

The Effect of Work Demands, Work Organization, Interpersonal Relationship and Health Benefits On Fatigue Of Landside Workers at The Airport : A Mixed Methods Study

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KEYWORDS

Workplace demands, work organization, interpersonal relationships, health well-being, job burnout, airport landside workers

ABSTRACT:

Introduction: Work demands, worker organization, interpersonal relationships and workplace well-being are proposed as characteristics of occupational psychosocial hazards that are used to predict the health outcome of fatigue.

Objectives: This study aimed to analyze the effect of job demands, work organization, interpersonal relationships and health well-being on job burnout in landside workers at the airport.

Methods: This research is a mixed methods research with sequential explanatory design. The research sample was 109 respondents in the quantitative stage selected by simple random sampling technique and 11 informants in the qualitative stage selected by purposeful random sampling technique in August-October 2024. Data were collected through questionnaires and interview guidelines. The data analysis used was ordinal logistic regression analysis and content analysis for qualitative data.

Results: Work demands are significant to job burnout ($p = 0.004$), Work organization is significant to job burnout ($p = 0.004$), Interpersonal relationships are significant to job burnout ($p = 0.037$). Health and well-being is significant to job burnout ($p = 0.001$), but in the multivariate test only workplace demands and interpersonal relationships are significant to job burnout ($p = 0.014$) and ($p = 0.022$).

Conclusions: Workplace demands and interpersonal relationships have a significant effect on job burnout from both bivariate and multivariate tests. This is also supported by the results of interviews related to these 2 factors, namely working time, worker obligations, worker rights, work motivation, information dissemination to the appreciation of companies and superiors that are still lacking.

1. Introduction

Psychosocial hazards are the interaction between the work environment, job content, organizational conditions and the performance and needs of workers [9]. Fatigue is a symptom characterized by feelings of tiredness and decreased alertness [6]. Efforts to prevent and overcome accidents and occupational disorders in the aviation industry must be implemented seriously, with responsibilities covering airlines, employees and passengers [17]. The causes of occupational fatigue are monotony, load and duration of physical or mental work, environmental conditions such as working weather, lighting and noise, psychological conditions such as responsibility, illness, feelings of pain and nutritional conditions [23].

The economic loss due to occupational injuries and diseases varies between 1.8% and 6.0% of each country's Gross Domestic Product (GDP) with an average of 4% [5]. Therefore, this data shows that in Europe 50% of workers experience work-related health problems in the workplace [24], of which 39% experience illness and 19% of absenteeism is due to psychosocial effects of workers who have an effect on work stress [10]. In the United Kingdom (UK) about 71% of managers experience both physical and mental health problems resulting from work stress and this is also found in Australia. Some diseases caused by work equipment, and psychosocial factors accounted for as much as 46% of disease factors in workers [28]. A study in the United States found that there were 60 workers exposed to psychosocial factors such as many work demands to interpersonal disorders. Where as many as 36% found that psychosocial in the workplace is the most dominant risk factor for workers [13].

According to data from the World Health Organization [27] in the health model created until 2020 states that the occurrence of psychological disorders such as feelings of heavy fatigue and leading to depression is expected to be the second cause of death after heart disease in the future. Based on the results of a survey by the Japanese Ministry of Labor in 12,000 companies with about 16,000 randomly selected workers and it was found that 65% of workers complained of physical fatigue due to daily work, 28% complained of mental fatigue and 7% of workers complained of severe stress and feeling left out [18]. Occupational accidents caused by fatigue can cause the death of up to 2 million workers each year [9]. The National Safety Council (2022) reported that fatigue (poor sleep problems) contributed to 13% of workplace accidents [26]. More than 27 studies found that workers who experience fatigue (bad sleep problems) are 1.62 times more likely to experience injury accidents than workers who do not experience fatigue (good sleep problems) [12]. Based on research conducted by Tsai and Liu in Taiwan, it was found that there is a relationship between work stress and causal factors derived from job demands, lack of authority in decision making and lack of social support [25].

