

Comparative Analysis Of Employee Work Stress Based On Work Shifts At Pt. Pelita Adi Pratama Tanjung Balai City

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ABSTRACT

Work stress is a consequence of every action taken by employees in dealing with work, where the situation places employees on physical and psychological demands that can interfere with work productivity and the stability of daily life, one of the causes of work stress is work shifts. The aim of this research is to find out the comparison of work stress for employees who enter the morning shift and night shift employees. When this research was conducted from February 2023 to June 2023. This study used a quantitative survey method with a cross-sectional design. The sampling technique used purposive sampling because the researchers chose samples based on working hours, namely morning and evening shift employees with a total sample of 60 employees, namely 30 morning shift employees and 30 night shift employees. Data collection included filling in the prepared questionnaire, namely the Occupational Stress Inventory-Revised Edition™ (OSI-R™) questionnaire with closed questions consisting of 28 items. All data were analyzed using SPSS using an independent sample t-test. The results showed that there were differences in work stress for morning shift employees and night shift employees with a value ($\text{sig} = 0.000$). Based on this research, it is hoped that it can be an improvement for the company regarding employee comfort by making additional work shifts to 3 shifts within 8 hours/shift with different employees.

Keywords : Age, Tenure, Work Stress, Work Shift

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INTRODUCTION

A company is any form of business that carries out any type of business that is permanent and continuous and is established, works, and is domiciled within the territory of the State of Indonesia with the aim of obtaining profit and or profit. (Law No. 3 Article 1 letter (b) of 1982. Regarding Compulsory Company Registration).

The process of running a company is inseparable from human resources, only humans have desires, abilities, who have reason, knowledge and work, all of these potentials are things that can affect the achievement of organizational goals, even things such as sophisticated technology, increasingly rapid information development, the existence of capital and adequate tools in an organization will not be able to achieve the goals of the company without the support of adequate human resources (Hamali, 2020).

In the process of achieving good work results, there are always various obstacles in the

work, these obstacles can cause work stress in employees. Job stress can affect employee performance, the large number of employees suffering from job stress will interfere with company production and employee health (Assyfa, 2021). Job stress causes symptoms at the organizational level such as increased employee absenteeism, schedule errors, low employee work productivity, and various errors that result in work accidents (Hamali, 2020).

The Health and Safety Executive has conducted a survey in 2021/2022 stating that an estimated 914,000 workers are affected by work-related stress and depression or anxiety, the survey represents 2,750 per 100,000 workers and results in the loss of approximately 17 million working days. work-related stress, depression or anxiety is estimated to be 51% of the number of work-related illnesses, an estimated 55% of working days are lost due to adverse health effects of work (HSE, 2022).

In 2016, WHO data was received which stated that globally there were 35 million people with depression, 60 million people with schizophrenia and 47 million people with dementia (Kemenkes RI, 2019). The incidence of people with emotional disorders or stress experienced by the population aged more than 15 years in 2013 was 6% and increased to 9.8% in 2018 (Riskesdas, 2018). Although it does not cause death, it can interfere with daily activities which have the impact of decreasing body productivity, the percentage of handling mental emotional disorders or stress in the population over 15 years of age who received services in 2021 was very low, recorded less than 10% of the 32 provinces that received mental emotional disorders or stress services. (Indonesian Ministry of Health, 2022).

Based on data released by the Indonesian Ministry of Health in 2017, insomnia sufferers in small and medium industry employees amounted to 57.6%, sufferers of depression amounted to 60.6%. Riskesdas 2018 data states that members of the TNI / POLRI / PNS / BUMN / BUMD have a prevalence of depression of 2.4%, in private employees by 6.3%, self-employed by 5.1%, farmers / farm laborers by 5.5%, fishermen by 6.9%, laborers / drivers / household helpers by 5.8%. Meanwhile, the prevalence of mental and emotional disorders in the TNI / POLRI / PNS / BUMN / BUMD was 3.9%, private employees were 6.3%, self-employed were 7.9%, farmers / farm laborers were 9.7%, fishermen were 10.8%, laborers / drivers / household helpers were 9.7%. This situation can indicate that the problem of stress or mental emotional disorders in the workplace is still underestimated by companies in Indonesia.

