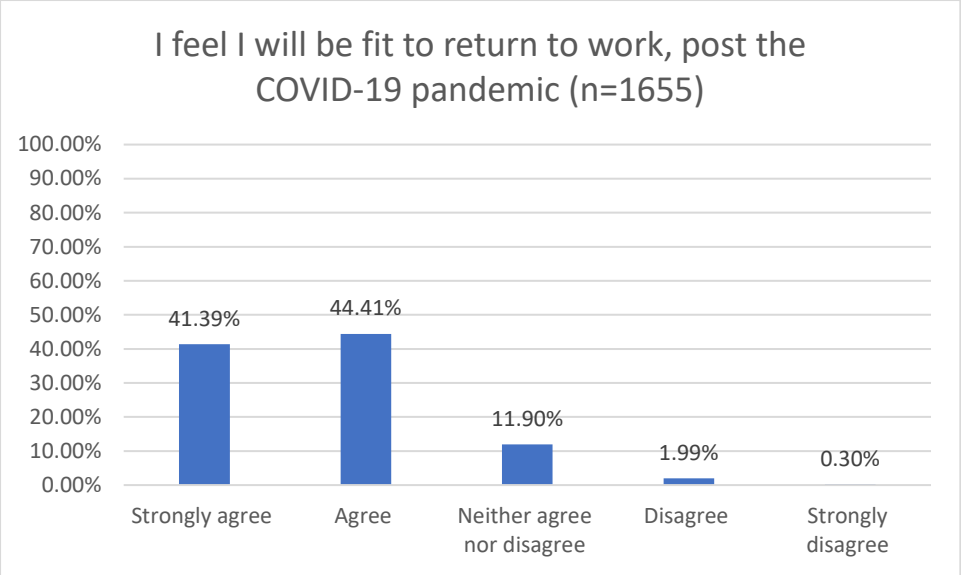


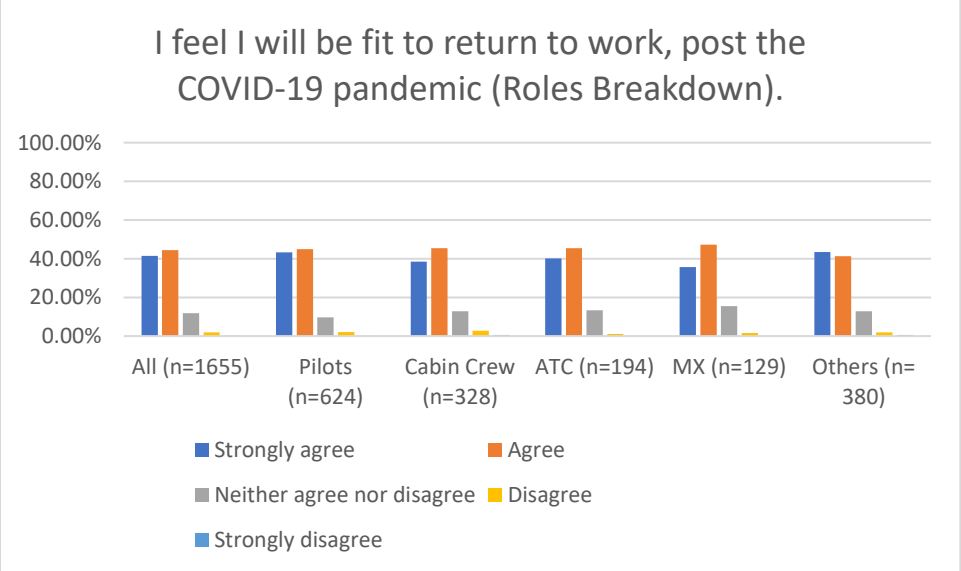
Research Q 3: What is the impact on (1) performance, (2) flight safety and (3) safety oversight.

How would you rate your competence and ability to do your job safely and to the required standard now, as compared to before 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.



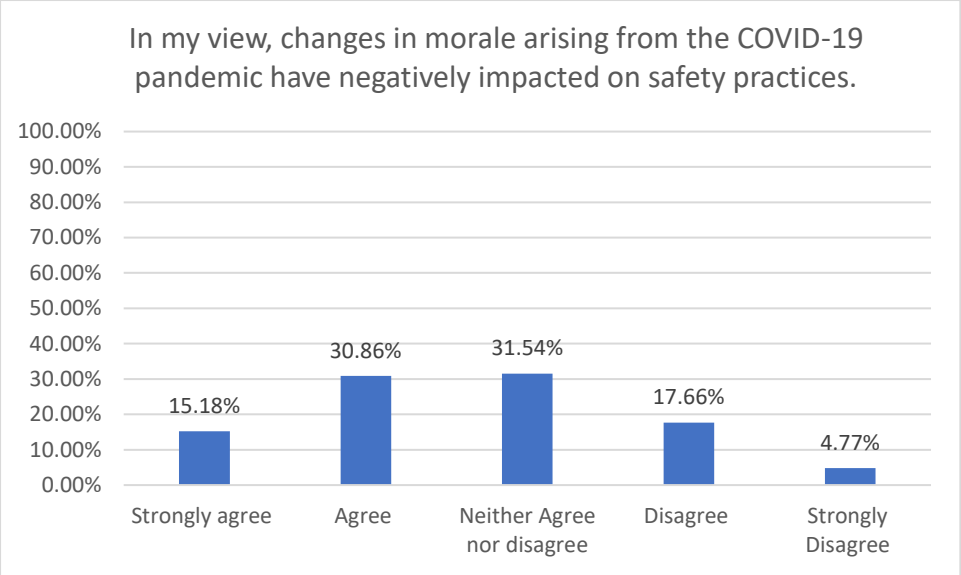
I feel I will be fit to return to work, post the COVID-19 pandemic.	Overall, the majority (86%) feel they will be fit to return to work, post the COVID-19 pandemic. No huge differences across groups with MX/Engineering workers indicating the highest levels of agreement.



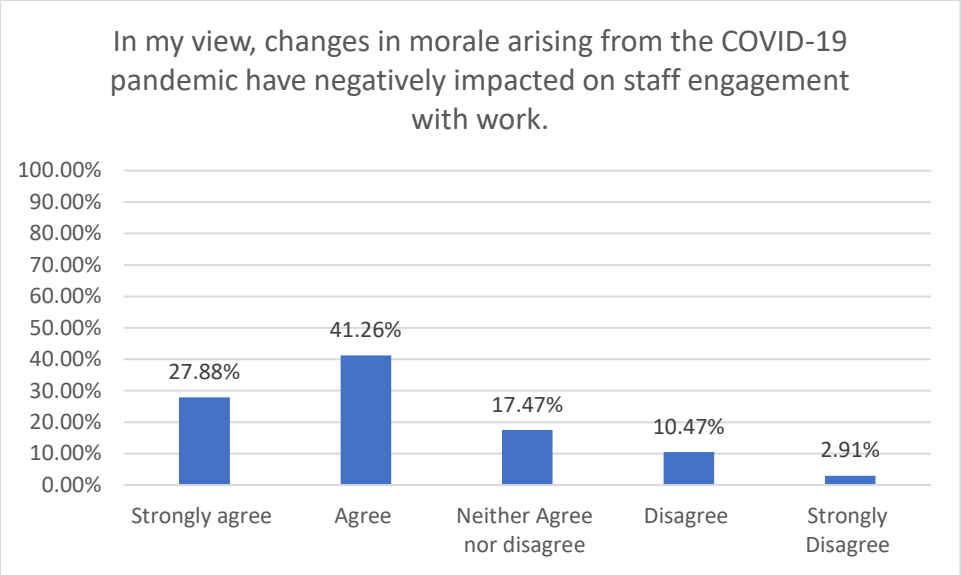


	All (n=1655)	Pilots (n=624)	Cabin Crew (n=328)	ATC (n=194)	MX (n=129)	Others (n=380)
Strongly agree	41.39%	43.27%	38.41%	40.21%	35.66%	43.42%
Agree	44.41%	44.87%	45.43%	45.36%	47.29%	41.32%
Neither agree nor disagree	11.90%	9.62%	12.80%	13.40%	15.50%	12.89%
Disagree	1.99%	2.08%	2.74%	1.03%	1.55%	1.84%
Strongly disagree	0.30%	0.16%	0.61%	0.00%	0.00%	0.53%

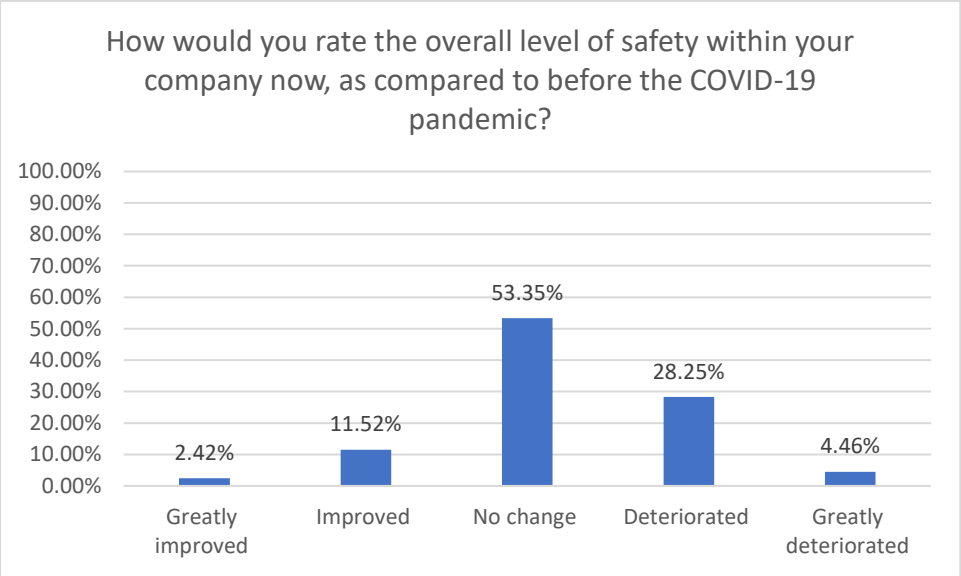
In my view, changes in morale arising from the COVID-19 pandemic have negatively impacted on safety practices.	Less than half of participants (46%) agree or strongly agree that changes in morale arising from the COVID-19 pandemic have negatively impacted on safety practices.



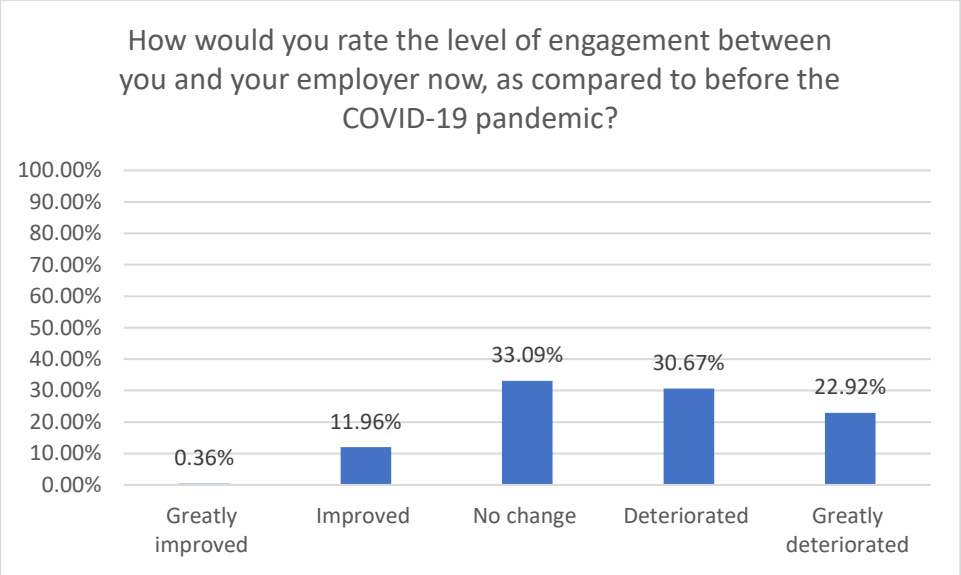
In my view, changes in morale arising from the COVID-19 pandemic have negatively impacted on staff engagement with work.	69% of aviation workers either agree or strongly agree that changes in morale are negatively impacting on aviation worker engagement.



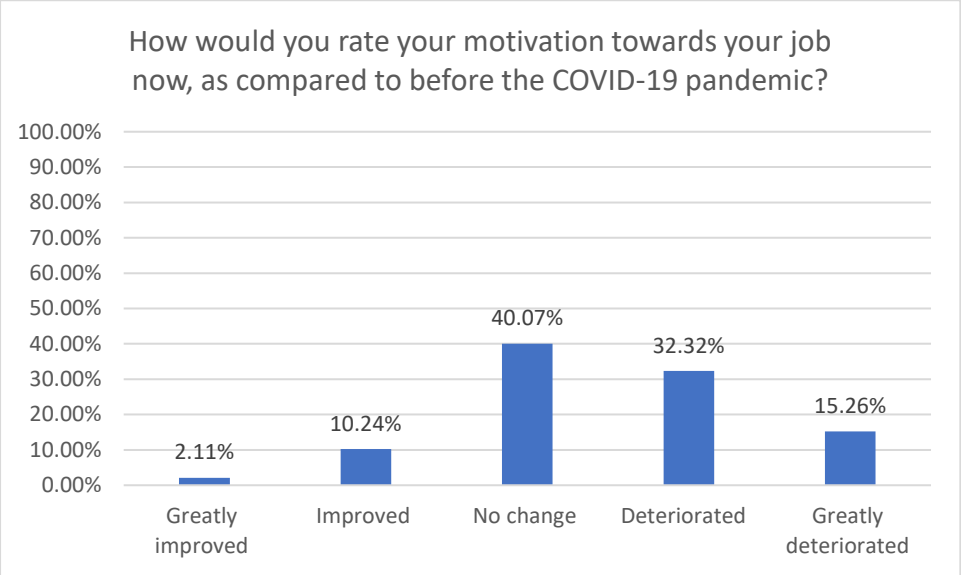
How would you rate the overall level of safety within your company now, as compared to before the COVID-19 pandemic?	53.35% indicate that there has been no change to company safety practices since COVID 19, while 14% agree that safety practice has greatly improved or improved.



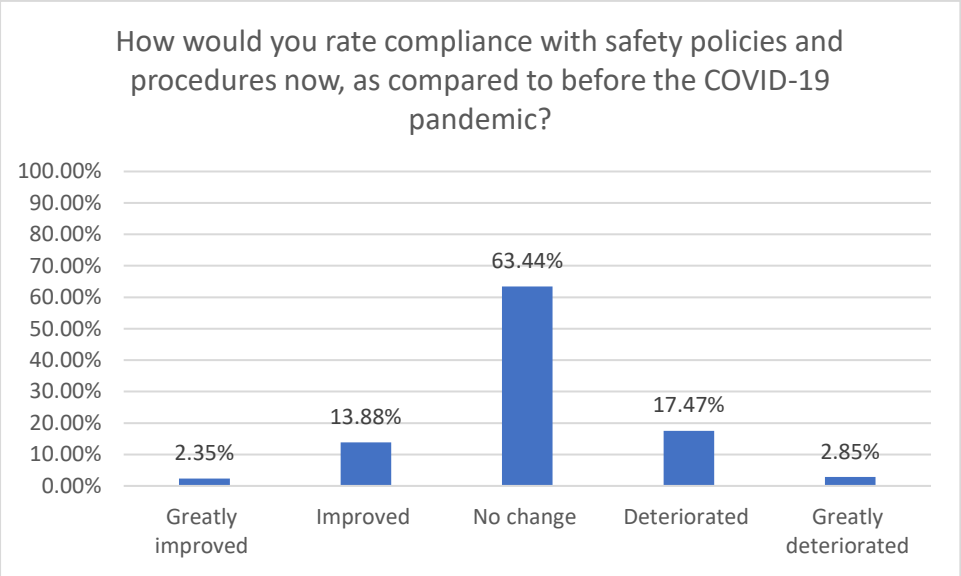
How would you rate the level of engagement between you and your employer now, as compared to before the COVID-19 pandemic?	Approximately 53% feel that engagement with their employer has either deteriorated or greatly deteriorated since the COVID 19 pandemic.



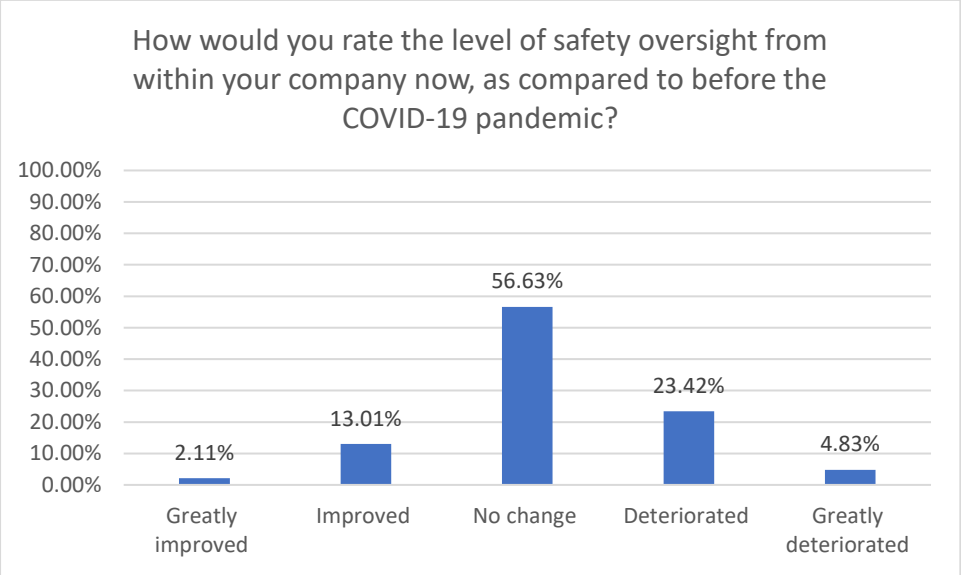
How would you rate your motivation towards your job now, as compared to before the COVID-19 pandemic?	47% indicate that job motivation has either deteriorated or greatly deteriorated since the COVID 19 Pandemic.



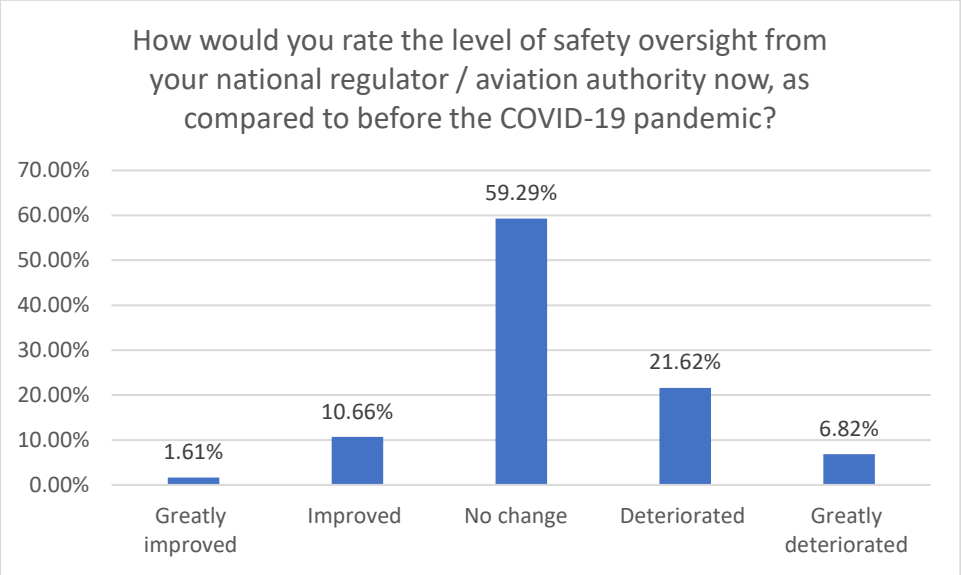
How would you rate compliance with safety policies and procedures now, as compared to before the COVID-19 pandemic?	The majority (63.44%) indicate no change in compliance with safety policies and procedures now, as compared to before the COVID-19 pandemic. Approximately 20% indicate that it has deteriorated or greatly deteriorated.



