

34th Conference of the European Association for Aviation Psychology

Exploring the Relationship between the Fear of Covid-19, Job Insecurity, Employee Well-Being, and Job Involvement in Flight Personnel

Neşe Saruhan^a, Ezgi Yıldız^b, Dilek Anuk^c, Pınar Ünsal^{d*}

^aPsychology Department, Istanbul Gedik University, Istanbul, Turkey

^bInstitute for Aviation Psychology Research, Istanbul University, Istanbul, Turkey

^cDepartment of Consultation-Liaison Psychiatry, Istanbul Faculty of Medicine, Istanbul University, Istanbul, Turkey

^dInstitute for Aviation Psychology Research, Istanbul University, Istanbul, Turkey

Abstract

The aviation industry has recently experienced several difficulties due to Covid-19. Especially flight personnel (pilots and cabin crews), who worked under the health-threatening effects of Covid-19, either lost their jobs or were faced with a dramatic decrease in their incomes. The aim of this research is to understand the impact of the fear of Covid-19 on the well-being of flight personnel, to reveal the mediating role of job insecurity on this relationship, and to observe the moderating role of job involvement on the relationship between job insecurity and well-being. The study was conducted with pilots (N=111) and cabin crew members (N=45) who worked for different airlines in Turkey. The total sample size was 154 participants. The results showed that job insecurity played a mediating role as fear of Covid-19 began to have a less significant impact on employee well-being. In addition, the analysis of the moderating role of job involvement showed that high job involvement exacerbates the negative effect of job insecurity on flight personnel's well-being. The results are discussed in relation to the organizational and human resources management practices in airline companies.

© 2022 The Authors. Published by ELSEVIER B.V.

This is an open access article under the CC BY-NC-ND license (<https://creativecommons.org/licenses/by-nc-nd/4.0>)

Peer-review under responsibility of the scientific committee of the 34th Conference of the European Association for Aviation Psychology

Keywords: Fear of Covid-19, Job insecurity, Well-being, Job involvement, Flight personnel

* Corresponding author.

E-mail address: nese.saruhan@gedik.edu.tr

1. Introduction

Research shows that the Covid-19 pandemic has had a detrimental impact on people's lives (O'Connor et al., 2021). Amid this upheaval, a new construct, called the "Fear of Covid-19" (Luo, Ghanei Gheshlagh, Dalvand, Saedmoucheshi, and Li, 2021), has emerged and been subjected to extensive investigation. One of the most studied variables with respect to the fear of Covid-19 has been psychological health and well-being (Erbiçer, Metin, Çetinkaya, and Şen, 2021). As put forth by many scholars (e.g., Adler et al., 2017), well-being is a concept that combines the experience of positive affective states and satisfaction with one's own life. Using a general community sample as a basis for analysis, it has been reported that Covid-19 had a low but significant level of negative correlation with well-being (Deniz, 2021). Moreover, the fear of Covid-19 explained 11.3% of the total variance in well-being (Özmen, Özkan, Özer, and Yanardağ, 2021).

The fear of Covid-19 vis-à-vis well-being and psychological health issues has been studied largely with specific professions, such as health personnel, which have work environments that pose a high risk of catching the virus to the people working there. Another professional group that might be susceptible to contracting Covid-19 due to their working conditions is flight personnel, including pilots and cabin crew members. Nevertheless, there are few studies investigating the fear of Covid-19 and its effect on the well-being of flight personnel. This study aims to fill this gap by focusing on flight personnel and to reveal if the fear of Covid-19 is related to their well-being. Based on the results of earlier studies, the first hypothesis of the present study is as follows: Hypothesis 1: Flight personnel's fear of Covid-19 is negatively correlated with their well-being. Due to Covid-19, apart from health-related issues, the aviation industry has experienced many economic and environmental crises, which have dealt a major blow to the passenger transportation business (Gössling, Scott, and Hall, 2020). Moreover, the Covid-19 pandemic disaster has had a detrimental impact on the social and economic lives of the aviation industry employees (Çakı, Uludağ Güler, and Ünal 2022). Because of the pandemic, aviation employees have either lost their jobs or suffered a dramatic decrease in their incomes (Deveci, Çiftçi, Akyurt, and Gonzalez, 2022). This means that as a result of the pandemic, flight personnel all over the world have lived through a highly stressful experience called job insecurity.

