



ASTUDYONFATIGUEANDSTRESSFACE BYTHEAIRLINECABINCREWININDIA

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ABSTRACT

The airline sector plays a significant role in connecting people and locations all over the world. Nonetheless, the special demands placed on aircraft cabin crew workers can cause heavy stress and exhaustion. This essay tries to review the literature on the stress and exhaustion experienced by Indian airline crew members. A thorough search of electronic databases, such as PubMed, Scopus, and Google Scholar, is used to find papers that were published between 2010 and 2021 for the literature review. "Airline cabin staff," "fatigue," "stress," and "India" were the search terms utilized. 20 items altogether made up the review. According to the findings, Indian airline crew members experience high levels of stress and exhaustion as a result of a variety of issues, including extended working hours, erratic scheduling, insufficient rest times, and exposure to several time zones. The study also discovered that compared to those who work on domestic flights, cabin crew members who work on foreign flights have higher levels of stress and weariness.

The analysis also showed that India's airline industry lacks adequate rules and regulations governing the working hours and downtime for cabin crew employees. Because of this, cabin crew members have not had enough time to relax and recover, which has exacerbated their levels of exhaustion and stress. This analysis emphasizes the need for additional study to comprehend the factors that lead to weariness and stress among Indian airline cabin staff. It also implies that the aviation sector should take action to put in place suitable rules and regulations to guarantee the security and well-being of cabin crew employees.

Keywords: airline, flight attendant, shift job, exhaustion, sleepiness, mental health, safety.

1. INTRODUCTION

In India, it is common for airline cabin crew employees to work lengthy shifts with little downtime, which can cause exhaustion and stress. Since they might make a crew member less able to carry out their responsibilities safely and effectively, fatigue and stress are major issues in the aviation sector. In a stressful and demanding atmosphere, it can be difficult for cabin crew members to ensure the safety and comfort of passengers. With an increase in air travel, India's aviation sector has expanded significantly in recent years. Airlines are under pressure to increase flight capacity and shorten turnaround times as a result of this expansion. So, cabin crew employees frequently have to work longer shifts with fewer breaks and have less downtime. Cabin crew personnel are under additional stress as a result of the COVID-19 epidemic since they must now follow stringent safety guidelines in addition to carrying out their regular responsibilities. Increased stress and exhaustion may result from the worry of getting the illness and the additional duties of putting safety precautions in place.

Overall, in order to ensure secure and effective operations, the Indian aviation sector must place a high priority on the health of its cabin crew. This can be done by putting in place policies like sufficient rest and break periods, better working conditions, and training programmes to assist crew members in managing stress and exhaustion. Insuring the passengers' safety, comfort, and wellbeing while they are in flight is a crucial responsibility of the airline cabin crew. But the long hours, unpredictable schedules, and exposure to a variety of physical and psychological stressors that come with their profession can make them tired and stressed out. These problems may have a significant effect on the crew's performance, safety, and general wellbeing, as well as the level of customer service offered. The demand for aircraft cabin crew has increased as a result of the substantial rise India's aviation sector has seen in recent years. There isn't much research on the particular problems of weariness and stress, despite a rising understanding of the significance of resolving the difficulties experienced by Indian cabin crew. The purpose of this study is to examine the types and levels of stress and exhaustion that airline workers in India face, as well as how these factors affect their performance, safety, and overall health. Using both quantitative and qualitative data gathering and analysis techniques, the study will take a mixed-methods approach.

The research will get started by performing a thorough evaluation of the literature on stress and exhaustion in airline cabin crew, with an emphasis on international patterns and the best methods for dealing with these problems. This evaluation will help with the creation of a survey questionnaire to collect quantitative information from Indian airline cabin personnel. Work hours, workload, sleep quality, exhaustion, stress, and coping techniques will all be covered in the survey. In-depth interviews with a sample of airline cabin crew will be conducted as part of the research in addition to the survey to collect qualitative information on their experiences with stress and exhaustion. In-depth questions will be asked on the particular stressors that Indian cabin crew members must deal with, how these affect their physical and mental health, and how they cope. The research's conclusions will shed light on the particular problems with exhaustion and stress that airline employees in India deal with, as well as the efficacy of present policies and procedures for resolving these concerns. The study's suggestions will guide the creation of research-based interventions to boost the health, safety, and well-being of airline employees in India, ultimately helping to improve the overall performance and safety of the aviation sector.

