THE INFLUENCE OF WORK STRESS, WORKLOAD AND WORK ENVIRONMENT ON THE PERFORMANCE OF HEALTH WORKERS AT THE SIABU COMMUNITY HEALTH CENTER, MANDAILING NATAL REGENCY

Nurul Azizah[1], Em Yusuf Iis[2], Aiyub[3], Likdanawati[4]
Universitas Malikussaleh, Aceh
E-mail: nurul.210410255@mhs.unimal.ac.id[1], emyusufiis@unimal.ac.id[2], aiyub@unimal.ac.id[3] ,
likdanawati@unimal.ac.id[4]

Abstract

This study investigates the influence of job stress, workload, and work environment on the performance of health workers at UPTD Puskesmas Siabu, Mandailing Natal Regency. A quantitative research method with a descriptive associative approach was applied. Data were collected using a questionnaire and analyzed through multiple linear regression. The findings indicate that job stress, workload, and work environment have both simultaneous and partial significant effects on health workers' performance. The results emphasize the importance of managing workplace stress, balancing workloads, and improving the work environment to enhance overall performance.

Keywords: *Job Stress, Workload, Work Environment, Performance, Health Workers*

INTRODUCTION

Performance is a critical aspect in any organization, as it determines the achievement of institutional goals and the quality of services delivered. In the healthcare sector, employee performance plays a particularly vital role due to its direct impact on the effectiveness and efficiency of public health services. According to Mangkunegara (2021), employee performance refers to the quality and quantity of work achieved by an employee in carrying out their duties and responsibilities. Optimal performance by healthcare workers contributes significantly to patient satisfaction, operational excellence, and the sustainability of health services. However, employee performance is not achieved in isolation. It is often influenced by various internal and external factors. Among the most prevalent and impactful factors are job stress, workload, and the work environment. In the context of community health centers (Puskesmas), these factors can significantly affect the quality of healthcare services. Stress, in particular, is recognized as a psychological condition that arises when there is an imbalance between job demands and an individual's ability to meet those demands (Lazarus, 2022). Prolonged exposure to high stress can result in emotional exhaustion, decreased job satisfaction, and reduced concentration, which negatively impact the quality of care provided.

Workload is another contributing factor that affects healthcare performance. Excessive workload—characterized by long working hours, high patient volumes, and administrative responsibilities—often leads to fatigue, burnout, and diminished productivity. The Job Demand-Control Model by Theorell (2020) posits that stress increases when job demands are high and employee autonomy is low. Studies have shown that healthcare professionals facing an unmanageable workload are more likely to experience mental and physical fatigue, resulting in reduced efficiency and a higher risk of errors (Maslach & Leiter, 2024). Furthermore, the work environment also plays a significant role in influencing performance. A non-conducive work environment—such as inadequate facilities, poor ventilation, high noise levels, and lack of management support—can increase stress and reduce employee motivation. According to Sedarmayanti (2022), a healthy work environment should be clean, safe, and comfortable, allowing employees to perform their duties effectively. Lack of proper equipment and insufficient workplace infrastructure often hinder performance and negatively affect both the physical and psychological well-being of healthcare workers. In UPTD Puskesmas Siabu, located in Mandailing Natal Regency, these issues are particularly pressing. Based on preliminary observations and interviews, healthcare workers in this

health center face considerable challenges. High patient volumes, inadequate facilities, role ambiguity, overtime requirements, and psychological pressure from patients and their families have led to increased levels of stress and emotional fatigue. Additionally, poor physical conditions—such as hot and poorly ventilated rooms, high noise levels, and inadequate sanitation—further exacerbate the situation, leading to burnout and reduced job performance. Given these conditions, it is crucial to examine the extent to which job stress, workload, and the work environment affect employee performance at UPTD Puskesmas Siabu. This research aims to provide empirical evidence that can support managerial decision-making to improve the well-being and productivity of healthcare workers. Therefore, the present study is entitled: "The Influence of Job Stress, Workload, and Work Environment on the Performance of Health Workers at UPTD Puskesmas Siabu, Mandailing Natal Regency

LITERATURE REVIEW
Job Stress
Job stress is defined as a condition of tension that creates a physical and psychological imbalance, affecting an individual's emotions, thinking process, and behavior at work (Rivai, 2020; Pamungkas, 2024). Lazarus (2022) argues that stress occurs when there is an imbalance between job demands and an individual's ability to cope. In healthcare settings, this imbalance can cause emotional exhaustion and decreased job satisfaction. Robbins and Judge (2021) highlight that job stress arises from role conflict, environmental pressure, and lack of organizational support. Prolonged exposure to job stress can result in burnout and deteriorating job performance among health workers (Maslach & Leiter, 2024).