Data on cases of occupational diseases in Indonesia are still very limited. In recent years, less than 50 cases of occupational diseases have been reported to the Manpower Social Security Agency each year [8]. In 2021 the number of cases of occupational diseases increased to 1,310 cases from the total cases of occupational accidents and occupational diseases of 234,370 cases, along with the Covid-19 pandemic, cases of occupational diseases have also increased [14]. The proportion of occupational disease data in Indonesia which is less than 1% is very inconsistent with the data released by the ILO, where the ILO notes that cases of occupational accident/injury reached 270 million (62.8%) and occupational diseases as many as 160 million (37.2%) of the total cases of occupational accidents and

occupational diseases of 430 cases in the world [1]. According to data from the Indonesian Ministry of Manpower, more than 65% of Indonesian workers visit company public clinics with complaints of fatigue [22]. The causes of fatigue in industry vary widely and can be influenced by workload, work environment, work shifts, physical problems, and health conditions can also be influenced by individual factors such as: age, health status, nutritional status, diet, gender and psychological conditions [27].

Based on data on work accidents and occupational diseases in the Manpower Social Security Agency program for the 2019-2021 period, the trade and service sector is the second largest sector that recorded the highest number of work accidents during the 2019-2021 period [1]. In 2022, Indonesia also ratified Convention No.187 on the Framework for Improving Occupational Safety and Health which is part of the National Occupational Safety and Health in general on the promotion and implementation of occupational safety and health, including workers' mental health hearings (psychosocial in the workplace). Therefore, in order to improve occupational safety and health in the work environment, it is necessary to pay attention to psychosocial problems in the workplace and make prevention efforts. This is very important because the workplace is a source of psychosocial risks and is also an ideal place to manage these risks to protect the health and well-being of workers.

According to the PR of one airport, air traffic movements recorded a significant increase in March 2022. The number of passengers departing and arriving through the airport in March 2022 was 830,929 passengers, an increase of 40% compared to February 2022 which was 589,566 passengers. Along with the increase in the number of passengers, the number of aircraft also increased. The number of aircraft movements recorded in March 2022 was 6,399 movements, an increase of 18% compared to February at 5,423 movements. For the first quarter of 2022, the number of passengers was 2,169,688 passengers, an increase of 36% from 2021, which was 1,586,181 passengers. The number of aircraft was 18,261 movements, an increase of 0.5% from 2021, which was 18,173 movements.

Based on Maulana and Nurdalisa's research in 2019 [16] it was found that the occurrence of fatigue has an effect on psychosocial (demands at work). This is in accordance with Jasmet et.al's research in 2020 [18] which states that job demands are related to fatigue. This is also shown in research conducted by Patricia and Sergio in 2021 [15], the results of which show that shift work affects fatigue in workers. Likewise, research conducted by Eloisa et.al in 2020 [7] found that job satisfaction and social support are related to burnout in the workplace. However, another study conducted by Torhild and Eva in 2022 [21] found that quantitative job demands did not have a significant effect on worker fatigue. This is also in line with the research of Lestari et.al in 2021 [11] which states that the more abnormal a person's psychosocial state is, the less likely it is to experience fatigue.

Based on the above background and considering the many work demands imposed on the landside section, as well as the inconsistencies in the results of previous studies. So, researchers feel that they must conduct more in-depth research using different methods and also with more complete variables according to the theory to see how work demands, work organization, interpersonal relationships and health welfare at work and their influence on work fatigue experienced by landside workers at the airport.

2. Objectives

This study aimed to analyze the effect of job demands, work organization, interpersonal relationships and health well-being on job burnout in landside workers at the airport.

3. Methods

This research is a mixed methods research with a sequential explanatory design research design where researchers collect and analyze quantitative data first, then followed by data collection and qualitative data analysis in the second stage to strengthen the quantitative results in the first stage. The research was conducted at the International Airport, in August-October 2024, with a population of 150 workers. The sample was calculated using the Slovin formula, resulting in 109 respondents and informants as many as 11 workers. The instruments used were the COPSOQ II short version questionnaire, the SOFI (Swedish occupational fatigue inventory) questionnaire and interview guidelines. Data were analyzed univariately, bivariately with the chi-square test, and multivariately using ordinal logistic regression analysis with SPSS and content analysis for qualitative data.

