THE RELATIONSHIP BETWEEN SHIFT WORK AND WORKLOAD WITH WORK FATIGUE IN EMPLOYEES OF INDOMARET CONVENIENCE STORE IN BANDAR LAMPUNG

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Abstract

Basically, one of the things that can reduce a person's ability to work and one's immune system to work is fatigue from work. Causes include general fatigue, boredom, intensity, length of physical and mental effort, anxiety or disagreement, and perception of pain. In addition, most workers become exhausted due to unscheduled work schedules, heavy responsibilities, and lack of rest. The study aims to determine the relationship between shift work and work fatigue in Indomaret Minimarket employees and the relationship between workload and work fatigue. The study used a cross-sectional design that is quantitative. Research samples from 35 workers from seven Indomaret Minimarkets in Teluk Betung, Bandar Lampung. Carried out using Purposive Sampling technique. And data analysis using pearson correlation techniques. The results showed that shift work was positively related to work fatigue and workload was positively related to work fatigue.

Keywords: Shift Work, Workload, Work Fatigue

1. Introduction

According to (Aldi Ramadhani 2023) Fatigue is the decline in the condition of employees while working and decreased levels of immunity to do prolonged work. Fatigue can be a serious problem for the health of employees and must be addressed with the care of others. Fatigue can be overcome with adequate rest for workers (Liu et al, 2020).

Based on the pre-survey, researchers found the phenomenon of work fatigue in Indomaret minimarket employees. Work fatigue is one of the problems in employees, because of the declining state of employees carrying out work. The negative impact of fatigue is on the physical and mental well-being of employees. This can reduce productivity, increasing the risk of accidents. There are several factors that add to work fatigue, namely internal factors, namely age, and gender. While external factors, namely shifts, load while working, and working environment conditions are one of the causes of employees feeling very tired, and employee performance becomes bad at work because they are treated unfairly by fellow employees and superiors.

When the workload felt by workers is excessive, it will cause fatigue in the body and psychology as well as excessive emotional feelings such as head pain, disturbed digestion, and easy to get angry. Then if the workload is less but the work is monotonous it will cause boredom in employees. (Marzuki 2022) The tasks charged must be carried out by employees or organizations within a predetermined time. These responsibilities can be psychological, psyche, or social. While according to (Riza et al, 2018) Work load or

volume is the process of ensuring employee work time to complete tasks within a predetermined time.

Shift is a change of working hours between employees whose company has set the employee's schedule to carry out an activity, (Hadija *et al*, 2023)The change of hours consists of morning, noon and night. Employees with night working hours will feel more fatigue so that it will reduce employee performance (Wiyarso 2018). Shift work refers to the time schedule when employees work to maintain store operations. In the implementation of work at Indomaret Minimarket, employees have to work shifts alternately in a day, namely: the schedule of employees' morning working hours at 07.00 to 16.00 WIB, while afternoon working hours at 15.00 to 24.00 WIB. If the number of working hours exceeds the proper limit, insomnia, fatigue, decreased level of work movement, and other serious diseases are things that will reduce work productivity and the number of absenteeism due to illness will increase *(Nurliasari et al*, 2023).

Thus, researchers are interested in conducting this study which aims to see the extent to which the relationship between shift work has a relationship with fatigue and to see the extent of the relationship between workload and work fatigue in Indomaret Bandar Lampung employees

2. Theoretical Background
2.1 Shift Work

Work shifts are duration patterns that are distributed to employees to complete tasks assigned by the company. The duration of workers each year continues to increase. As a result, employees have to work all day. Because the duration of work that is very excessive will cause many problems, especially workers who do not adjust to the normal duration of work. (Sesrianty and Marni 2021) The effects of shift work are: 1. Physiological Effects: This can cause problems with sleep capacity, during night work employees feel very tired due to sleep that is always lacking, therefore sleeping while working is very effective to replenish lack of rest. reduces the ability to perform physical activity and causes fatigue and drowsiness. decreased appetite and disturbed digestion. 2. Psychic Effects i.e. problems that refer to behavior, and Mental health of employees. This includes problems in life outside of work, such as problems within relatives, reduced free time, and reduced ties to others. Work shift as an independent variable (X1). Work shift indicators used according to (Kadaryat 2020) Shift time equalization is the division of work duration from the company to employees within the time limit of two days to one month, and shift work exchange is a change in work duration where employees can change the schedule as desired as long as it is in accordance with the company's working hours.