How would you rate the level of safety oversight from within your company now, as compared to before the COVID-19 pandemic?	56.63% indicate no change to company safety oversight, since COVID 19 pandemic. 28% indicate that company safety oversight, has either deteriorated or greatly deteriorated since the COVID 19 pandemic.

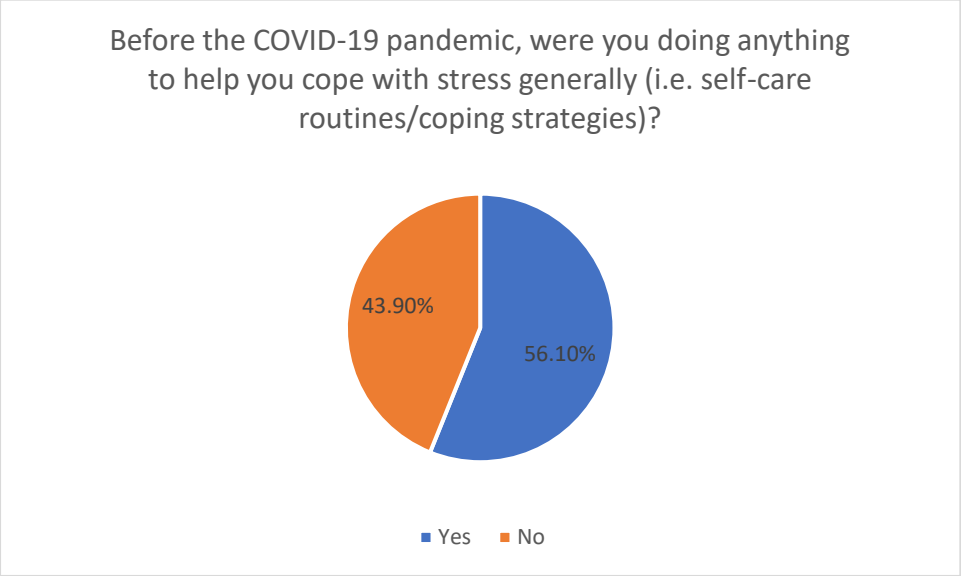


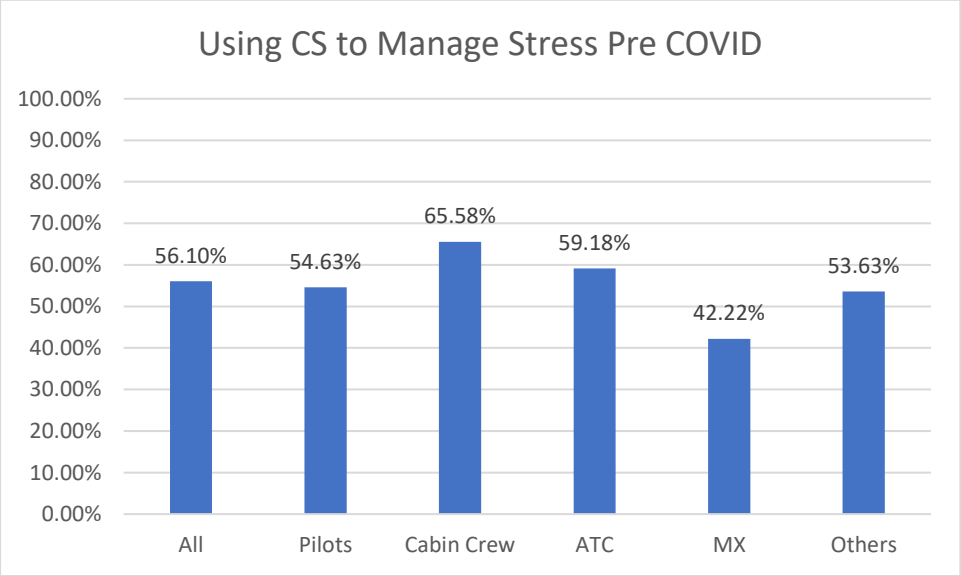
How would you rate the level of safety oversight from your national regulator / aviation authority now, as compared to before the COVID-19 pandemic?	59.29% indicate no change to safety oversight from the regulator, as compared to before the COVID-19 pandemic.



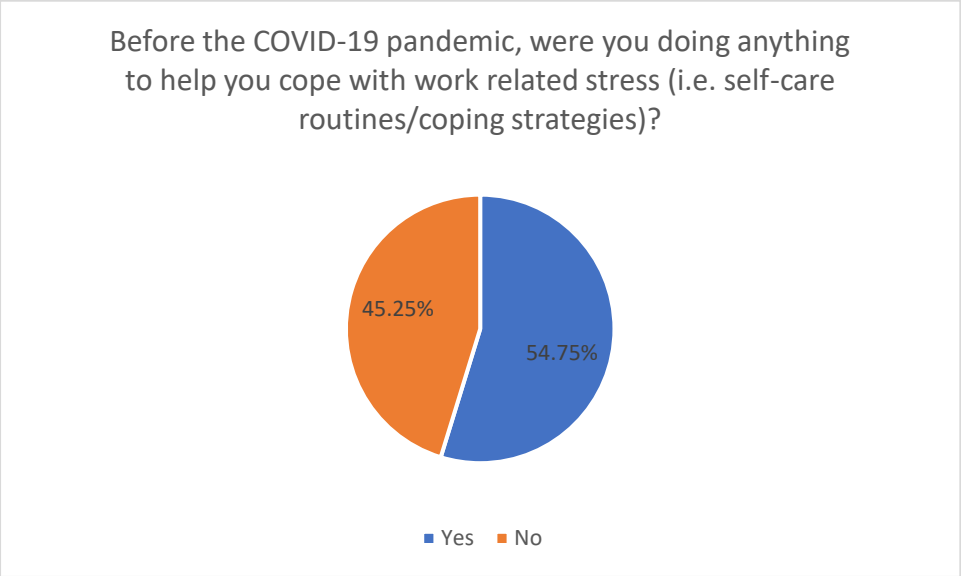
Research Q 4. Are aviation workers coping? Healthy behaviours? Attitudes? Seeking Help?

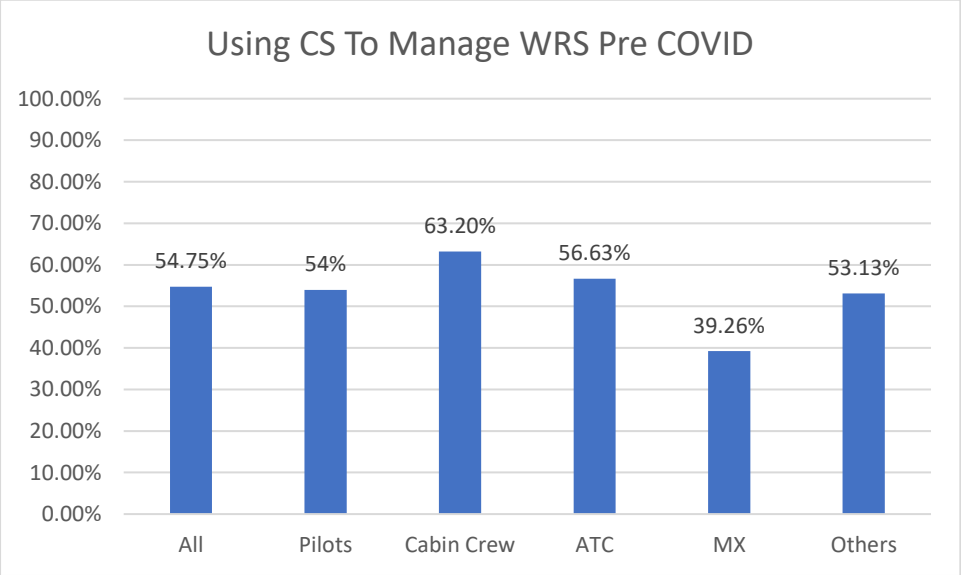
Before the COVID-19 pandemic, were you doing anything to help you cope with stress generally (i.e., self-care routines/coping strategies)?	56.10% using coping strategies to cope with stress before the pandemic. Prior to the COVID 10 Pandemic, Cabin Crew had the highest use of CS to manage stress generally (65.58%), followed by ATC (59.18%) and Pilots (54.63%). Prior to the COVID 10 Pandemic, MX had the lowest use of CS to manage stress – at 42.22% - well under the average for all aviation workers at 56.10%.



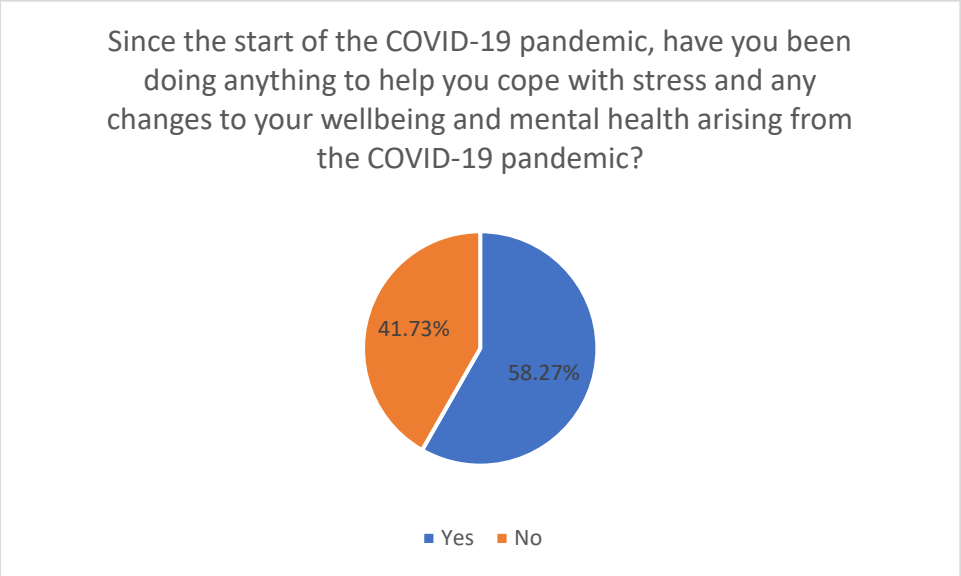


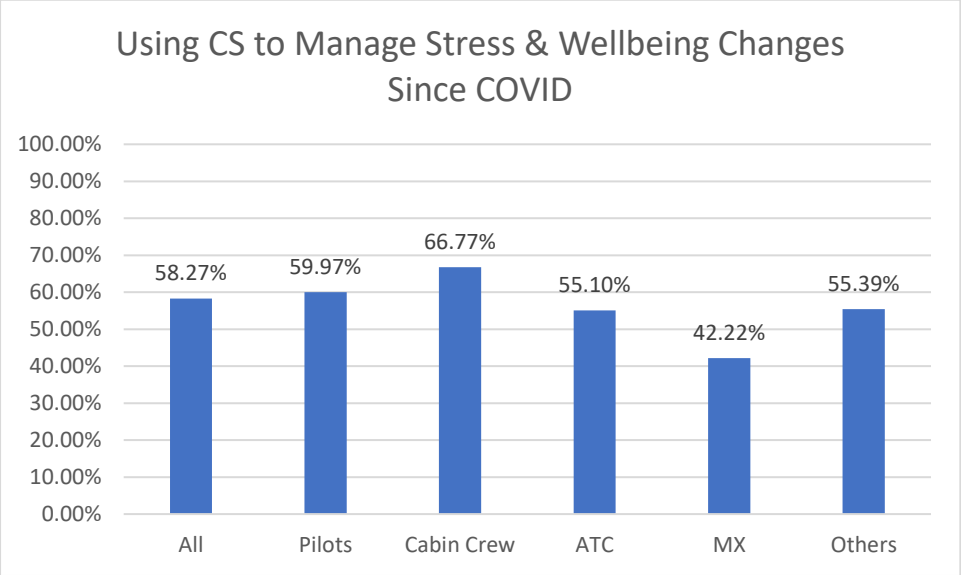
Before the COVID-19 pandemic, were you doing anything to help you cope with work related stress (i.e., self-care routines/coping strategies)?	54.75% using coping strategies to cope with work related stress (WRS) before the pandemic. Cabin Crew have the highest use of CS to cope with WRS before the COVID 19 pandemic (63.2%), followed by ATC (56.63%) and Pilots (54.75%). MX have the lowest use (39.26%).



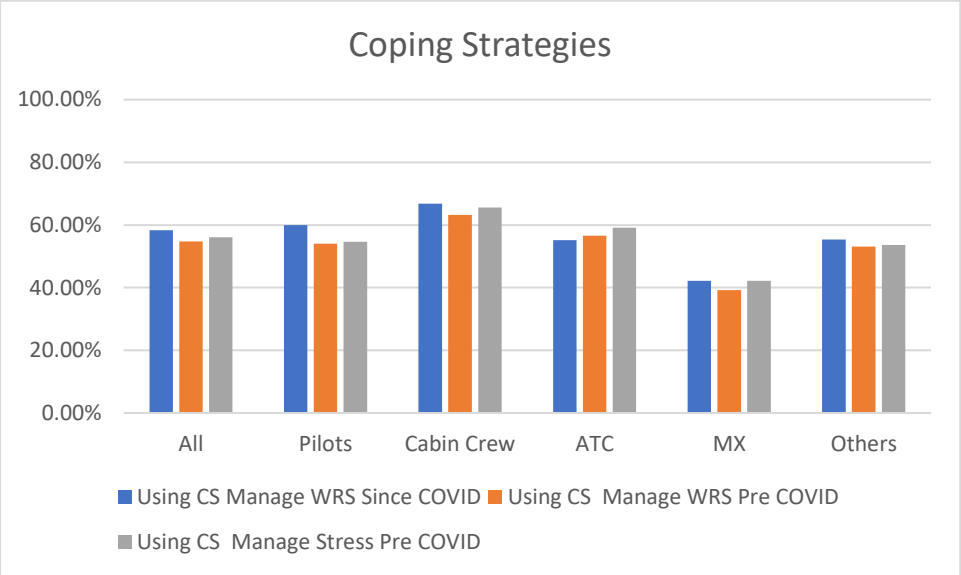


Since the start of the COVID-19 pandemic, have you been doing anything to help you cope with stress and any changes to your wellbeing and mental health arising from the COVID-19 pandemic?	58.27% using coping strategies to enable coping with stress and changes to their wellbeing and mental health arising from the COVID-19 pandemic. Cabin Crew have the highest use of CS (66.77%), followed by Pilots (58.27%). MX have the lowest use of CS (55.39%).



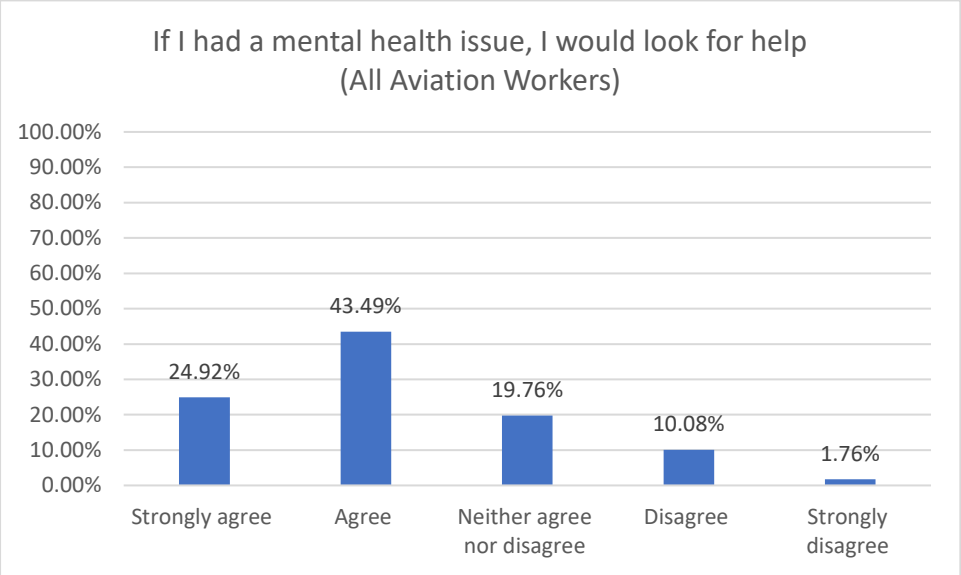


Comparison across roles: • Using CS manage stress and wellbeing changes Since COVID. • Using CS Manage WRS Pres COVID • Using CS Manage Stress Pre COVID	Overall, higher numbers of aviation workers using CS to manage stress and wellbeing changes since COVID (58.27% using since COVID, 54.75% prior to COVID. Cabin Crew have the highest use of CS to manage WRS since COVID and prior to COVID (66.77%), followed by Pilots (59.97), ATC (55.10%), All others (55.39%) and then MX (42.22%).

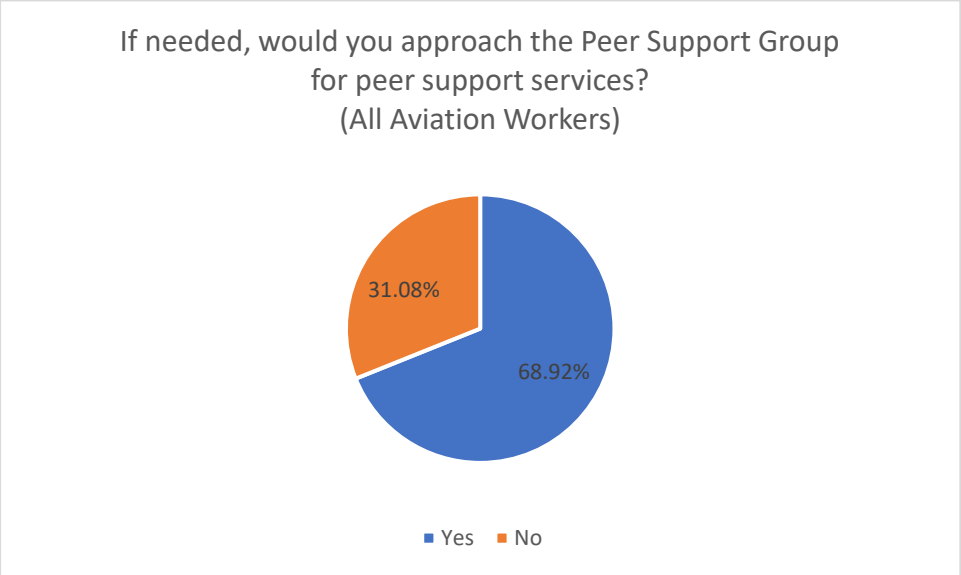


	All	Pilots	Cabin Crew	ATC	MX	Others
Using CS Manage WRS Since COVID	58.27%	59.97%	66.77%	55.10%	42.22%	55.39%
Using CS Manage WRS Pre COVID	54.75%	54%	63.20%	56.63%	39.26%	53.13%
Using CS Manage Stress Pre COVID	56.10%	54.63%	65.58%	59.18%	42.22%	53.63%

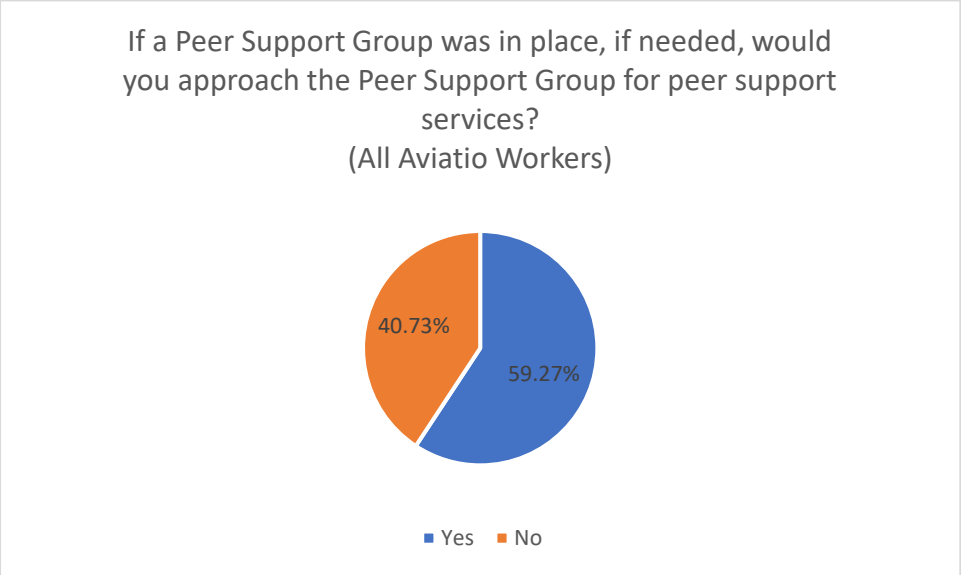
If I had a mental health issue, I would look for help	The vast majority (68%) would look for help if had a MH issue.