De Witte (1999) emphasized that job insecurity is a subjective experience entailing uncertainty about the future. Some authors have viewed it as an individual concern with retaining the job in the future. Others, however, have suggested that it involves apprehension over losing some elements of the job in the future (De Witte, 1999). This distinction might also refer to quantitative and qualitative aspects of job insecurity. Quantitative job insecurity is experienced when there is a possibility of job loss while qualitative job insecurity is perceived when there is a possibility of losing valuable aspects of the job in the future (De Witte, 2015). Each type is relevant for the present study as flight crews have lived through both kinds of job insecurity during the pandemic. There are many research findings linking the fear of COVID-19 with various outcomes, such as the fear of death. However, in the aviation industry, the fear of COVID-19 might be the main basis for job insecurity. This is because as the severity of the pandemic grew, the aviation industry lost passengers. This, in turn, worsened the economic performance of airline companies. Taking these factors into consideration, our second hypothesis is as follows: Hypothesis 2: Flight

personnel's fear of Covid-19 is negatively correlated with their job insecurity. The association between job insecurity and well-being has long been investigated (De Witte, 1999). This might be particularly important for flight personnel as their psychological health might affect the safety of passengers. Prior to Covid-19, there were few studies investigating the job insecurity of flight personnel as these occupations seemed to have very bright prospects. However, after the breakout of the pandemic, job insecurity acquired importance and as a result, some investigators began focusing on the perceived job insecurity and mental well-being of flight attendants (e.g., Charoensukmongkol, and Suthatorn, 2021; Laovoravit, Pongpirul, Chinswang, Janlampoo, and Imsombut, 2021). Thus, based on all these results, it is possible to suggest that after the outbreak of the pandemic, job insecurity might become a serious concern for flight personnel, and that it might negatively affect their well-being. Therefore, the third hypothesis of the present study is as follows: Hypothesis 3: Job insecurity of flight personnel is negatively correlated with their well-being.

As job insecurity is a significant stress factor for flight personnel during the pandemic, it is possible that it might also play a mediating role between the fear of Covid-19 and well-being. In other words, the negative effect of Covid-19 on well-being would be lesser if Covid-19 did not affect their job security (qualitatively and quantitatively). Thus, the study's fourth hypothesis is as follows: Hypothesis 4: Flight personnel's job insecurity mediates the negative correlation between their fear of Covid-19 and well-being. As stated before, the negative association between job insecurity and well-being has been demonstrated in many studies (De Witte, 1999). One factor moderating this relationship may be job involvement, which has been suggested to play a key role in employee motivation (Govender and Parumasur, 2010). Job involvement has been defined as the degree to which one psychologically identifies and satisfies her/his needs with the current job (Kanungo, 1982). Probst (2000) also suggested that when the job plays a central role in one's life, job involvement is greater. Brown (1996) argued that satisfying one's psychological needs through a job might result in a state of identification with the job, which in turn triggers motivational outcomes such as effort and performance.

Studies looking at the moderating role of job involvement have had mixed results. An earlier study consisting of a sample of fire service employees conducted by Innes and Clarke (1985) showed that in the relationship between stressful life events and reported symptoms, high job involvement played a buffering role. On the other hand, a study by Frone, Russel and Cooper (1995) with a community sample of employed adults indicated that high job involvement exacerbated the relationship between role ambiguity and alcohol abuse. The authors concluded that high job involvement made employees more vulnerable to the effects of job stress. Probst (2000) tested a similar hypothesis concerning the role job involvement played in moderating a sense of job insecurity and self-reported health problems. He concluded that for employees highly involved in their jobs, job insecurity had a negative impact on health outcomes. In addition, he found that under stressful conditions, highly involved employees were unlikely to respond by trying to find a new job or being less committed to their organization. Instead, they tended to report a higher level of psychological distress and more negative health outcomes. In the present study, it was expected that, for flight personnel, under high job involvement condition, the strength of the negative correlation between job insecurity and well-being would decrease. As earlier emphasized, highly job-involved persons are assumed to have a high level of

motivation, satisfy their psychological needs through their jobs and psychologically identify with their jobs (Govender and Parumasur, 2010; Kanungo, 1982). It is well known that before the pandemic both pilots and cabin crew members were more extrinsically motivated when it came to their jobs. However, with the onset of the pandemic, the external factors motivating them were either lost or reduced. It is likely that this resulted in a decrease in the job involvement levels of extrinsically motivated flight personnel. Therefore, it could be suggested that employees who satisfied their psychological needs through extrinsic motivation factors may have lost some of their job involvement. Consequently, for employees having lower job involvement a stronger negative correlation between job insecurity and well-being could be expected. Therefore, under such conditions generated by the pandemic, it is suggested that high job involvement would be a resiliency factor. In other words, flight personnel who are highly involved with their jobs would retain their well-being under the difficult conditions (e.g., low salaries and inconvenient conditions) caused by the pandemic. Therefore, the fifth hypothesis of the study is as follows: Hypothesis 5: The association between job insecurity and well-being is moderated by the job involvement of flight personnel. Under the condition of high job involvement, the negative impact of job insecurity on the flight personnel's well-being decreases.