2.2 Workload

According to (Puspita Sari and Erisna 2022) Employees will experience tension because the workload exceeds capacity too much. This is due to very high job demands, but results in decreased dexterity and agility when working, limited employee time when doing work, and a lot of work capacity.

According to (Kadaryat 2020) the following indicators are used to evaluate workload as an independent variable (X2):

a. Targets to be Achieved by employees are about the size of the tasks needed to complete their work, such as sales, minus goods, and printing. This view also includes the amount of work that must be done within a predetermined period of time.

b. Work Conditions seen from the comfort of the work environment, adequate machinery when working and then when employees handle immeasurable problems such as carrying out more work than usual and exceeding the predetermined work duration.
c. Work Standards are the daily life of employees in doing work, such as the condition of employee feelings while on duty.

2.3 Work Fatigue

According to (Sesrianty and Marni 2021) Work fatigue is a condition in which a person becomes unable to perform activities. Biological factors of the work process affect work fatigue, factors caused from oneself and factors caused from inadequate work situations or environments. Employee fatigue can be caused by very long work shifts, excessive workloads and extreme working conditions (Russeng et al, 2021).

According to (Pomegranate 2018) Indicators of work fatigue as a dependent variable (Y) include:
a. Decreased attention or fatigue, identified by a feeling of heaviness in the head, fatigue of the whole body, drowsiness, chaotic thoughts, sore eyes, weak movements, unbalanced standing, and a desire to rest.
b. (2) Slowing down and not smooth work, including lack of concentration, forgetfulness, lack of confidence, anxiety, fatigue at work, uncontrolled emotions, and work that is not carried out properly.
c. (3) Decreased work performance, because of fatigue at work, employees do not think towards achievement because employees are not enthusiastic when working.
d. (4) Physical and psychological activities become less than optimal, the decline in the quality of employees while working decreases due to fatigue.
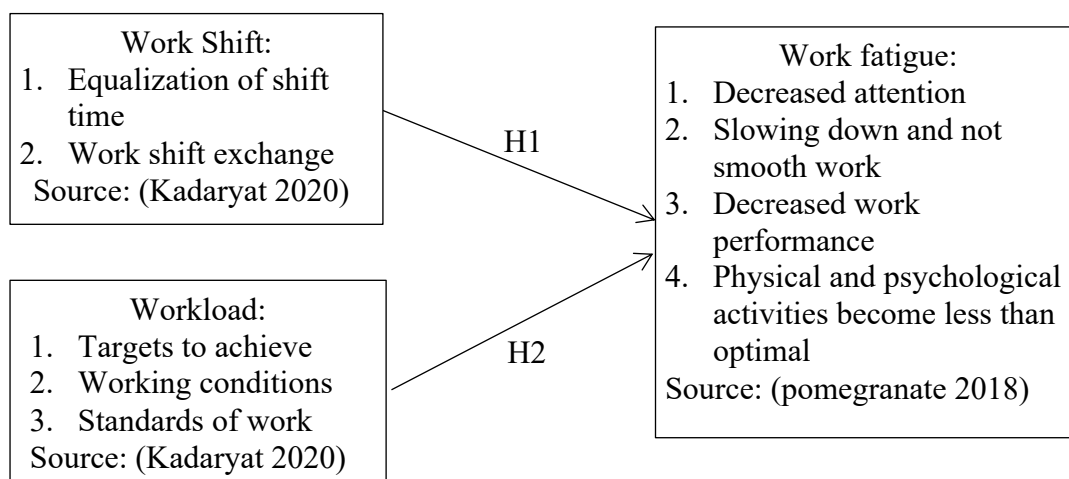

Figure 1. Research Conceptual Framework

2.4 Hypothesis

H1: It is suspected that shift work has a positive relationship with work fatigue. This research is contrary to the results of previous studies (Ginting and Malinti 2021) It had a different result that did not have a significant relationship between shift work and fatigue. And contrary to research (Trinofiandy et al, 2018) The results also found no relationship between shift work and work fatigue. But this research is in the same direction as research (Sesrianty and Marni 2021) That is, there is an attachment between the nurse's work shift and the nurse's work fatigue.

