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The Influence of Workload and Physical Work Environment on the Performance of Lecturers and Employees at Prasetiya Mandiri Polytechnic PSDKU Palembang

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ABSTRACT

Workload and physical work environment have an impact on performance. This study was conducted to determine and analyse the impact of workload and physical work environment on the performance of lecturers and employees at Prasetiya Mandiri Polytechnic PSDKU Palembang. The sampling technique used was a saturated sample of 52 respondents. The data obtained in this study were collected through questionnaires, observations, interviews, and literature studies. The data analysis technique in this study used SPSS software version 22, which consisted of data quality tests, classical assumption tests, multiple regression analysis, and hypothesis testing. The results of the study show that, partially, workload has a negative and significant effect on performance, while the physical work environment has a positive and significant effect on performance. Simultaneously, it was found that workload and the physical work environment have a positive and significant effect on the performance of lecturers and employees at Prasetiya Mandiri PSDKU Palembang Polytechnic. The correlation coefficient (R) test obtained a value of 0.486, which means that the level of relationship between the variables of workload ($X_{(1)}$) and work environment ($X_{(2)}$) on the performance variable (Y) has a moderate level of relationship. The coefficient of determination (R^2) obtained a value of 0.236, indicating that the contribution of the workload and physical work environment variables can explain 23% of the performance variable, while the remaining 77% is explained or influenced by other variables not examined in this study.

Keywords*: Workload, Physical work environment, Performance, Influence, Significant*

ABSTRAK

Beban kerja dan lingkungan kerja fisik memilik pengaruh terhadap kinerja. Penelitian dilakukan untuk mengetahui dan menganalisis pengaruh beban kerja dan lingkungan kerja fisik terhadap kinerja dosen dan karyawan Politeknik Prasetiya Mandiri PSDKU Palembang. Teknik pengambilan sampel yang digunakan adalah sampel jenuh berjumlah 52 responden. Data yang diperoleh dalam penelitian ini melalui penyebaran kuesioner, observasi, wawancara dan studi pustaka. Teknik analisis data pada penelitian ini menggunakan perangkat lunak SPSS versi 22, yang terdiri dari uji kualitas data, uji asumsi klasik, analisis regresi berganda, dan uji hipotesis. Hasil penelitian diketahui bahwa secara parsial beban kerja berpengaruh negatif dan signifikan terhadap kinerja, lingkungan kerja fisik berpengaruh positif dan signifikan terhadap kinerja, secara simultan diperoleh bahwa beban kerja dan lingkungan kerja fisik berpengaruh positif dan signifikan terhadap kinerja dosen dan karyawan Politeknik Prasetiya Mandiri PSDKU Palembang. Uji koefisien korelasi (R) diperoleh nilai sebesar 0,486 yang berarti tingkat hubungan antara variabel beban kerja (X_1) dan lingkungan kerja (X_2) terhadap variabel kinerja (Y) memiliki tingkat hubungan sedang. Koefisien determinasi (R^2) diperoleh nilai sebesar 0,236 hal ini menunjukkan besarnya kontribusi variabel beban kerja dan lingkungan kerja fisik bisa menjelaskan variabel kinerja sebesar 23%, sisanya sebesar 77% dijelaskan atau dipengaruhi oleh variabel lain yang tidak diteliti dalam penelitian ini.

Kata kunci*: Beban kerja, Lingkungan kerja fisik, kinerja, pengaruh, signifikan*

1. Introduction

People are the fundamental element that drives all activities to achieve organisational goals, so they need to be managed and utilised optimally and efficiently. Amidst a dynamic and ever-changing environment, employees must be able to adapt to every situation. Increasing workloads, factors such as high demand, *revenue* that is not commensurate with the cost of living, and increasingly intense competition can pose a threat to survival. Within an organisation, employees play an important role in planning, implementing activities, and evaluating to achieve superior results in the future. Determining policies requires sufficient expertise, ability, and insight. As a result, good employee development is crucial for organisations to prevent violations that could harm the company (Hartono & Kusuma, 2020).

Every company must develop a plan to improve employee performance in order to develop and enhance the quality of the company. Labour management is generally a key aspect in achieving organisational goals.

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Companies also recognise that labour is a core asset in the process of building an organisation. Therefore, organisations must continue to improve and manage the quality of their employees to achieve their desired goals (Najib, 2020).

The key to success in an organisation lies in how human resources are managed. Employees' backgrounds and expertise certainly vary, but they are still expected to contribute new and good ideas to the company (Kurniawan, 2024). Every employee who works in an organisation has responsibilities and workloads that must be carried out. The higher a person's position, the more workloads they have. Workload is the collection of tasks and responsibilities that must be performed by an individual in their job. Previous studies have shown that workload has a positive impact on employee performance (Santoso & Widodo, 2022). Other studies have also concluded that workload has a significant impact on employee performance. Through an independent approach, both models have a positive impact on employee performance (Hartono & Kusuma, 2020).

Previous research also mentioned that compensation does not contribute directly to employee job satisfaction, workload does not have an immediate impact on employee job satisfaction, compensation does not have a direct influence on employee performance, workload has a direct impact on worker performance, job satisfaction does not have a direct role in performance, compensation does not directly affect employee performance through job satisfaction, and workload does not have an indirect change in terms of worker performance mediated by job satisfaction (Sugiarti et al., 2021).