To summarize, this research has three main aims. The first is to understand the association between the fear of Covid-19 and flight personnel's well-being. The second is to demonstrate the mediating role of job insecurity on the association between the fear of Covid-19 and flight personnel's well-being. And, finally, to observe the moderating role of job involvement on the association between job insecurity and flight personnel's well-being. The theoretical model of the study is shown in Figure 1.

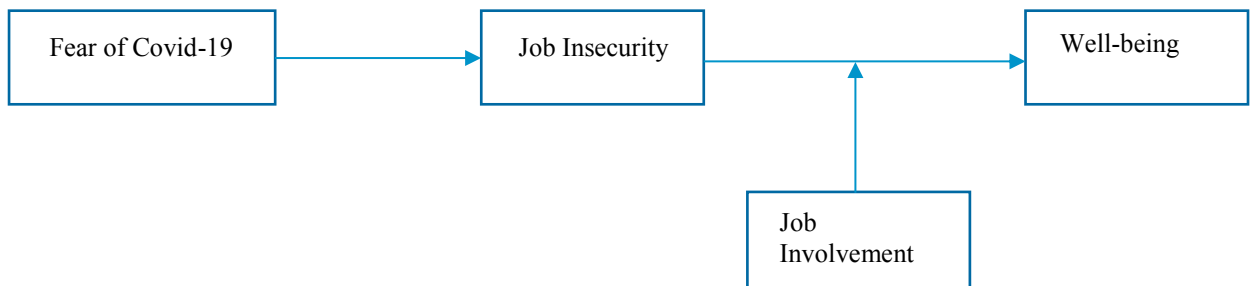


Figure 1: The Theoretical Model of the Study.

2. Method

2.1. Sample and Data Collection

The study sample consisted of pilots and cabin crew members who work for different airlines in Turkey. The total sample size was 154 participants. Altogether, 111 pilots (103 of which were men) and 43 cabin crew members (29 of which were women) participated in this study. The mean age of the participants was 39.52 (SD = 10.73) with 76% of the sample consisting of males. The mean age of the pilots was 42.59 (SD = 10.37) and the mean age of cabin crew

members was 31.58 (SD = 7.33). Among pilots, 36.4% reported working as a first officer and 35.7% as captain. Among cabin crew members, 20.8% indicated working as a flight attendant and 7.1% as a purser/senior flight attendant. The mean work experience of the participants was 11.6 years. Thirty-seven of the participants tested positive for Covid-19 at least once within the last year.

Data was collected online between March and November 2021. The participants were reached through social media accounts and personal contacts. Convenience sampling was used to distribute the online questionnaire. In addition, snowball sampling was used by asking participants to share the online questionnaire link with other people from the aviation industry. All participants signed an informed consent explaining the purpose and scope of the study and assuring participants anonymity of their responses.

2.2. Measures

For the purpose of the research, participants completed a questionnaire that included questions about demographic characteristics, scales of the fear of Covid-19, well-being, job insecurity and job involvement. They answered the questions on five-point Likert scales ranging from 1 (Never) to 5 (Always) for each scale used in the study.

The Fear of Covid-19 Scale was developed by Ahorsu et al. (2022). The Turkish adaptation of this scale was done by Ladikli et al. (2020). The scale consists of seven questions (e.g., “My hands become clammy when I think about coronavirus”). Higher scores indicate increased fear of Covid-19. The Cronbach Alfa value of the Turkish adaption was .82. The Cronbach Alpha was calculated as .92 in the current study.

The WHO-5 Well-Being Scale was developed by the World Health Organization (WHO) in 1998 (Topp, Østergaard, Søndergaard, and Bech, 2015). The scale consists of five items (e.g., “I have felt cheerful and in good spirits”). The Turkish adaption of the scale was done by Eser et al. (2019). It is used to assess subjective psychological well-being in the previous two weeks. Higher scores indicate a higher level of well-being. The Cronbach Alfa value of the Turkish adaption was .83. For the current study, the Cronbach Alpha was calculated as .91.

The Job Insecurity Scale contains nine questions. Five of them reflect quantitative job insecurity, whereas four measure qualitative job insecurity. The items used to assess quantitative job insecurity (e.g., “I am afraid I will get fired”) were based on a scale developed for a European research project (cited by Boya, Demiral, Ergör, Akvardar, and De Witte, 2008). The four items (e.g., “My pay development in this organization is promising”- reverse item) used to measure qualitative job insecurity was developed by Hellgren, Sverke, and Isaksson, 1999). The questionnaire used to assess job insecurity in the current study was adapted from the study by Özyaman (2007), who used these questions in her dissertation thesis. Higher scores indicate a greater level of job insecurity. The Cronbach Alfa value for both the quantitative and qualitative scales of the Turkish adaption of the quantitative and qualitative scales was reported as .83. Similarly, the total Cronbach alpha was also calculated as .83 in the current study.