4. Results

Of the 109 respondents, the majority were aged 20-30 years as many as 53 people (48.6%), followed by age 31-41 years as many as 39 people (35.8%), then age 42-52 years as many as 14 people (12.8%) and age 53-63 years as many as 3 people (2.8%). Most workers were male (76.1%) with 26 female workers (23.9%). The majority of respondents had a work period of less than or equal to 10 years, namely 100 people (91.7%) and workers with a work period of more than 10 years as many as 9 people (8.3%). The distribution of workplace demands showed that 45 workers (41.3%) were in the high category, while 40 workers (36.7%) were in the moderate category for work organization. A total of 47 workers (43.1%) were in the moderate category for interpersonal relationships, and 44 workers (40.4%) were in the good category for health and well-being. Meanwhile, 73 workers (67.0%) were in the moderate category for job burnout.

Bivariate Analysis

1. Workplace demands on job burnout

Table 1 Effect of workplace demands on job burnout

work demands	job burnout						Total		P-value
	high		medium		low		n	%	
	n	%	n	%	n	%			
high	9	7,4	34	30,1	2	7,4	45	45,0	0.004
medium	4	5,3	18	21,4	10	5,3	32	32,0	
low	5	5,3	21	21,4	6	5,3	32	32,0	
Total	18	18,0	73	73,0	18	18,0	109	109,0	

source : primary data, 2024

2. Work organization on job burnout

Table 2 Effect of work organization on job burnout

work organization	job burnout						Total		P-value
	high		medium		low		n	%	
	n	%	n	%	n	%			
high	9	7,4	34	30,1	2	7,4	45	45,0	0.004
medium	4	5,3	18	21,4	10	5,3	32	32,0	
low	5	5,3	21	21,4	6	5,3	32	32,0	
Total	18	18,0	73	73,0	18	18,0	109	109,0	

less	5	5,4	2 3	22, 1	5	5,4	33	33,0	0.00 4
enough	9	6,6	2 9	26, 8	2	6,6	40	40,0	
good	4	5,9	2 1	24, 1	1 1	5,9	36	36,0	
Total	1 8	18, 0	7 3	73, 0	1 8	18, 0	10 9	109, 0	

source : primary data, 2024

3. Interpersonal relationships to job burnout

Table 3 Effect of interpersonal relationships on job burnout

interpersonal relationships	job burnout						Total		P-value
	high		medium		low		n	%	
	n	%	n	%	n	%			
Less	5	5,1	2 2	20, 8	4	5,1	31	31,0	0.03 7
enough	8	7,8	3 2	31, 5	7	7,8	47	47,0	
Good	5	5,1	1 9	20, 8	7	5,1	31	31,0	
Total	1 8	18, 0	7 3	73, 0	1 8	18, 0	10 9	109, 0	

source : primary data, 2024

4. Health and well-being on job burnout

Table 4 Effect of health and well-being on job burnout

health and well	job burnout						Total		P-value
	high		medium		low		n	%	
	n	%	n	%	n	%			
Less	4	5,4	2 5	22, 1	4	5,4	33	33,0	0.00 1
enough	5	5,3	2 4	21, 4	3	5,3	32	32,0	
Good	9	7,3	2 4	29, 5	1 1	7,3	44	44,0	
Total	1 8	18, 0	7 3	73, 0	1 8	18, 0	10 9	109, 0	

source : primary data, 2024

Multivariate Analysis

1. Model Fitting Information

Table 5 Simultaneous Test Results of Psychosocial on Work Fatigue

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	62,271			
Final	3,377	58,894	6	0,000

source : primary data, 2024

After testing simultaneously (Table 5) on the Independent Variable with the Work Fatigue Variable (Dependent), it was found that the -2 Log Likelihood value decreased from Intercept Only (62,271) to Final (3,377), as well as the significant value obtained of 0.000, where $p = 0.000 < 0.05$. So it can be concluded that the independent variables tested simultaneously (simultaneously) on the work fatigue variable have a significant effect (regression model fit).