In this case, before it is too late, he should be able to realize whether the source of this is individual or organizational and should determine the style of struggle accordingly. Persons who want to be a cockpit and cabin crew should set attainable and realistic targets by knowing the working conditions and hours, the wages, communication skills and abilities with people well. Otherwise, they may experience burnout to the extent that their sense of personal accomplishment decreases. Employees who are in face-to-face relationships with people in a busy working tempo are often exposed to emotional exhaustion, so it may be beneficial for them to get away from this environment physically for a while, in a way, to isolate themselves and rest.

This paper aims to examine the critical fatigue risk factors that affect the performance and safety of airline pilots and crew in aviation industry. This paper also analyses the relationship between burnout and job satisfaction sub-dimensions of cockpit and cabin crews working in airline companies, which carries passengers on domestic and international lines. This paper provides benefits for academics, employees and businesses, and offering suggestions to airline company managers and cabin crews are the targeted subgoals. This research was carried out by adopting a "positivist" approach, with an "instant" method in terms of the time it covers and a "descriptive" method in terms of its purpose. The "survey" method was used to obtain the data. The target population of the research is the cockpit and cabin crews of the scheduled and non-scheduled airlines operating in the Turkish civil aviation sector. For the reasons stated under the scope and

limitations of the research, the cockpit and cabin attendants of the airline companies that are not named as the research sample, but that perform scheduled and non-scheduled domestic and international passenger transportation flights. Although the number of cockpit and cabin attendants working in the companies, 109 people answered the questionnaire. A total of 15 questions consisting of the job satisfaction questionnaire, Fatigue and stress, burnout questionnaire and demographic information questions were applied to the cockpit and cabin crews forming the sample.

This paper is organized as follows: Following the introduction part, a literature review has been developed based on theoretical and empirical background. In the following part, information related to data, data collection process and analysis under research and methodology.

Following the results and findings section, this paper concludes with limitations and future research directions.

2. RESEARCH REVIEW

Society is struggling with stress at homes and workplaces. No one can avoid stress and all individuals need some in their routines. Stress is a broad concept that can refer to occasions or more enduring characteristics of the environment, a person's reaction to these events or enduring characteristics, and the impact between the person and the environment (Sonnetag, 2018). Referring to stress as the internal condition of a person who experiences break down due to pressure and anxiety thereby causing a condition endangering the health of a normal person. The first person who created and defined stress as something that endangers life and causes psychological changes was (1950) who created and conceptualized the theory of general adaptation syndrome (GAS) as a common pattern of somatic responses to noxious situations and the physiological literature provides a consistent picture of two neural/hormonal systems responding to threat: a pituitary/adrenal cortex system and a sympathetic/adrenal medullary system that organize the body's response in fight-or-flight situations (Dismukes, Kochan & Goldsmith, 2018; Selye, 1956; Melancon, 2014). Selye (1956) discovered stress to be a common reaction and response to any demand which is on the body. Stress is a response to threatening situations that involves biological, cognitive, behavioral, and emotional components. History of the term "stress" shows that it first appeared in writing in the 14th century as a way to show variety or strain (Lazarus & Folkman, 1984). The definitions and nature of stress changed the study of stress responses for Lazarus and Folkman (1984), the response is dealing and adaptation through different therapies and behavioral changes.

There are several types of stress and the most important one is occupational stress. Studies show that the job stress will be created when there is incongruence between the demands of the workplace and the ability of a person or imbalanced between the demands of the work environment and his or her resources (Walter, 2009;

Irving, 2017; Trybou, Germonpre, Janssens, Casini, Braeckman, Bacquer & Clays, 2014). Studies of job stress among mental health professionals have shown that different stressors associated with job stress are frequently related to job design. Stressors include "the work-related causes of or inputs to job stress" (Cosio, Olson, & Francis, 2010): high job demands such as overall workload, role conflict, role ambiguity and confusion, and supervision. High job demands are often conceptualized as challenge stressors and comprise stressors such as a high workload or time pressure (Walter, 2009; Menard & Arter, 2013).