The Job Involvement Scale was developed by Kanungo (1982). It consists of 10 items, with two of them being reverse coded. One example of the items is “The most important things that happen to me involve my present job.”

Higher scores indicate a greater level of job involvement. Items were translated into Turkish by Göksel and Ekmekçioğlu (2016). The Cronbach Alfa value of the Turkish adaption was reported as .89. The Cronbach alpha calculated in the current study was .88.

3. Results

First, descriptive analyses were conducted. This involved calculating means, standard deviations and frequencies to describe the sample and the general results. Next, Pearson's correlation analyses were executed to examine the correlations between the variables of interest. Finally, linear regression analyses were performed to test the hypotheses according to the research model.

3.1. Descriptive Values and Correlational Analyses

Table 1 summarizes descriptive values in relation to sex, age, fear of Covid-19, Job insecurity, Job involvement and employee well-being.

Table 1. Descriptive Statistics.

	Pilots			Cabin Crew		
	N	M	SD	N	M	SD
Sex						
Male	103			14		
Female	8			29		
Age		42.59	10.27		31.58	7.33
Fear of Covid-19		17.48	6.92		19.65	6.75
Job Insecurity		22.18	6.04		22.09	5.66
Job Involvement		33.91	6.64		32.33	6.44
Employee Well-being		81.80	28.01		85.47	25.63

Table 2 shows the Pearson Correlation values between the study's variables (Fear of Covid-19, Job Insecurity, Job Involvement, and Employee Well-being). As seen here, Fear of Covid-19 was positively correlated with job insecurity ($r = 0.21$, $p < 0.01$) and employee well-being ($r = 0.19$, $p < 0.05$). Furthermore, employee well-being was found to be significantly correlated with job insecurity ($r = -0.49$, $p < 0.01$) and job involvement ($r = 0.21$, $p < 0.01$). These correlation values support the first, second and third hypotheses.

Table 2. Pearson Correlation Values among the Study's Variables.

	Fear of Covid-19 (1)	Job Insecurity (2)	Job Involvement (3)	Employee Well-being (4)

Fear of COVID-19 (1)	-			
Job Insecurity (2)	.21**	-		
Job Involvement (3)	.13	-.06	-	
Employee Well-being (4)	.19*	-.49**	.21**	-

Note. * p < .05, ** p < .001

Therefore, it can be concluded that the results support the hypotheses that “Flight personnel’s fear of Covid-19 is negatively correlated with their well-being” (Hypothesis 1), “Flight personnel’s fear of Covid-19 is negatively correlated with their job insecurity” (Hypothesis 2), and “Job insecurity of flight personnel is negatively correlated with their well-being” (Hypothesis 3).

3.2. The mediating Role of Job Insecurity on the Relationship between the Fear of Covid-19 and Well-being

The mediating role of job insecurity was assessed through the causal steps method used by Baron and Kenny (1986) for testing mediation hypotheses.

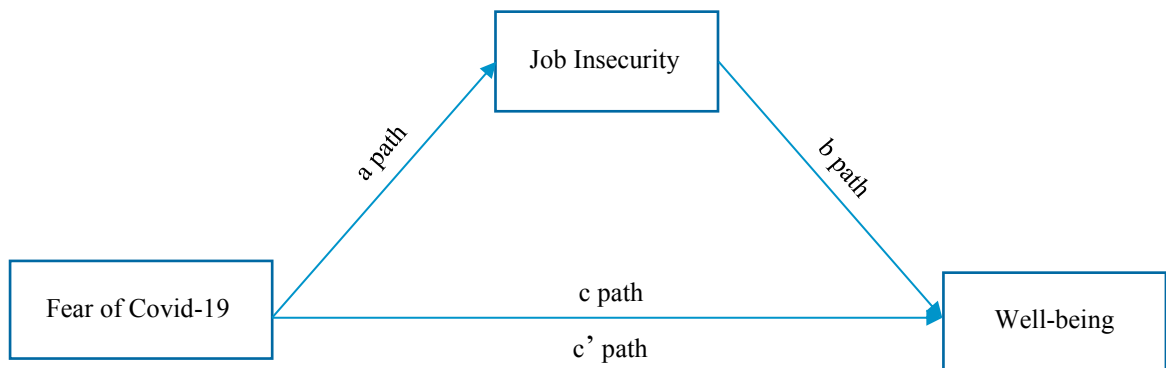


Figure 2. The Mediation Model

The results of the regression analysis are provided in Table 3. Steps of the regression analysis are provided below.

Step1: Fear of Covid-19 was regressed on Well-being (c-path). The regression analysis revealed that Fear of Covid-19 had a significant effect on the prediction of Well-being ($\beta = -.153, p = .016$).