An additional factor that can improve performance besides workload is a positive work environment. A supportive work environment enables employees to focus on their work and complete their tasks more efficiently. A safe and healthy workplace is the responsibility of the company, and this can have a significant impact on employee performance (Najib, 2020). Examples of the physical environment include lighting, temperature, noise, room layout, decoration, space and facilities (Ardhianti & Susanty, 2020).

Previous research by Ardhianti & Susanty (2020) showed that the work environment, both physical and non- physical, was rated as good. Performance was also in the good category, which means that the work environment has a significant influence on performance. Research findings from (Romansah et al., 2023) state that the workplace has an effect on employee performance.

Research conducted by Jumang (2019) found that the work environment model, both visible and invisible, was classified as good. Performance was also classified as good, indicating that the work environment has a significant effect on performance. Similarly, based on research by (Sari et al., 2020), the work environment has a positive impact on employee performance.

As is common in companies or organisations, universities certainly have a workforce consisting of lecturers or educators, employees or educational staff. Lecturers consist of permanent foundation lecturers, both those who hold structural positions in higher education institutions and those who do not, non-permanent foundation lecturers, and lecturers who hold the position of Civil Servant (PNS) and are appointed as Civil Service Supervisory Lecturers (DPK). PNS DPK lecturers are lecturers who work at universities and have the authority to provide personnel guidance to civil servants within the university where they serve. As DPK, PNS lecturers are responsible for conducting training, monitoring, and supervising civil servants within the university, including in terms of career development, performance appraisal, and disciplinary supervision. Civil servant lecturers who are DPK usually have additional duties in personnel management related to civil servants at the university. These lecturers and employees play an important role in the university.

Not only other higher education institutions, but the Prasetiya Mandiri Polytechnic Off-Campus Study Programme (PSDKU) in Palembang also prioritises good performance for its employees and lecturers. This is necessary to achieve better organisational goals. Given the workload and work environment found at Prasetiya Mandiri Polytechnic PSDKU Palembang, good performance is required of every lecturer and employee.

Based on preliminary research conducted at Prasetiya Mandiri Polytechnic PSDKU Palembang, it was found that there was a phenomenon of excessive workload, overlapping job positions and too many teaching credits, so that employees and lecturers had difficulty completing administrative tasks and teaching students. This certainly greatly affected the performance of lecturers and employees at Prasetiya Mandiri Polytechnic PSDKU Palembang.

In addition to the phenomenon of workload, there is also the phenomenon of the physical work environment, namely the limited workspace for the administration and lecturers who hold structural positions, with all administrative staff from various divisions and structural lecturers occupying the same room. This certainly disrupts the concentration of each section, thereby affecting the performance of lecturers and employees at the Prasetiya Mandiri PSDKU Palembang Polytechnic.

From the above explanation, it can be concluded that excessive workload and an inadequate physical work environment can significantly affect employee performance. Therefore, the researcher is interested in implementing an observation entitled "The Effect of Workload and Physical Work Environment on the Performance of Lecturers and Employees at Prasetiya Mandiri PSDKU Palembang Polytechnic".

2. Theoretical basis

Workload Definition

According to Suma'mur (2018), workload is the amount of physical and mental work assigned to workers and becomes their responsibility. As stated by experts, in addition, according to Gawron (2016), the definition of workload is a set of obligations, efforts, and activities or achievements. Meanwhile, according to Schultz (2016),

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work load refers to performing a task too often within a given time or performing tasks that are not easy for workers. Job demands are also a matter of perception. Perception is a way of thinking or seeing something in giving meaning to one's environment. Workload is all forms of work that must be completed by an individual or team within a certain time. Workload is measured quantitatively, such as the number of tasks to be completed, or qualitatively, such as the level of difficulty of the task (Hermawan, 2022a). Workload is considered part of work pressure or work constraints that must be completed within the agreed time. Work that involves physical, social, and organisational aspects requires further mental effort and is related to a certain psychological budget. Work demands are positively related to work and the people around us, which is inversely proportional to performance.

According to Siswanto in Elizar (2017), workload is defined as a collection of tasks that must be completed by a unit in an organisation or a position holder within a specified period of time. Meshkati in Tarwaka (2015) states that workload can be interpreted as the mismatch between the skills possessed by workers and the skills required to complete tasks within a specified time. According to Koesomowidjojo and Mar'ih (2017), workload is a large collection of tasks that must be completed quickly. Workload affects workers' ability to complete assigned tasks. Workload refers to tasks that must be completed by a unit or employee within a specified period (Rohman & Ichsan, 2021). Factors that influence workload are:

1. Internal Factors
2. External Factors

In addition to these factors, workload also has the following impacts:

1. Declining work quality
2. Customer complaints
3. Increased absenteeism.

Understanding the Physical Work Environment

According to Rivai in Khoiri (2013), the work environment is part of a community as a social system, greatly influencing individual behaviour within an organisation and how successful the organisation is. According to Sumaatmaja (2013), there are three types of work environments namely the natural environment, the social environment, and the cultural environment. The natural environment is the physical environment that is not derived from human habits, such as weather, sunlight, and so on. According to Sedarmayanti (2014), the meaning of work environment includes all tools, equipment, and the environment in which a person works, either individually or in a group, how they work and how they plan their work.