2. Parameter Estimates

Table 6 Partial Test Results of Psychosocial Factors on Work Fatigue

	Estimate	Std.Error	Wald	df	Sig.
Threshold					
Fatigue = 1	12.804	5.417	5.586	1	0.018
Fatigue = 2	58.222	4.519	166.004	1	0.000
Location					
Workplace demands	-3.345	1.357	6.072	1	0.014
work organization	-2.839	1.502	3.571	1	0.059
interpersonal relationship	3.114	1.362	5.229	1	0.022
health and well-being	0.732	0.750	0.953	1	0.329

source : primary data, 2024

Of all the independent variables, only the variables of work demands and interpersonal relationships have a value < 0.05 . So it can be concluded that only the variables of work demands and interpersonal relationships partially affect job burnout significantly. While the other variables partially do not have a significant influence on job burnout.

After analyzing the ordinal logistic regression model, an ordinal logistic regression model was obtained to model job burnout as follows:

$$P1 = \frac{\text{Exp}(12,804 + -3,345)}{1 - \text{Exp}(12,804 + -3,345)} = \frac{12823,05}{1 - 12823,05} = -1,00008$$

$$P1 + P2 = \frac{\text{Exp}(58,222 + -3,345)}{1 - \text{Exp}(58,222 + -3,345)} = \frac{6,80422}{1 - 6,80422} = -1,17229$$

So, $P2 = -1.00008 - (-1.17229) = 0.172$

The constant and regression coefficients of the work demands variable are positive and negative, meaning that workplace demands have a negative influence on job burnout. Where it can be concluded, the higher the demands in the workplace, the more likely it will increase job burnout. Every 1% increase in workplace demands will decrease the probability of moderate fatigue by -1.00008% and increase the probability of severe fatigue by 0.172%. In the regression coefficient value of workplace demands of -3.345 which when exponentiated gets a result of 0.035, meaning that every 1% increase in workplace demands tends to increase the odds ratio of mild fatigue by 0.035 times greater than other categories.

The regression equation for interpersonal relationships and leadership is :

$$P1 = \frac{\text{Exp}(12,804 + 3,114)}{1 - \text{Exp}(12,804 + 3,114)} = \frac{8186524}{1 - 8186524} = -1,000001222$$

$$P1 + P2 = \frac{\text{Exp}(58,222 + 3,114)}{1 - \text{Exp}(58,222 + 3,114)} = \frac{4,34397}{1 - 4,34397} = -1,299045745$$

So, $P2 = -1,0000001222 - (-1,299045745) = 0,299$

The constant and regression coefficients of interpersonal relationships and leadership are positive, meaning that there is a positive one-way effect between the independent variable and the dependent variable. It is concluded that, the less interpersonal relationships and leadership in the workplace, the more likely it is to increase fatigue in workers. Every 1% increase in the interpersonal relationship and leadership variables will reduce the probability of severe fatigue by -1.0000001222% and increase the probability of moderate fatigue by 0.299%. The regression coefficient value of the interpersonal relationship and leadership variable is 3.114 which when exponentiated becomes 22.511, meaning that every 1% increase in the interpersonal relationship and leadership variable will tend to increase the Odd ratio of mild fatigue by 22.511 times greater than other categories.

Content analysis (Qualitative)

1. Workplace demands

Informants feel that the demands at work are very high, because workers are required to work fast and always be friendly, and even look okay even if there was a problem before.

"...normally 8 hours, unless there are many passengers to handle, then the working time is usually increased by about 2-3 hours...." (W, 38 years old).

"I work for more than 8 hours, even up to 10 hours but rarely. Here the norm is 8 hours because of the shift system. But sometimes it can be more depending on the conditions,....." (U, 33 years old).

"I usually work here for 8 hours. It can be more if there is work that must be done simultaneously (piling up)..... If overtime can usually be up to 10 hours" (AS, 31 years old).

"In my unit, we are required to work quickly. Yes, because flight times cannot be delayed so we have to work as fast as possible....but this is my responsibility as a worker" (AS, 31 years old).