Step2: Fear of Covid-19 was regressed on Job Insecurity (a-path). The regression analysis revealed that Fear of Covid-19 had a significant effect on the prediction of Job Insecurity ($\beta = .178, p = .010$).

Step3: Fear of Covid-19 was regressed on Job Insecurity and Well-being (c' path). The analysis indicated that job insecurity played a mediating role ($\beta = -.432, p = .000$) while fear of Covid-19 lost its significance on employee well-being ($\beta = -.077, p = .181$).

Table 3. Regression Analysis Examining the Mediating Role of Job Insecurity

Step1	R	Adj R ²	F	B	T	p
Independent Variable	.194	0.038	5.966			
Fear of Covid-19				-.153		.016

Dependent Variable: Well-being						
Step 2	R	Adj R ²	F	B	T	P
Independent Variable	.208	.037	6.871			
Fear of Covid-19				.178	2.62	.010
1						
Dependent Variable: Job Insecurity						
Step 3	R	Adj R ²	F	B	T	P
Independent Variable	.497	.237	24.776			
Fear of Covid-19				-.077	-	.181
Job Insecurity				-.432	-	.000
6.474						
Dependent Variable: Well-being						

These results support Hypothesis 4 (“Flight personnel’s job insecurity mediates the negative correlation between their fear of Covid-19 and well-being”).

3.3. The Moderating Role of Job Involvement in the Relationship between Job Insecurity and Well-being

The results of the multiple regression analysis are provided in Table 4. Steps of the multiple regression analysis are provided below.

Step1: Job Insecurity was regressed on Well-being. The regression analysis revealed that Fear of Covid-19 had a significant effect on the prediction of Well-being ($\beta = -.451$, $p = .000$).

Step2: Job Insecurity, Job involvement and the interaction term of independent and moderator variables (Job security x job involvement) were added to the hierarchical regression. The analysis indicated that job involvement played a moderating role ($\beta = .661$, $p=.048$) between Job Insecurity and Employee Well-being.

Table 4. Regression Analysis for the Moderation Role of Job Involvement

Step1	R	Adj R ²	F	B	T	p
Independent Variable	.488	.233	47.491	-.451	17.7	.000
Job Insecurity					01	
Dependent Variable: Well-being						
Step 2	R	Adj R ²	F	β	T	P
Independent Variable	.539	-.276	20.459			
Job Insecurity				-	-	.000
Job Involvement				2.689	7.091	.044
Job Insecurity x				.795	2.03	.048
Job involvement				.661	5	
1.99						
7						
Dependent Variable: Well-being						