To increase employee productivity to the maximum in 24 hours/day, the company applies a shift system. In Indonesia, the average company applies 3 work shifts, namely morning, afternoon and night shifts with a work duration of 8 hours/day. In addition, there are also companies that apply 2 work shift systems which include morning and evening (Juliawati, 2020). Shift work is one of the risk factors that can cause work stress, changes in hours in the work shift system that occur repeatedly affect the body's circadian rhythm so that it has implications for the physical and mental health of employees and affects work performance and safety (Kurniawidjaja et al., 2020).

Based on an initial survey conducted at PT Pelita Adi Pratama, there are characteristics of work stress in the form of differences in the results of interviews received by researchers. Workers on the morning shift, do not all experience work complaints such as fatigue that causes stress. Whereas workers on the night shift almost entirely experience complaints of fatigue and drowsiness when doing work that has the potential to become work stress with characteristics of fatigue such as dizziness in the head, neck muscle pain, and getting tired quickly in doing work. In addition to complaints that are more common among night shift workers, raw materials at night are also produced more, due to the fact that more raw materials are received in the afternoon to evening which will be processed during the night shift.

Based on the above background, it is necessary to conduct research to identify the level of work stress in morning shift and night shift employees and then it can be an innovation for companies to provide comfort to workers.

METHODS

This study used a quantitative survey with a cross-sectional design, using a questionnaire from the Occupational Stress Inventory-Revised Edition™ (OSI-R™) with closed questions consisting of 28 question items, using purposive sampling technique because researchers chose participants based on working hours, namely employees with morning shifts and night shifts. The sample of this study was 60 employees, namely 30 employees in the morning shift and 30 employees in the night shift of the coconut flour production section of PT Pelita Adi Pratama.

Data processing techniques using hypothesis test analysis using independent sample t-test if the test results are obtained ($\text{sig} < 0.05$) it can be concluded that there are differences in employee work stress based on work shifts.

Location And Time

The research was conducted at PT Pelita Adi Pratama in Tanjung Balai City, North Sumatra. The research time starts from February to June in 2023.

Variable

The independent variable in this study is work shift (morning shift and night shift) and the dependent variable in this study is the comparison of work stress.

Population

Population is a group of individuals who have one characteristic that distinguishes them from other groups (Cresswell, 1983). Population in. This research is all employees of PT Pelita Adi Pratama as many as 110 employees.

Sample

According to Sugiyono, (2022) the sample is part of the number and characteristics of the population. The sample of this study was 60 employees consisting of 30 employees in the morning shift and 30 employees in the night shift of the coconut flour production section of PT Pelita Adi Pratama Tanjung Balai City.

Sampling

The selection of participants in this study was based on purposive sampling technique because researchers selected participants based on working hours, namely employees with morning shifts and night shifts.

RESULTS

1. Respondent Characteristics

Table 1. Characteristics of respondents

Age	N	Persentase
>40 years	31	51,7%
≤40 years	29	48,3%
Total	60	100%
Education		
Primary school	16	26,7%
Junior high school	14	23,3%
Senior high school	30	50%
Total	60	100%
Tenure		
>5 years	31	53.3%
≤ 5 years	28	46,7%
Total	60	100%

Source: Primary Data Processed, 2023

In table 1. The characteristics of respondents in the age category show the results of the frequency distribution of employee age, the most commonly found at the age of > 40 years with a total of 31 employees (51.7%), and employees aged ≤ 40 years amounted to 29 employees (48.3%). In the last education category shows the results of the frequency distribution of the last education of employees, most are found at the high school level with a total of 30 employees (50%), the elementary level is 16 employees (26.7%) and the junior high school level is 14 employees (23.3%) and in the tenure category shows the results of the frequency distribution of employee tenure of 60 employees most have a tenure of >5 years totaling 32 employees (53.3%) and 28 employees (46.7%) with a tenure of ≤ 5 years. ≤ 5 years.