Workload
Workload refers to the amount and difficulty level of tasks that an employee must complete within a certain timeframe. Tarwaka (2020) and Sunyoto (2019) explain that excessive workload causes physical and mental strain, which negatively affects performance. Theorell's (2020) demand-control model illustrates that stress increases when workload is high and workers have little control over their tasks. Factors such as job complexity, time pressure, and insufficient rest periods intensify this burden. Muzakki and Arum (2022) report that a high workload can reduce quality of life and cause work-life imbalance, leading to burnout. Conversely, Robbins and Judge (2021) warn that an underloaded job can also reduce motivation and performance.

Work Environment
The work environment consists of all physical, social, and organizational elements surrounding employees that can influence their job performance. According to Sedarmayanti (2022), this includes lighting, temperature, ventilation, noise, and social dynamics in the workplace. A supportive and comfortable environment improves motivation and efficiency (Wijaya & Setyawan, 2021), while a poor environment with noise, inadequate facilities, or interpersonal conflict can increase stress and hinder performance (Sulistyo & Haryanto, 2020). Furthermore, the presence of management support, inclusive culture, and proper equipment are essential components of a healthy work environment (Leka et al., 2020; Musrihadi & Pratama, 2022).

Employee Performance
Employee performance refers to the output achieved by an individual in fulfilling their responsibilities, measured in terms of quality, quantity, timeliness, and effectiveness. Afandi (2022) defines performance as the result of one's work aligned with their authority and responsibilities. Mangkunegara (2020) adds that performance depends on competence, motivation, discipline, and leadership. Performance is also influenced by internal factors like physical and mental health, and external factors such as job stress, workload, and work conditions (Simanjuntak, 2015). High-performing employees typically demonstrate accuracy, efficiency, initiative, and accountability in achieving organizational goals.

METHOD
This study employed a quantitative research design with an associative descriptive approach to examine the influence of job stress, workload, and work environment on the performance of health workers. The research was conducted at UPTD Puskesmas Siabu, Mandailing Natal Regency. The total population consisted of 114 health workers, and a saturated sampling technique was used, in which the entire population was included as the sample to ensure comprehensive data representation. Primary data were collected through a structured questionnaire developed based on indicators for each variable and measured using a five-point Likert scale, ranging from

"Strongly Disagree" to "Strongly Agree." The research variables and their respective indicators were as follows: Job Stress (X1), consisting of role conflict, task ambiguity, and job pressure; Workload (X2), consisting of task volume, time pressure, and physical demand; Work Environment (X3), consisting of workplace facilities, peer relationships, and general work atmosphere; and Performance (Y), measured through indicators such as discipline, punctuality, accuracy, and teamwork. Data analysis was conducted using IBM SPSS Statistics version 25.0. The analysis included validity and reliability tests to assess the quality of the research instrument, followed by classical assumption tests—namely, normality, multicollinearity, and heteroscedasticity tests—to ensure that the regression model met standard analytical requirements. Multiple linear regression analysis was then performed to examine the relationship between independent variables and the dependent variable. Furthermore, a t-test (partial test) was used to assess the individual effect of each variable, an F-test (simultaneous test) to evaluate the combined effect of all independent variables, and the coefficient of determination (R^2) was calculated to determine how much of the variation in performance could be explained by the three predictor variables.

RESULTS AND DISCUSSION
Respondent Characteristics

The characteristics of the respondents in this study aim to determine the character of each respondent that the researcher made as a sample in this study. The following are some of the characteristics of the respondents in this study.