According to Casson (2013), the workplace consists of elements that facilitate or hinder work, including lighting, air temperature, ventilation, chairs, and tables. Rivai, as cited in Khoiri (2013), states that the work environment is a segment of social interaction that influences independent behaviour within an area. According to Sumaatmaja (2013), there are three types of work environments: natural, social, and cultural. Natural conditions refer to the physical environment that is not obtained from human habits, such as weather and sunlight. There are two types of work environments: physical work environments and non-physical work environments. Physical work environments refer to conditions that relate to physical factors found around our workplace (Sedarmayanti, 2014). The non-physical environment refers to conditions related to work relationships, whether with superiors, colleagues, or subordinates. Factors that influence the work environment include lighting, work temperature, workplace humidity, air circulation, noise, vibrations, and odours (Sedarmayanti, 2014).

Definition of Performance

Performance comes from the words *job performance* or *actual performance*, which can be interpreted as work achievements or accomplishments obtained by individuals. The origin of the word performance is actual performance, defined as work achievements attained by individuals. According to Sedarmayanti (2014), performance means the output produced within a specified time compared to previously established criteria, goals, or expectations. Performance measurement can be seen from the number of tasks that must be completed, the quality of the tasks, and adherence to deadlines. Performance indicators can be seen from quality, quantity, timeliness, the ability to carry out an activity, the need for supervision, and *interpersonal impact.* According to Siagian (2013), the factors that can influence the performance of an employee with good character are as follows:

1. They possess high expertise.
2. Willingness to work.
3. A supportive work environment.
4. There are appropriate rewards and future prospects.

3. Methodology

The author conducted observations at Prasetiya Mandiri Polytechnic PSDKU Palembang. The scope of discussion is variables related to human resource management, such as the impact of workload and physical work environment on the work performance of employees and lecturers at Prasetiya Mandiri Polytechnic PSDKU Palembang. The sample that is the focus of this study consists of 52 employees and lecturers involved in Prasetiya Mandiri Polytechnic PSDKU Palembang, comprising 44 lecturers and 8 administrative employees. According to Sugiyono (2021), the research object aims to obtain data with specific objectives and uses about a particular thing. In this study, the research objects are workload and physical work environment on employee performance. The variables in this study consist of independent and dependent variables. The independent variables in this study are workload and physical work environment, while the dependent variable is employee performance. A quantitative method was used in this study. Data collection methods included interviews,

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questionnaires, observation, and literature review. Data analysis techniques used included data quality testing, classical assumption testing, multiple linear regression analysis, and hypothesis testing.

3.1 Data

According to Sugiyono (2021), there are three types of research, namely:

1. Quantitative Data
   Quantitative data is information that appears in numerical or numerical form and can be measured objectively. This data consists of numbers or variables that can be calculated, measured, and analysed using statistical methods.
2. Qualitative Data
   Data or information obtained from observations, interviews, or notes regarding the quality or condition of something. Unlike statistical data, which is measured numerically, qualitative data is descriptive and cannot be measured numerically or in figures.
3. Combined Data
   Combined data refers to qualitative data that is complete in research or analysis. This approach combines the strengths of each type of data to provide a more detailed and in-depth understanding of the phenomenon being tested.

The quantitative method was used in this study. This method is a natural method. Thus, the quantitative method was used to explore the population and sample. This research was conducted by collecting information using research tools and analysing the information obtained quantitatively or statistically to establish valid hypotheses. In this observation, unstructured interviews were used, where the researcher only asked questions related to the constraints being examined. Heryana (2020) states that there are two sources of data in research, namely:

1. Primary Data
   Data collected directly from the original source for specific research or analysis purposes. This data is collected initially by researchers or organisations conducting research, so that it is specific to the needs or issues being studied.
2. Secondary Data
   Secondary data is data that has been published by another party before being used by researchers or organisations for specific research or analysis purposes. This data is not collected directly by the researchers conducting the study, but is taken from existing sources.

Primary and secondary data were used in this study. Primary data was obtained through direct observation in the field, and secondary data was obtained from books, journals, or articles from previous studies relevant to the research theme.

3.2 Analysis Method

The data analysis methods used in this study are:

1. Data Quality Test consisting of validity test, reliability test,
2. Classical Assumption Test consisting of normality test, multicollinearity test, heteroscedasticity test,
3. Multiple Linear Regression Analysis, and
4. Hypothesis Testing, which consists of t-tests, F-tests, correlation coefficient tests, and coefficient of determination tests.

4. Result and Discussion

4.1 Result

The findings of the study conducted by the author were obtained through the distribution of questionnaires and analysed using IBM SPSS version 22. This study used quantitative data to measure and analyse the effect of workload and physical work environment on the performance of lecturers and employees at Prasetiya Mandiri Polytechnic PSDKU Palembang. The author used quantitative methods in this study. Quantitative research methods are often referred to as a traditional method that is frequently used in conducting research. The data sources used were primary and secondary data. Primary data is research data obtained directly from the original source without the help of an intermediary (Elvera and Astarina, 2021). The initial data for this study was obtained from lecturers and employees at Prasetiya Mandiri PSDKU Polytechnic in Palembang, while secondary data was collected from books, journals, or previous researchers. A saturated sample was used in the sampling technique, so that the sample included in this study consisted of 52 respondents, comprising 44 lecturers and 8 administrative staff at Prasetiya Mandiri Polytechnic PSDKU Palembang.