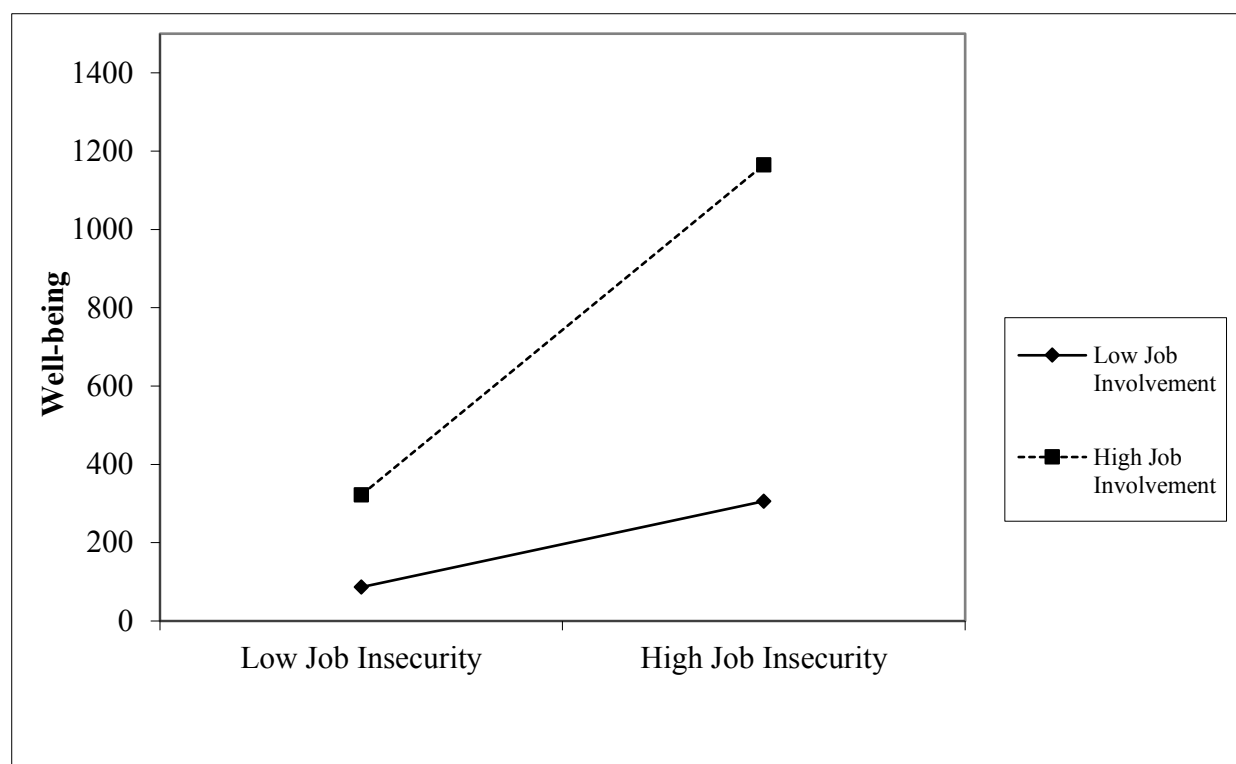


Figure 3. The Moderating Role of Job Involvement between Job Insecurity and Well-being

As seen in Figure 2, under the condition of high job involvement the negative correlation between the job insecurity and well-being is stronger. In other words, under the condition of low job involvement well-being is not strongly affected by the levels of job insecurity.

Therefore, Hypothesis 5 (“The correlation between job insecurity and well-being is moderated by the job involvement of flight personnel”) is supported. Under the condition of high job involvement, the negative effect of job insecurity on the flight personnel’s well-being decreases” is only partly supported. Although a moderating effect of job involvement was found, high job involvement was found to be a factor which made flight personnel more vulnerable to the effect of job insecurity.

4. Discussion and Conclusion

The research showed that the fear of Covid-19 is significantly and negatively correlated with the well-being of flight personnel. However, with the mediating role of job insecurity, the significance of this association disappears. This means that for flight personnel, Covid-19 was one of the worst crises to affect their health, both physically and psychologically. One of the main reasons for this effect might be its connection with job insecurity.

Before the outbreak of Covid-19 in 2020, the aviation industry was growing rapidly despite several crises (including, for example, the 9/11 attacks, economic turmoil, and the threat from other infectious diseases) (Dube,

Nhamo, and Chikodzi, 2021). With the recognition of the fact that the virus spread with air travel, to protect their citizens, governments set up travel bans. As a consequence, millions postponed or cancelled their travel plans, which consequently led airline companies all over the world to reduce or cancel flights (Suzumura et al., 2020). Travel restrictions also forced the airline industry all over the world to cut down on expenses and, subsequently, many aviation employees including pilots and cabin crew members either lost their jobs or had to work with low salaries and under the threat of job insecurity. There are empirical data supporting these views. For instance, a survey conducted with 2,598 pilots in October 2020 (Goose Recruitment and FlightGlobal, 2021) showed that 30% of pilots reported themselves to be unemployed and 66% indicated that they were looking for another employment as a pilot. Of these unemployed pilots, 84% reported that they were unemployed because of the pandemic. Additionally, while only 48% of the pilots were concerned about job insecurity in 2019, this figure climbed to 82% in 2020 (Goose Recruitment and FlightGlobal, 2021). Likewise, cabin crew members' psychological health was also severely affected by the pandemic. In a study conducted by Görlich and Stadelmann (2020) cabin crew members' mental health variables were compared before (2019) and during the pandemic in two different samples. There was a significant increase in symptoms of depression, anxiety and stress during the time of the pandemic.

Accordingly, suggestions can be made for both organizations and individuals. Different from previous crises, job insecurity caused by the pandemic affected almost all flight personnel all over the world and was not under personal or organizational control. In order to help aviation employee cope with the level of stress caused by the threat of job insecurity air company managers might have adopted some strategies such as holding sincere two-way communication with employees regularly; sharing recent developments would be helpful in decreasing ambiguities about the future. Despite its negative consequences, the pandemic also provided some spare time for pilots and cabin crew members. Airline companies could have used it to train them both in relation to technical and social skills (e.g., crew resource management skills). Psychological interventions could also have been applied (e.g., mindfulness training or psychological resiliency training) to increase the psychological resources of the flight personnel. Pilots and cabin crew members could have taken part in projects to improve the content of the crew resource management training programs.

This research also showed that pilots' perception of social support obtained from colleagues had a buffering effect between the fear of Covid-19 and well-being (Anuk, Saruhan, Yıldız, Taşkın, and Unsal, 2021). Thus, on the individual level, it could be suggested that pilots be encouraged to develop supportive relationships with other pilots. From the perspective of airline companies, initiating pilots, peer support programs would be beneficial. These suggestions might also be useful for cabin crew members. Supportive social networks of cabin crew members would be particularly beneficial during such crises.

