

The Influence of Work Pressure and Work Stress on Employee Productivity at the Palm Oil Mill of PT Mitra Andalan Sawit, Barakkang Village, Central Mamuju Regency

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Article history

Submitted: 2026/08/11; Revised: 2026/09/16; Accepted: 2026/10/22

Abstract

This study aims to analyze the effect of partial and simultaneous work pressure and work stress on employee work productivity at the Palm Oil Mill of PT Mitra Andalan Sawit, Barakkang Village, Central Mamuju Regency. The type of research used is associative quantitative research. The population in this study is all factory operational employees totaling 96 people, using the total sampling technique (saturated sample) so that the research sample amounted to 96 respondents. Data collection was carried out using a questionnaire with the Likert Scale. The data analysis technique used multiple linear regression analysis, t-statistical test (partial), statistical test F (simultaneous), and determination coefficient (R²) with the help of the SPSS program. The results showed that work pressure partially had a positive and significant effect on employee work productivity with a t-value (6.196) > t table (1.986) and a significance value of 0.000 < 0.05. Similarly, work stress partially had a positive and significant effect on employee work productivity with a t-value of (8.386) > t table (1.986) and a significance value of 0.000 < 0.05. Simultaneously, work pressure and work stress were proven to have a significant effect on employee work productivity with an F value of (52.434) > F table (3.09) and a significance value of 0.000 < 0.05. In addition, the acquisition of a determination coefficient (R²) value of 0.530 indicates that the variables of work pressure and work stress contribute an influence of 53.0% to the variation in employee work productivity, while the remaining 47.0% is influenced by other factors outside this study model.

Keywords

Employees, Job Stress, Palm Oil Mill, Work Pressure, Work Productivity.



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INTRODUCTION

Human resources are the most strategic element in an organization because the success of achieving the company's goals is largely determined by the ability of employees to carry out their duties effectively and efficiently. In the context of the plantation product processing industry, labor productivity is the main indicator of the

company's operational sustainability, considering that the production process is continuous, labor-intensive, and demands punctuality in each processing stage (Sedarmayanti, 2021; Mangkunegara, 2021). One of the sectors that is highly dependent on the optimal performance of the workforce is the palm oil industry, which until now is still the leading commodity and mainstay of Indonesia's foreign exchange.

Strategic human resource management is the core of the Human Resource Management (HRD) study. Hasibuan (in Mangkunegara, 2021) defines HRM as the science and art of managing the relationships and roles of the workforce in order to effectively and efficiently help realize the goals of the company, employees, and society. Sedarmayanti (2021) added that HRDM includes the entire process of planning, organizing, directing, and controlling the procurement, development, compensation, integration, maintenance, and termination of employment relationships with the aim of achieving individual, organizational, and community goals. Thus, HRM not only functions as an administrative tool for personnel, but also as a strategic function that is responsible for maintaining a balance between the demands of organizational productivity and the physical and psychological well-being of employees, including in terms of managing work pressure and work stress experienced by employees in labor-intensive industries such as palm oil processing.

Indonesia's palm oil industry has shown a significant production growth trend in recent years. Based on data from the Central Statistics Agency, national palm oil production in 2024 was recorded at 28.46 million tons and increased to 31.48 million tons in 2025, or an increase of 3.02 million tons within one year (BPS, 2025; GoodStats Data, 2026). Production center provinces such as Riau, Central Kalimantan, and North Sumatra still dominate the contribution of national production, with Riau accounting for around 19.73 to 20.11 percent of total production (BPS Statistics Indonesia, 2024). The increase in production is inseparable from the contribution of palm oil mills (PKS) in various regions, including new development areas outside the islands of Sumatra and Kalimantan, such as West Sulawesi Province, which also play a role in supporting the national palm oil industry supply chain.

The increasing production growth directly has implications for the increasingly high work demands of palm oil mill employees, both in production, processing, and harvesting. Ideally, the increase in production targets should be balanced with healthy working conditions, a proportionate workload, and a controlled level of psychological stress, so that employee productivity can be achieved optimally without sacrificing the physical and mental well-being of workers. According to Robbins & Judge (2022), job

pressure arises when job demands exceed the capacity of the resources that individuals have to meet them, thus creating an imbalance between the demands and adaptability of employees.

If this condition continues without proper management, work stress can develop into more complex work stress and negatively impact the overall performance of the organization. Work stress itself is defined as a state of tension that affects a person's emotions, thought processes, and physical condition due to pressure from the work environment that exceeds the limits of an individual's ability to adjust (Mangkunegara, 2021). Work stress that is not managed properly can reduce work quality, decrease motivation, and increase the risk of work mistakes and accidents, which will ultimately hinder the achievement of overall organizational productivity (Hasniati 2023). This condition is particularly relevant in the palm oil processing industry, considering that palm oil mill employees generally work in environments with high temperatures, production machine noise, fresh fruit bunch (FFB) processing targets that must be completed in a limited time, and relatively high physical work risks.

For example, the results of a study on one of the oil palm plantation companies in Belitung Regency show that an increase in the number of employees is not always followed by an increase in productivity, even production was below the company's target due to the low productivity of harvesters and harvesters (Selvia, in the Unpas Repository, 2022). These findings indicate that non-physical factors such as pressure and work stress also contribute to the decrease in productivity, in addition to the number of workers themselves.

Several previous studies have examined the relationship between work stress and work pressure on productivity in the plantation sector and similar industries. Research on the production department of PT Megasari Makmur found that work stress, work environment, and work discipline simultaneously have a significant effect on employee work productivity (Kusmana et al., 2023). Another study on employees of the production department of palm oil mills in Riau Province showed a significant relationship between physical work environment factors, especially noise, and the level of work stress of production employees (Haura et al., 2023). In line with this, a study on the impact of work stress on employee performance confirms that uncontrolled work stress can lead to fatigue, decreased motivation, and a sustained decrease in productivity and work quality.