Validity Test

Validity testing can be conducted using Pearson's correlation. A high Pearson correlation coefficient value (positive or negative) indicates that the question has good construct validity and contributes significantly to measuring the variable. Conversely, a low or insignificant Pearson correlation coefficient value indicates that the question may not be relevant or appropriate for the variable being measured and should be considered for revision or deletion (Ghozali, 2018). The calculated r value is compared with the table r value, known as the degree of freedom (df) = n−2n- 2n−2 and a significance level of 0.05. If r(calculated) > r(table) then the instrument is considered valid. The validity test results in this study are described in the table below :

Table 1. Validity Test Results

Variable	Statement	Calculated r	Calculated r	Notes
Workl oad	X_1.1	0.538	0.273	Valid
	X_1.2	0.421	0.273	Valid
	X_1.3	0.528	0.273	Valid
	X_1.4	0.465	0.273	Valid
	X_1.5	0.44	0.273	Valid

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Variable	Statement	Calculated r	Calculated r	Notes
	X(1) 0.6	0.427	0.273	Valid
	X(1) 0.7	0.508	0.273	Valid
	X(1) 0.8	0.403	0.273	Valid
	X(1) 0.9	0.468	0.273	Valid
	X(1) 0.10	0.609	0.273	Valid
	X1.11	0.381	0.273	Valid
	X1.12	0.428	0.273	Valid
	X(1) 0.13	0.318	0.273	Valid
	X(1) 0.14	0.444	0.273	Valid
Scope of Work	X2. 1	0.307	0.273	Valid
	X2 .2	0.435	0.273	Valid
	X2.3	0.377	0.273	Valid
	X2 .4	0.359	0.273	Valid
	X2 .5	0.615	0.273	Valid
	X(2) 0.6	0.571	0.273	Valid
	X2 .7	0.335	0.273	Valid
	X2 .8	0.653	0.273	Valid
	X(2) 0.9	0.347	0.273	Valid
	X(2) 0.10	0.623	0.273	Valid
	X2.11	0.483	0.273	Valid
	Y1	0.781	0.273	Valid
	Y2	0.713	0.273	Valid
	Y3	0.859	0.273	Valid
	Y4	0.769	0.273	Valid
	Y5	0.816	0.273	Valid
	Y6	0.811	0.273	Valid
	Y7	0.78	0.273	Valid
	Y8	0.839	0.273	Valid

From Table 1. Validity Test Results, it is known that the table r value is 0.273 ($_{table}$r value with n = 52, so df = 52 - 2 = 50). A statement is considered valid if the Pearson correlation coefficient or r $_{calculated}$is greater than r $_{table}$. Therefore, it can be concluded that all components of the questions in the variables of workload (X1), physical work environment (X2), and performance (Y) have a calculated correlation coefficient that is greater than the r ($_{table}$)value of 0.273 for a significance level of 5%.

Reliability Test

Ghozali (2018) argues that consistency is actually a measure of how reliable or dependable a questionnaire is. Based on the decision-making standards presented, a high Cronbach Alpha value of 0.60 indicates that the questionnaire is highly reliable and trustworthy (Ghozali, 2018). Conversely, if the *Cronbach Alpha* value is < 0.60, the statement is considered invalid. The reliability test results in this observation are as follows:

Table 2. Reliability Test Results

Variable	Cronbach's Alpha	Description
Workload (X_1)	0.701	Reliable
Physical wo(X_2)	0.642	Reliable
Performance (Y)	0.917	Reliable

From Table 2, the *Cronbach Alpha* reliability test results for workload were 0.701, physical work environment was 0.642, and performance was 0.917, indicating that all three variables had good reliability and were trustworthy.

Classical Assumption Test

The classical assumption test is used to determine the quality of the regression model provided for good predictions. The classical assumption tests to be performed are:

1. Normality Test

The normality test is used to show that the residual values in the regression model are normally distributed. It is a requirement that the t-test and F-test require values to be normally distributed (Ghozali, 2018). This study uses a combination of graphical analysis and Kolmogorov-Smirnov statistical tests to analyse the data. The residual histogram and data distribution on the diagonal axis of the graph can be useful initial indicators for assessing the normality of residuals in the regression model. If the residual data is normally distributed, the points on the histogram will be symmetrically scattered around the diagonal line and follow the pattern of a normal curve.