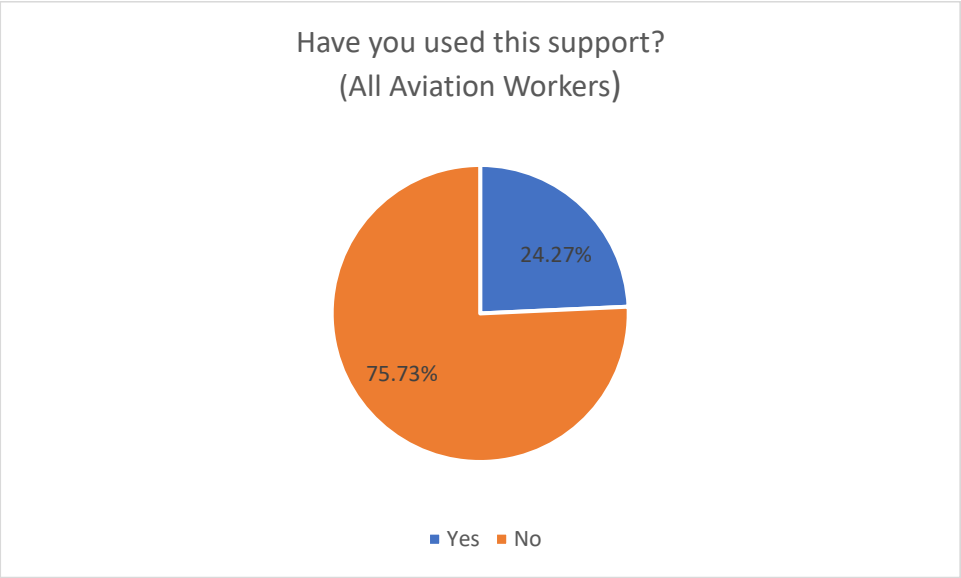
If needed, would you approach Peer Support Service	68.92% would approach Peer Support Group, for peer support services, if needed.

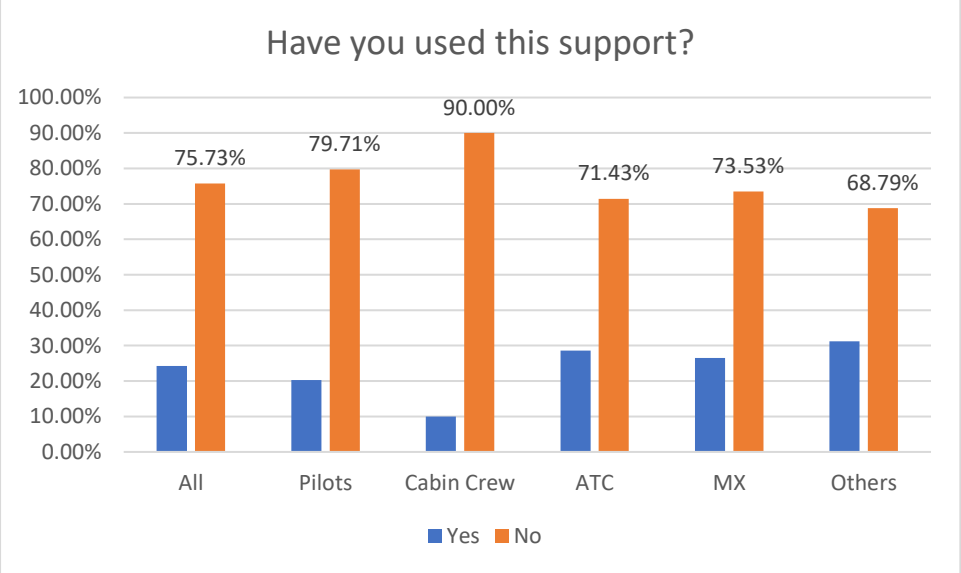


If PSP in place, I would you approach Peer Support Service	59.27% would approach Peer Support Service for help, if in place.

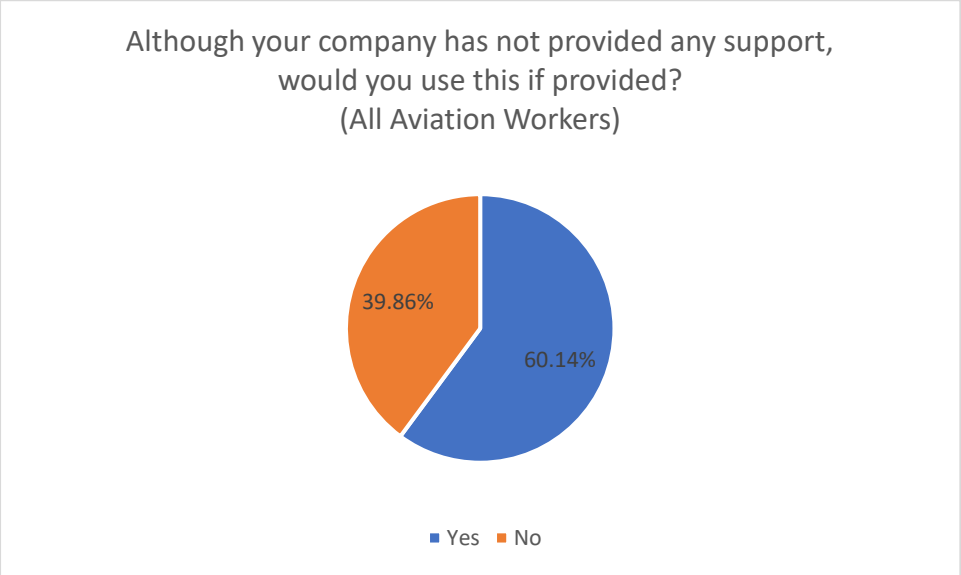


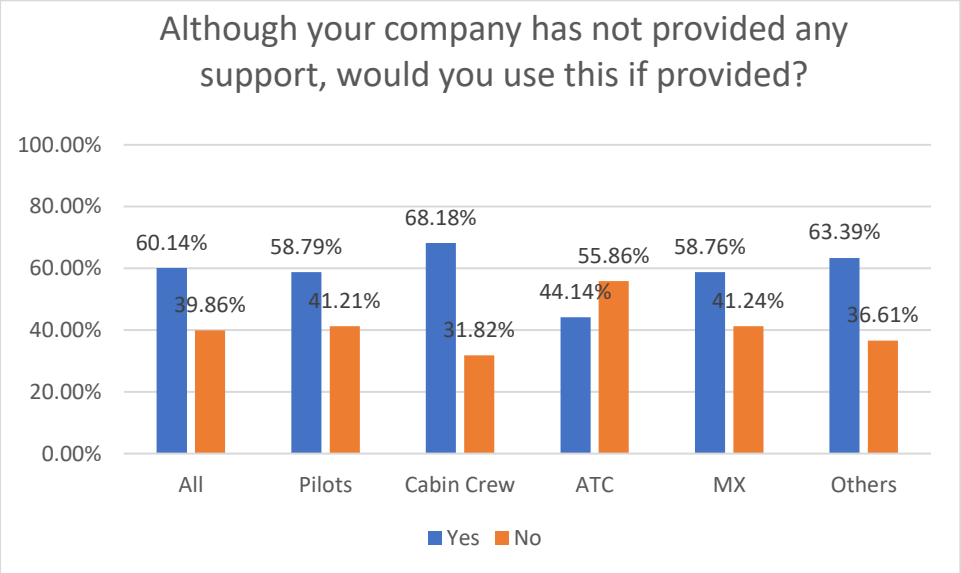
Have you used organisational supports offered to you?	Very low number used company supports provided (24.27%). Overall majority have NOT used company supports provided (75.73%%). Cabin crew have the lowest use of company supports (10%), followed by Pilots (20%) and MX (26%).



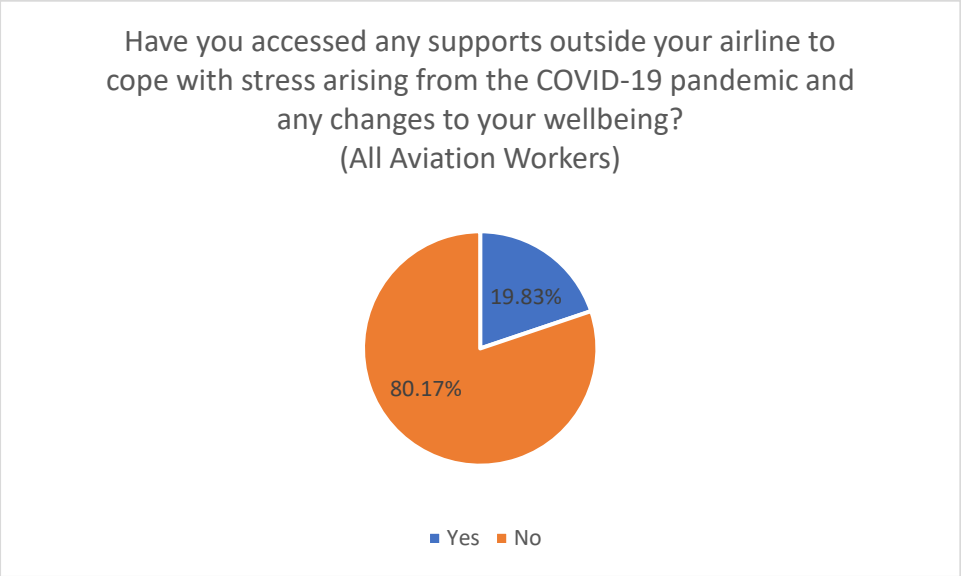


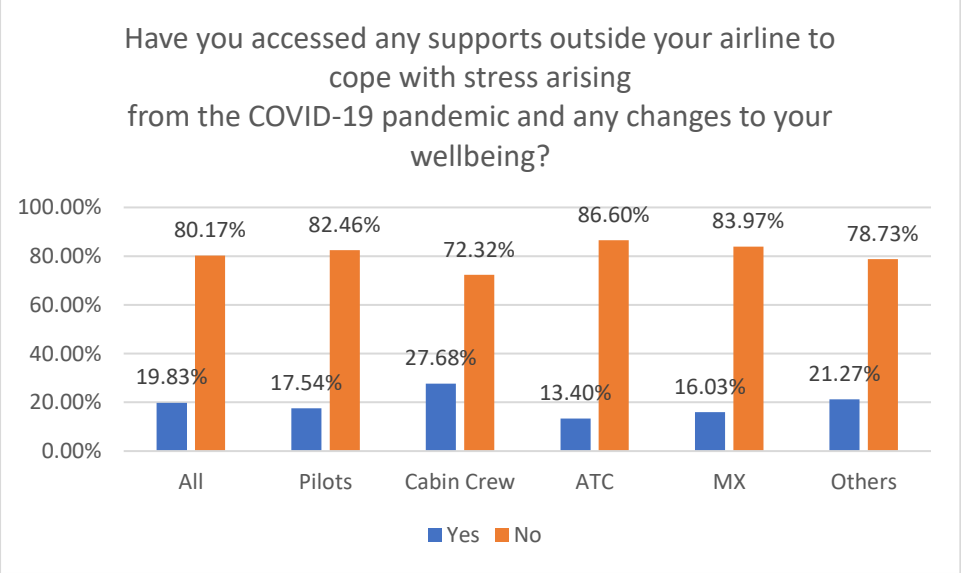
Although company not provided, would you use organisational supports, if offered to you?	60.14% would use company supports if provided. Cabin Crew highest interest in using company supports – 68%.





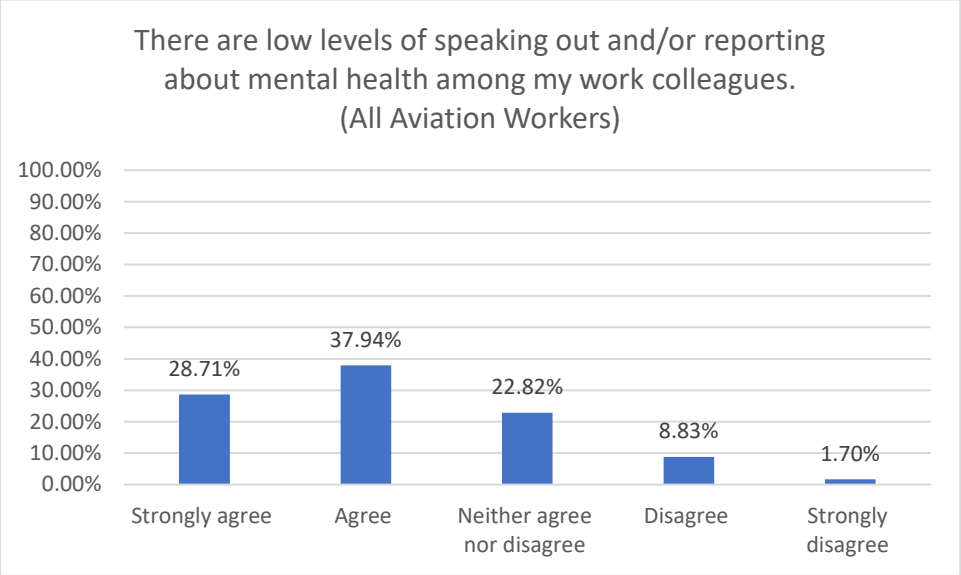
Accessing Supports Outside Airline	Just over 80% of respondents stated that they have NOT used outside supports to help them cope with stress arising from the COVID 10 pandemic and changes to their wellbeing. Cabin Crew have the highest use of outside supports – 27.68%, with ATC the lowest (13.40%).



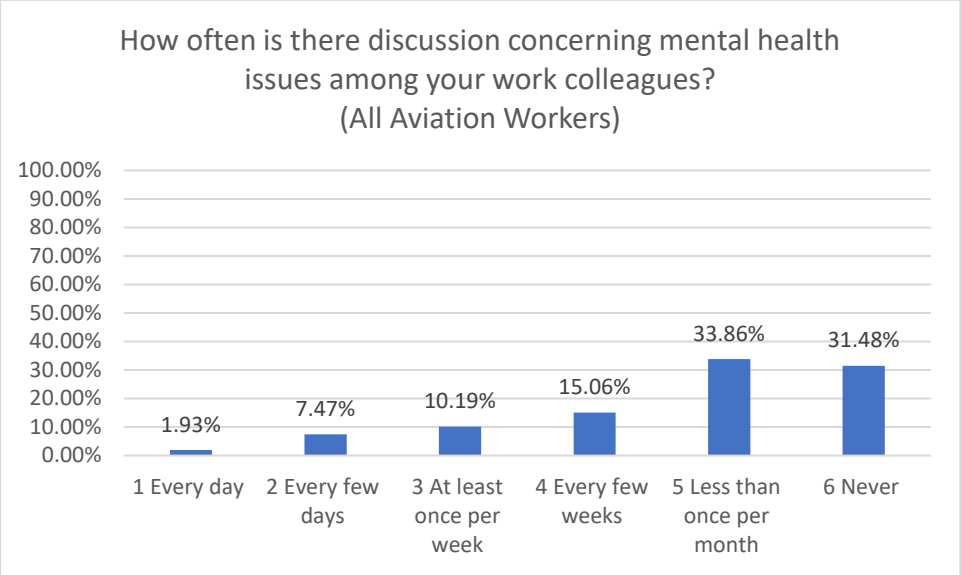


Research Q 5 Attitudes to MH & Willingness to disclose MH issues to others & employer.

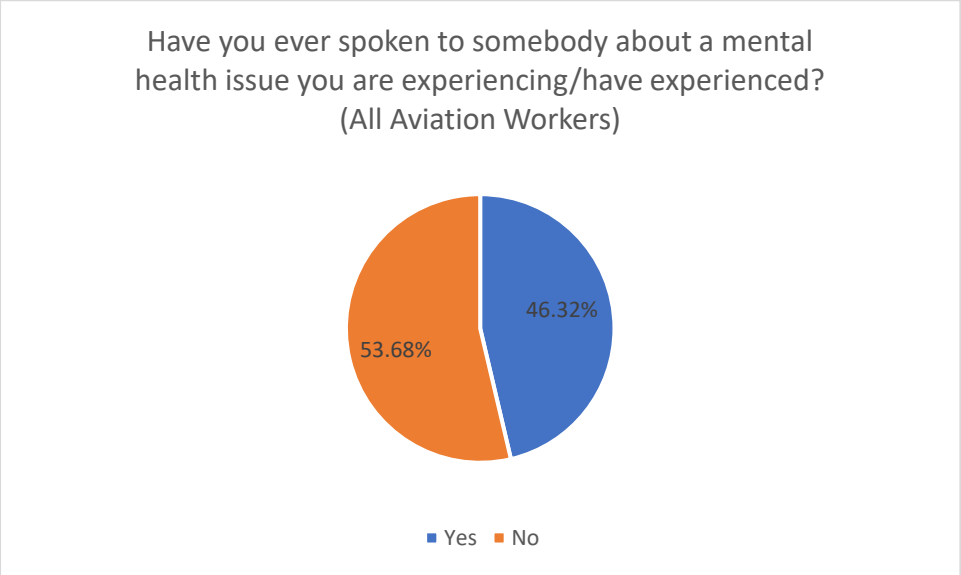
There are low levels of speaking out and/or reporting about mental health among my work colleagues.	Most respondents 67% agree or strongly that there are low levels of speaking out and/or reporting about mental health among my work colleagues.



