

## THE EFFECT OF OVERTIME WORKING HOURS ON STRESS LEVELS AND WORK FATIGUE AND ITS IMPACT ON EMPLOYEE PERFORMANCE AT PT. TRAKINDO UTAMA TANJUNG

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### Abstract

*This study was conducted to analyze the effect of overtime working hours on work stress levels and the effect of overtime on work fatigue and its impact on employee performance. The sample used in this study were 53 employees of PT. Trakindo Utama Tanjung Tabalong, South Kalimantan. The sampling method used was multiple linear regression analysis with SPSS. This study was conducted to determine how much overtime working hours affect work stress and work fatigue on the performance of employees of PT. Trakindo Utama Tanjung. The results of this study indicate that overtime working hours do not affect the level of work stress of employees of PT. Trakindo Utama Tanjung and overtime working hours do not affect the level of employee fatigue. The level of employee fatigue has an impact on the work performance of factory employees. This study was conducted to determine how much work hours and work stress affect the performance of employees of PT. Trakindo Utama. Based on the results of the study, it is explained that excessive working hours have a negative impact that causes fatigue and lack of adequate rest, thus impacting the decline and work performance of employees.*

**Keywords:** *working hours, work stress, work fatigue, work performance*

### Introduction

In the implementation of the company requires production factors that support the achievement of the company's goals. These factors are raw materials, capital, machinery, and human resources so that in carrying out its activities the company is directed to achieve the goals or targets that have been determined. Quoting Rivai's statement (2005), the existence of human resources is very important for companies in managing, organizing, managing, and using HR so that they can function effectively, productively, and efficiently to achieve the company's goals. Human resources refer to resources related to the workforce or employees who work in an organization. In manufacturing companies, human resources are part of the work that is structurally arranged in the process of developing parts, components, and raw materials so that a finished product is formed.

We need to know that PT. Trakindo Utama Tanjung Tabalong located in South Kalimantan Province is a company engaged in the distribution and provision of products and services related to heavy machinery, especially for the construction, mining, forestry, energy and other industrial sectors. In this case, quality human resources are a valuable asset for PT. Trakindo Utama Tanjung by involving continuous training for employees and partners to ensure adequate skills in supporting industrial development in Indonesia. So in this case the company needs employees who have a high commitment to the company.

Decree of the Minister of Manpower and Transmigration Number 102 of 2004, which states that overtime is a maximum of 3 hours in 1 day and 14 hours in 1 week. Therefore, it is important to pay attention to the arrangement of working hours in order to limit working hours so that they do not exceed the normal working hours. Overtime can only be done for a maximum of 4 (four) hours in 1 (one) day and 18 (eighteen) hours in 1 (one) week. The order from the company and the approval of the workers concerned in writing or from digital media. The reasons for employees to work overtime are to increase income, complete unfinished work, as work motivation, increase work experience and to increase relations in the company. But we need to note, fatigue can also be an important factor for health and affect employee productivity which has an impact on company targets.

According to Thomas (2002), the definition of overtime work is a work schedule that exceeds 40 hours of work per week or work done to complete work that is impossible to complete in a normal

working day. Increasing the success and success of a company and the productivity of the workforce, therefore it is important for companies to pay attention to working hours and systems as well as appropriate overtime. To achieve high work productivity, the company's contribution is needed to pay attention to a number of factors that affect the workforce to ensure the sustainability of existence in the company. So the performance produced by employees is something that greatly influences the sustainability of a company, one of which is work productivity.

Efforts to improve employee performance or performance include paying attention to work stress. Work stress can disrupt psychological and physical instability that affects the mind and condition of employees at work (Ekhsan & Septian, 2021). Likewise, according to Setiyani et al. (2019) stress that is left untreated without serious handling will make employees depressed, unmotivated and frustrated, causing employee performance to be disrupted and not optimal. Therefore, if employees experience stress, it automatically affects their work results or performance, so that organizational quality improvements must be made for employees.