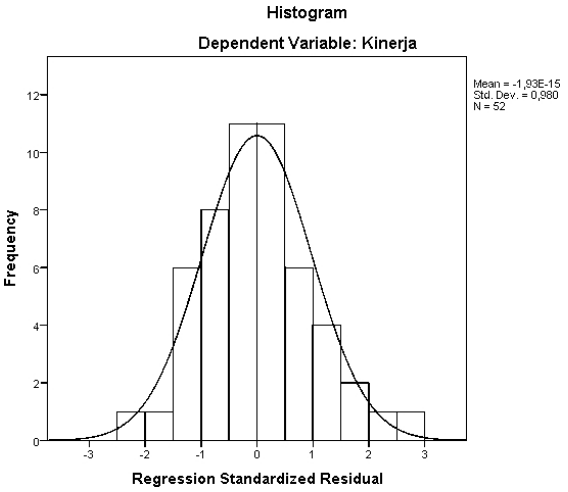


Figure 1. Histogram of Normality Test Results

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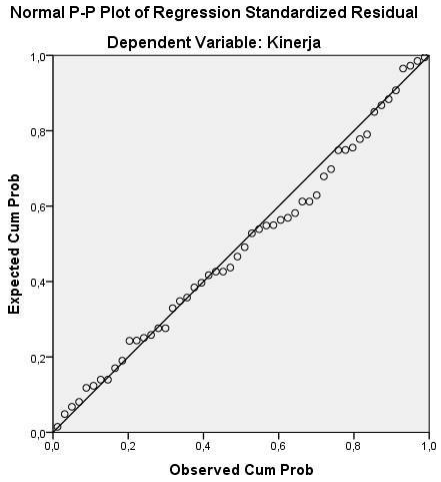


Figure 2.
Results of the P-P Plot of Regression Standardised Residuals

Analysis of *the P-P Plot of Regression Standardised Residuals* in Figure 4.2 shows that the data points follow a diagonal line pattern well, indicating that the data distribution is in accordance with the requirements.

Table 3.
Results of the Kolmogorov-Smirnov One- Sample Normality Test

		Unstandardised d Residual
N		52
	Mean	,000
	Std. Deviation	2.70757614
	Absolute	0.080
	Positive	0.080
	Negative	-,046
Test Statistic		0.080
Asymp. Sig. (two-tailed)		0.200[c,d]

Source: SPSS output processed by the researcher (2024)

From table3. Results test Normality Kolmogorov-Smirnov- Sample Kolmogorov-Smirnov test and decision criteria with the Kolmogorov-Smirnov test, a p- value greater than 0.05 indicates that the data does not differ significantly from a normal distribution. The Kolmogorov- Smirnov test shows a significance value (p-value) of 0.200 in Table 4.7, which is greater than 0.05.

Multicollinearity Test

The multicollinearity test serves to identify excessive correlation between independent instruments in the regression model. A low tolerance value (usually below 0.1) indicates multicollinearity, while a high VIF value (usually above 10) also indicates potential multicollinearity. To test for multicollinearity, two indicators are commonly used, namely the tolerance value and the VIF (*Variance Inflation Factor)* value *(*Ghozali, 2018). In this study, the normality test results are as follows :

Table 4. Multicollinearity Test Results

Model	*Collinearity Statistics*	
	Tolerance	**VIF**
(Constant) Workload	0.867	1.153
Physical Physical work	0.867	1.153

Source: SPSS output analysed by the researcher (2024)

The analysis in Table 4, the results of the multicollinearity test, explains that the tolerance values for both independent variables, including workload and physical work environment, are both 0.867. The VIF values for both independent variables are also the same at 1.153. It can be concluded that the regression model is free from multicollinearity, so that the resulting regression coefficients are stable and can be interpreted properly.

Heteroscedasticity Test

The heteroscedasticity test is useful for detecting different variations in deviations in the regression model. Homoscedasticity, which is the ideal condition, indicates that the residual variation is constant for all independent variable values. (Ghozali, 2018). The following figure shows the heteroscedasticity test figures:

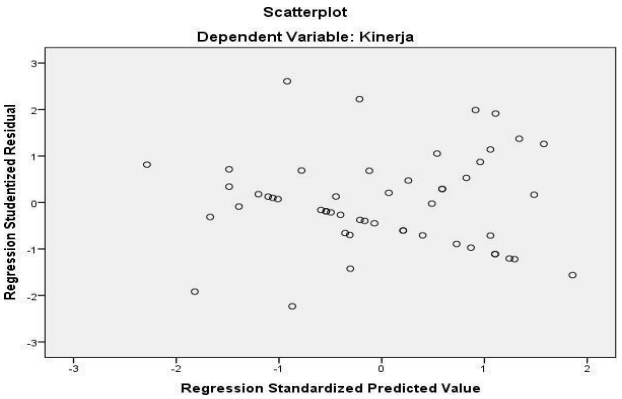


Figure 3. Heteroscedasticity Test Results

Looking at Figure 3, the heteroscedasticity test results show that the data distribution does not contain any clear patterns or regularities, so it can be concluded that this study does not reveal any heteroscedasticity issues.