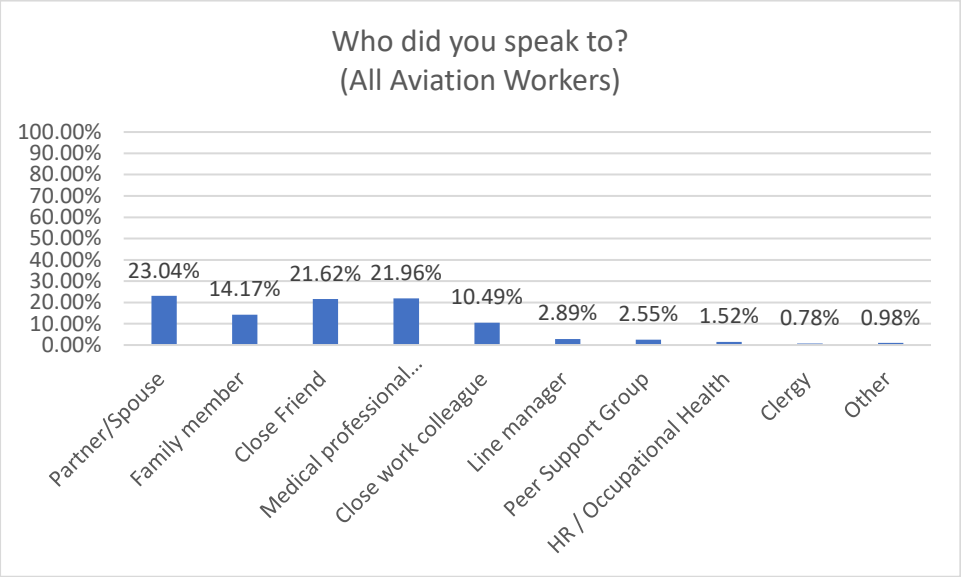
How often is there discussion concerning mental health issues among your work colleagues?	Less than 2% of respondents reported that there are daily discussions of mental health issues among their work colleagues. 10.19% indicated that these occur at least once a week. 31.38% indicated that such discussions never occur.



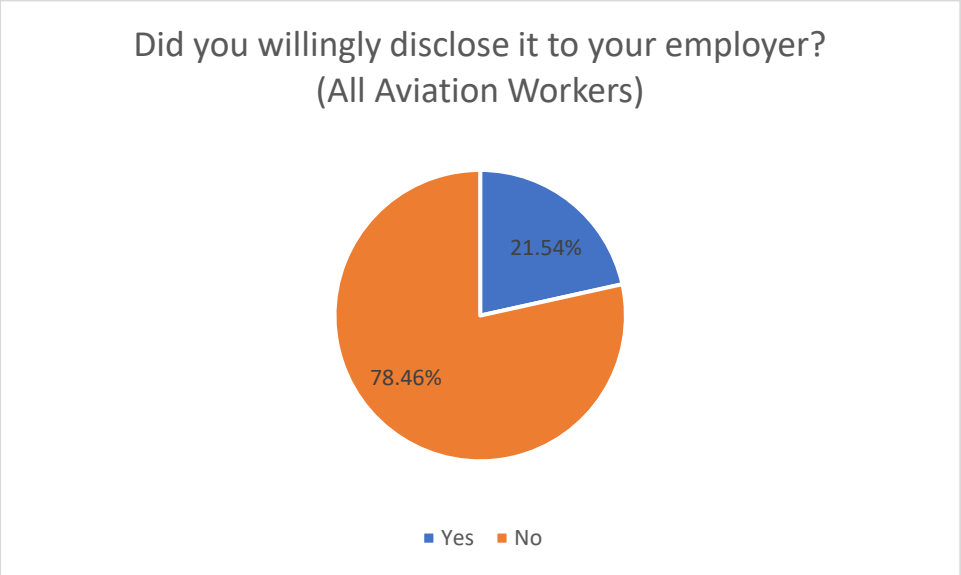
Have you ever spoken to somebody about a mental health issue you are experiencing/have experienced?	Just over half of respondents (53.68%) have spoken to somebody about a mental health issue they are experiencing/have experienced.



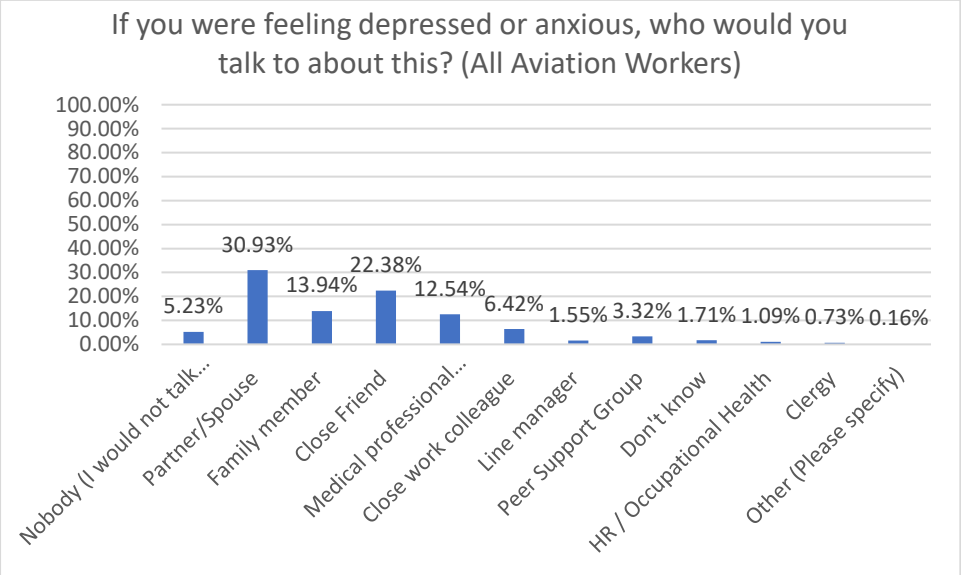
Who did you speak to?	Respondents selected to speak to a partner or spouse (23.04%), closely fooled by a medical professional (21.96%) and a close friend (21.62%). Very low numbers reported speaking to Peer Support (2.89%) or HR/Occupational Support (1.52%).



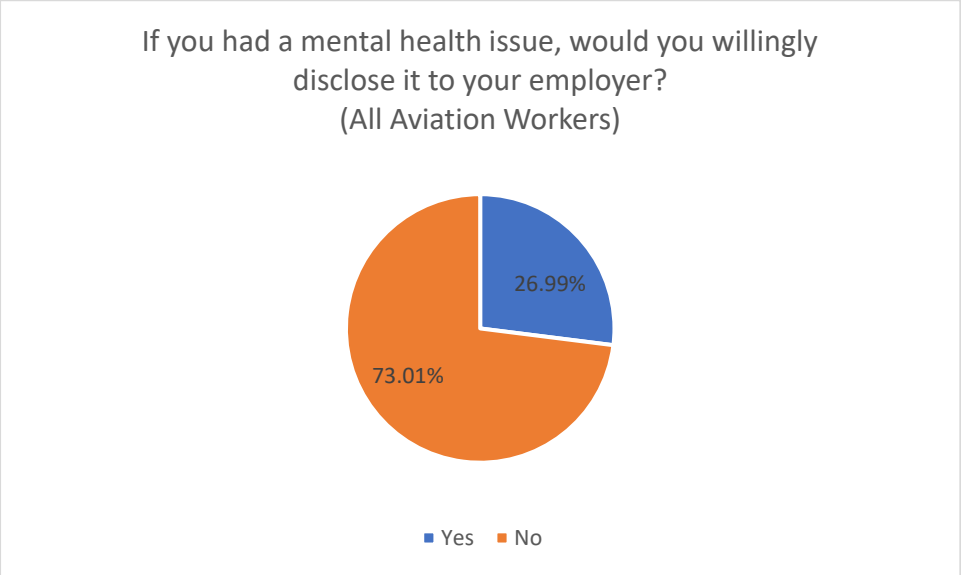
Did you willingly disclose it to your employer?	The vast majority (78.46%) did not willingly disclose MH issues to their employer.



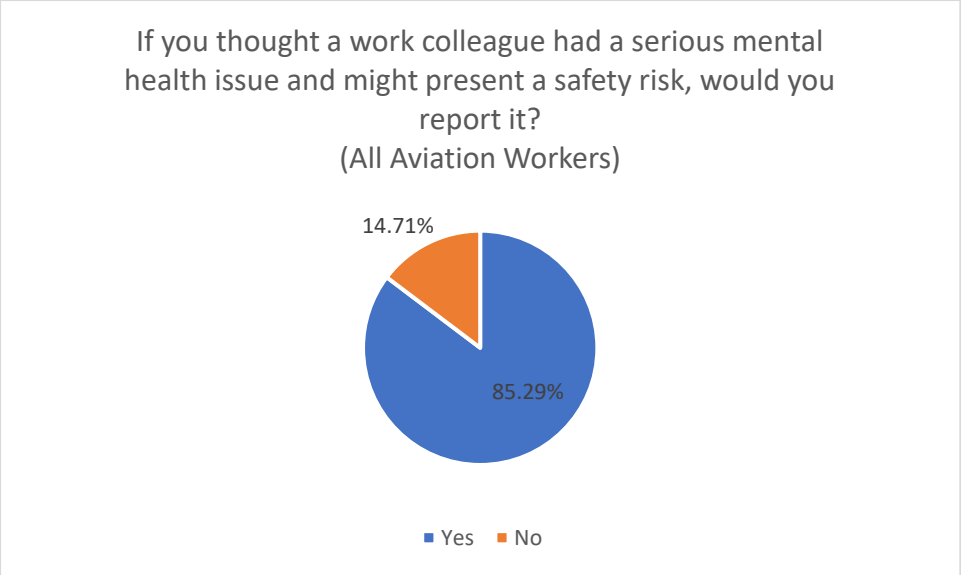
If you were feeling depressed or anxious, who would you talk to about this?	Respondents reported that they are most likely to talk with a partner/spouse (30.93%) about a MH issue. Ver low numbers reported that they would talk with HR/occupational health (1.09%), line manager (1.55%) or peer support (3.32%).



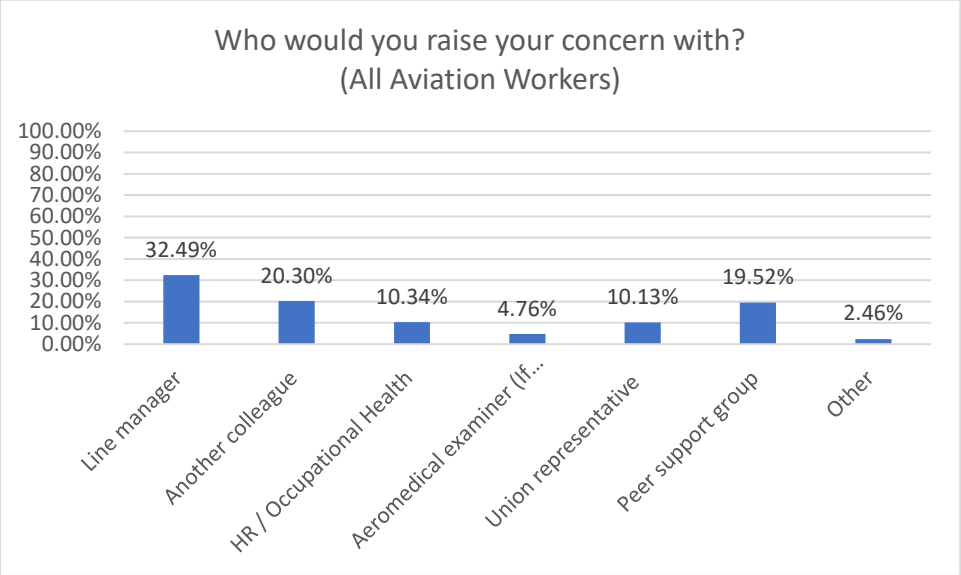
If you had a mental health issue, would you willingly disclose it to your employer?	Most respondents (73.01%) indicated that they would NOT willingly disclose a MH issue to an employer.



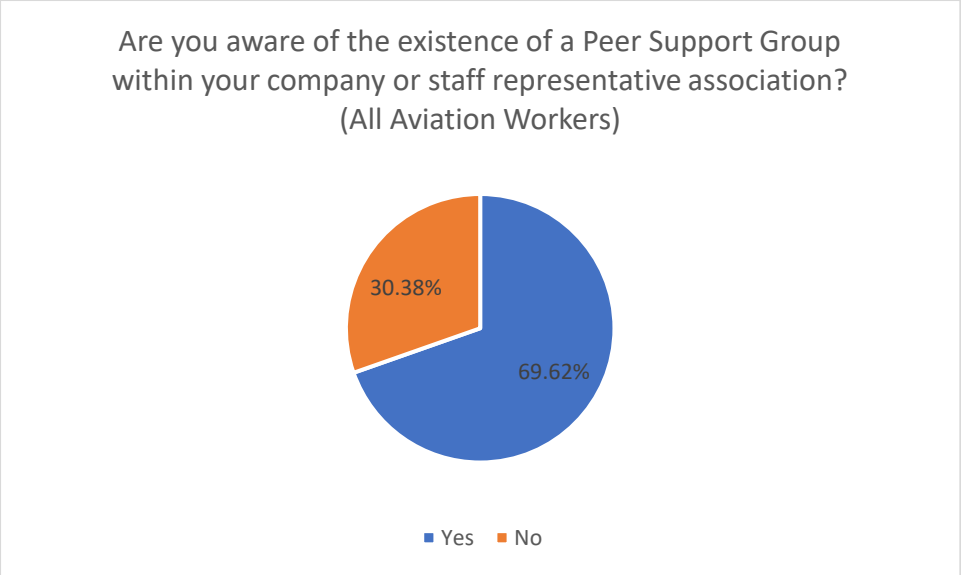
If you thought a work colleague had a serious mental health issue and might present a safety risk, would you report it?	The vast majority (85.29%) indicated that they if they thought a work colleague had a serious mental health issue and might present a safety risk, they would you report it.



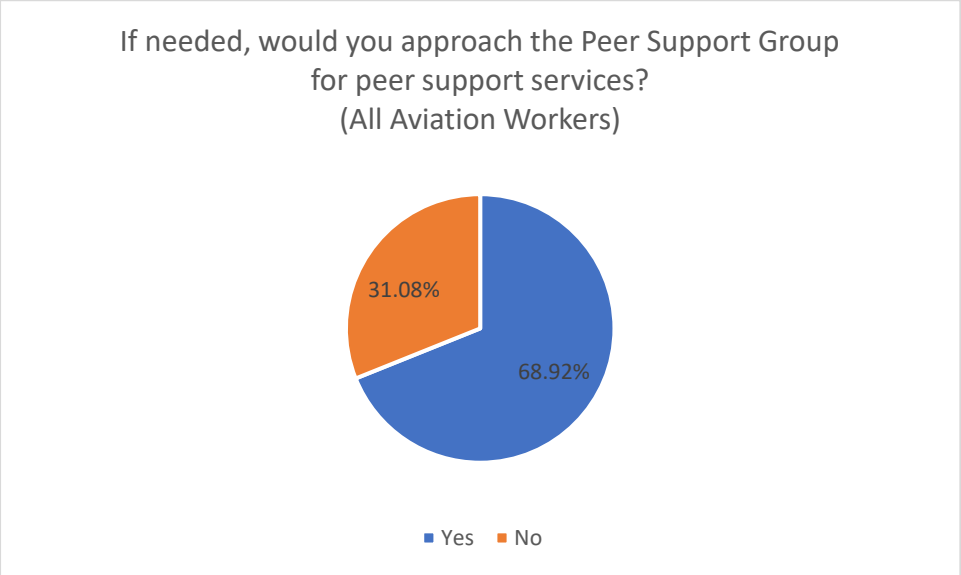
Who would you raise your concern with?	Respondents indicated that they were most likely to report their concern to a Line Manger (32.49%), followed by another colleague (20.30%), and peer support (19.52%). Very low number of respondents indicated that they would raise a concern with an aeromedical examiner (4.76%).



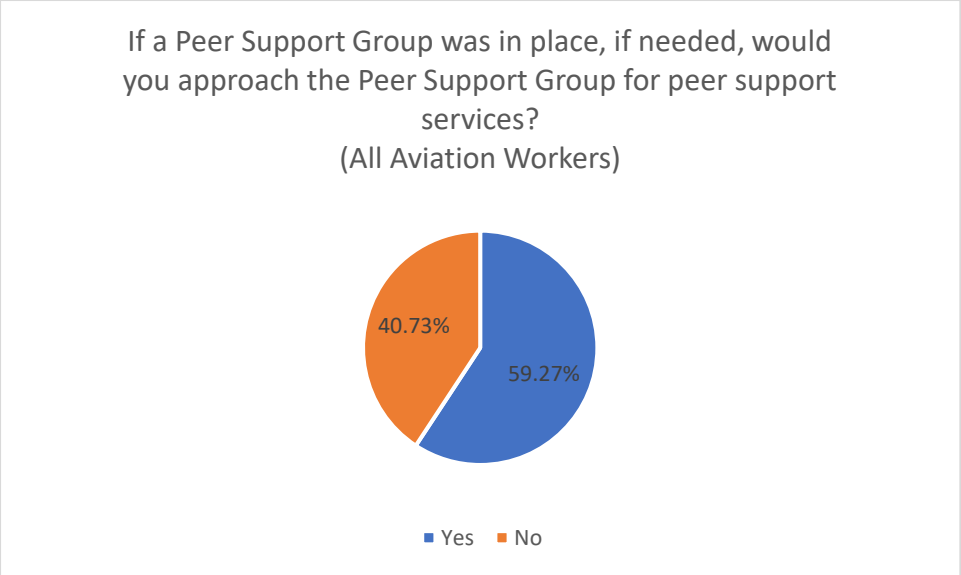
Are you aware of the existence of a Peer Support Group within your company or staff representative association?	The vast majority (70%) are aware of the existence of a Peer Support Group within your company or staff representative association.



If needed, would you approach the Peer Support Group for peer support services?	The vast majority (69%) would approach the Peer Support Group for peer support services, if needed.