Table 1. Respondent Characteristics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25 – 35	41	36.0	36.0	36.0
	36 – 45	55	48.2	48.2	84.2
	> 46	18	15.8	15.8	100.0
	Total	114	100.0	100.0	100.0

Source: Data processed by researchers (2025)

Table 1 shows the age distribution of the respondents involved in this study. Out of a total of 114 health workers, 41 respondents (36.0%) were between the ages of 25 and 35 years, 55 respondents (48.2%) were between 36 and 45 years, and the remaining 18 respondents (15.8%) were over the age of 46. The highest percentage was found in the 36–45 age group, indicating that the majority of health workers at UPTD Puskesmas Siabu are in their mid-career phase. This age group is generally considered to have adequate professional experience, physical stamina, and emotional maturity to handle job-related demands such as stress, workload, and adapting to the work environment. Therefore, the age factor could be a relevant consideration when evaluating performance outcomes in this study.

Validity and Reliability Test

The validity test results show that all statement items for the variables of job stress, workload, work environment, and performance had r-values greater than 0.184, which indicates that each item was valid and suitable for further analysis. This means that the questionnaire items were able to accurately measure the intended constructs.

Table 2. Validity Test Results

No	Statement Indicators	R Tabel	R Hitung	Description
1	**Stress Kerja (X1)**			
	Indikator 1	0.184	0.440	Valid
	Indikator 2	0.184	0.547	Valid
	Indikator 3	0.184	0.575	Valid
	Indikator 4	0.184	0.610	Valid
	Indikator 5	0,184	0,655	Valid
2	**Beban Kerja (X2)**			
	Indicator 1	0.184	0.689	Valid
	Indicator 2	0.184	0.634	Valid
	Indicator 3	0.184	0.574	Valid
	Indicator 4	0.184	0.647	Valid
3	**Lingkungan Kerja (X3)**			
	Indicator 1	0.184	0.760	Valid
	Indicator 2	0.184	0.722	Valid
	Indicator 3	0.184	0.760	Valid
	Indicator 4	0.184	0.725	Valid
	Indicator 5	0.184	0.748	Valid
	Indicator 6	0.184	0.727	Valid
4	**Kinerja (Y)**			
	Indicator 1	0.184	0.643	Valid
	Indicator 2	0.184	0.621	Valid
	Indicator 3	0.184	0.642	Valid
	Indicator 4	0.184	0.636	Valid

Source: Data processed by researchers (2025)

The next step is the reliability test results revealed that all variables had Cronbach's Alpha coefficients greater than 0.60. This threshold indicates that the items for each variable demonstrated internal consistency and were reliable for use in this research. The results of the reliability test can be seen in the following table:

Table 3. Reliability Test Results

Variable	Cronbach Alpha	Description
Work Stress (X1)	0,769	Reliabel
Workload (X2)	0,732	Reliabel
Work Environment (X3)	0,808	Reliabel
Performance (Y)	0,741	Reliabel

Source: Data processed by researchers (2025)

The reliability test results further confirm that the instruments used are consistent and dependable, with Cronbach's Alpha values exceeding the minimum threshold of 0.60 for all variables.

Results of Classical Assumtion Test
Normality Test
The normality test was conducted to determine whether the residuals in the regression model were normally distributed. Using a P-P Plot, the points were found to follow the diagonal line closely, indicating a normal distribution. Additionally, the significance level was greater than 0.05, which further supports the assumption of normality. This means the data used in the regression analysis met the requirement for normal distribution, ensuring that the statistical inferences drawn from the model are valid. Meeting the normality

assumption is essential because violations can lead to biased estimates, reduced statistical power, and inaccurate hypothesis testing. In this study, the normal distribution of residuals allows for a more accurate interpretation of the t-test and F-test results, which are sensitive to deviations from normality. Moreover, it confirms that the regression model is appropriate for predicting the relationship between job stress, workload, work environment, and the performance of health workers. This strengthens the credibility of the findings and supports the validity of the conclusions drawn from the analysis.
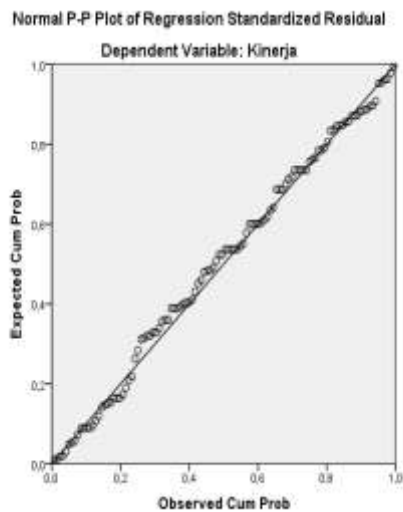