1. Univariate Analysis

Table 2 Frequency Distribution of Work Shift

Work shift	N	Persentase
Morning	30	50%
Night	30	50%
Total	60	100%

Source: Primary Data Processed, 2023

In table 2. Shows the results of the study of the frequency distribution of work shifts Karyawan on the morning shift amounted to 30 employees (50%) and the night shift amounted to 30 employees (50%).

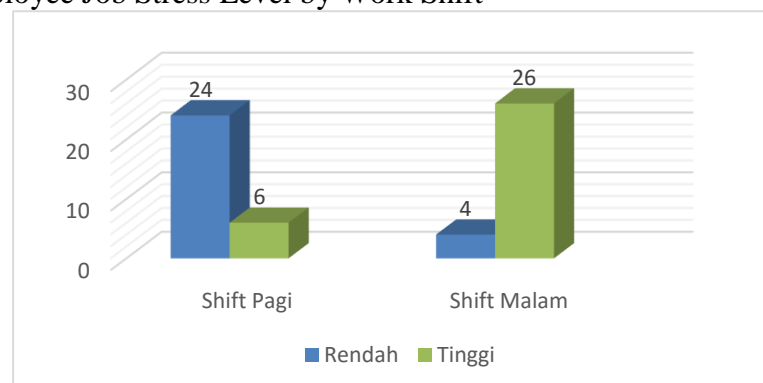
Table 3. Frequency Distribution of Job Stress Level

Work Stress	N	Persentase
high	32	53,3%
low	28	46,7%
Total	60	100%

Source: Primary Data Processed, 2023

In table 3. Shows the results of the frequency distribution of employee work stress levels of 60 employees found the highest level of stress in the high category totaling 32 employees (53.3%), while in the low category has a frequency of 28 employees (46.7%).

Figure 1. Employee Job Stress Level by Work Shift



In the figure 1. Shows the level of employee work stress based on their work shift, in the morning shift employees who have a low level of work stress amounted to 24 employees and in the high category amounted to 6 employees. While on the night shift employees with low levels of work stress amounted to 4 employees and in the high category amounted to 26 employees.

Table 4. Normality Test Results

Variable	Sig	Description
Morning shift	0,087	Normal
Night Shift	0,075	Normal

Source: Primary Data Processed, 2023

In table 4 above using the Kolmogorov-Smirnov test, it is found that the significant value (sig) in the morning shift is $0.087 > 0.05$, so the data above is normally distributed. Likewise, the significant value of the night shift is $0.075 > 0.05$ so it can be concluded that the data is normally distributed. In other words, the independent variables, namely morning and night shifts, have a normal distribution and good data is normal data distribution.

Table 5. Homogeneity Test Results

Variable	Sig	Description
Questionnaire Results for Morning and Night Shift Employees	0,114	Homogen

Source: Primary Data Processed, 2023

The results of the homogeneity test in the table above obtained a significant value (sig) of $0.114 > 0.05$ and the data meets the estimates of homogeneity so that the population studied has similarities.

2. Bivariate Analysis

Table 6. Hypothesis Test Results

Shift	Mean	SD	Sig (2-tailed)
Morning Shift	54,53	6,902	0,000
Night Shift	78,03	10,394	

Source: Primary Data Processed, 2023

The results of hypothesis testing using Independent sample t-test in the table above obtained sig value (2 tailed) $0.000 < 0.05$, it can be concluded that there are differences in employee work stress based on morning work shifts and night work shifts, having a higher average night shift of 78.03 with a variation of 10.394 while the morning shift is 54.53 with a variation of 6.902.