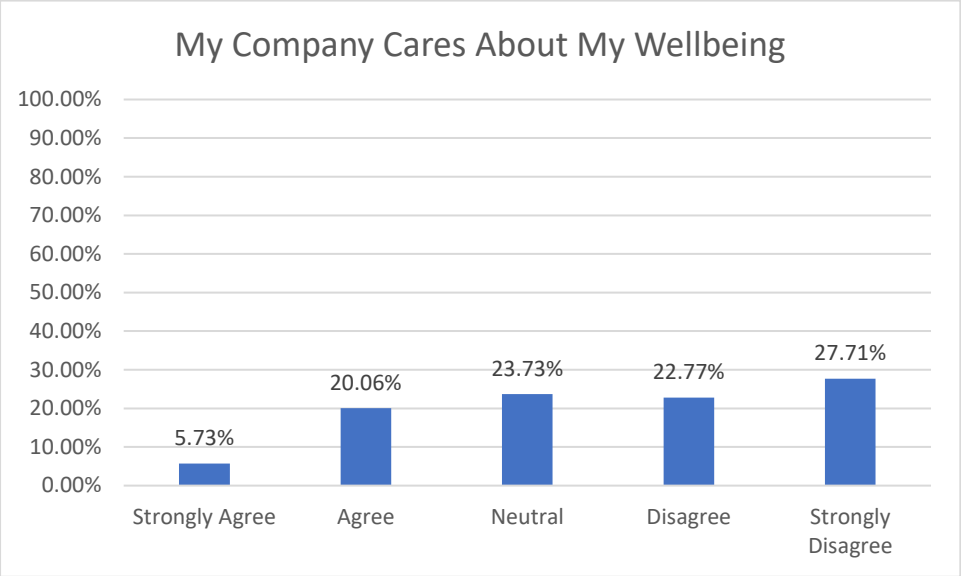


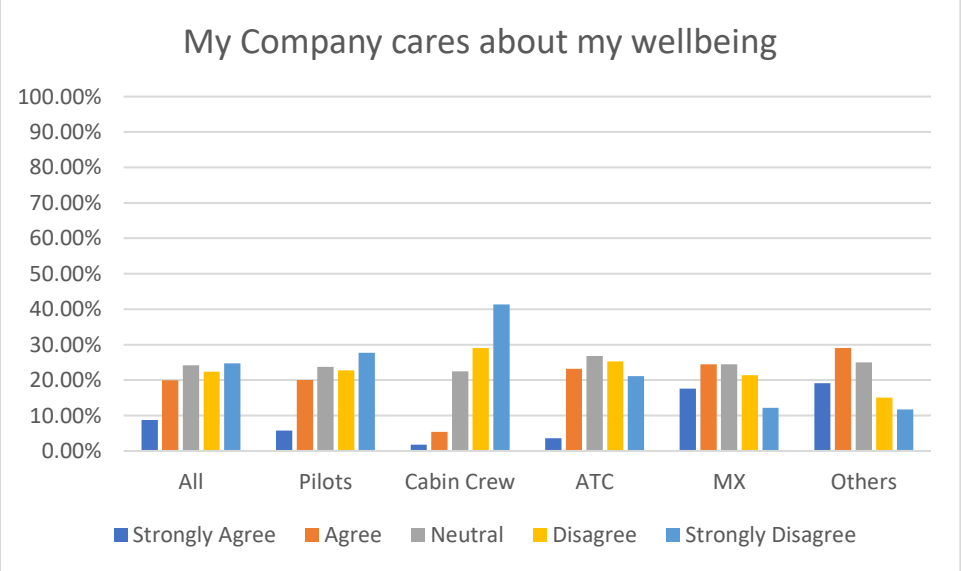
If a Peer Support Group were in place, if needed, would you approach the Peer Support Group for peer support services?	Nearly 60% of respondents indicated that if a Peer Support Group were in place, and if needed, they would approach the Peer Support Group for peer support services.



Research Q 6. Wellbeing Culture: Is wellbeing a priority for organisations? Are existing organisational supports fit for purpose? Willingness to disclose MH issues to employer.

My company cares about my wellbeing.	Very low number (26%) either agree or strongly agree that their company cares about their wellbeing. Maintenance/Engineering workers have the highest levels of agreement with this (42% agreeing or strongly agreeing), while Cabin Crew have the lowest level of agreement with this (7% agreeing or strongly agreeing).

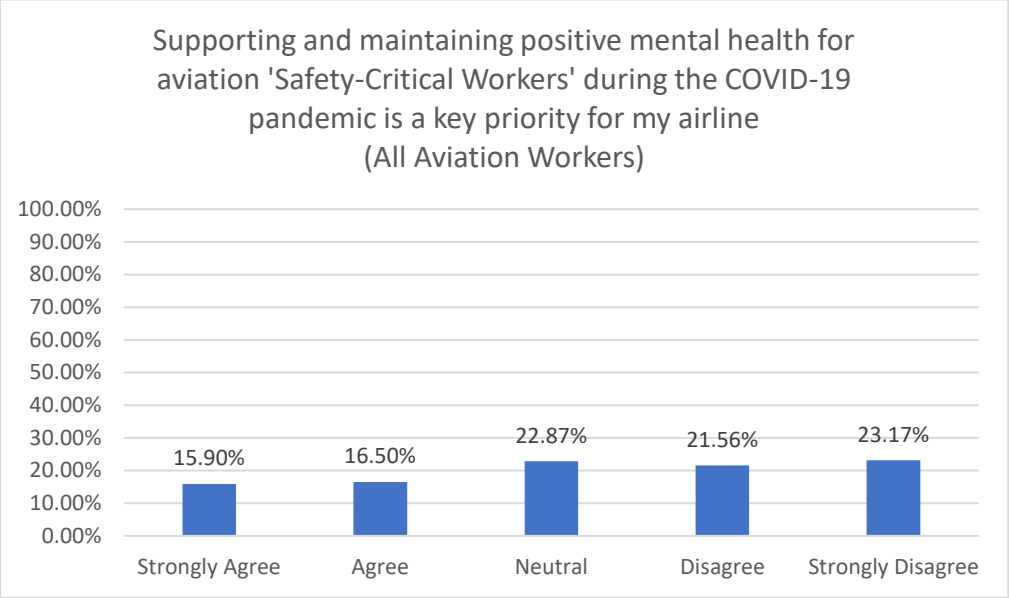


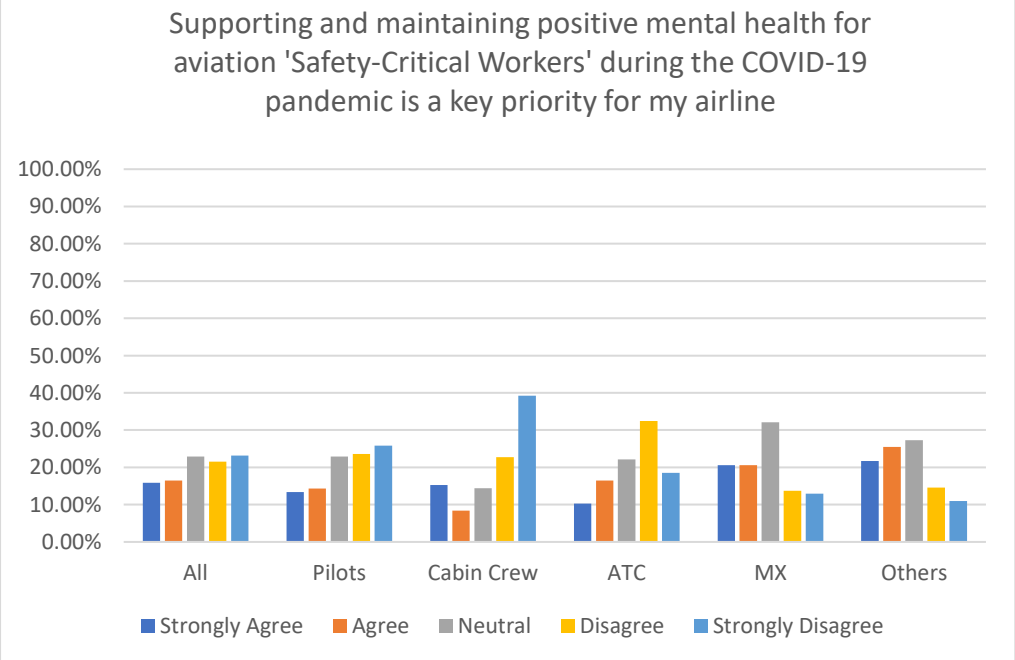


	All	Pilots	Cabin Crew	ATC	MX	Others
Strongly Agree	8.76%	5.73%	1.80%	3.61%	17.56%	19.13%
Agree	19.95%	20.06%	5.39%	23.20%	24.43%	29.08%
Neutral	24.18%	23.73%	22.46%	26.80%	24.43%	25.00%

Disagree	22.39%	22.77%	29.04%	25.26%	21.37%	15.05%
Strongly Disagree	24.72%	27.71%	41.32%	21.13%	12.21%	11.73%

Supporting and maintaining positive mental health for aviation 'Safety-Critical Workers' during the COVID-19 pandemic is a key priority for my airline.	Only 32% of aviation workers agree or strongly agree that supporting and maintaining positive mental health for aviation 'Safety-Critical Workers' during the COVID-19 pandemic is a key priority for their airline. The highest level of agreement with this was with MX/Engineering (42%), while the lowest level was with Cabin Crew (23%).

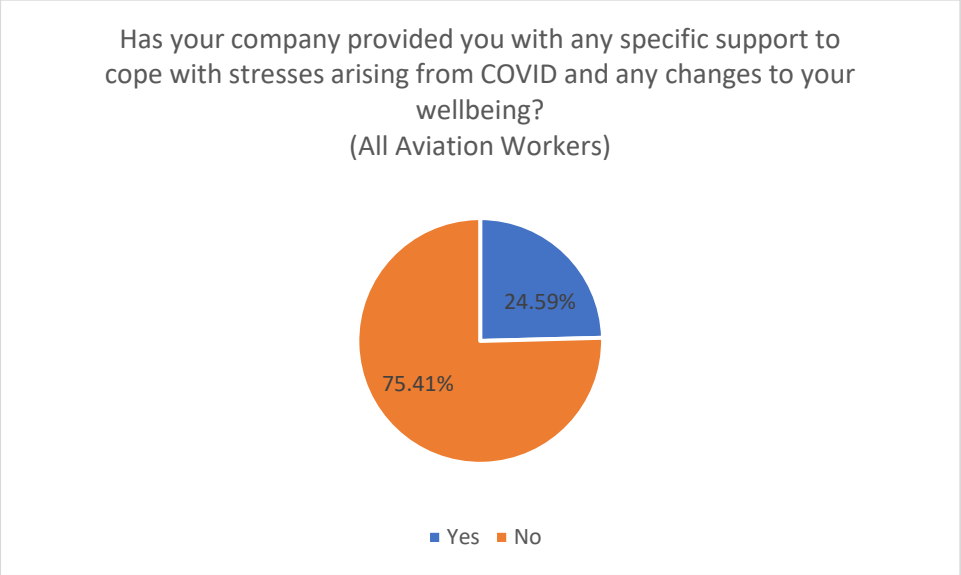


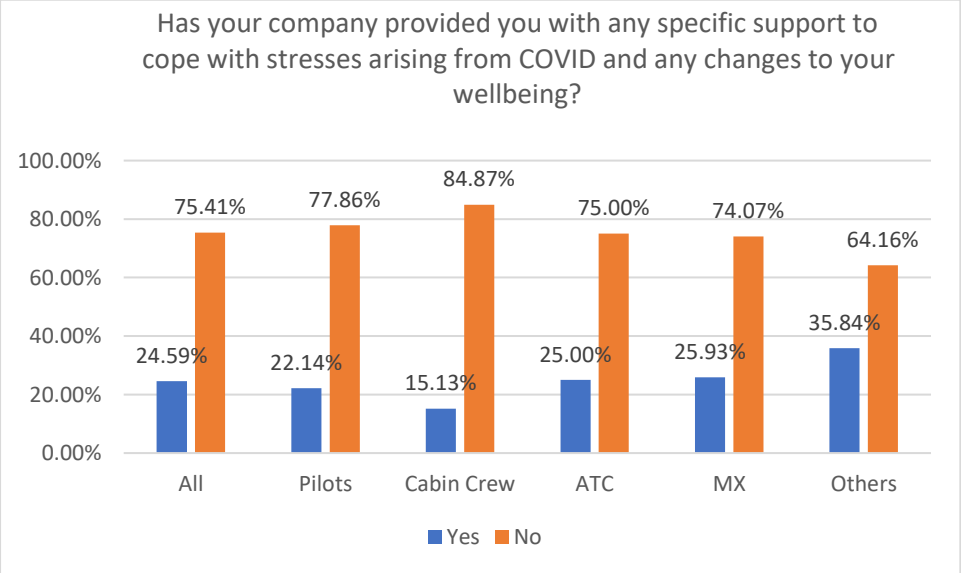


	All	Pilots	Cabin Crew	ATC	MX	Others
Strongly Agree	15.90%	13.38%	15.27%	10.31%	20.61%	21.68%
Agree	16.50%	14.33%	8.38%	16.49%	20.61%	25.51%
Neutral	22.87%	22.93%	14.37%	22.16%	32.06%	27.30%

Disagree	21.56%	23.57%	22.75%	32.47%	13.74%	14.54%
Strongly Disagree	23.17%	25.80%	39.22%	18.56%	12.98%	10.97%

Has your company provided you with any specific support to cope with stresses arising from COVID and any changes to your wellbeing?	Most aviation workers indicated that their company has NOT provided them with any specific support to cope with stresses arising from COVID and any changes to their wellbeing. MX/Engineering reported the highest level of support (26%), while Cabin Crew reported the lowest (15%).





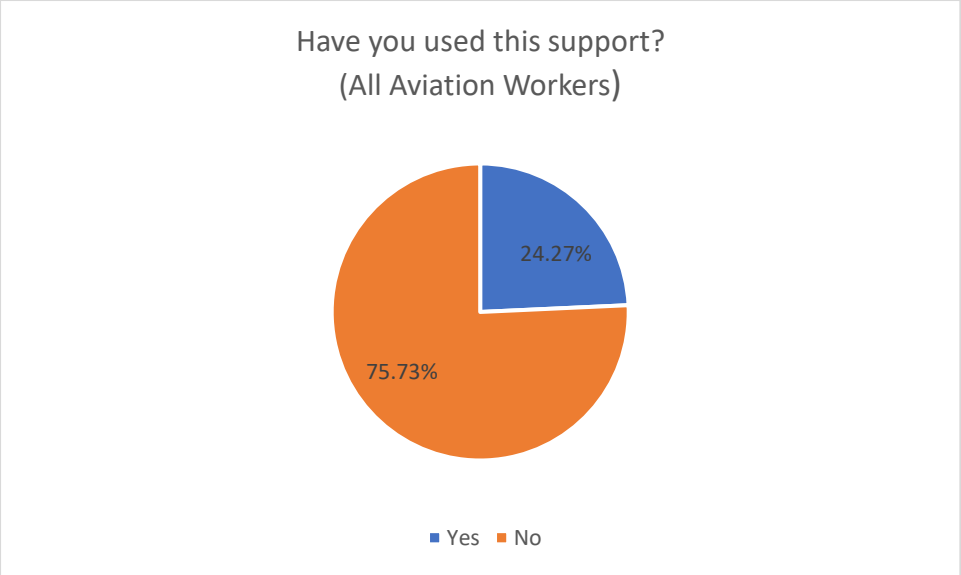
	All	Pilots	Cabin Crew	ATC	MX	Others
Yes	24.59%	22.14%	15.13%	25.00%	25.93%	35.84%
No	75.41%	77.86%	84.87%	75.00%	74.07%	64.16%

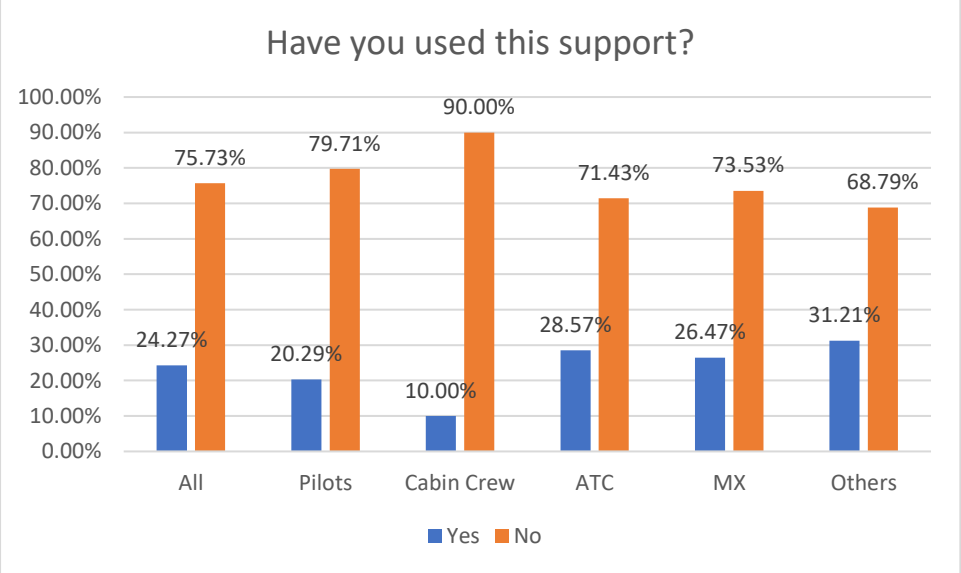
Examples of Wellbeing Supports Provided (free text entries)

1	In house company services/support	• Online wellbeing seminars - power point presentation on wellbeing • Access to online resources

		• A phone call to check in with us. • Virtual coffee/meet up. • Newsletters on yoga and meditation • Flexible working hours • Temperature testing • New COVID safety procedures • The company distributed information about the Pilot Peer Support Programme
2	Outside Services (paid for by company)	• Counselling with Psychologist • Phone line counselling support • Physical health support / GP/Medical Assistance
3	Referral to Non-Company Services	• Peer Assistance Network (PAN) • Mindfulness apps

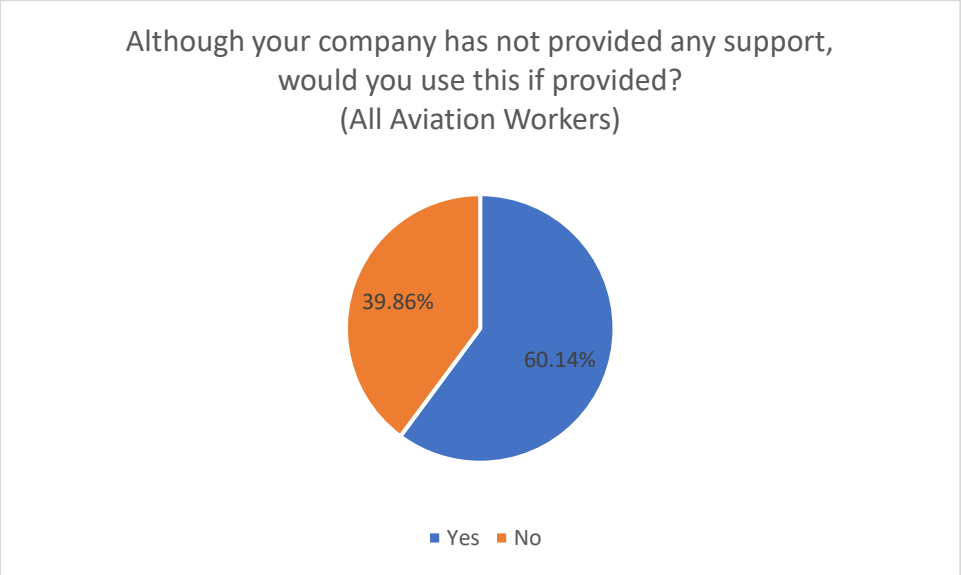
Have you used this support?	Very low number of aviation workers have used the support provided by their employer (24.27%). Highest usage of support is by ATC (29%), while lowest is by Cabin Crew (10%).