In addition to being required to work quickly, some informants also explained that they were required to look good at work even though they had previous problems. This was explained by the informants as follows:

"We are always required to look friendly in front of passengers. Because the job is to serve passengers so inevitably you have to look smiling and friendly. We are also required to work as fast as possible." (NE, 38 years old).

In addition, informants experience many problems ranging from technical to misunderstandings with passengers which can lead to bad behavior from passengers. As the following informant explained:

"Most often, the problem is the lack of communication (coordination between units). Usually we are here as quickly as possible to prepare things for the flight but there are other units that make the work late...." (DJ, 53 years old).

"There are usually technical problems such as running out of paper or printer ink at the checkin desk which can cause delays in handling passengers or non-technical problems such as angry passengers" (NN, 36 years old).

"The problems I faced actually varied. Starting from running out of printing ink at the checkin desk which makes delays for passengers to enter the plane to what I think is the most high that I have experienced is when several times the difference in understanding with passengers...." (NE, 38 years old).

2. Interpersonal relationships and leadership

Informants feel that the dissemination of work-related information is still difficult to obtain, there is still a lack of appreciation from the company to superiors to existing workers, and there is still an unfair division of tasks that occurs. As explained by the informant below:

“Very difficult, sometimes the company likes to take too long to provide the information I need....”
(AS, 31 years old).

“.....but when I first started working. I myself was given rewards such as free airplane tickets (Garuda Indonesia) to a house. Even the salary given was more than enough. But now it is no longer given” (AM, 51 years old).

“So far it has never been, but I hope to get it for motivation as well so that I can work better here” (KM, 35 years old).

“Not all, because there are some who only work but are not in accordance with existing competencies or licenses....” (W, 38 years old).

“If I pay attention, it is appropriate, although sometimes there are workers who do work outside their section” (ES, 30 years old).

5. Discussion

a. The effect of workplace demands on job burnout

Work demands alone significantly affect the level of fatigue in respondents at Sig. 0.004 for bivariate analysis and Sig. 0.014 for multivariate analysis. This indicates that workplace demands strongly influence workers' burnout, as they produced significant values <0.05 for both analyses.

The work demands in question are that workers are always required to work as quickly as possible but are prohibited from working in a hurry. In addition to working quickly, landside workers, especially the pasasi unit, are also required or obliged to work with a friendly, polite attitude and must always look fine even though there was a problem before. Not a few workers feel that these demands are very burdensome, but the workers cannot do much because it is the authority of the company management, it is also because the number of workers is still in the category of less for the many work demands. Some workers explained that if there is overtime then they can work for 9-10 hours a day, but this is still rare, if it happens it is only at certain times.

In addition to the obligations that must be carried out by workers, the fact that the rights or wages obtained are not in accordance with the existing demands is another problem that occurs. According to several informants, when the company was first formed, the company always gave appreciation in the form of free plane tickets, even housing and other bonuses that were very comparable to the existing demands, but over time such things were no longer given by the company without any clear reason [4]. Problems that arise and are experienced by workers are also the most influential factors in the aspect of demands in the workplace. Starting from technical problems such as running out of ink and even running out of paper at the check-in desk to non-technical problems such as miscommunication between units that can become misunderstandings at work and even problems with passengers [2].

b. The effect of work organization on job burnout

Based on the bivariate test for the existing significant value is still below 0.05, which is 0.004. This shows that the organization has a significant influence on the level of fatigue in existing workers. But after the multivariate test, it was found that the significant value was above 0.05, which was 0.059.

This indicates that based on the multivariate test, aspects of work organization and job content do not have a significant influence on the level of job fatigue. Work organization and job content were not tested using qualitative methods because the multivariate results did not have a significant effect on the level of job fatigue (not including phenomenology).