H2: It is suspected that workload has a positive relationship with work fatigue. Research in line with studies conducted (Russeng et al, 2021) shows that this study is the same as the study, which has a significant relationship between workload and work fatigue. Other research by (Dame Maria Pakpahan et al, 2023) Also in line that shows that it has a relationship between the two. And the same results on research (Mulfiyanti et al, 2020) There is a relationship between workload and work fatigue.

3. Methods

Observational Analytics that researchers use in their research. Observations in data collection conducted by researchers (Study et al, 2023). Using the approach Cross sectional, i.e. aggregating data answers from the number of respondents at one given time (Ginting and Malinti 2021). X1 shift work and X2 workload become independent variables. Then Y Work fatigue shouldered by employees becomes a dependent variable (Study et al, 2023). The research location is located in Bandar Lampung City. This study used the dissemination of questionnaires made using Google Forms Then filled in using the respondent's email. Employees of Indomaret minimarket in Bandar Lampung were respondents in this study. This study involved 35 employees from 7 Indomaret stores in Bandar Lampung. Using the Purposive Sampling technique has the following criteria: 1.) Indomaret store is located in Teluk Betung, Bandar Lampung, 2.) the duration of working hours is more than 7 hours / day and 3.) stores that have no record of employee burnout. The data used is primary data. Data was collected from the number of questionnaire results against respondents' answers and when making observations to the destination location. In the assessment of questionnaire questionnaires, Likert scales are used. Analysis data was obtained from respondents' answers through the distribution of questionnaires and then processed using the SPSS (Statistical Product and Service Sciences) software application program version 29. This study is to identify relationships between variables. Pearson Product Moment correlation statistical test used. And some other supporting statistical tests used in this study:

a. Descriptive Analysis Test (characteristics of Respondents)
b. Validity Test and Reliability Test (primary data only)
c. Normality and Linearity Test
d. Hypothesis Test (pearson correlation)

4. Results and Discussion

4.1 Characteristics of Respondents

Table 1. Distribution of Respondent Characteristics

Karakteristik	N	%
1. Umur		
18 - 20 tahun	6	17,1%
21 - 23 tahun	13	37,1%
24 - 26 tahun	13	37,1%
27 - 29 tahun	3	8,6%
2. Jenis Kelamin		
Laki-laki	19	54,3%
Perempuan	16	45,7%
3. Masa Jabatan		
1 bulan - 1 tahun	6	17,1%
1 tahun - 2 tahun	4	11,4%
2 tahun - 3 tahun	7	20,0%
3 tahun - 4 tahun	5	14,3%
4 tahun - 5 tahun	6	17,1%
Lebih dari 5 tahun	7	20,0%

Source: Data processed with IBM SPSS Statistic 29

Table 1 above analysis of respondent characteristics above shows that the age of most employees in the range of 21-23 years and 24-26 years each range as many as 13 respondents (37.1%). Meanwhile, in the gender category, the majority of Indomaret employees are male as many as 19 respondents (54.3%). As well as the tenure of employees is more 2-3 years and > 5 years has a range of 7 respondents (20.0%).

4.2 Validity Test

The validity test is carried out when you want to measure the validity of each item of the research statement. The use of the validity test is to measure each question indicator and research questionnaire statement to determine whether it is valid or not. The statement item is said to be valid if (r count > of r table). In this research test, the r score is calculated to be above 0.0333, where the value of 0.333 is obtained from the number of samples minus 2 results 33. So, the researcher proves the validity of each valid statement and question item.