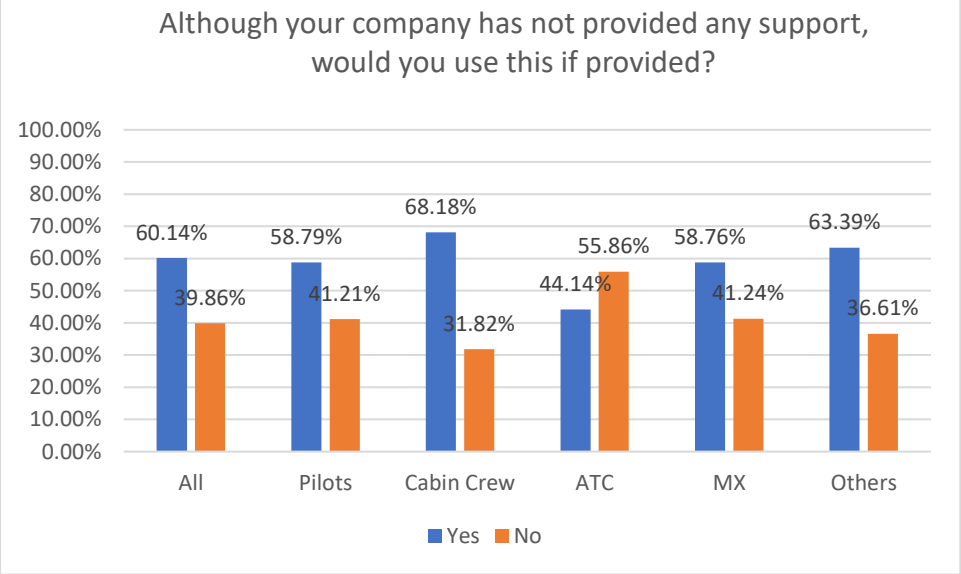




	All	Pilots	Cabin Crew	ATC	MX	Others
Yes	24.27%	20.29%	10.00%	28.57%	26.47%	31.21%
No	75.73%	79.71%	90.00%	71.43%	73.53%	68.79%

Although your company has not provided any support, would you use this if provided?	The majority (60%) indicate that they would use supports if provided.

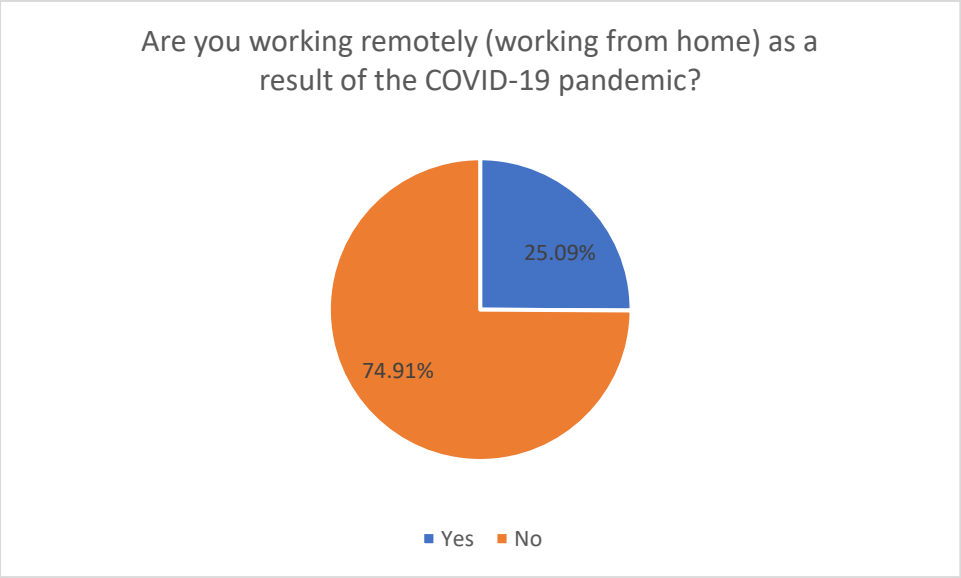




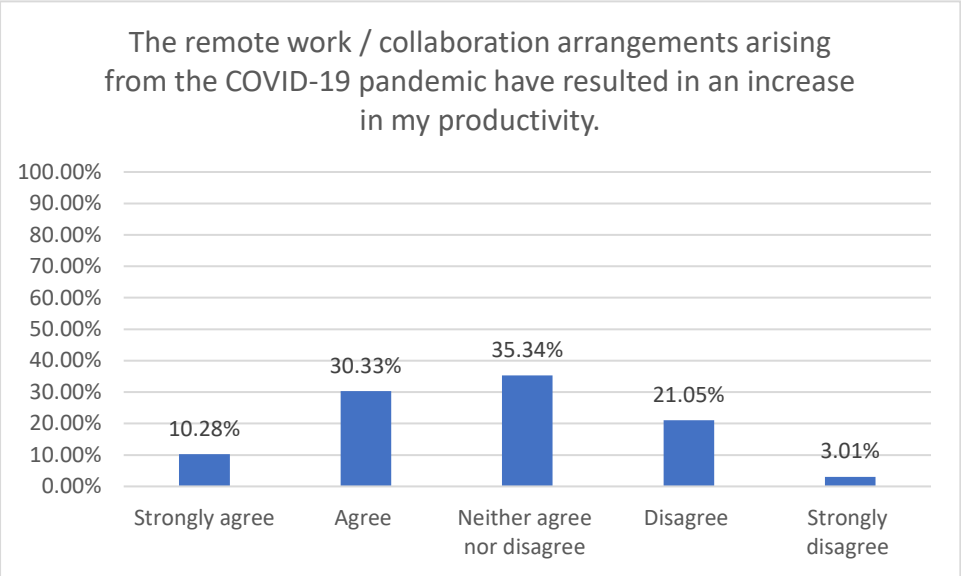
	All	Pilots	Cabin Crew	ATC	MX	Others
Yes	60.14%	58.79%	68.18%	44.14%	58.76%	63.39%
No	39.86%	41.21%	31.82%	55.86%	41.24%	36.61%

Research Q 7. What has the experience of remote work been like for aviation workers? How has it impacted their work and home/work interface?

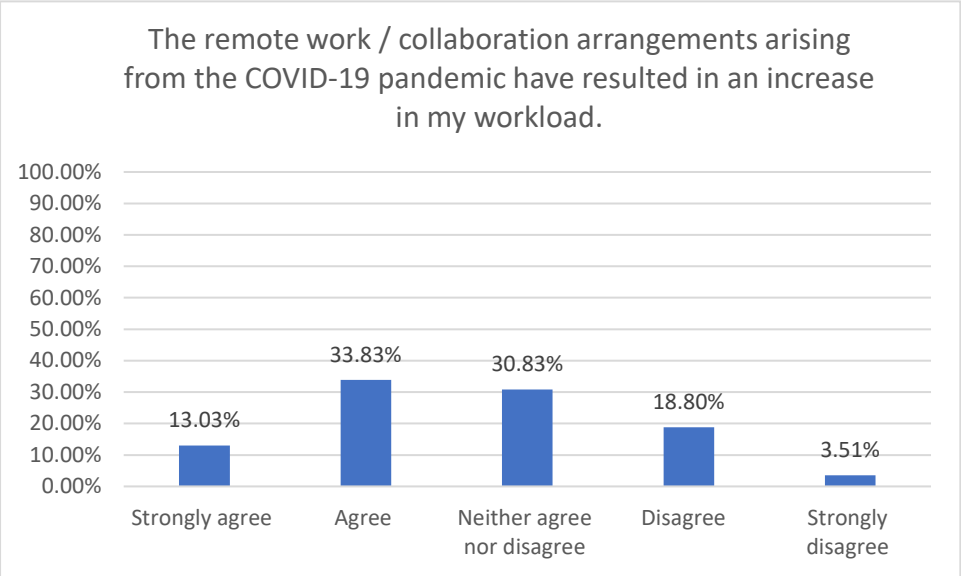
Are you working remotely (working from home) as a result of the COVID-19 pandemic?	Vast majority of aviation workers who completed the survey reported that they are NOT working from home (25%).



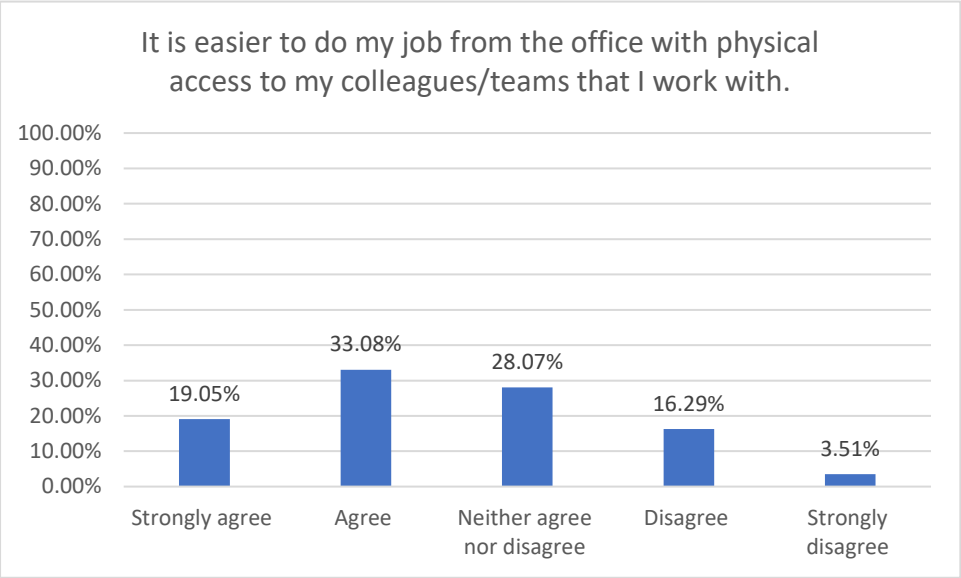
The remote work / collaboration arrangements arising from the COVID-19 pandemic have resulted in an increase in my productivity.	40% of respondents reported that the remote work / collaboration arrangements arising from the COVID-19 pandemic have resulted in an increase in my productivity.



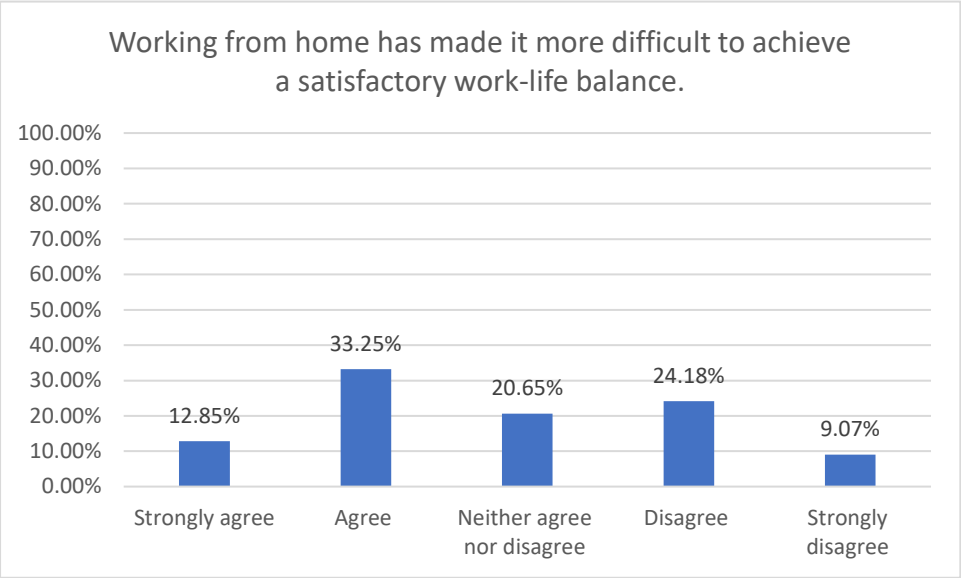
The remote work / collaboration arrangements arising from the COVID-19 pandemic have resulted in an increase in my workload.	Just under half of respondents (47%) agree or strongly agree that the remote work / collaboration arrangements arising from the COVID-19 pandemic have resulted in an increase in their workload.



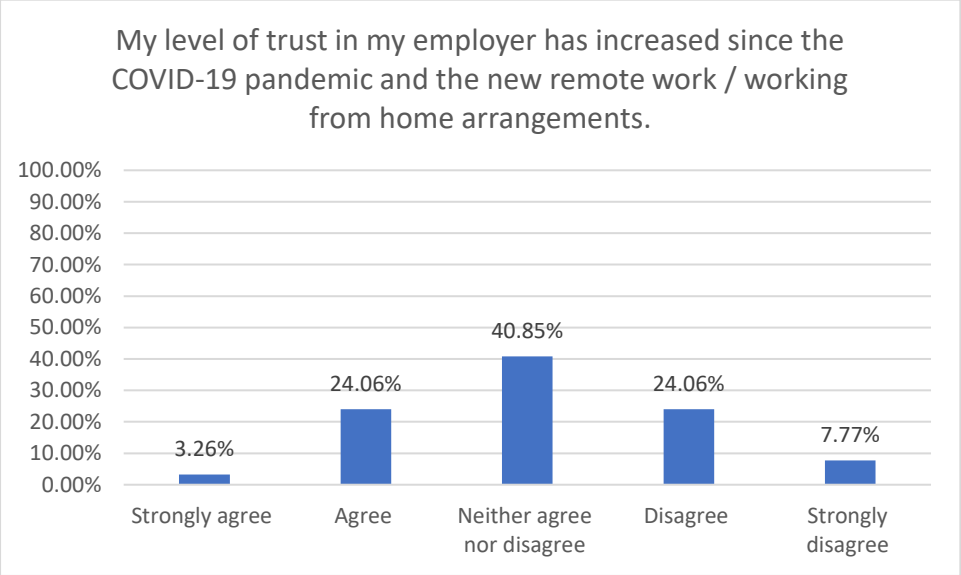
It is easier to do my job from the office with physical access to my colleagues/teams that I work with.	Under half (42%) agreed or strongly agreed that the remote working arrangements have made it easier to do their job.



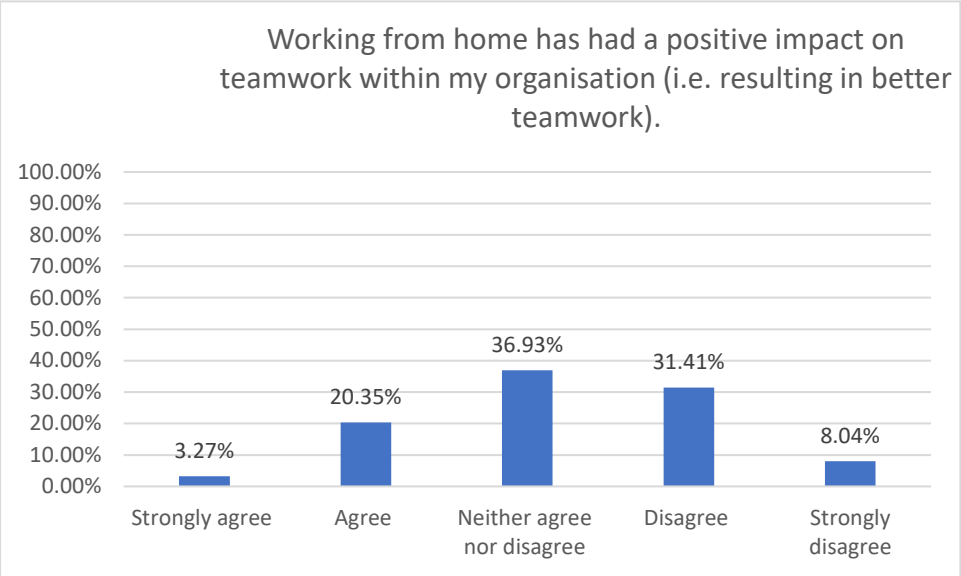
Working from home has made it more difficult to achieve a satisfactory work-life balance.	46% of respondents reported that working from home has made it more difficult to achieve a satisfactory work-life balance.



My level of trust in my employer has increased since the COVID-19 pandemic and the new remote work / working from home arrangements.	Only 27% of participants reported that their level of trust in their employer has increased since the COVID-19 pandemic and the new remote work / working from home arrangements. Most respondents neither agreed nor disagreed (40.85%), while 32% disagreed or strongly disagreed.

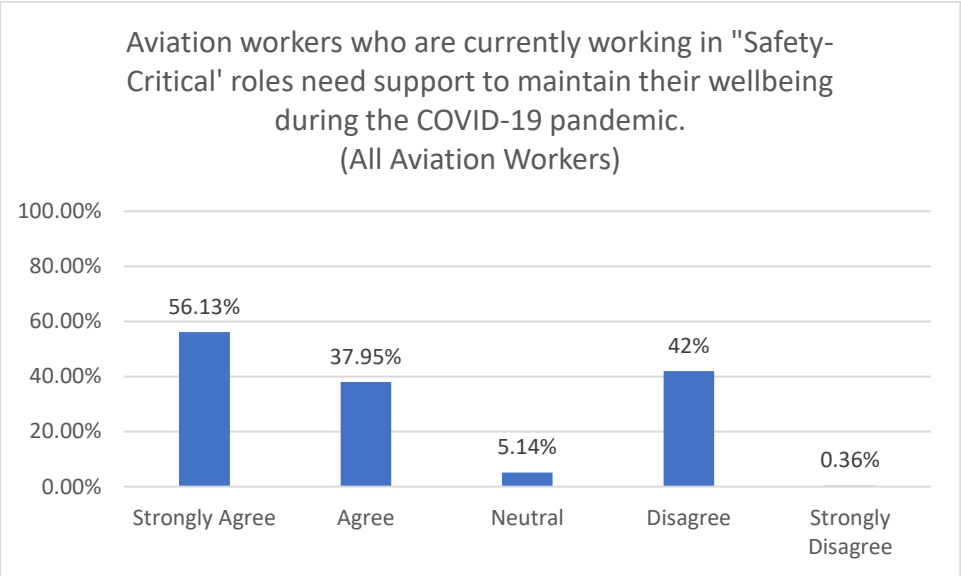


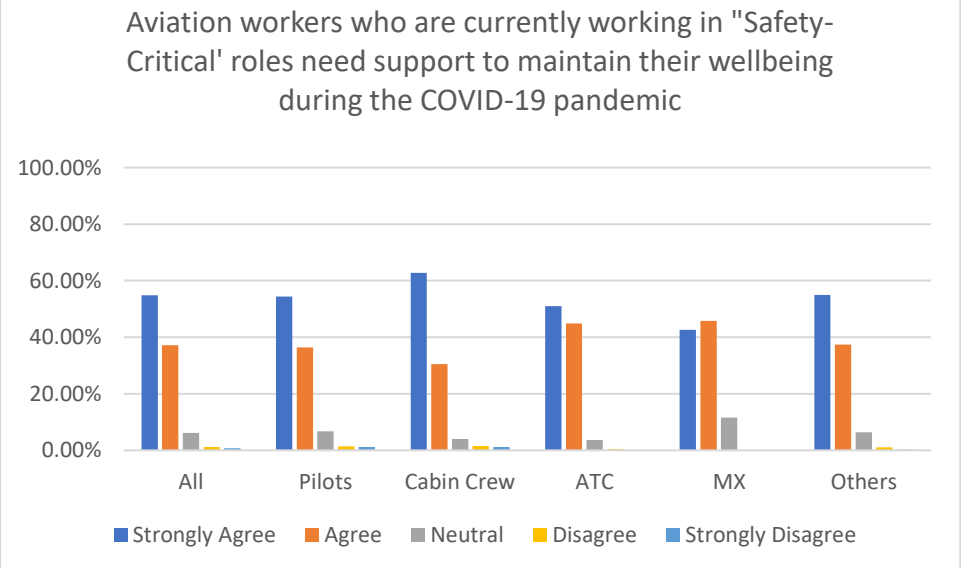
Working from home has had a positive impact on teamwork within my organisation (i.e., resulting in better teamwork).	Only 23% of respondents reported that working from home has had a positive impact on teamwork within my organisation (i.e., resulting in better teamwork). 38% reported a negative impact on teamwork.



Research Q 8: Requirement for aviation workers in safety critical roles to obtain supports in relation to maintaining their wellbeing during pandemic (1) currently working, (2) currently not working.

Aviation workers who are currently working in "Safety-Critical' roles need support to maintain their wellbeing during the COVID-19 pandemic	The overwhelming majority of respondents (94%) indicate that aviation workers who are currently working in "Safety-Critical' roles need support to maintain their wellbeing during the COVID-19 pandemic.