Two notable reasons, long work hours or high physical demands fall into this category. Hindrances refer to stressful factors that are threatening and impede task accomplishments such as role ambiguity, role conflict, or organizational constraints. Because of its threatening nature, job insecurity can also be noticed as a hindrance stressor (Shoss, 2017; Cosio, Olson, & Francis, 2010). Occupational stress factors in the social environment comprise workplace discrimination, harassment, or destructive leadership may create burnout, exhaustion, sleep disorders, alcoholism, relationship concerns, and posttraumatic stress disorder (Theorell, 2014; Irving, 2017). Flight crew is one of the jobs which is highly struggling with the different kinds of the factors that cause stress (Hanson, 2019). And the stress can have a negative effect on the flight crew and their productivity. However, many researches have been done in respect of job stress of the flight crew such as: Kilic, Ucler (2019). Results showed that the most important criterion in stress among ab-initio pilots is personal factors, followed by organizational factors and environmental factors. Furthermore, the results revealed that the first four stressors within the global ranking were determined as the lack in body of knowledge, meteorological conditions, personality, and facilities and the fleet with the weights. Another research has been done by Omholt, Tveito, Ihlebæk (2017) in their research reported high numbers of SHCs and high levels of work-related stress were associated with high numbers of SHC. More knowledge is needed on the physical, organizational and psychosocial stressors affecting cockpit and cabin crew in order to create a healthier work environment for these groups.

Furthermore, Hassani (2006) showed that there were differences between employees in eventful and eventless branches. In another study entitled "the pathology of the reasons for the job stress of air traffic control employees", Rouhollahi and Ahadi Motlagh (2014) developed a conceptual model. Moreover, in a study, Maymand, Shakhshian and Hosseiny (2012) demonstrated that stress gave rise to emotional, physiological, and environmental problems and influenced performance levels. However, from the perspective of the

current study, their research did not address stress-related reactions. Therefore, this study examines job stress reaction. Hence, adding up the above researches, it can be said that many of these studies attended to the relationship of job stress to other variables, including general health, job performance, personal efficiency and mental health, job satisfaction, and flight performance, or they measured the rate of job stress in the different branches of airway companies. Thus, further investigations are required on the job stress resources of the flight crew because the obligations of flight crew and its nature are different from other jobs, and thus, its essence, fields, and stressful factors are different. Since the social, economic, and cultural conditions of every country is unique and varying; moreover, every airway company faces certain conditions and requirements, it enjoys different nature and job stress resources. On the other hand, the job stress nature of Mahan Air Company's flight crew is specific to the same organization, and a major part of it is unknown. Therefore, with respect to the presence of a gap concerning the recognition of the job stress nature resources of flight crews, it was necessary to deeply and specifically investigate these resources.

3. RESEARCH METHODOLOGY

The Primary data for the research was collected by using a questionnaire circulated online. The sampling technique applied was both convenience sampling and snowball sampling technique. Although the number of cockpit and cabin attendants working in the companies, 109 people who worked in Chennai airport, Port Blair Airport, Bengaluru Airport answered the questionnaire. A total of 15 questions consisting of the job satisfaction questionnaire, Fatigue and stress, burnout questionnaire and demographic information questions were applied to the cockpit and cabin crews forming the sample.

4. ANALYSIS AND INTERPRETATIONS

4.1 CHI-SQUARE TESTS

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	65.336 ^a	16	.000

LikelihoodRatio	69.204	16	.000
Linear-by-Linear Association	29.921	1	.000
NofValidCases	109		

a. 16 cells (64.0%) have expected count less than 5. The minimum expected count is .08.

The above table finds the p-value to be less than 0.05 after chi-square test.

Inference

According to the provided output, a 2x2 contingency table containing 109 valid cases underwent a chi-square test of independence. With 16 degrees of freedom and a value of 65.336, the Pearson chi-square test statistic has a .000 asymptotic significance threshold. With 16 degrees of freedom and a p-value of .000, the likelihood ratio test statistic has a value of 69.204.

These findings simply state that the two variables in the contingency table significantly relate to one another. With a test statistic of 29.921 and 1 degree of freedom, as well as a p-value of .000, the linear-by-linear association test, which looks for a trend in the connection between the variables, likewise produced a significant result.