Image 1. Normality Test

Multicollinearity Test

To check for multicollinearity, which occurs when independent variables are highly correlated with one another, the Variance Inflation Factor (VIF) and Tolerance values were examined. The results showed that all variables had VIF values below 10 and Tolerance values above 0,1. These thresholds are widely accepted indicators of no serious multicollinearity. Therefore, it can be concluded that each independent variable contributes unique information to the regression model without overlapping with the others.

Table 3. Multicolinearity Test Results

Model	Tolerance	Collinearity VIF
Work Stress		
Workload	0,642	1.558
Work Environment	0,701	1.426
	0,568	1.267

Source: Data processed by researchers (2025)

Heteroscedasticity Test

Heteroscedasticity refers to the presence of unequal variances of residuals across levels of the independent variables. This assumption was tested using a scatterplot of standardized residuals. The scatterplot did not show any systematic or clear pattern, suggesting that the variance of the residuals was constant (homoscedastic). This indicates that the regression model is robust and not biased by variability issues, allowing for more reliable interpretation of the regression coefficients:
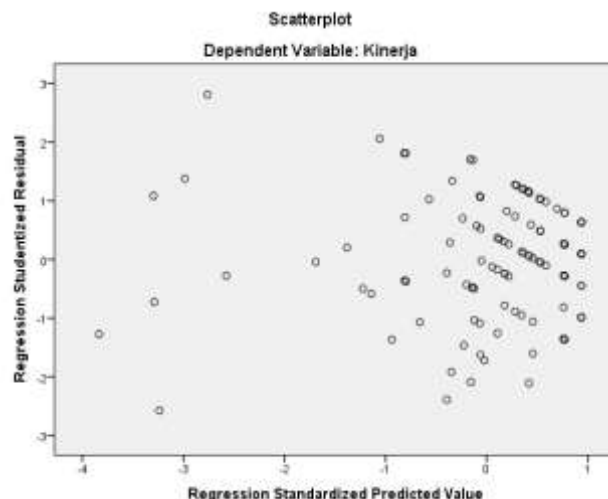
Image 2. Heteroscedasticity Test

Result of Data Analysis Methods
Multiple Linear Regression Analysis

Multiple linear regression test aims to identify the magnitude of the influence of the independent variable (X) on the dependent variable (Y). The analysis was carried out using SPSS. The following are the results of multiple linear regression tests for each variable:

Table 4. Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	31,087	2,325		13,371	,000
	stres kerja	-,473	,115	-,356	-4,095	,000
	beban kerja	,323	,139	-,200	-2,317	,022
	lingkungan kerja	,298	,088	,297	2,394	,027

a. Dependent Variable: kinerja

The results of the multiple linear regression analysis produced the following equation:

$$Y = 31.087 + (-473X_1) + (-323X_2) + 0.298X_3 + e$$

This equation shows the relationship between the independent variables and the dependent variable, which is the performance of health workers. The regression coefficient for job stress (X_1) is 0.473, indicating a negative effect meaning that an increase in job stress is associated with a decrease in performance. Similarly, workload (X_2) also has a negative effect, with a coefficient of 0.323. On the other hand, the work environment (X_3) has a positive coefficient of 0.298, indicating that improvements in the work environment lead to better performance outcomes.

Test Determination Coefficient (R2)

The coefficient of determination (R^2) was found to be 0.528. This means that approximately 52.8% of the variation in health worker performance can be explained by the three independent variables: job stress, workload, and work environment. The remaining 47.2% may be attributed to other factors not examined in this study, such as organizational leadership, compensation, individual motivation, or training opportunities.