Multiple Linear Regression Analysis

Ghozali (2018) argues that multiple predictor regression is a statistical technique used to determine the correlation between one dependent variable and two or more independent variables. The following are the results of the multiple linear regression analysis :

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Table 5. Multiple Linear Regression Analysis Results

Model	Unstandardised B	Coefficients Std. Error
(constant)	31.729	8.530
Workload	-.354	.127
Physical work environment	.497	.140

Source: SPSS output analysed by the researcher (2024)

The regression coefficients in the equation represent the individual effects of workload and physical work environment on performance, resulting in the following equation:

$$Y = a + b1\ X_1 + b2\ X_2 + e$$
$$Y = 31.729 - 0.354\ X1 + 0.497\ X2 + e$$

Based on the above equation, the following conclusions can be drawn:

1. The constant value of 31.729 in the multiple linear regression equation indicates the performance value of lecturers and employees at Prasetiya Mandiri Polytechnic PSDKU Palembang when there are no changes in the workload and physical work environment elements.
2. Coefficient regression workload coefficient -0.354 has a definition if the workload variable (X_1) increases by 1 per cent with an estimated workload (X_1) and constant (a) value of 0, resulting in a 0.354 decrease in the performance of lecturers and employees at the Prasetiya Mandiri PSDKU Palembang Polytechnic. The negative regression coefficient for workload explains that there is a negative relationship between workload and performance.
3. The physical work environment model coefficient of 0.497 indicates that if the physical work environment ($X_{(2)}$) increases by 1 per cent, with the physical work environment and constant (a) set at 0, the performance of lecturers and employees at Prasetiya Mandiri Polytechnic PSDKU Palembang will increase by 0.497. The positive regression coefficient for the physical work environment shows that there is a positive relationship between the quality of the physical work environment and employee performance. In this case, the higher the quality of the physical work environment, the higher the level of employee performance.

Correlation Coefficient and Determination
Correlation Coefficient (R)

According to Sugiyono (2019), the application of correlation coefficients to explain the direction and bond strength of bound variables and independent variables, in addition to measuring the intensity of associations. The interpretation of the correlation coefficient, the guidelines can be seen in the following table:

Table 6. Interpretation of Correlation Coefficients

Interval Coefficient	Relationship Level
0,00 – 0,199	Very weak
0,20 – 0,399	Weak
0,40 - 0,59	Keep
0,60 – 0,799	Tight/ Strong
0,80 – 1,000	Very Tight/ Strong

The researchers' findings in conducting correlation coefficient (R) and determination coefficient (R2) tests are explained as follows:

Table 7. Results of Correlation Coefficient (R) and Determination Coefficient (R^2) Tests

R	R Square	Adjusted R Square	Standard Error of the Estimate	R Square Change
,486[a]	0.236	0.205	2.76228	0.236

Source: SPSS output analysed by the researcher (2024)

The correlation coefficient of 0.486 in Table 7 of the correlation coefficient (R) and coefficient of determination (R^2) test results explains the existence of a moderate positive correlation between workload (X1) and physical work environment (X2) on performance (Y). This interpretation classifies the correlation coefficient value into several categories, including the "moderate" category for values between 0.40 and 0.59. The coefficient of determination (R^2) indicates the effectiveness of the model in explaining the dependent variable. The coefficient of determination scale ranges from zero to one (Sugiyono, 2021). A lowR^2 value illustrates that the independentvariable independent have limitations in interpreting the dependent variable type, while an R2 value close to one indicates that the independent variable contributes almost all the data used in predicting the dependent variable type. The SPSS output results regarding the determination index can be reviewed in Table 5. The certainty level analysis R^2in the table shows that 23.6% of the motives in the dependent variable (performance) can be clarified by the independent variables in this regression model. The remaining 76.4% is explained by other factors not included in the research, such as employee motivation, skill level, organisational culture, and other external factors.

Coefficient of Determination (R^2)

A lowR^2 value indicates that the independent variables have limitations in interpreting the variation in the dependent variable, while an R^2 valueclose to one means that the independent variables provide most of the data needed to predict the dependent variable. The SPSS output results for the coefficient of determination can be seen in Table 5. The analysis of the coefficient of determination R^2in the table shows that 23.6% of the variation in the dependent variable (performance) can be explained by the independent variables (workload and physical work environment) in this regression model. The

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remaining 76.4% is explained by other factors not included in the model, such as employee motivation, skill level, organisational culture, and other external factors.

Hypothesis Testing

In statistics, a hypothesis is a statement about the conditions of a population that will be tested for validity using sample information in a study. This is considered a temporary answer to the research question (Sugiyono, 2019).

t-test

Basically, the test assesses the magnitude of the effect of one explanatory or independent variable on the dependent variable (Ghozali, 2018). The test uses a significance level of
0.05 (α = 5%) with the following conditions:

1. Compare the t-count with the t-table. If the t-count is greater than the t-table, then H0 is rejected and H1 is accepted at a significance level of 5%, whereas if the t- count is less than the t-table, then H1 is rejected and H0 is accepted at a significance level of 5%.
2. Using the significant probability value. If the significant value is > 0.05, then H0 is accepted and H1 is rejected. If the significant probability value is < 0.05, then H0 is rejected and H1 is accepted.