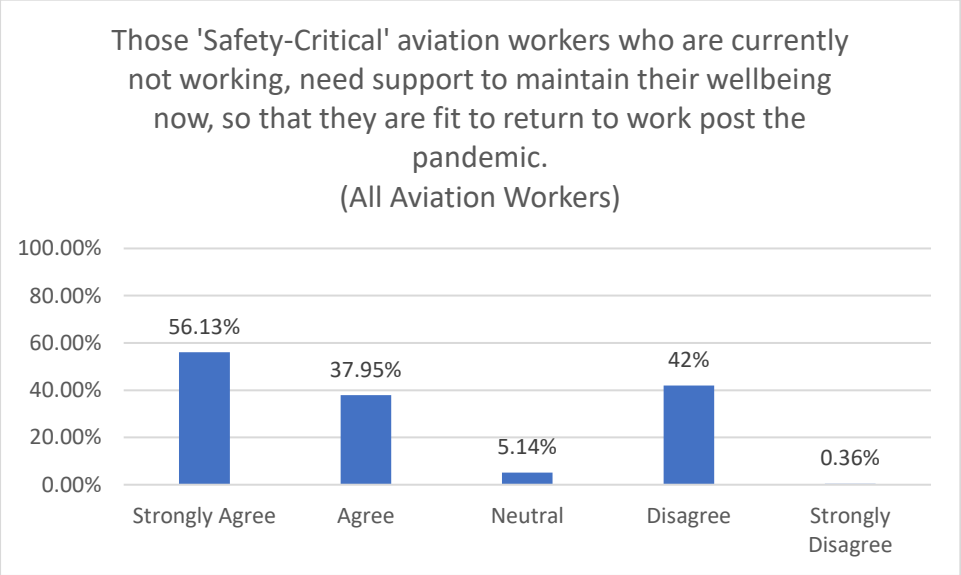


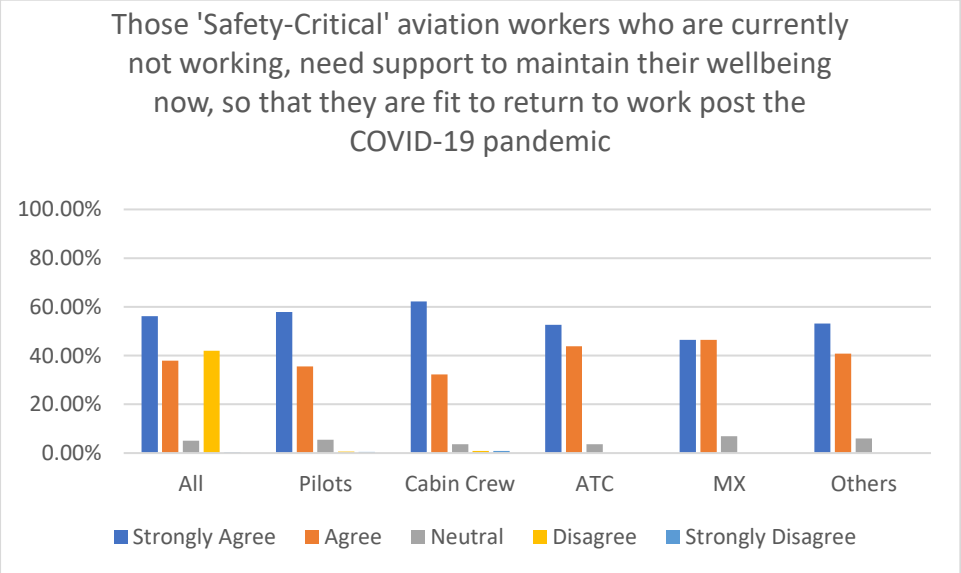


	All	Pilots	Cabin Crew	ATC	MX	Others
Strongly Agree	54.86%	*54.33%*	62.80%	51.03%	42.64%	55.00%
Agree	37.16%	*36.38%*	30.49%	44.85%	45.74%	37.37%

Neutral	6.10%	*6.73%*	3.96%	3.61%	11.63%	6.32%
Disagree	1.15%	*1.44%*	1.52%	0.52%	0.00%	1.05%
Strongly Disagree	0.73%	1.12%	1.22%	0.00%	0.00%	0.26%

Those 'Safety-Critical' aviation workers who are currently not working, need support to maintain their wellbeing now, so that they are fit to return to work post the COVID-19 pandemic.	92% of aviation workers indicated that those 'Safety-Critical' aviation workers who are currently not working, need support to maintain their wellbeing now, so that they are fit to return to work post the COVID-19 pandemic. Highest level of agreement (95%) - with ATC.

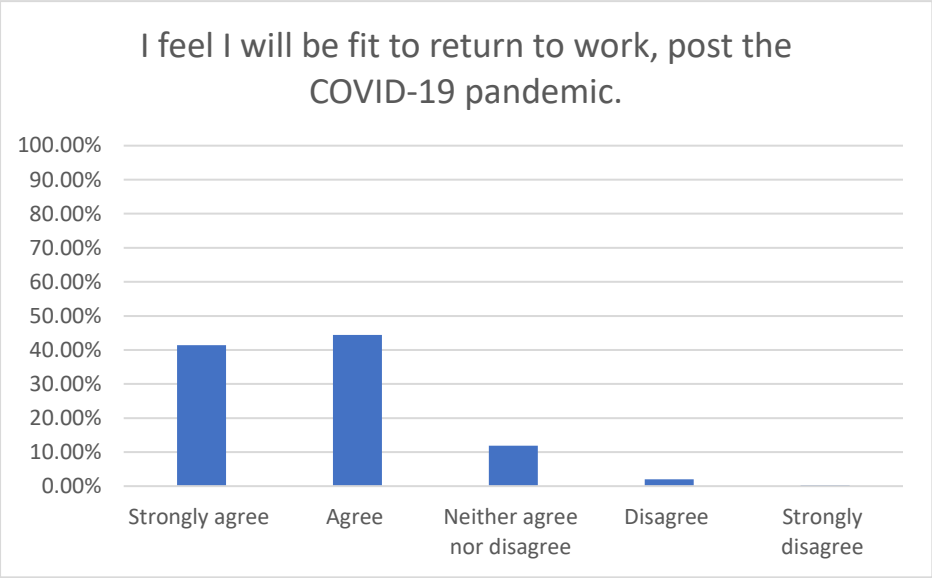


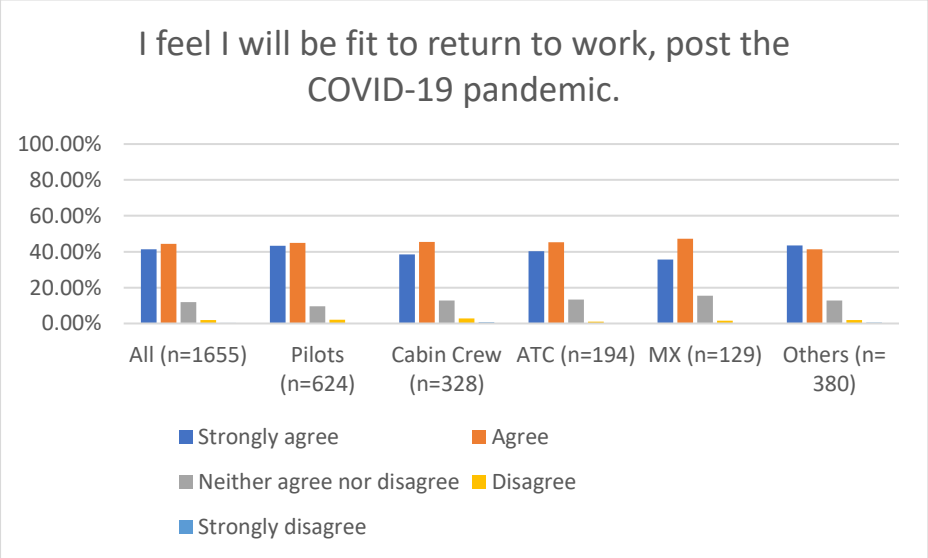


	All	Pilots	Cabin Crew	ATC	MX	Others
Strongly Agree	56.13%	57.85%	62.20%	52.58%	46.51%	53.16%
Agree	37.95%	35.58%	32.32%	43.81%	46.51%	40.79%
Neutral	5.14%	5.45%	3.66%	3.61%	6.98%	6.05%
Disagree	42%	0.64%	0.91%	0.00%	0.00%	0.00%
Strongly Disagree	0.36%	0.48%	0.91%	0.00%	0.00%	0.00%

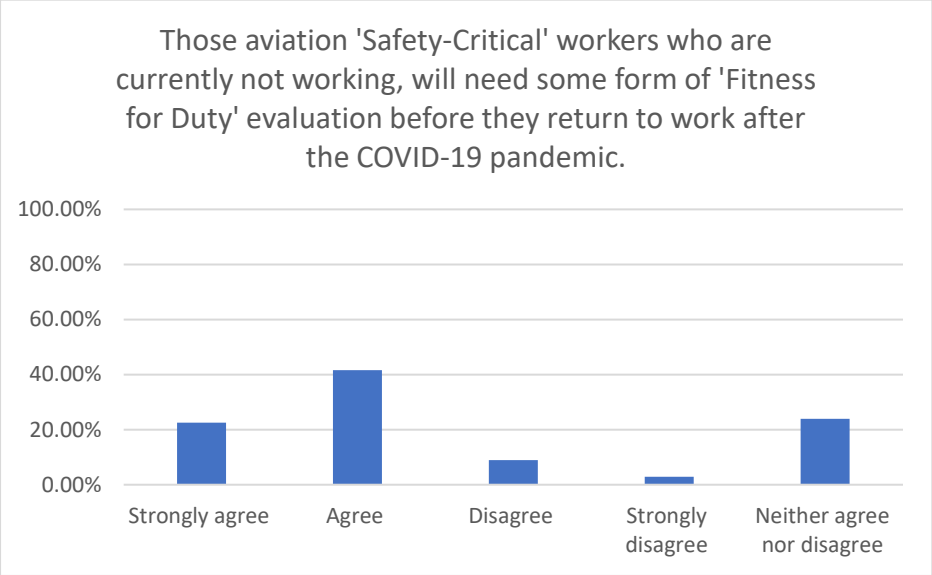
Research Q 9. Requirements for fitness for work/aeromedical assessment for (1) those in work and (2) those on return to work

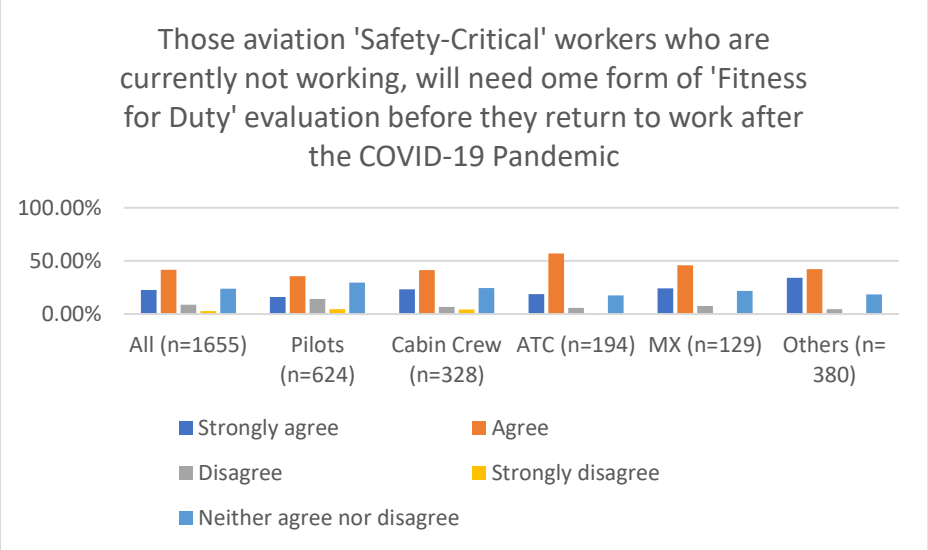
I feel I will be fit to return to work, post the COVID-19 pandemic.	Approximately 86% indicate that they will be fit to return to work post the COVID 19 pandemic.



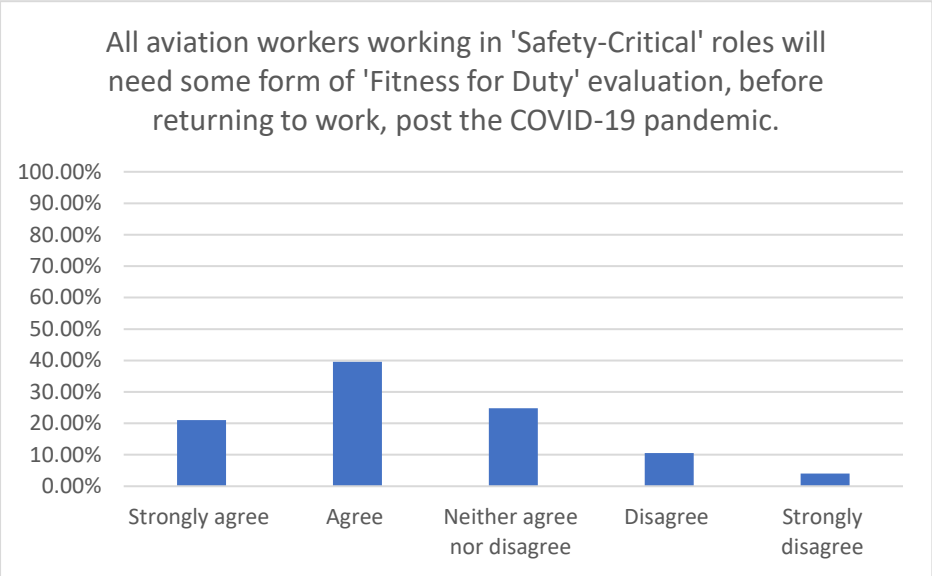


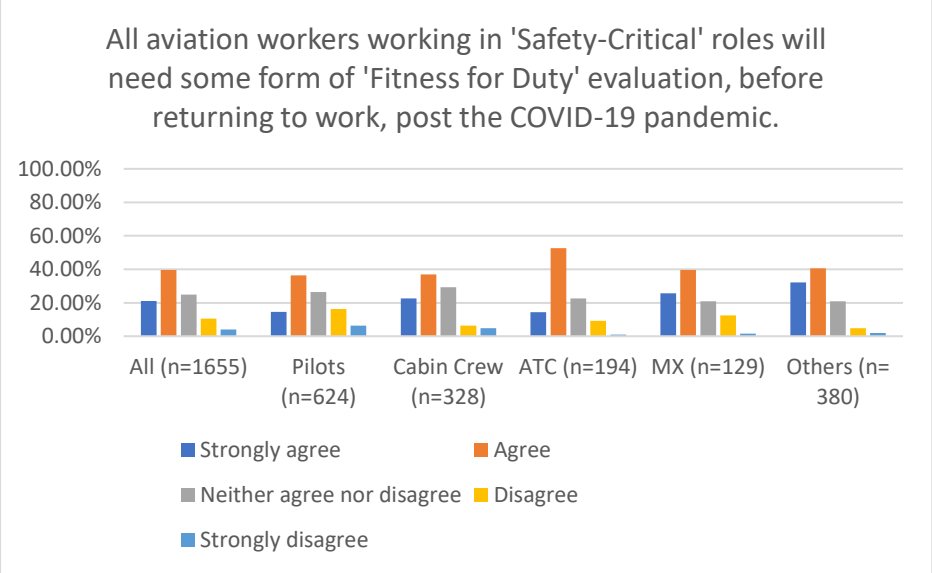
Those aviation 'Safety-Critical' workers who are currently not working, will need some form of 'Fitness for Duty' evaluation before they return to work after the COVID-19 pandemic.	64% (1060 aviation workers) indicate need for fitness for work assessment for safety critical workers returning to work.





All aviation workers working in 'Safety-Critical' roles will need some form of 'Fitness for Duty' evaluation, before returning to work, post the COVID-19 pandemic.	61% (1003 aviation workers) indicate need for fitness to work evaluation for all people returning to work.

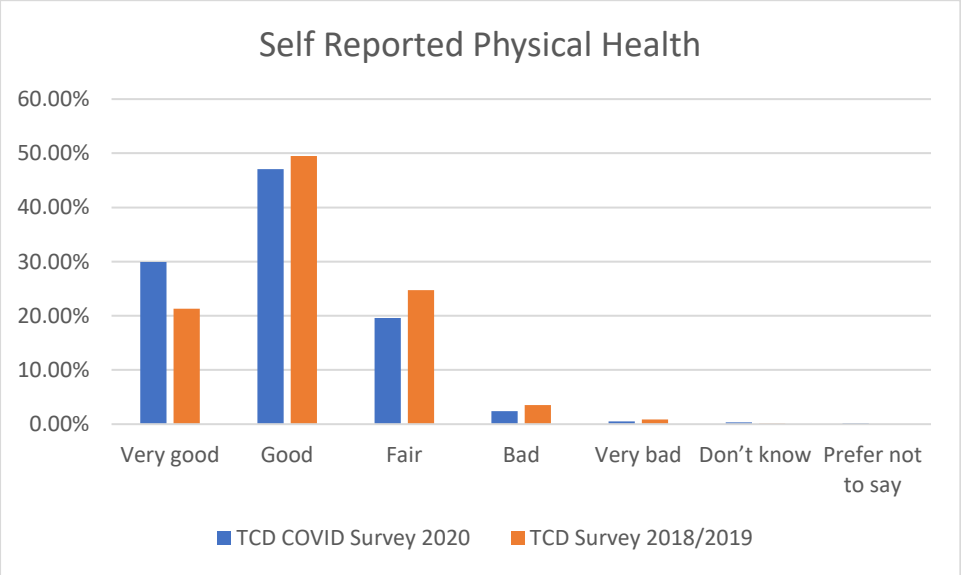




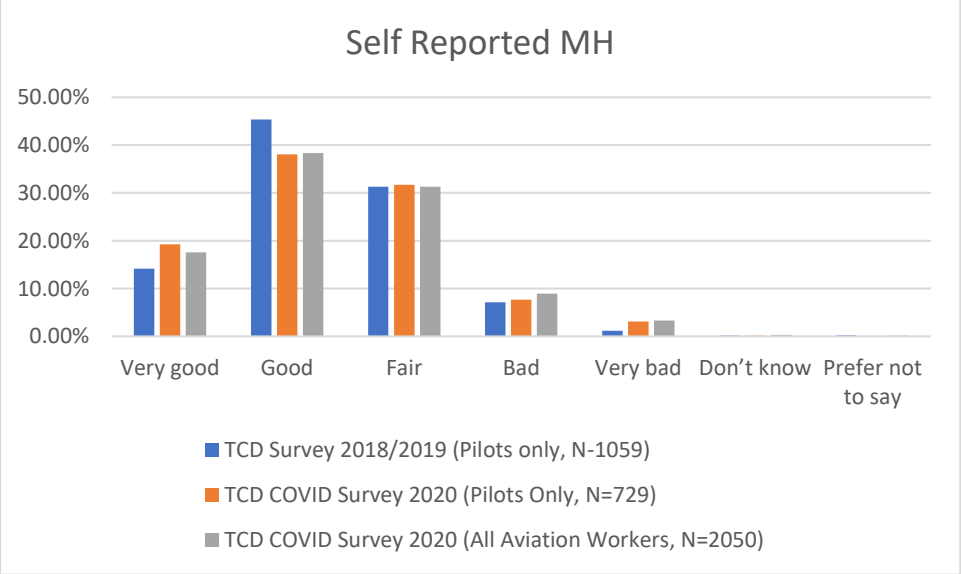
Comparison to Earlier Surveys

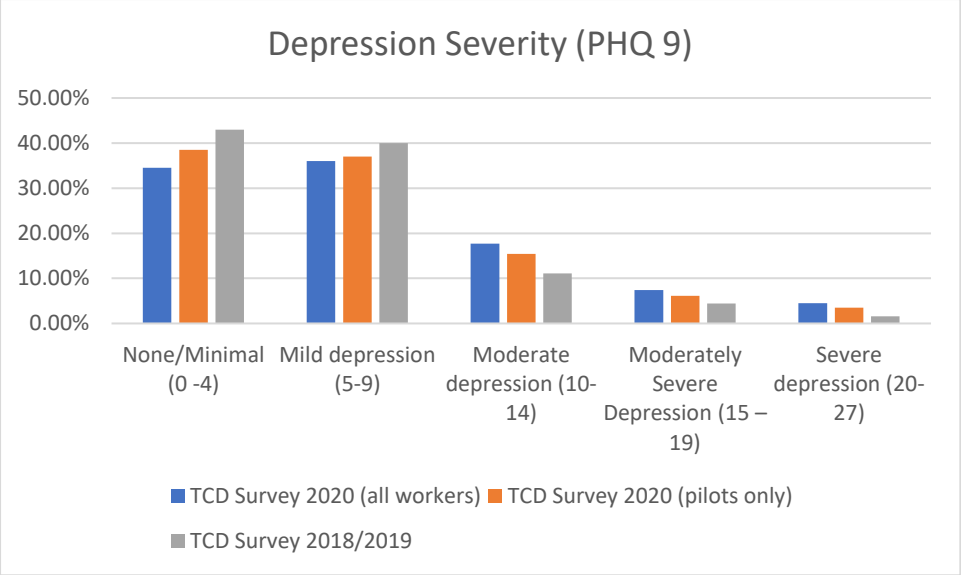
How does the picture compare to earlier research?