However, there is still a research *gap*, where most of the previous studies were conducted on large-scale palm oil companies in traditional production center areas

such as Riau, North Sumatra, and Kalimantan, while research on palm oil companies in new development areas such as West Sulawesi, especially Central Mamuju Regency, is still relatively limited. In fact, the characteristics of the workforce, organizational culture, and geographical and infrastructure conditions in new development areas have the potential to result in different patterns of relationships between work pressure, work stress, and productivity compared to established production center areas.

Based on the description of the phenomenon, theoretical studies, previous research results, and research gaps that have been presented, this study aims to empirically analyze the influence of work pressure and work stress on employee work productivity at PT Mitra Andalan Sawit Desa Barakkang, Central Mamuju Regency, both partially and simultaneously, using an associative quantitative research approach. The results of this research are expected to be material for evaluation and strategic recommendations for company management in formulating human resource management policies that are more adaptive to the psychological condition of employees, as well as enriching research treasures in the field of human resource management in the oil palm plantation industry sector in Indonesia.

METHODS

This study uses a quantitative approach with a type of associative research, which is research that aims to determine the influence or relationship between two or more variables (Sugiyono, 2022). The quantitative approach was chosen because this study focuses on measuring numerical variables, testing hypotheses statistically, and generalizing results to the population based on representative sample data. In this study, the data collection technique used was a questionnaire. Arikunto (2020). The population in this study is all workers at the palm oil processing plant of PT. Mitra Andalan Sawit in Barakkang village, which is 96 people. The sample used based on the theory of Total sampling, namely the entire population or 96 respondents. In this study, the validity test was carried out by calculating the Pearson Product Moment correlation coefficient between the score of each statement item and the total score of the variable. The quality of the instrument was tested by validity test and reliability test, then the data was analyzed using classical assumption test and multiple linear regression with the help of the SPSS program. Hypothesis testing was carried out through t-test, F test, and determination coefficient test. The main data analysis technique used in this study was multiple linear regression analysis.

FINDINGS AND DISCUSSION

The Effect of Work Pressure on Work Productivity

Based on the results of the partial regression test, it was found that Work Pressure (X1) had a positive and significant influence on Work Productivity (Y) with a calculated t-value ($6.196 > t \text{ table } (1.986)$) and a significance of 0.000. A positive regression coefficient direction (0.442) indicates that work pressure at an optimal level is able to encourage individuals to increase efficiency and achieve work targets. Work pressure in this context functions as a motivation stimulant (challenge stressor), where clear deadlines and targets encourage workers to focus their energy and resources to complete tasks on time.

These findings strengthen the challenge-hindrance stressor framework approach and are in line with research presented by Tampombebu and Wijono (2022) and Maghfirah (2023), where work pressure at a measurable level functions as a positive stimulant (challenge stressor) that triggers an increase in employee focus, energy, and work efficiency.

The Effect of Work Stress on Work Productivity

The results of the second hypothesis test showed that Work Stress (X2) had a positive and significant effect on Work Productivity (Y) with a calculated $t(8.386) > t \text{ table value } (1.986)$ and a significance of 0.000. A regression coefficient of 0.658 indicates the contribution of work stress in increasing productivity. This finding is in line with the theory of Yerkes-Dodson Law (inverted U-curve model), where stress at a certain level (eustress) is necessary to arouse employee alertness, caution, and internal motivation. At a reasonable level, stress triggers an employee's adaptive response to work harder and be responsive to work dynamics.

The results of this study are in line with the Yerkes-Dodson Law inverted U-curve model and are supported by the empirical findings of Ariansah and Wahyuningsih (2023) and Hasniati (2023), which confirm that stress at an optimal level (eustress) is able to arouse employees' internal adaptive alertness and impulses so that it contributes directly to increasing work productivity.

The Effect of Work Pressure and Work Stress on Work Productivity

Simultaneous testing proved that Work Pressure (X1) and Work Stress (X2) had a significant effect on Work Productivity (Y) with a calculated F value ($52.476 > F \text{ table } (3.09)$) and a significance level of 0.000. Together, the two variables were able to explain the variation in productivity of 53.0%. The combination of workload allocation (pressure) and managed psychological tension (stress) forms a dynamic work climate.

Proper management of these two factors is an important key in maximizing the work output of organizational members.

Simultaneously, these results are in line with the views of Robbins & Judge (2022) and are reinforced by the study of Kusmana et al. (2023), which prove that a combination of load allocation and well-managed psychological strain forms a dynamic operational climate, where the two factors together determine the level of output and organizational efficiency.

CONCLUSION

Based on the results of data analysis and hypothesis testing regarding the influence of work pressure and work stress on employee work productivity at the Palm Oil Mill of PT Mitra Andalan Sawit Barakkang Village, Central Mamuju Regency, the following conclusions were drawn: 1) Work pressure has a positive and partially significant effect on employee work productivity. This shows that the level of work pressure that is within reasonable limits can function as a positive stimulant (challenge stressor) that encourages employees to be more focused, efficient, and motivated in achieving the company's operational targets. 2) Work stress has a positive and partially significant effect on employee work productivity. This finding is in line with the theory of Yerkes-Dodson Law, where a controlled level of psychological tension in the workplace can arouse alertness and caution. 3) Work pressure and work stress together (simultaneously) have a significant effect on employee work productivity. The combination of structured workload allocation and proper management of psychological tension has been proven to be able to form a dynamic work climate in maximizing achievements.

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