Table 7. Influence of Age with Employee Job Stress Level

Age	Work stress level						P - Value	OR
	High	%	Low	%	Total	%		
> 40 years	19	31,7	12	20	31	51,7	0,201	1,949
≤ 40 years	13	21,7	16	26,7	29	48,3		
Total	32	53,3	28	46,7	60	100		

Source: Primary Data Processed, 2023

Based on table 7, the research results show that out of 60 employees (100%), at the age of > 40 years, the level of job stress in the high category amounted to 19 employees, the low category amounted to 12 employees. Whereas in the age range ≤40 years has a level of job stress with a high category totaling 13 employees, and a low category totaling 16 employees. Based on the results of the chi-square statistical test analysis, the p value = 0.201, the value is > 0.05 , it can be concluded that there is no relationship between age and employee work stress levels with an OR = 1.949, explaining that age > 40 years has a 1.949 times greater risk of experiencing high stress levels compared to age ≤ 40 years.

Table 8. The Effect of Tenure on Job Stress Levels

Tenure	Work stress level						P - Value	OR
	High	%	Low	%	Total	%		
> 5 yeras	19	31,7	13	21,7	31	53,3	0,316	1,686
≤ 5 years	13	21,7	15	25	28	46,7		
Total	32	53,3	28	46,7	60	100		

Source: Primary Data Processed, 2023

Based on table 8, the research results show that out of 60 employees, those with a work period of > 5 years have a high level of job stress with 19 employees, and in the low category there are 13 employees. In the work period ≤ 5 years, the level of job stress in the high category amounted to 13 employees, and the low category amounted to 15 employees. Based on the results of the chi-square statistical test analysis, the p value = 0.316 > 0.05, it can be concluded that there is no relationship between tenure and employee work stress levels with an OR = 1.686 value explaining that tenure > 5 years has a risk of 1.686 times greater to experience high stress levels compared to tenure ≤ 5 years.

DISCUSSION

1. Comparison of Employee Job Stress Based on Work Shift

Work stress is a consequence of every action received by employees in dealing with work, where the situation puts employees on physical and psychological demands that can interfere with work productivity and the stability of daily life. Work stress often occurs in employees due to the demands of too many tasks, so that responsibilities become greater, besides that one of the factors for the onset of work stress is the condition of the work environment, where an environment that is not safe and comfortable for workers can cause work stress.

Symptoms of job stress can be seen from various aspects such as physiological aspects, where job stress is recognized by employees who have disturbances in organ metabolism such as increased heart pressure, pain in the muscles in the arms and neck, sleep disturbances and excessive physical fatigue. In addition to physiological aspects, there are also psychological aspects, where in psychological aspects employees who have job stress experience various emotional changes in themselves such as, irritability, feeling confused when there are new tasks, feeling fear due to work that is not completed on time, easily feeling tired, more sensitive and feeling depressed due to the increasing workload. Furthermore, from the behavioral aspect, it was found that employees who experienced work stress had changes in behavior such as laziness at work, this was found when employees who could actually do their own work but asked friends to help do their work.

According to Annisa (2017) work shifts are a factor causing stress in the workplace, where in the study it was found that the work shift system disrupted employee sleep patterns, employees on the night shift had to work during the biological hours of the body that should rest. Another problem that is often encountered is social problems. Someone who works at night will sleep during the day when other people are active, causing a lack of socialization with family and the surrounding environment (Wicaksana et al., 2020), in accordance with what the researcher obtained that when not working or off employees prefer to be at home rather than socializing with the environment, this is because employees feel tired and when there is free time they choose to rest at home and only spend time with family. In research conducted on employees of PT Pelita Adi Pratama, there are differences in employee work stress based on the morning work shift with an average of 54.53 and the night work shift with an average of 78.03. With a sig value (2 tailed) of 0.000 < 0.05 from the test results using an independent sample t-test so that it can be stated that there are differences in employee work

stress based on their work shift. Work shifts in the environment of PT Pelita Adi Pratama result in work stress in employees, it is due to employee sleep patterns that continue to change every week, more workloads are delegated to night shift employees, where suppliers to the company send more raw materials during the day and the raw materials will be processed during the night shift, while the morning shift only processes raw materials that come at night / leftover raw materials from the night shift. In addition to workload, the lack of time to socialize with family and community is a factor that triggers work stress because employees do not have time to socialize and work also makes employees have little prayer time because they enter during working hours.