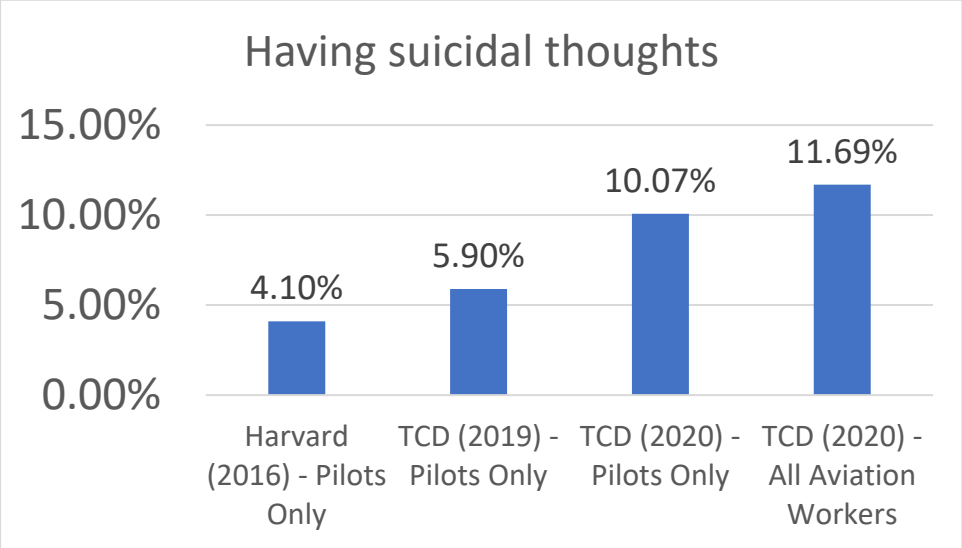
Self-Reported Health Physical Health

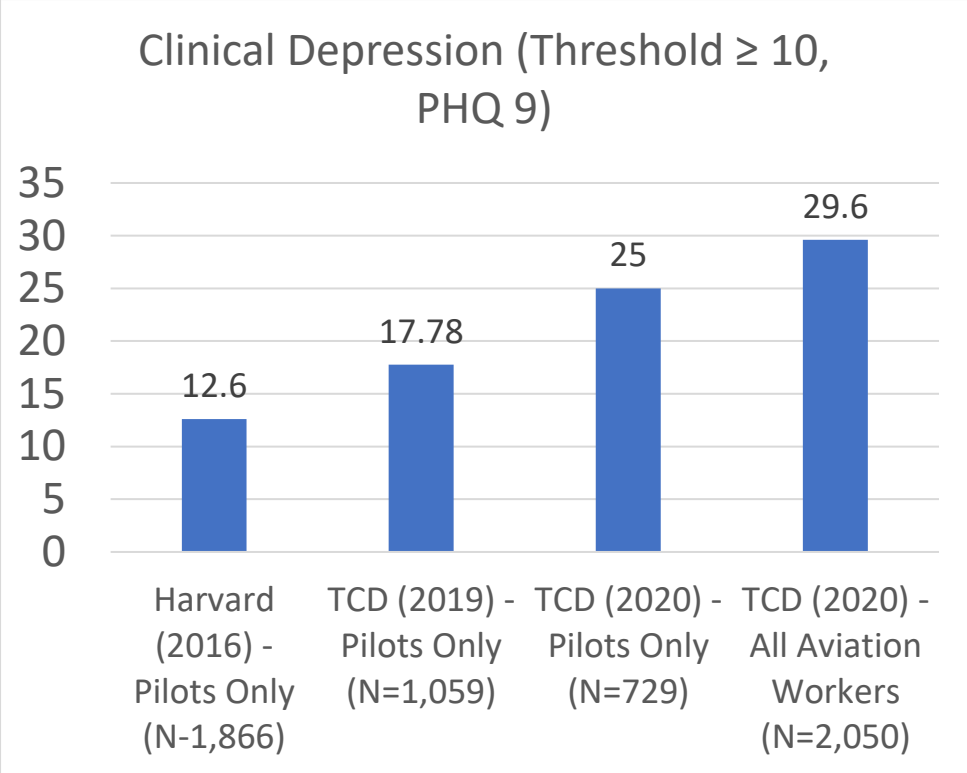


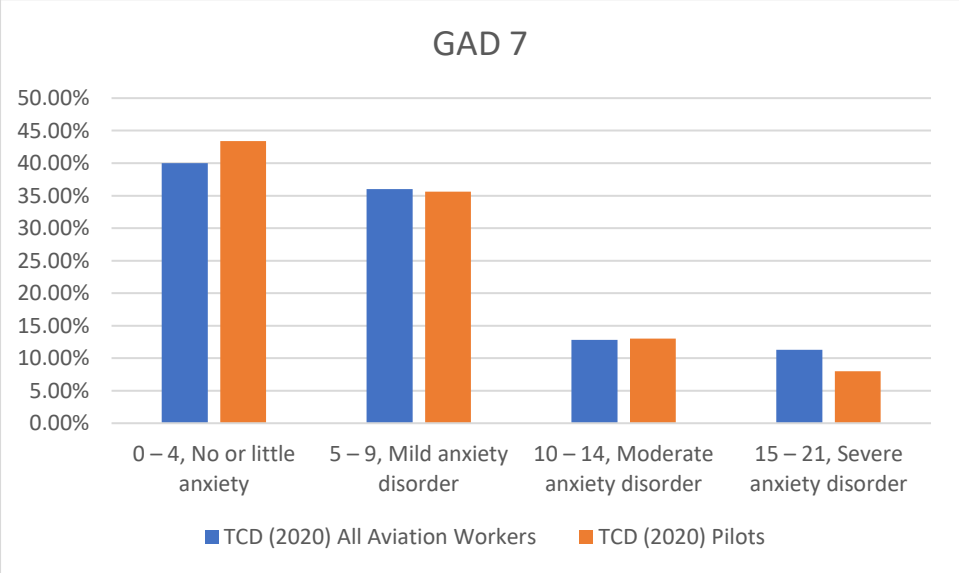
Self-Reported Health Mental Health

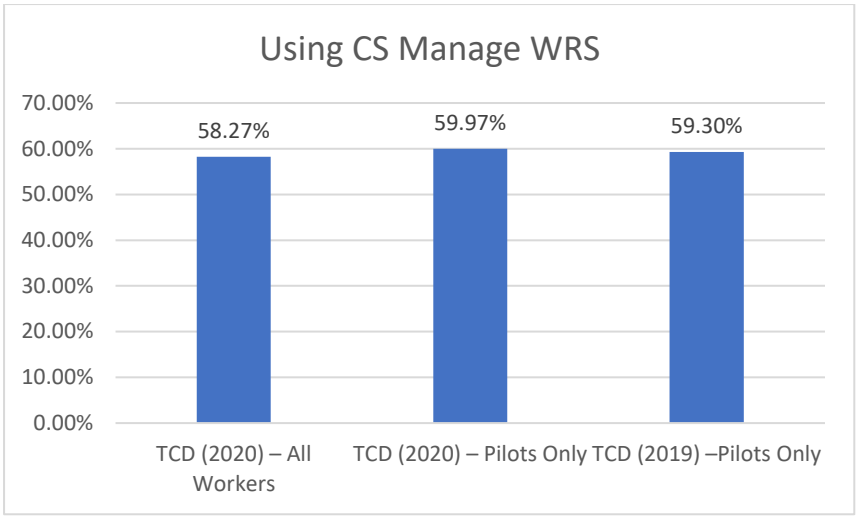


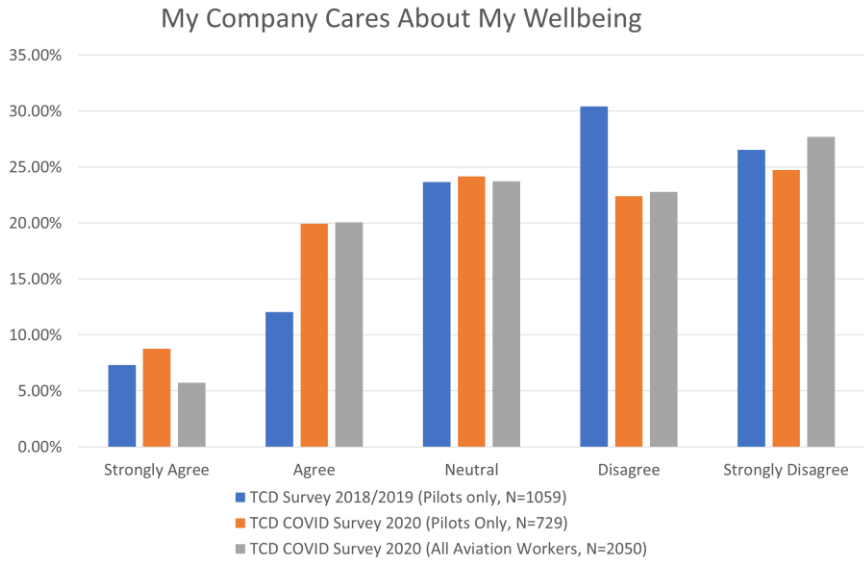

Depression Severity (PHQ 9)
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
None/Minimal (0 -4)
Mild depression (5-9)
Moderate depression (10-14)
Moderately Severe Depression (15 – 19)
Severe depression (20-27)
TCD Survey 2020 (all workers)
TCD Survey 2020 (pilots only)
TCD Survey 2018/2019


Having suicidal thoughts
15.00%
10.00%
5.00%
0.00%
4.10%
5.90%
10.07%
11.69%
Harvard (2016) - Pilots Only
TCD (2019) - Pilots Only
TCD (2020) - Pilots Only
TCD (2020) - All Aviation Workers


Clinical Depression (Threshold ≥ 10, PHQ 9)
35
30
25
20
15
10
5
0
12.6
17.78
25
29.6
Harvard (2016) - Pilots Only (N-1,866)
TCD (2019) - Pilots Only (N=1,059)
TCD (2020) - Pilots Only (N=729)
TCD (2020) - All Aviation Workers (N=2,050)


GAD 7
50.00%
45.00%
40.00%
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
0 – 4, No or little anxiety
5 – 9, Mild anxiety disorder
10 – 14, Moderate anxiety disorder
15 – 21, Severe anxiety disorder
TCD (2020) All Aviation Workers
TCD (2020) Pilots


Using CS Manage WRS
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
58.27%
59.97%
59.30%
TCD (2020) – All Workers
TCD (2020) – Pilots Only
TCD (2019) –Pilots Only


My Company Cares About My Wellbeing
35.00%
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
TCD Survey 2018/2019 (Pilots only, N=1059)
TCD COVID Survey 2020 (Pilots Only, N=729)
TCD COVID Survey 2020 (All Aviation Workers, N=2050)

Conclusions

Key points

- Organisations and workers need to manage specific sources of stress (including work related stress) and anxiety, and the specific impact of COVID-19 on aviation workers.
- Mental health of aviation workers has worsened since the COVID-19 Pandemic, with Cabin Crew most negatively impacted.
    - Higher numbers meeting the threshold for moderate depression (17.7%), moderately severe depression (7.4%), and severe depression (4.5%).
    - Aviation workers are experiencing high levels of anxiety.
- Weak response from organisations in terms of helping employees cope with the stress arising from COVID-19 and changes to their wellbeing.
- Strong need for supports for aviation workers currently in work and working in 'safety critical roles' and currently in work.
- Existing supports provided to aviation workers are not fit for purpose.
- Aviation workers across different roles are practising self-care – this should be encouraged at all levels – linking to promoting a wellbeing culture and safe behaviour.
- There is a need for peer support programmes for all aviation workers, and not just for pilots.
- All stakeholders need to identify a path to integrating different wellbeing functions within aviation organisations (i.e., peer support, EAP, safety/risk management, health promotion) - linking to aeromedical assessment and regulation. This might be 'guided' by the regulator.
- A preventative approach is required to ensure that all aviation workers are fit for duty when they return to work.
- Aviation organisations should actively promote and enable a wellbeing culture – supporting healthy behaviour, promoting awareness of mental health, and enabling workers to talk about their mental health.
- Society and government need to address the provision of health supports for those who are no longer in employment (i.e., with no access to organisational supports which may have been previously used).

Supports

Samaritans	https://www.samaritans.org
European Agency for Safety and Health in Work (EU-OSHA)	https://osha.europa.eu/en/themes/covid-19-resources-workplace#pk_campaign=ban_homecw
EASA COVID-19 Support Material	https://www.easa.europa.eu/community/content/covid-19-support-material
Flight Safety Foundation	https://flightsafety.org/toolkits-resources/covid-19-safety-roadmap-and-punch-lists/ https://flightsafety.org/wp-content/uploads/2020/04/Guide-to-Wellbeing.pdf
Aviation Action	https://aviationaction.org/
European Aviation Mental Well-being Initiative (EAM-WELL)	http://eppsi.eu/
European Pilot Peer Support Initiative	http://eppsi.eu/european-aviation-mental-well-being-initiative-eam-well/
RAeS	https://www.youtube.com/watch?v=pT8uB7fVV44&feature=emb_title
Aerospace Medical Association (AsMA)	COVID-19 - Aviation Personnel and Mental Health Support (David Schroeder,2020)
Australian Psychological Association (APA)	https://www.psychology.org.au/getmedia/3821ed7a-1a8a-4e1d-b303-2943ea9ae6b7/20APS-IS-COVID-19-Public-P2_2.pdf
American Psychiatric Association	https://psychiatry.ucsf.edu/coronavirus/coping https://blogs.webmd.com/mental-health/20200409/what-to-do-if-youre-struggling

National Alliance on Mental Illness (NAMI).	https://nami.org/Support-Education/NAMI-HelpLine/COVID-19-Information-and-Resources
National Institutes of Health	https://www.nih.gov/health-information/your-healthiest-self-wellness-toolkits

Acknowledgements

- Thanks to all the aviation workers who participated in our survey.
- Thanks also to the following groups who have supported this survey/research.

About Lived Experience Project & Research Team

About Project

The Lived Experience Project & Wellbeing Project examines the effects of work-related stress (WRS) on aviation worker wellbeing and the associated impact on performance and flight safety.

Our research also addresses solutions to WRS both an organisational and employee/worker self-management level. This includes tools to promote stress coping, wellbeing awareness and management and risk assessment for WRS/wellbeing. Further, our research addresses the promotion of a wellbeing culture at aviation organisations.

Lived Experience
Wellbeing Project
BIOLOGICAL - PSYCHOLOGICAL - SOCIAL

Our research is independent. However, the Lived Experience & Wellbeing Project have active collaboration with aviation stakeholders – including the regulator and industry wellbeing and safety working groups.

Team

Dr Joan Cahill	Principal Investigator at the Centre for Innovation in Human Systems (CIHS), at the School of Psychology, Trinity College Dublin, Ireland		Dr Joan Cahill is a Research Fellow and Principal Investigator at the Centre for Innovation in Human Systems (CIHS), at the School of Psychology, Trinity College Dublin, Ireland. Dr Cahill's research spans three fields - Human Factors, Ethics & Behaviour Science. Over the last twenty-one years, Dr Cahill has undertaken research, teaching, and consultancy services at the intersection of information/technologies, people, and process delivery. This research has focussed on technology-based supports and interventions in different industries including aviation, healthcare, transport, and financial services. Dr Cahill is passionate about human factors

			and specifically socio-technical interventions that are ethical, prioritise human value and wellbeing and deliver positive societal impacts.
Captain Paul Cullen	Research associate at the Centre for Innovation in Human Systems (CIHS), School of Psychology, Trinity College Dublin, Ireland		Captain Paul Cullen is an Airbus pilot, IFALPA accredited accident investigator and research associate at the Centre for Innovation in Human Systems (CIHS), School of Psychology, Trinity College Dublin, Ireland. Paul is keen to understand how the Safety-II philosophy can be incorporated into the management of well-being within aviation.
Sohaib Anwer	Data Scientist working with the Lived Experience and Wellbeing Project		Sohaib Anwer is a Data Scientist working with the Lived Experience and Wellbeing Project group. He holds a Master's degree in Statistics from University College Dublin, where his thesis focused on Sports Statistics. He has been involved with the group for nearly the past two years. He is passionate about real world applications of statistics, especially in the field of Operations Research.
Prof Keith Gaynor	Assistant Professor in Clinical Psychology in the School of Psychology, University College Dublin and a Senior Clinical Psychologist in the Outpatient Department of St John of God Hospital, Dublin		Keith Gaynor is an Assistant Professor in Clinical Psychology in the School of Psychology, University College Dublin and a Senior Clinical Psychologist in the Outpatient Department of St John of God Hospital, Dublin. He specialises in cognitive behavioural therapy (CBT). He has written widely in academic journals on the topic of CBT and is a regular contributor to the Irish media on issues of mental health. His first book is "Protecting Mental Health". His current research interests include COVID-related Anxiety and Depression, Emotional

			Regulation, The Lived Experience of Airline Pilots, and Loneliness

Centre for Innovative Human Systems, Trinity College Dublin

The Centre brings together a critical multidisciplinary RTD capability in process innovation, development, and application of new technologies, and managing risk and organisational change and brings together staff with backgrounds in Psychology, Business and Organisational Behaviour, Engineering, Computer Science, and Health Sciences. CIHS has a wide range of experience of both qualitative and quantitative HF and organisational assessment methods. CIHS have developed a comprehensive HF and operational assessment methodology for use in systems design, technology evaluation, operational evaluation and change management assessment and evaluation.