Have you ever experienced fatigue or exhaustion while on duty?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	75	68.8	68.8	68.8
	NO	34	31.2	31.2	100.0
	Total	109	100.0	100.0	

Inference

This looks like a frequency table of answers to a survey question with a binary (yes/no) response option. A total of 109 people responded, and of those, 75 (68.8%) said "YES" and 34 (31.2%) said "NO." The cumulative percent shows the proportion of respondents in each category up to that point, with 68.8% of respondents selecting "YES" and 100% of respondents being included in the table.

Have you ever experienced stress or anxiety while on duty?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	78	71.6	71.6	71.6
	NO	31	28.4	28.4	100.0
	Total	109	100.0	100.0	

Inference

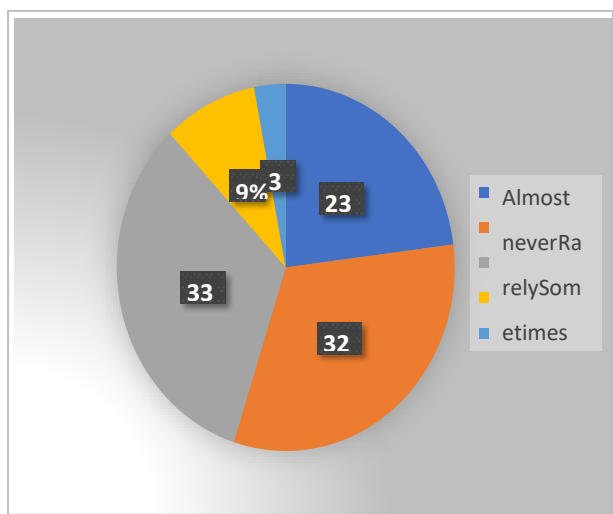
This seems to be a summary of a survey or questionnaire response where participants were asked to indicate whether they selected "YES" or "NO" as their response to a particular question.

There were 109 total responders, 78 of whom gave "YES" responses (71.6%), and 31 gave "NO" responses (28.4%). The cumulative percent in the data shows the proportion of respondents up to that time.

It's crucial to remember that it's challenging to make any additional inferences without understanding the survey's question or context.

Howoftendoyouexperiencestressduringatypicalworkweek?

AGE	Frequency	Percent	ValidPercent	CumulativePercent
1. 18-25	25	22.9	22.9	22.9
2. 26-30	35	32.1	32.1	55.0
3. 31-35	36	33.0	33.0	88.1
4. 36-45	10	9.2	9.2	97.2
5. 46+	3	2.8	2.8	97.2
Total	109	100.0	100.0	100.0



INFERENCE

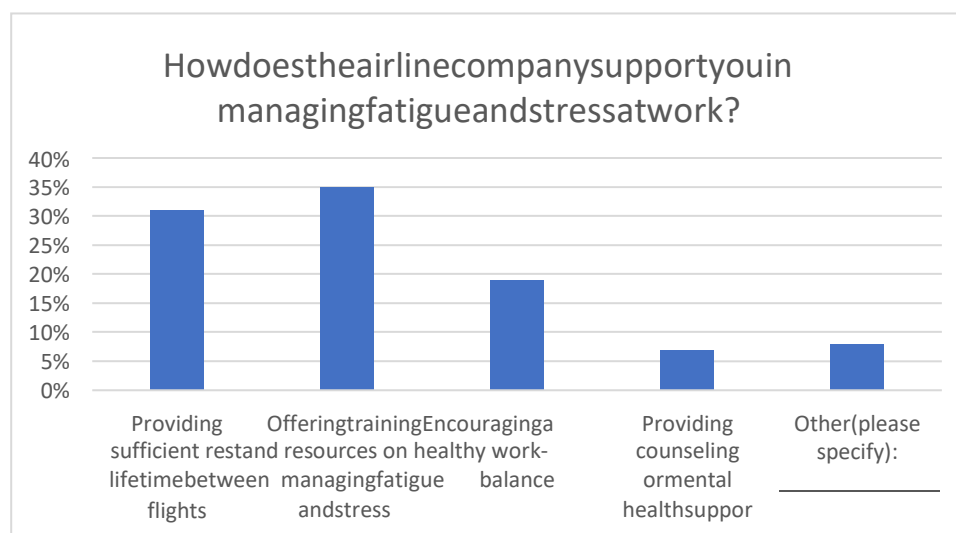
The sample size is 109, and the age group with the highest frequency is 31-35, with 36 respondents, which is 33% of the sample. The age group with the lowest frequency is 46+, with only 3 respondents, which is 2.8% of the sample.