2. Influence of Age with Employee Job Stress Level

According to Sumarna et al (2018), age is one of the internal individual factors that cause work stress, where the older the employee, the easier it is to experience work stress, it is because physiological factors will experience a decline in various abilities such as thinking, ability to remember and hear. This theory is not in line with research conducted by Habibi & Jefri, (2018) obtained the results of the chi square test $p = 0.286$ indicating that there is no effect of age on job stress, in this study obtained OR = 0.580 explaining that employees with age <38 years have a 0.580 chance of experiencing job stress compared to employees with age > 38 years.

In research conducted on employees of PT Pelita Adi Partama, it was found that the length of service did not affect employee work stress, with the results of the chi-square statistical test analysis obtained a value of $p=0.201>0.05$, it can be concluded that there is no relationship between age and employee work stress levels. With an OR = 1.949 value, it explains that age > 40 years has a 1.949 times greater risk of experiencing high stress levels compared to age ≤ 40 years.

In another study conducted by Awalia et al., (2021) had the same results, namely that there was no effect of age on job stress in nurses in the inpatient room of the Kwaingga Hospital, Keerom Regency, which was $p = 0.913$, this was due to nurses aged 20-35 years generally having a stronger enthusiasm for work but at that age they tended not to be able to control stress.

3. The Effect of Tenure on Job Stress Levels

According to Sumarna et al (2018), tenure / work experience is one of the internal individual factors that cause work stress, where individuals who have longer work experience / tenure tend to be more resistant to the pressures that will be faced in their work than individuals who are new to work / who do not have work experience, they tend to be more easily exposed to work stress because they are not used to work pressures. This theory is not in line with research conducted by Habibi & Jefri, (2018) where in research conducted by Habibi & Jefri, the results of the chi square test $p = 0.353$ indicate that there is no effect of tenure on work stress, and an OR = 0.623 value is obtained which explains that employees with a tenure of <9 years have a 0.623 times chance of experiencing work stress, besides that in the study it is also explained that there are other factors that cause work stress such as the wages provided by the company are not much while the cost of living is getting bigger.

In research conducted on employees of PT Pelita Adi Partama, it was found that the length of service did not affect employee work stress, with the analysis of the chi-square statistical test obtained a value of $p=0.316>0.05$, it can be concluded that there is no relationship between length of service with employee work stress levels with an OR value of = 1.686 explaining that a work period of > 5 years has a risk of 1.686 times greater to experience high stress levels compared to a work period of ≤ 5 years. This can happen because PT Pelita Adi Pratama has only been established for 7 years, so employees are still in the process of clearly understanding their work.

In other studies it was also found that age does not affect employee work stress, in

research conducted by Maydinar, (2020) that there is no relationship between tenure and work stress in surgical room nurses at RSUD. Dr. M. Yunus Bengkulu with a value of $p=0.549>0.05$, and the data results showed that nurses with severe stress were all in the category of new workers as surgical room nurses at RSUD. Dr. M, Yunus Bengkulu.

CONCLUSION

There is a difference in work stress in morning shift employees and night shift employees with a sig value (2 tailed) $0.000 < 0.05$. With an average value of 54, 53 on the morning shift and 74.03 on the night shift.

There is no effect of age on the work stress of employees of PT Pelita Adi Pratama Tanjung Balai City with a p-value of $0.201 > 0.05$.

There is no effect of length of service on job stress of employees of PT Pelita Adi Pratama Tanjung Balai City with a p-value of $0.316 > 0.05$.

Differences in employee work stress levels based on work shifts, found in the morning shift employees who have low levels of work stress amounted to 24 employees and in the high category amounted to 6 employees. While on the night shift employees with low levels of work stress amounted to 4 employees and in the high category amounted to 26 employees.

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