Working excessively has a negative impact on workers, fatigue is the main factor if working excessively. Fatigue is also the main factor in accidents that occur, because fatigue makes employees lose focus and make mistakes that result in work accidents. 3 Fatigue factors also cause the atmosphere in the workplace to be uncomfortable, because fatigue allows a person's emotions to increase and cannot be controlled. Defining that fatigue is a condition in which a person feels very tired, fatigue can be caused by working hours that are too long, doing physical and mental activities for too long, insufficient rest, excessive stress, and a combination of these factors. This is because workers who work shifts experience changes in the biological clock in certain shifts, especially the night shift. Shift work is a work system that divides working hours into several different time periods, so that employees take turns working. Shifts usually last for 8 hours and cover a total of 24 hours.

This study was conducted to analyze the effect of overtime working hours so that it affects the level of work stress and work fatigue. Data analysis used in this study uses multiple linear regression analysis to determine how much influence overtime working hours have on the level of work stress, the level of work fatigue, and whether it has an impact on employee performance. The purpose of this study is expected to be a reference for the development of relevant science and research related to the topics and problems studied in order to provide insight and influence on the relationship between overtime work and stress levels on employee performance.

### **Literature Review**

Working hours according to Tulhusnah & Puryantoro (2019) are the time spent by workers to do work according to the time determined by the company. Meanwhile, according to Herdiansyah (2021) working hours are the time used to do work during the day or night. In some circumstances, the authorities set tasks with limited deadlines, the result is that employees have more time to complete their tasks within the specified deadline. Thus, working hours are set so that employees can complete their work and submit it on time. However, the use of systems, cognitive disorders and shift work idem disorders have a negative impact on employees.

Shift work systems are associated with increased risk of health problems, the fastest factor causing drowsiness, fatigue, cognitive impairment, and sleep disturbances (Wright et al., 2013). Drowsiness and fatigue are common complaints of shift workers that reach clinical levels and are associated with work performance and accidents. Fatigue is an abnormal feeling, tired, lethargic, out of control, and also other feelings that are difficult to define because fatigue is a subjective feeling. (Government of Alberta, 2010) defines fatigue as a state in which a person feels very tired, fatigue can be caused by working hours that are too long, doing physical and mental activities for too long, insufficient rest, excessive stress, and a combination of these factors. Workers with long working hours and experiencing rotation have a chance of increasing work fatigue faster than workers who have fixed and normal working hours. This is because workers who work shifts experience changes in the biological clock in certain shifts, especially the night shift. (Theron et al. 2011) said that the industrial sector that has a high risk of work fatigue is the industrial sector that works more than 8 hours per day or 40 hours per week.

Maintenance / Mechanic Employees of PT. Trakindo Utama Tanjung have the potential to experience high work stress and work fatigue. This is because there are only 3 shift teams (12 working hours) 8 normal working hours, 4 overtime hours at PT. Trakindo Utama Tanjung. Ideally 8 hours of shift

work (4 shift teams) with a shift rotation system used, namely 2-2-3, where one shift is done for three days and the other shift for two days with 2 days off at the end of each shift period (ILO, 1983). Work fatigue itself can have a negative impact on employee performance. This is due to the close relationship between sleep, fatigue, and performance (Baker and Ferguson, 2004). Performance is the result (output) of employee work in accordance with the provisions set by the company. Employee performance requires special attention, because through employee performance the company can measure the success of achieving the company's targets that have been set. If employee performance is not good, then the work results produced are not good.

Previous research is also supported by the results of observations with interviews with safety workers on March 6, 2017 at one of the Mechanical and Electrical contractors in Surabaya, which stated that many workers were exhausted during overtime work so that overtime work performance was not optimal and overtime work performance was very different from normal hour performance because overtime workers' energy had been drained during normal working hours. A study published in the Annals of Internal Medicine in 2011 found that individuals who work 11 hours a day are at higher risk of coronary heart disease than those who work less than 11 hours (in health.liputan6.com accessed on September 20, 2017) and overtime work should not be a daily routine because it can cause depression, too much sitting, lack of sleep, cardiovascular problems, stress, eye strain and dementia (in health.kompas.com accessed on September 21, 2017).