Moreover, the study showed that under the condition of high job involvement, the negative effect of job insecurity on flight personnel's well-being increases. Previous research generally reported contrasting effects in relation to the moderating role of job involvement. Some studies indicated that job involvement could make individuals more vulnerable to the effects of stressors (e.g., job insecurity) whereas some others indicated that it might play a buffering

role between stressors and health-related outcomes (e.g., perceived stress). In this study conducted with flight personnel during the pandemic period, high job involvement was found to be a vulnerability factor in the relationship between job insecurity and well-being.

This research has some limitations. Firstly, the sample could have been larger. Secondly, the data were collected cross-sectionally rather than longitudinally. However, despite these limitations, it indicates that job insecurity is a serious concern for the well-being of flight personnel and job involvement might be a significant variable in relation to their psychological health during crises. In future, researchers could further investigate the role of job involvement on various other outcomes or its moderation role between other job stress factors and health-related outcomes.

References

- Adler, A., Unanue, W., Osin, E. Ricard, M., Alkire, S., & Seligman, M. (2017). Psychological wellbeing. In Happiness Transforming the Development Landscape, (pp. 118–155), The Centre for Bhutan Studies and GNH.
- Ahorsu, D. K., Lin, C. Y., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2022). The fear of Covid-19 scale: development and initial validation. *International Journal of Mental Health and Addiction*, 20, 1537-1545.
- Anuk, D., Saruhan, N., Yıldız Taşkın, E., & Unsal, P. (2021). Ticari Hava Yolu Pilotlarında Covid-19 Korkusu ile İyi Hali Arasındaki İlişkide Sosyal Desteğin ve Meslektaş Desteğinin Düzenleyici (Moderatör) Rolünün İncelenmesi [The Investigation of Moderator Role of Colleague Support in The Relationship Between Fear of Covid-19 and Well-being in Civil Aviation Pilots]. 3. Havacılık, Uzay ve Psikoloji Kongresi-Çevrimiçi [3rd Aviation, Space and Psychology Congress -Online]. 4-5 Aralık 2021 (4-5 December 2021).
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.
- Boya, F. Ö., Demiral, Y., Ergör, A., AKVARDAR, Y., & De Witte, H. (2008). Effects of perceived job insecurity on perceived anxiety and depression in nurses. *Industrial Health*, 46(6), 613-619.
- Brown, S. P. (1996). A meta-analysis and review of organizational research on job involvement. *Psychological Bulletin*, 120(2), 235-255.
- Charoensukmongkol, P., & Suthatorn, P. (2021). How managerial communication reduces perceived job insecurity of flight attendants during the Covid-19 pandemic. *Corporate Communications: An International Journal*, 27(2), 368-387.
- Çakı, N., Uludağ Güler, Ç., & Ünal, E. (2022). Workload Perception and Burnout Syndrome in Aviation Sector During the Covid-19 Pandemic Period: A Qualitative Research in Turkey. In P. Ünsal & S. Çeken (Eds.), *Aviation Psychology: Constructs, Research and Practices* (pp. 699-732). Istanbul University Press. Doi: 10.26650/B/SS32.2022.04.25
- Deniz, M. E. (2021). Self-compassion, intolerance of uncertainty, fear of Covid-19, and well-being: A serial mediation investigation. *Personality and Individual Differences*, 177, 110824. <https://doi.org/10.1016/j.paid.2021.110824>
- Deveci, M., Çiftçi, M. E., Akyurt, İ. Z., & Gonzalez, E. D. S. (2022). Impact of Covid-19 pandemic on the Turkish civil aviation industry. *Sustainable Operations and Computers*, 3, 93-102. <https://doi.org/10.1016/j.susoc.2021.11.002>
- De Witte, H. (1999). Job insecurity and psychological well-being: Review of the literature and exploration of some unresolved issues. *European Journal of Work and Organizational Psychology*, 8(2), 155-177.
- De Witte, H. (2005). Job insecurity: Review of the international literature on definitions, prevalence, antecedents and consequences. *SA Journal of Industrial Psychology*, 31(4), 1-6.
- Dube, K., Nhamo, G., & Chikodzi, D. (2021). Covid-19 pandemic and prospects for recovery of the global aviation industry. *Journal of Air Transport Management*, 92, 102022. <https://doi.org/10.1016/j.jairtraman.2021.102022>
- Erbiçer, E. S., Metin, A., Çetinkaya, A., & Şen, S. (2021). The relationship between fear of COVID-19 and depression, anxiety, and stress: A meta-analysis. *European Psychologist*, 26(4), 323.
- Eser E, Çevik C, Baydur H, Güneş S, Esgin TA, Öztekin Çü, Eker E, Gümüşsoy U, Eser GB, Özyurt B. (2019) Reliability and validity of the Turkish version of the WHO-5, in adults and older adults for its use in primary care settings. *Primary Health Care Research & Development*, 20 (e100), 1–7. doi: 10.1017/S1463423619000343
- Frone, M. R., Russell, M., & Cooper, M. L. (1995). Job stressors, job involvement and employee health: A test of identity theory. *Journal of Occupational and Organizational Psychology*, 68, 1-11.
- Govender, S., & Parumasur, S. B. (2010). The relationship between employee motivation and job involvement. *South African Journal of*

Economic and Management Sciences, 13(3), 237-253.