Table 2. Validity Test

Variabel	Indikator	R Hitung	R Tabel	keterangan
Shift Kerja (X1)	X1.1	0,655	0,333	Valid
	X1.2	0,781	0,333	Valid
	X1.3	0,589	0,333	Valid
	X1.4	0,757	0,333	Valid
	X1.5	0,453	0,333	Valid
	X1.6	0,533	0,333	Valid
	X1.7	0,415	0,333	Valid
Beban Kerja (X2)	X2.1	0,461	0,333	Valid
	X2.2	0,464	0,333	Valid
	X2.3	0,588	0,333	Valid
	X2.4	0,662	0,333	Valid
	X2.5	0,503	0,333	Valid
	X2.6	0,537	0,333	Valid
	X2.7	0,631	0,333	Valid
Kelelahan Kerja (Y)	Y.1	0,795	0,333	Valid
	Y.2	0,840	0,333	Valid
	Y.3	0,897	0,333	Valid
	Y.4	0,752	0,333	Valid
	Y.5	0,700	0,333	Valid
	Y.6	0,392	0,333	Valid
	Y.7	0,377	0,333	Valid

Source: Data processed with IBM SPSS Statistic 29

4.3 Reliability Test

After conducting the validity test, the researcher will continue the reliability test. Reliability tests are used to measure the stability of measuring instruments or questionnaire items from the answers to statements from respondents. By using Cronbach's alpha method, which is based on the alpha scale. Results are said to be good and reliable if Cronbach's Alpha score is above Alpha 0.6. The results of the study are presented below:

Table 3. Reliability Test

Variabel	Cronbach' Alpha	Alpha	Keterangan
X1	0,689	0,6	Reliabel
X2	0,618	0,6	Reliabel
Y	0,791	0,6	Reliabel

Source: Data processed with IBM SPSS Statistic 29

Based on table 3 of the reliability test results above, on the variable X1 Work Shift Score Cronbach's Alpha (0.689), X2 Workload Score Cronbach's Alpha (0.618), and Y Work fatigue Score Cronbach's Alpha (0.791). The table above shows each variable achieving a score above alpha (0.60). It can be concluded that all instruments or statement questionnaire items used in this study are reliable and reliable.

4.4 Normality Test

When you want to find out whether the value of the research data is normally distributed or not, then use the normality test. Decision making is criterion in normality test testing, namely: 1.) when the data is said to be normally distributed if the signification score > 0.05. 2.) when the data is said to be not normally distributed If the significance score < 0.05. The results of the study can be presented below:

Table 4. Test Of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
shift kerja	.127	35	.166	.956	35	.178
beban kerja	.126	35	.173	.958	35	.203
kelelahan kerja	.126	35	.173	.958	35	.203

a. Lilliefors Significance Correction

Source: Data processed with IBM SPSS Statistic 29

From Table 4 of the test of normality results, there are two methods of analysis, namely, Kolmogorov - Smirnov and Shapiro - Wilk. The Shapiro-Wilk normality test is used when the population and sample are no more than 50. The sample in this study was 35 respondents, then using the Shapiro-Wilk normality test. The scores in the Shapiro-Wilk significance table are variable X1 = .178, variable X2 = .203, and variable Y = .203 all score variables > 0.05. So the score on each variable is normally distributed.

4.5 Linearity Test

When you want to see whether or not the two variables have a linear relationship, test the linearity of the solution. A good correlation is when the independent variable (X) and the dependent variable (Y) have a linear relationship. 1.) If it is said to have a linear relationship between the independent variable and the dependent variable then the score of sig. deviation from linearity should > 0.05. 2.) When it is said that it has no linear relationship between variables, the score of Sig. deviation from linearity should < 0.05.

Table 5. ANOVA Table

			Sig.
kelelahan kerja * shift kerja	Between Groups	(Combined)	<,001
		Linearity	<,001
		Deviation from Linearity	.942
	Within Groups		

Source: Data processed with IBM SPSS Statistic 29

Based on table 5 of ANOVA Table, we can see the sig deviation from linearity score which has a value of 0.942. Which means a score of 0.942 is greater than 0.05. So the researcher concluded that the variable X1 work shift, variable X2 workload and variable Y work fatigue above explained that each independent variable with the dependent variable has a good and linear correlation or relationship.

4.6 Test the hypothesis

Hypothesis testing using Pearson Product Moment coralation. Because when the normality test and linearity of the data are normal, the researcher uses this one test. When you want to see whether or not there is a relationship between variables, use a correlation test. And when you want to see the direction of positive (unidirectional) or negative (not unidirectional) relationships between variables. Pearson Product Moment Correlation Test Test Testing Criteria: 1. When concluded it has a significant relationship if the score sig. (2-tailed) < 0.05. 2. When concluded does not have a significant relationship when score sig. (2-tailed) > 0.05.