The cumulative percentage column shows the percentage of respondents in each age group and all previous age groups. For example, the cumulative percentage for the age group 31-35 is 88.1%, which

means that 88.1% of the respondents are aged 35 or below. Overall, the data indicates that the majority of the sample population falls within the age range of 26-35.

How does the airline company support you in managing fatigue and stress at work?

AGE	Frequency	Percent	ValidPercent	Cumulative Percent
18-25	34	31.2	31.2	31.2
26-30	38	34.9	34.9	66.1
31-35	21	19.3	19.3	85.3
36-45	8	7.3	7.3	92.7
46+	8	7.3	7.3	100.0
Total	109	100.0	100.0	



INFERENCE

Based on the given table, we can see that the data is related to the frequency distribution of age groups among a sample of 109 individuals. The table shows that:

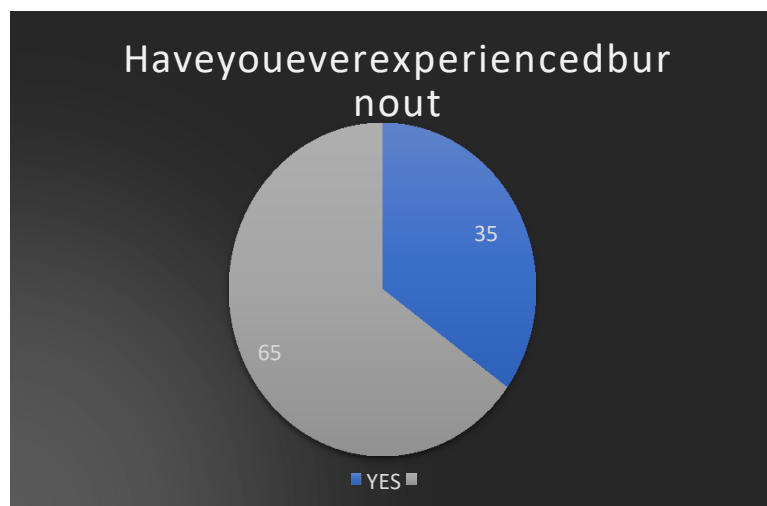
- The age group of 26-30 is the most frequent, with 38 individuals (34.9% of the sample).
- The age group of 18-25 is the second most frequent, with 34 individuals (31.2% of the sample).
- The age group of 31-35 has 21 individuals (19.3% of the sample).

- The age group of 36-45 has 8 individuals (7.3% of the sample).
- The age group of 46 and above also has 8 individuals (7.3% of the sample).

We can also observe that the cumulative percent indicates the percentage of individuals in the sample who fall within each age group or younger. For instance, 66.1% of the sample is aged 30 or younger (31.2% aged 18-25 and 34.9% aged 26-30), and 85.3% of the sample is aged 35 or younger (31.2% aged 18-25, 34.9% aged 26-30, and 19.3% aged 31-35).

Have you ever experienced burnout as a cabin crew member?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid YES	38	34.9	34.9	34.9
NO	71	65.1	65.1	100.0
Total	109	100.0	100.0	



This is a frequency table presenting the distribution of responses to a certain question with two possible answers: "YES" and "NO".

There were a total of 109 respondents, of which 38 (34.9%) answered "YES" and 71 (65.1%) answered "NO".

The valid percent refers to the percentage of respondents who provided a valid response, which in this case was either "YES" or "NO". The cumulative

percent indicate the running total of valid percentages upto a particular point.

4.2 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.877	1	.877	1.541	.217 ^b
	Residual	60.921	107	.569		
	Total	61.798	108			

Dependent Variable: Do you feel that your employer provides adequate support for your mental and physical health?

Predictors: (Constant), How does the airline company support you in managing fatigue and stress at work? (Select all that apply)

INFERENCE

The table provided appears to be an ANOVA table showing the results of a regression analysis with one predictor variable.

The "Sum of Squares" column shows the total sum of squares, which is the sum of the squared deviations of the dependent variable from its mean. The table is divided into two main parts: the "Regression" part and the "Residual" part.