**Method**

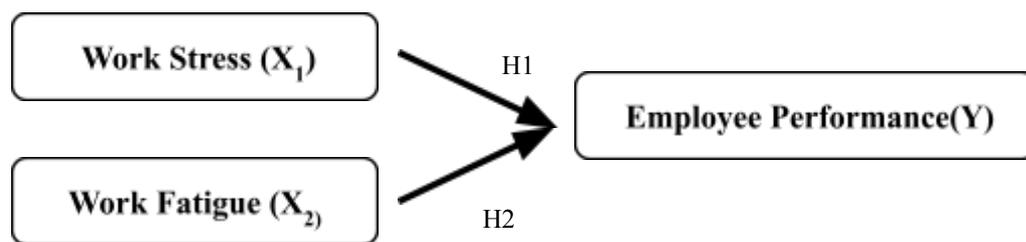
**Population and Sample**

Data collection in research must of course be done scientifically and systematically. Researchers conduct surveys by distributing questionnaires or surveys as research instruments, questionnaires are effective and efficient data collection media. Questionnaires are also data collection tools in the form of a series of written questions that are arranged systematically to obtain information from respondents.

The quantitative method where the data of respondents' answers from the questionnaire and the results obtained in the form of numbers, then processed using the SPSS program. Research with tools for data processing using statistics. The population of this study was 53 employees of PT. Trakindo Utama Tanjung. The sample in this study was taken using the multiple linear regression analysis method, meaning that the entire population was used as a sample.

**Research Framework**

Based on the formulation of hypothesis development, the research framework is described as follows:



**Figure 1.**  
**Research Framework**

**Hypothesis**

Based on the discussion and formulation of hypotheses in the relationship between research variables, the hypotheses in this study are as follows:

- H1. Work stress due to overtime has a negative effect on the work performance of employees of PT. Trakindo Utama Tanjung.
- H2. Work fatigue due to overtime has a negative effect on the performance of employees of PT. Trakindo Utama Tanjung.

## Results and Discussion

### Descriptive Statistics

The results of descriptive statistics from the research data are as follows:

**Tabel 1.Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Work Stress (X1)	53	10.00	36.00	22.1698	6.69884
Work Fitugue (X2)	53	10.00	46.00	23.8679	7.86921
Employee Performance (Y)	53	29.00	50.00	39.1132	5.93445
Valid N (listwise)	53				

Source : Output SPSS 2024

In Table 1. shows that the descriptive statistics of this study there are a sample of 53 employees. The work stress variable (X1) has a minimum value of 10.00 and a maximum value of 36.00 with a mean value of 22.1698 and a standard deviation value of 6.69884. The work fatigue variable (X2) has a minimum value of 10.00 and a maximum value of 46.00 and a mean value of 23.8679 and a standard deviation value of 7.86921. Performance variables

### Coefficient Of Determination Test (R2)

The results of the Determination Coefficient Test (R2) from the research data are as follows:

**Tabel 2. Coefficient Of Determination Test (R2)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.553 <sup>a</sup>	.306	.279	5.04066	1.825

a. Predictors: (Constant), Work Fatigue (X2), Work Stress (X1)

b. Dependent Variable: Employee Performance (Y)

Source: Output SPSS 2024

Based on Table 2. The determination coefficient test above shows an R2 value of 0.306, which means that the variables of work stress and work fatigue are able to influence employee performance variables by 30.6%. While the remaining 69.4% is influenced by other factors not explained in this study.

### Statistical F Test

The results of the statistical F test in this study are as follows:

**Tabel 3. Statistical F Test**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	560.908	2	280.454	11.038	.000 <sup>b</sup>
	Residual	1270.412	50	25.408		
	Total	1831.321	52			

a. Dependent Variable: Employee Performance (Y)

b. Predictors: (Constant), Work Fatigue (X2), Work Stress (X1)

Source : Output SPSS 2024

In Table 3. The F Statistic Test above shows the results of the F value of 11,038 and a value of 0.000 (<0.05). So it can be concluded that H0 is rejected and H1 is rejected, which means that the variables of work stress and work fatigue simultaneously do not affect employee performance at PT. Trakindo Utama Tanjung.