Table 5. Test Results of Correlation Coefficient (R) and Determination Coefficient (R2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,727ᵃ	,528	,515	1,808

Source: SPSS Output Results

F Test Results

The simultaneous significance test (F-test) was performed to assess the combined effect of job stress, workload, and work environment on performance. The result showed an F-value of 29.033 with a significance level of 0.000, which is below the threshold of 0.05. This indicates that all three independent variables jointly have a significant effect on the performance of health workers at UPTD Puskesmas Siabu.

The F test is used to measure the effect of independent variables simultaneously (together) on the dependent variable. The results of the F test can be seen in the following table:

Table 6. F Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	284,783	3	94.928	29.033	,000ᵇ
	Residual	253,136	108	3,270		
	Total	537,919	111			

Source: SPSS Output Results

Partial Test Results (t)

The partial test (t-test) was conducted to examine the individual significance of each independent variable. The results showed that job stress had a t-value of -4.095 and a significance value (p-value) of 0.000, indicating a statistically significant negative effect on performance. Workload had a t-value of -2.317 with a p-value of 0.022, also indicating a significant negative effect. Meanwhile, the work environment had a t-value of 2.394 and a p-value of 0.027, confirming a significant positive effect. These findings suggest that each variable has a meaningful individual contribution to the performance of health workers. The t test is conducted to see how far an independent variable individually explains the variation in the dependent variable Sugiyono (2023). Testing is done using a significance of 0.05 (α = 5%). The t test results can be seen in the following table:

Table 7. Partial Test Results (t)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31,087	2,325		13,371	,000
	stres kerja	-,473	,115	-,356	-4,095	,000
	beban kerja	,323	,139	-,200	-2,317	,022
	lingkungan kerja	,298	,088	,297	2,394	,027

Source: SPSS Output Results

CONCLUSION

This study concludes that job stress, workload, and work environment significantly influence the performance of health workers at UPTD Puskesmas Siabu, both simultaneously and partially. Job stress has the most dominant negative effect. The results suggest that job stress, if not properly managed, can reduce employees' motivation, concentration, and accuracy—particularly in healthcare settings where emotional resilience and high levels of focus are required. The emotional toll of serving patients, combined with administrative pressures and limited resources, may intensify psychological strain, which in turn diminishes service quality. Therefore,

institutions must adopt systematic interventions such as counseling programs, rotation schedules, and recognition systems to mitigate job-related stress. Workload was also found to have a significant negative impact on performance. When health workers are burdened with tasks that exceed their physical or mental capacity, it can lead to fatigue, burnout, and errors in service delivery. Implementing workload balancing strategies, such as clear task distribution, performance-based staffing, and better shift management, could contribute to improved productivity and job satisfaction. Organizational leaders need to evaluate and regulate workloads regularly to prevent long-term inefficiencies and staff turnover. In contrast, a supportive and well-organized work environment has a positive and significant effect on performance. Adequate facilities, healthy peer relationships, effective communication, and a safe, clean workplace can foster a sense of belonging and commitment

Based on research conducted on the effect of emotional intelligence, self efficacy, and competence on employee performance at PT Lengga Hara Medan, it can be concluded that emotional intelligence has a positive and significant effect on employee performance at PT Lengga Hara Medan. This means that the higher the emotional intelligence possessed by the employee, the higher the employee's performance. Therefore, companies need to pay attention to the emotional intelligence possessed by each employee to improve performance and company sustainability. Self efficacy has a positive and significant influence on employee performance at PT. Lengga Hara Medan. This means that the higher the self efficacy possessed by the employee, the higher the employee's performance. Therefore, companies need to pay attention to the self efficacy possessed by each employee to improve performance and company sustainability. Competence has a positive and significant influence on employee performance at PT. Lengga Hara Medan. This means that the higher the competence possessed by the employee, the higher the employee's performance. Therefore, companies need to pay attention to the competencies possessed by each employee to improve the performance and sustainability of the company.