Table 8. Test Results t

Type	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
(constant)	31,729	8,53		3,72	0,001
Workload	-0,354	0,127	-0,374	-2,79	0,008
Physical work environment	0,497	0,14	0,475	3,55	0,001

Source: SPSS output results analyzed by researchers (2024)

Through table 8, the results of the t-test have been obtained from the calculation of the trigger variables, namely workload and physical work environment. To make a comparison between the tcal value and the t_{table}, the value of the previous table must be determined beforehand, the value can be obtained in the following way:

Ttable = $\frac{\alpha}{2}$; n-k-l
= $\frac{0.05}{2}$; 52-2-1
= 0.025; 49
= 2.009

(the ttable value for the sample is 49 and the constant is 0.025) then it can be known from each of the following variables:

Impact of workload on performance

Workload calculation value (X_1) is -2.787 but after converting it to an absolute value of 2.787 which has a higher meaning than ttable namely 2.009 with a significance of 0.008 can be summarized that H0 is not accepted and H1 not rejected or workload in a way independent has a significant negative impact on performance (Y). The interpretation is that the more workload, the less the work output of the worker.

The effect of the physical work environment on performance

The value of the physical work environment (X_2) has a magnitude of 3.546 which has an explanation exceeding the ttable of 2.009 with a significance magnitude of 0.001 which is interpreted as small from the significant magnitude of 0.050, then the conclusion is obtained that H0 is unacceptable and H1 cannot be rejected or the physical work environment has a significant positive impact on performance (Y).

Test F

According to Ghozali (2018), the statistical test F determines whether all the independent variables in the model have a simultaneous impact on the bound variable. The significance threshold in the statistical test F is 0.05. This study uses the F Test to analyze the significant influence of independent variables on dependent variables simultaneously. Statistical analysis uses F tables with α = 0.05 and df = k(n-k-1) to compare F calculations and determine their significance. If the value of Fcal > Fis a table, it has the meaning that independent variables simultaneously have an impact on the dependent variables. However, if Fcalculus < Ftable, it has the meaning that independent variables have no influence on dependent variables. The following table shows the results of the F test, namely:

Table 9. F Test Results

Type	Sum Of Squares	Df	Mean Square	F	Sig.
Regression	115,563	2	57,781	7,573	,001b
Residual	373,879	49	7,63		
Total	489,442	51			

Source: SPSS output results analyzed by researchers (2024)

Judging from Table 9. The F test, the independent variable as a whole has a significant impact on the dependent variable through the p-value < 0.05. In this study, it is seen from the Fcalculation number of 7.573 while the F valueof the table is obtained as follows:

Ftable = k (n – k - 1)
= 2 (52 – 2 - 1)
= 2 (49)
= 3.190 (result of Ftable value with sample 49 and constant 2)

The results of the statistical test defined that the workload and physical work environment simultaneously

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had a significant positive effect on performance, with the Fcal value exceeding the Ftable and the significance value of 0.001 being lower than 0.05.

4. 2. Discussion

The Effect of Workload on the Performance of Lecturers and Employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang

The workload includes the total physical and spiritual tasks assigned to the worker and become their obligations (Suma'mur, 2018). From the results of the research, the number tcount for the workload (X1) is 2.787, which is more than the ttable of 2.009, with a significance magnitude of 0.008. Since the nominal significance of this is smaller than the patented significant level of 0.050, H0 is unacceptable and H1 irresistible. As a result, the workload has a partial significant impact on the performance of lecturers and employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang. This is also in accordance with previous researcher Najib (2020) whose research results stated that heavy workload can cause a negative impact on employee performance. Likewise in the research carried out by (Putri et al., 2022) This study reveals that workload has a negative and significant impact on worker performance. This condition is indicated by the value of tcount is -4,270 higher than ttable 1.668 and a significance value of 0.000.

Research conducted (Hermawan, 2022) Essentials can be obtained if the workload has a negative and significant impact on performance. At Prasetiya Mandiri Polytechnic, there are many workloads carried out by employees and lecturers, the academic administration section is also a general administration section, financial administration is also a personnel administration, as well as the Head of the Palembang branch office also doubles as a finance section and a student affairs section. This makes it difficult for employees and lecturers to divide their time in completing work, because there is a lot of work that must be completed properly and quickly. Often constrained by several jobs that must be completed at the same time according to the specified time limit, thus making employees and lecturers increase their working hours. From this study and also supported by previous researchers, it can be concluded that the more excessive the individual's tasks, the consequences can negatively affect their level of performance.

The large workload experienced can make productivity less good. The results of the study show that a high workload decreases the performance of lecturers and employees. Managerially, this sends a message that the leadership of the Prasetiya Mandiri Polytechnic needs to review division of duties and responsibilities to be more proportionate. The burden of teaching, administration, and additional activities should be balanced so as not to cause mental and physical fatigue. Policies such as task rotation, balanced distribution of credit load, and recruitment of additional administrative staff can be a strategic step to maintain productivity.

The Influence of the Physical Work Environment on the Performance of Lecturers and Employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang

The physical environment of the workplace consists of various physical elements that can affect the performance and well-being of employees (Sedarmayanti in Rahmawanti et. al, 2014). According to the results of the study, it can be seen that the amount of t_{count} the workload variable (X2) is 3.546 > ttable worth 2.009 with a significant level 0.001 has a lower meaning than the agreed significant level is 0.050 consequently it is said that H_0 not accepted and H1 Not rejected or The physical work environment has a significant positive effect on the performance of lecturers and employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang. This is balanced with previous research conducted by Najib (2020) the results of the study revealed that a good work environment has a positive cause on worker performance. (Firjatullah et al., 2023) The study also revealed that there are significant positive direct effects of the work environment on employee performance. Likewise, research conducted by (Gultom et al., 2021) obtained if the work environment independently has a significant positive effect on employee performance. At the Prasetiya Mandiri Polytechnic PSDKU Palembang, the phenomenon that occurs is that employees and lecturers are placed in the same room.