The "Regression" part of the table shows the sum of squares, degrees of freedom, mean square, F-value, and significance level for the regression model. The sum of squares for regression represents the variation in the dependent variable that is explained by the predictor variable. The degrees of freedom for regression are 1, since there is one predictor variable. The mean square for regression is the sum of squares for regression divided by its degrees of freedom. The F-value tests the null hypothesis that the regression coefficient is zero. The significance level (also known as p-value)

indicates the probability of observing an F-value as extreme as the one obtained, assuming the null hypothesis is true. In this case, the p-value is .217, which is greater than the conventional threshold of .05, indicating that the null hypothesis cannot be rejected at this level of significance.

The "Residual" part of the table shows the sum of squares, degrees of freedom, and mean square for the residuals (unexplained variation in the dependent variable). The degrees of freedom for residuals are the total sample size minus the number of predictor variables, which in this case is 107. The mean square for residuals is the sum of squares for residuals divided by their degrees of freedom.

Finally, the "Total" row shows the total sum of squares, degrees of freedom, and mean square for the entire model. The total sum of squares is the sum of squares for regression and residuals. The degrees of freedom for total are the total sample size minus 1, and the mean square for total is the total sum of squares divided by its degrees of freedom.

Overall, the ANOVA table provides information about how well the predictor variable explains the variation in the dependent variable. In this case, the predictor variable does not appear to be statistically significant in explaining the variation in the dependent variable, as the p-value is greater than .05.

4.3 COEFFICIENTS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	2.068	.155		13.318	.000
How doestheairline companysupport you inmanaging fatigueandstressat work?(Selectalltha	.076	.061	.119	1.241	.217

t apply)					
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a. Dependent Variable: Do you feel that your employer provides adequate support for your mental and physical health?

INFERENCE

Regarding the regression table, it shows the unstandardized coefficients (B) and standardized coefficients (Beta) for two variables. The first variable is not labeled in the table, but it has a coefficient of 2.068, a standard error of 0.155, a standardized coefficient of not provided, a t-value of 13.318, and a significant p-value of 0.000. Without more information about the variables being analyzed, it is difficult to interpret these coefficients.

As for the survey question, it appears to be unrelated to the regression table and asks about the ways in which an airline company supports employees in managing fatigue and stress at work. Respondents are instructed to select all that apply from a list of possible options. The response options are not included in your question, so it is impossible to comment on the results of the survey.

4.4 ONE WAY

ANOVA

Do you feel that your employer provides adequate support for your mental and physical health?

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.810	4	.953	1.708	.154
Within Groups	57.988	104	.558		
Total	61.798	108			

Inference

Based on the information provided, it appears that an analysis of variance (ANOVA) was conducted to assess the differences between groups on a dependent variable. The ANOVA table shows three sources of variation: Between Groups, Within Groups, and Total.

The Between Groups row shows the sum of squares (SS) for the differences between the groups,

as well as the degrees of freedom (df) associated with this source of variation. The Mean Square is obtained by dividing the SS by the df, and reflects the average amount of variation between the groups. The F statistic is a ratio of the Between Groups Mean Square to the Within Groups Mean Square, and tests whether the differences between the groups are significant. The significance level, or p-value, is also reported.

The Within Groups row shows the SS and df for the variation within each group, as well as the Mean Square. The Total row shows the overall SS, df, and Mean Square for all observations in the study.

In terms of inference, the results suggest that there is no statistically significant difference between the groups on the dependent variable, as indicated by the non-significant p-value of .154 for the F test. The Between Groups Mean Square is slightly larger than the Within Groups Mean Square, indicating that there may be some variability between the groups, but this difference is not large enough to reach statistical significance. The Within Groups Mean Square reflects the average amount of variation within each group, which is higher than the Between Groups Mean Square, suggesting that there is more variability within each group than between the groups.

CONCLUSION

In conclusion, cabin crew members play a crucial role in ensuring the safety and comfort of passengers during flight. However, their job can be physically and emotionally demanding, leading to fatigue and stress. It is crucial to implement measures to mitigate these effects, including better work scheduling, mental health support, and fatigue risk management systems. By doing so, cabin crew members can perform their duties effectively while maintaining their physical and mental well-being.

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