Research Limitations

This study, while providing valuable insights into the influence of job stress, workload, and work environment on the performance of health workers at UPTD Puskesmas Siabu, is not without limitations. First, the research was conducted in a single public health center located in a rural area, which limits the generalizability of the findings to other healthcare institutions, especially those in urban or more diverse settings. The organizational structure, culture, and resources of Puskesmas in other regions may vary significantly. Second, the study relied solely on self-reported questionnaire data. Although the instrument was tested for validity and reliability, responses may have been affected by social desirability bias, personal perceptions, or reluctance to disclose negative experiences related to job stress or workload.

Third, this research only focused on three variables—job stress, workload, and work environment—while other important factors such as leadership style, compensation, training, or individual motivation were not included in the analysis. These omitted variables may also contribute significantly to performance outcomes. Finally, the study used a cross-sectional design, capturing data at a single point in time. This approach limits the ability to observe causal relationships or long-term effects of the variables studied. Future research is recommended to adopt longitudinal methods, expand the study area, and incorporate additional influencing factors for a more comprehensive understanding of health worker performance.

REFERENCES

Afandi, P. (2020). Manajemen sumber daya manusia: Teori, konsep dan indikator. Zanafa Publishing.

Ahmad, A. J., Mappamiring, & Mustari, N. (2022). Pengaruh lingkungan kerja terhadap kinerja pegawai di Dinas Pendidikan dan Kebudayaan Kabupaten Bulukumba. Kajian Ilmiah Mahasiswa Administrasi Publik, 3(1), 287–298.

Ananda, M. S., Wadud, M., & Handayani, S. (2021). Pengaruh beban kerja dan lingkungan kerja terhadap stres kerja pada karyawan PT. Kereta Api Indonesia (Persero) Divisi Regional IV Tanjungkarang. Jurnal Bisnis, Manajemen, dan Ekonomi, 2(4), 186–195.

Mangkunegara, A. P. (2020). Manajemen sumber daya manusia perusahaan. Rosda.

Mangkunegara, A. P. (2020). Pengukuran kinerja berbasis kompetensi (Edisi Revisi). Raja Grafindo Persada.

Dian, A., Muchran, B. L., & Irwan, A. (2018). Pengaruh beban kerja dan lingkungan kerja terhadap kinerja pegawai pada Kantor Dinas Tenaga Kerja Kota Makassar. Jurnal Profitability FakultasEkonomi dan Bisnis, 2(2).

Silaswara, D. Y. (2021). Pengaruh stres kerja, beban kerja, dan lingkungan kerja terhadap kinerja karyawan di tengah pandemi COVID-19 di PT. Telekomunikasi Indonesia (Witel Tangerang). Prosiding: Ekonomi dan Bisnis, 1(1), 13.

Fitriawati, L., & Hidayat, A. (2021). Psychological effects of workload on employees in service sectors. Jurnal Psikologi Industri, 15(2), 112–123.

Rahmawati, I., Bagis, F., & Darmawan, A. (2021). Analisis pengaruh pelatihan, motivasi, dan stres kerja terhadap produktivitas karyawan pada PT. Hyup Sung Indonesia. Jurnal Manajemen, 15(2).

Rahmawati, R., Mitariani, N. W. E., & N. P. C. D. A. (2021). Pengaruh lingkungan kerja, stres kerja dan motivasi kerja terhadap kinerja karyawan pada PT. Indomaret Co Cabang Nangka. Jurnal EMAS, 2(3), 191–201.

Robbins, S. P., & Coulter, M. (2020). Management (15th ed.). Pearson.

Wijaya, R., & Setyawan, A. (2021). The impact of work environment on employee performance: Evidence from Indonesian manufacturing industry. Jurnal Manajemen Sumber Daya Manusia, 18(4), 45–56.

Zulkarnaen, W., Abin, S., & Rachmat, K. (2018). Pengaruh pelatihan kerja dan stres kerja terhadap produktivitas kerja karyawan bagian produksi Departemen R-Pet PT. Namasindo Plas Bandung Barat. Jurnal Ilmiah MEA (Manajemen, Ekonomi, & Akuntansi), 2(3).

Zulkifli. (2023). Aplikasi analisis multivariate dengan program IBM SPSS 25. Badan Penerbit Universitas Diponegoro.