The workspace of administrative staff and lecturers with structural positions is placed in the same room. This makes employees and lecturers less concentrated in their work. From this, it can be summarized that the better the physical work environment, the more the performance of the administration and lecturers will soar. The finding that the physical work environment has a positive effect on performance means that investment in work facilities and infrastructure directly impact improving employee performance. Management needs to pay attention Workspace Comfort, such as lighting, layout, air circulation, and noise levels. Rearrangement of workspaces between structural lecturers and administrative staff, for example by separate space or ergonomic partition, can improve focus and work effectiveness.

The Effect of Workload and Physical Work Environment on the Performance of Lecturers and Employees of Prasetiya Mandiri Polytechnic PSDKU Palembang

The findings explain that the workload and work environment simultaneously have a positive and significant impact on the performance of lecturers and employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang. With the results of the Fcal test 7.573 > F table 3.190 so that H_0 is unacceptable and H1 cannot be denied to have a sense workload and work environment simultaneously have an impact on performance. Likewise, in past research conducted by Najib (2020), the results of the study prove that a higher workload has a negative impact on worker performance. In research conducted by

(Hermawan, 2022) The work environment contributes significantly positively to performance. Likewise, research conducted by (Santoso and Widodo, 2022) found that the results of workload and work environment simultaneously had an effect and significant on employee work outcomes.

From the results of researchers and previous research, it is concluded that if the increased workload will have less effect on performance, a conducive work area has a good boost to worker performance, the more dominant the physical work environment, the more employee performance will increase. Likewise on the campus of Prasetiya Mandiri PSDKU Palembang Polytechnic, by minimizing the workload, better work results will be obtained, as well as the physical environment, if the work environment is made better, then there will be a better work atmosphere and work results which of course can support the Prasetiya Mandiri PSDKU Palembang Polytechnic to become a better campus. The combination of workload influence and a significant physical work environment suggests that performance improvement is not enough just from training or motivation, but must be through Systemic Approach Namely regulating the amount of workload while improving working conditions. Campus leaders can use the results of this research as a The basis for human resource policy formulation, including evaluation of organizational structures, job redesign, and planning for future workforce needs. Practically, lecturers and employees who have a comfortable work environment will be better able to show creativity and innovation in academic and administrative processes. With a realistic workload and a supportive work environment, Campuses can improve the quality of educational services, accreditation of study programs, and employee job satisfaction.

5. Conclusion

This observation was carried out to evaluate the impact of workload and work environment on the performance of lecturers and employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang. This study involved a total of 52 respondents. From the results of data collection and tested using the linear regression model, the summary was obtained, namely:

1. The tcal value (-2.787) which has a higher level than the ttable (2.009) and a significant number (0.008) lower than the significant level (0.05) explains that the workload statistically has a negative impact on the performance of lecturers and employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang. The workload has been proven to significantly reduce the performance of lecturers and employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang.
2. The tcal value (3.546) which is high from the ttable (2.009) and the significant amount (0.001) which is low from the significant level (0.05) explains that the physical work environment statistically has a good impact on the performance of lecturers and administrative staff at the Prasetiya Mandiri PSDKU Palembang Polytechnic campus. It can be concluded that if the physical work environment is improved, it will improve the performance of lecturers and employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang.
3. The positive effect of workload and working environment conditions on the work outcomes of lecturers and workers of the Prasetiya Mandiri Polytechnic PSDKU Palembang is statistically proven by a high Fcal value from Ftabel and a significant number lower than the significance level. This is stated from the number $F_{calculated}$ as 7.573 > Ftable 3.190 and a significant level of 0.001 < 0.050, then H_0 is unacceptable and H_1 cannot be rejected, so it is concluded that the workload and physical work environment at the same time have a substantial impact on the performance of lecturers and employees of the Prasetiya Mandiri Polytechnic PSDKU Palembang.
4. The value of the correlation coefficient of 0.486 is categorized as 'moderate' based on standard interpretation. It was explained that there was a positive relationship between the variables of workload (X1) and the work environment (X2) to the performance variable (Y).
5. The determination coefficient (R^2) of 0.236 explains that 23.6% of the variation in performance can be explained by the workload and physical work environment, while the remaining 76.4% is explained by other components that are not discussed in this research.

The researcher provided useful proposals for the Prasetiya Mandiri PSDKU Palembang Polytechnic campus, namely:

1. The findings of this study can provide a basis for a more comprehensive study of variables that have not been studied.
2. Problems that occur regarding workload and physical work environment that have an effect on performance that is expected to improve the performance results of employees and lecturers by minimizing workload and improving the physical work environment so that it becomes better.
3. It is hoped that further research can develop other independent variables that affect employee performance, such as non-physical work environment, rewards, career development, motivation, leadership, compensation and others.

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