Based on existing observations, it was found that there are still many respondents who feel that it is still difficult to manage the many tasks that must be done. Some workers explained that the support of the organization or company is still very lacking, even only at certain times such as if there is an audit, both internal audits (central) to external audits from the government. Other workers stated that they always ask for things that can support their work, such as asking for complete personal protective equipment, asking for ergonomic and comfortable work chairs, and asking for additional communication equipment. However, the company only said yes and was not followed up. So that things that should be resolved with the existence of a work organization but are not realized due to companies that are still like indifferent to the existing situation. Even the results of observations made still have workspaces that are in poor condition, such as lighting that is still lacking and even the pasasi unit does not have a room to gather. Thus, they only rely on empty rooms to conduct meetings.

c. The effect of interpersonal relationships on job burnout

Interpersonal relationships significantly influenced the level of fatigue at ($p = 0.037$) for bivariate analysis and ($p = 0.022$) for multivariate analysis. This shows that interpersonal relationships and leadership significantly affect the level of fatigue of workers, because it produces a significant value <0.05 from both analyses. Based on the equation, the results obtained that interpersonal relationships and leadership are positive, which means that there is a positive one-way influence between interpersonal relationships and leadership on the level of fatigue. Where it can be concluded that, the higher the interpersonal relationship and leadership in the workplace, it will increase job burnout.

In line with the results of the interview, it was found that there were still shortcomings in the aspects of interpersonal relationships and leadership that occurred. Starting from workers feeling the difficulty of getting work-related information from company management, there is still a lack of appreciation or support provided by the company or superiors to the unfair division of tasks in the workplace. Some informants did say that it was still quite easy to get information related to work from the company, but that was because the informant was a manager or SPV in his section. Meanwhile, ordinary workers stated that it was very difficult to obtain work-related information. The company is very slow in providing information and even seems to stall for time if there are workers who want to find information related to work.

Appreciation or support from the company and superiors is one of the most complained items from workers. Appreciation from the company is only at the beginning of work but the longer they work, the longer they work, the more they never get appreciation or support from the company [3]. Some workers even stated that they had never received a reward or appreciation from the company at all. Workers really hope that appreciation or reward can always be given, considering the amount of work that must be done and the many obligations that must be done so that it becomes a motivation for workers to always work well and professionally in the workplace. The relationship between workers that occurs is also one of the things that is still a polemic in the workplace. Because, there are still unfavorable relationships that occur in the workplace, such as some stating that not all workers they like, especially workers who are very selfish at work, complain a lot and are even good when there is a need. But apart from that, all existing social relationships are still quite good, it's just that some workers only interact to the extent of work.

d. The effect of health and well-being on job burnout

The significant value of health and welfare is still below 0.05, which is ($p = 0.001$). This indicates that health and welfare have a significant influence on the level of fatigue in existing workers. But the multivariate test found a significant value of ($p = 0.329$). This indicates that based on the multivariate test, health and well-being do not have a significant influence on job fatigue. Health and well-being were not tested with qualitative methods (in-depth interviews) because the multivariate results did not have a significant effect on the level of fatigue (not including phenomenology).

Based on observations, it was found that there were still many respondents who experienced poor sleep to restlessness during sleep. Some stated that often before going to bed they still think about problems that occur at work, either as a result of problems with coworkers or arising from misunderstandings with passengers. The thing that makes many workers experience the most negativity in their health is problems with passengers. Some even stated that they often wake up too early during sleep and find it difficult to go back to sleep.

Workers in the operation center work unit often work in the field, resulting in many complaints related to muscle tension, especially leg muscles after walking for a long time. In addition, there are still many workers who explain that it is difficult to believe in themselves to solve problems that occur and some even state that it is still difficult to manage their work properly. This is due to the high work demands in both units, lack of work motivation and lack of appreciation from the company.

6. Conclusion

Based on the results of the study, it can be concluded that the workplace demands factor and interpersonal relationships are factors that have a significant influence from all tests conducted. This is also supported by the results of existing interviews, where there are still high work demands to work time that is sometimes excessive and nothing is given by the company. In fact, there is still a lack of appreciation from the company and superiors to the difficulty of getting work-related information. Meanwhile, other factors only have a significant effect on the bivariate test and are not significant in the multivariate test. This makes other factors not conducted in-depth interviews because they are not included in phenomenology.

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