### Statistical T Test

The results of the statistical t-test in this study are as follows:

**Table 4.** Statistical T Test

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	49.181	2.439		20.165	.000		
	Work Stress (X1)	-.668	.190	-.754	-3.523	.001	.303	3.305
	Work Fatigue (X2)	.199	.161	.264	1.232	.224	.303	3.305

a. Dependent Variable: Employee Performance (Y)

Source : Output SPSS 2024

In Table 4. The Statistic t-test shows the results for the work stress variable has an influence value of - 0.668 with a value of 0.001 and the work fatigue variable has an influence value of 0.199 with a value of 0.303. Then the multiple linear regression equation is obtained as follows:

$$Y = 49.181 - 0.668.X1 + 0.199.X2$$

Based on the results of the multiple linear regression equation above, it is concluded that the work stress variable has a negative effect on employee performance and the work fatigue variable has a negative effect on employee performance at PT. Trakindo Utama Tanjung.

#### **The Effect of Work Stress on Employee Performance**

Based on the results of the T-test, it shows that overtime hours of employees of PT. Trakindo Utama Tanjung have no effect on work stress and on employee performance, which is -0.668 with a value of 0.001. These results indicate that overtime hours do not affect work stress and do not affect / negatively affect employee performance, therefore hypothesis 1 is accepted. This is good, PT. Trakindo Utama Tanjung is able to manage employee overtime hours well so that work stress does not occur for its employees so that it does not have a negative impact on improving employee performance.

#### **The Effect of Work Fatigue on Employee Performance**

Based on the results of the T-test, it shows that overtime working hours of PT. Trakindo Utama Tanjung employees have no effect on work fatigue and have no influence value on employee performance, which is 0.199 with a value of 0.224. These results indicate that overtime working hours do not affect work fatigue and have a negative effect on employee performance, therefore hypothesis 2 is accepted. This is good, PT. Trakindo Utama Tanjung is able to manage employee overtime working hours well so that work fatigue does not occur for its employees so that it does not have a negative impact on improving employee performance.

### Discussion And Suggestions

This study was conducted to determine the extent to which overtime hours affect work stress and work fatigue and their impact on employee performance at PT. Trakindo Utama Tanjung. Based on the results of the study, it is explained that overtime hours that are not excessive and are well managed do not have a negative impact on work stress and work fatigue for employees which do not have an impact on employee work performance. This is good, namely the company implements a fair rotation system among employees, providing opportunities to rest by ensuring employee work safety. Because if it is not realized, it will cause fatigue and lack of sleep for employees, which will have an impact on employee performance.

Many researchers have shown that work stress and fatigue can be the cause of a decline in employee mental health, well-being and productivity as a whole. Regression analysis shows that work stress and fatigue have a negative effect on performance with a regression coefficient of -0.668, which means that the higher the stress experienced, the lower the employee's performance. The implication of this research study is that employee performance is not only influenced by work stress and job satisfaction but also by other factors, so it is possible to conduct further research to examine other factors that affect employee performance.

PT. Trakindo Utama Tanjung sets optimal working hours for employees so that company targets can be achieved properly. High work stress can also reduce employee performance. So that employees of PT. Trakindo Utama Tanjung so that work stress can be managed properly and vice versa will have an impact on improving employee performance. In this study, it was only limited to the variables of overtime working hours on work stress and work fatigue, the impact on employee performance. It is hoped that the company will always try to create harmonious working relationships between employees, and ensure that employee working conditions have a good impact on the company. The company is also expected to continue to evaluate the results achieved by employees so that the company can rotate work or adjust the workload with the level of ability possessed by employees. Because job satisfaction has a positive effect on employee performance, the company should better understand the factors that form job satisfaction such as salary, promotion, work environment and others.

It is recommended for further research to use other variables that affect stress and work fatigue to increase research variation, such as training and other variables that affect employee performance, examining other factors such as overtime work hours, work environment, training and motivation that can affect employee performance, especially at PT. Trakindo Utama Tanjung. Researchers can also look for more references and information about work stress because it will be very useful for employees who experience stress and work fatigue so that further researchers will obtain better results. The results of this study are expected to be used as reference material and knowledge for further researchers.

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