Table 6. Correlations

		x1	x2	Y
x1	Pearson Correlation	1	.985**	.985**
	Sig. (2-tailed)		<,001	<,001
	N	35	35	35
x2	Pearson Correlation	.985**	1	1.000**
	Sig. (2-tailed)	<,001		<,001
	N	35	35	35
y	Pearson Correlation	.985**	1.000**	1
	Sig. (2-tailed)	<,001	<,001	
	N	35	35	35

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Data processed with IBM SPSS Statistic 29

The results of the above Hypothesis Test output can be seen from a significant level. (2-tailed) variable X1 with variable Y has a score of <.001, then the value < 0.05. Researchers determined that variable X1 (Work shift) has a significant relationship with variable Y (Work Burnout). Then the hypothesis is supported or accepted. The Pearson Correlation between X1 Work Shift and Y Work Fatigue gets a score of .985

Test the hypothesis of a significant level. (2-tailed) variable X2 with variable Y has a score of <.001, then the value is <0.05. Researchers determined that variable X2 (Workload) also has a significant relationship with variable Y (Work Fatigue). Then the hypothesis is supported or accepted. The Pearson Correlation between X1 Work Shift and Y Work Fatigue gets a score of .1000

4.7 Discussion

4.7.1 The Relationship of Shift Work with Work Fatigue

From a study conducted on 35 respondents from Indomaret Bandar Lampung Minimarket employees. Research proves that at the degree of correlation coefficient relationship of 0.985, this value is in the category of 0.800-1.000. This means that the level of closeness between the variable Work Shift (X1) and Work Fatigue (Y) is "Very Strong". The pearson correlation value is positive, then the variable X1 (Work Shift) peaks, then the variable Y (Work Fatigue) will peak as well. Then the scores of the two variables are identified in the same direction.

This research shows that the hypothesis is supported. That is, it has a significant relationship between X1 shift work with Y work fatigue. Thus on the results of previous studies (Ginting and Malinti 2021) It had a different result that did not have a significant relationship between shift work and fatigue. The study looked at two variables: Independent variable (X) Shift work with dependent variable (Y) Work Fatigue, using Analysis Chi-Square Test which yields a value of p = 0.683>0.05 In the study (Trinofiandy et al, 2018) There was also no association between shift work and work fatigue. Likewise, this research is in line with (Sesrianty and Marni 2021) That is, there is a relationship between nurse work shifts and nurse work fatigue

4.7.2 The Relationship of Workload to Work Fatigue

The Relationship of Workload with Work Fatigue in the degree of correlation coefficient relationship of 1,000, this value is in the category of 0.80-1.00. This means that the level of closeness between the variables X2 (Workload) and Y (Work Fatigue) is "Very Strong". The pearson correlation value is positive, so if the variable X2 (Workload) peaks, the variable Y (Work Fatigue) will also peak. Then the scores of the two variables are identified in the same direction.

This research shows that the hypothesis is supported. That is, it has a significant relationship between X2 work and Y work fatigue. Studies conducted (Russeng et al, 2021) shows that what is obtained from research using tests Chi-Square between workload and work fatigue, namely (p=0.021<0.05). That This means that this study is the same as the study, which has a significant relationship between workload and work fatigue. Other research by (Dame Maria Pakpahan et al, 2023) The results show that it has a relationship between the two. And the same results on research (Mulfiyanti et al, 2020) There is a relationship between workload and work fatigue (p = 0.001).

5. Conclusion

Based on the results and discussion above. Researchers came to conclusions, namely:

a. Shift work is positively related and in line with work fatigue in Indomaret store employees.

b. Workload is positively related and in line with work fatigue in Indomaret store employees.

c. Employees are required to pay close attention to safety and health conditions in the workplace. As well as maintaining sleep quality with a minimum duration of 6 hours per day. And it is recommended that workers do not consume caffeine excessively to support balance and efficiency while working.

d. Employees must be more careful in transporting very heavy loads of goods beyond the capacity of employees so that unwanted accidents do not occur due to fatigue at work.

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