Göksel, A., & Ekmekçiöğlü, E. B. (2016). Lider-üye etkileşiminin örgütsel özdeşleşme ile ilişkisinde işe bağlılığın aracı rolü [The Mediating Role of Job Involvement in the Relationship Between Leader-Member Exchange and Organizational Identification]. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 18(3), 721-747.

Görlich, Y., & Stadelmann, D. (2020). Mental health of flying cabin crews: depression, anxiety, and stress before and during the Covid-19 pandemic. *Frontiers in Psychology*, 11, 581496. <https://doi.org/10.3389/fpsyg.2020.581496>

Gössling, S., Scott, D., & Hall, C. M. (2020). Pandemics, tourism and global change: a rapid assessment of Covid-19. *Journal of Sustainable Tourism*, 29(1), 1-20.

Hellgren, J., Sverke, M., & Isaksson, K. (1999). A two-dimensional approach to job insecurity: Consequences for employee attitudes and well-being. *European Journal of Work and Organizational Psychology*, 8(2), 179-195.

Innes, J. M., & Clarke, A. (1985). Job involvement as a moderator variable in the life events stress-illness relationship. *Journal of Organizational Behavior*, 6(4), 299-303.

Goose Recruitment & Flight Global (2021). The Pilot Survey 2021. <https://www.flightglobal.com/download?ac=76506>

Kanungo, R. N. (1982). Measurement of job and work involvement. *Journal of Applied Psychology*, 67(3), 341.

Ladikli, N., Bahadır, E., Yumuşak, F. N., Akkuzu, H., Karaman, G., & Türkkkan, Z. (2020). Kovid-19 Korkusu Ölçeği'nin Türkçe Güvenirlik Ve Geçerlik Çalışması. *International Journal of Social Science*, 3(2), 71-80.

Laovoravit, V., Pongpirul, K., Chinswang, I., Janlampoo, P., & Imsombut, A. (2021). Covid-19 On Job Insecurity and Mental Health of Thai Airways International Flight Attendants. Presented at the 2nd Innovation Aviation & Aerospace Industry - International Conference (Vol. 28, p. 30). 28-30 June 2021. <https://iaai-2021.sciforum.net>

Luo, F., Ghanei Gheshlagh, R., Dalvand, S., Saedmoucheshi, S., & Li, Q. (2021). Systematic review and meta-analysis of fear of Covid-19. *Frontiers in psychology*, 12, 1311. <https://doi.org/10.3389/fpsyg.2021.661078>

O'Connor, R. C., Wetherall, K., Cleare, S., McClelland, H., Melson, A. J., Niedzwiedz, C. L., ... & Robb, K. A. (2021). Mental health and well-being during the Covid-19 pandemic: longitudinal analyses of adults in the UK COVID-19 Mental Health & Well-being study. *The British Journal of Psychiatry*, 218(6), 326-333.

Paullay, I. M., Alliger, G. M., & Stone-Romero, E. F. (1994). Construct validation of two instruments designed to measure job involvement and work centrality. *Journal of Applied Psychology*, 79(2), 224-228.

Probst, T. M. (2000). Wedded to the job: Moderating effects of job involvement on the consequences of job insecurity. *Journal of Occupational Health Psychology*, 5(1), 63-73.

Suzumura, T., Kanezashi, H., Dholakia, M., Ishii, E., Napagao, S. A., Pérez-Arnal, R., & Garcia-Gasulla, D. (2020, December). The impact of Covid-19 on flight networks. In 2020 IEEE International Conference on Big Data (Big Data) (pp. 2443-2452). IEEE. DOI: 10.1109/BigData50022.2020.9378218

Özmen, S., Özkan, O., Özer, Ö., & Yanardağ, M. Z. (2021). Investigation of Covid-19 fear, well-being and life satisfaction in Turkish society. *Social Work in Public Health*, 36(2), 164-177.

Özyaman, F. B. (2007). Hemşirelerde iş güvencesi algısı ve anksiyete ve depresyon düzeylerine etkisi [the effect of job insecurity on anxiety and depression in nurses] Doktora tezi [Doctoral dissertation], İzmir: Dokuz Eylül Üniversitesi, Sağlık Bilimleri Enstitüsü.

Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: a systematic review of the literature. *Psychotherapy and Psychosomatics*, 84(3), 167-176.