Work environment as mediator between workload and health worker performance

Hamsal Hamsal¹, Nurman Nurman², Zulfadli Hamzah³, Muhammad Arif⁴, Al Sukri⁵ Universitas Islam Riau, Pekan Baru, Riau, Indonesia^{1,2,3,4,5} hamsal@eco.uir.ac.id¹, nurman07@soc.uir.ac.id², zulfadlihamzah@fis.uir.ac.id³, muhammadarif@fis.uir.ac.id⁴, alsukri jn@comm.uir.ac.id⁵



Article History

Received on 09 August 2025 1st Revision on 28 October 2025 2nd Revision on 30 October 2025 Accepted on 14 November 2025

Abstract

Purpose: This study aims to investigate the impact of workload on the performance of healthcare workers, both directly and through the mediation of the work environment, at UPTD Puskesmas Batang Gansal.

Research Methodology: This study employed a quantitative method using the Structural Equation Modelling (SEM) approach, involving all 103 healthcare workers at UPTD Puskesmas Batang Gansal as a saturated sample. Data were collected through questionnaires, observation, and interviews. The questionnaire employed a Likert scale (1–5), and the data were analysed using SmartPLS 3.0 software. **Results**: The research findings indicate that workload does not directly affect the performance of healthcare workers, but it

directly affect the performance of healthcare workers, but it significantly impacts the work environment. Additionally, the work environment has been proven to act as a mediator connecting workload and performance, meaning that a conducive work environment can maintain performance even with a high workload.

Conclusions: This study shows that workload does not directly affect employee performance, but has an indirect effect through the work environment as a key mediating factor. A supportive work environment enables high performance despite heavy workloads.

Limitations: This research is limited to healthcare workers at the Batang Gansal Public Health Centre (UPTD Puskesmas Batang Gansal), with cross-sectional data collected through questionnaires, which makes the results less representative of other institutions and susceptible to subjective bias.

Contribution: This research demonstrates that managing workload while improving the work environment is crucial to maintaining productivity.

Keywords: Health Worker, Human Resources, Performance, Workload, Work Environment

How to Cite: Hamsal., Nurman., Hamzah, A., Arif, M., & Sukri, A. (2025). Work environment as mediator between workload and health worker performance. *Annals of Human Resource Management Research*, 5(4), 107-120.

1. Introduction

In an organisation, various factors influence its progress and sustainability, including human resources, capital, technology, and finances (Chaerudin, Rani, & Alicia, 2020). However, human resources (HR) are the most valuable asset in managing organizational systems. Superior and competitive human resources are the key to success in achieving organisational goals (Artamevia, Surya, Fiti, & Kusumaningrum, 2025). As members of an organization, human resources contribute their energy, expertise, and creativity to carrying out activities and managing organizational assets (Sugianto, Rokhaminawanti, & Purwanda, 2025). Organizational effectiveness can be achieved through good collaboration, proportional division of roles, and sustainable human resource development.

For an organization to run effectively, efficient and productive human resources are needed. This efficient performance is closely related to the time and effort required to complete the work. Therefore, organizations must empower human resources through the design of optimal work systems (Nusantoro, 2020). Appropriate management includes establishing an efficient task system, placing individuals according to their competencies Prayetno, Permadi, and Sarikusumaningtyas (2022), and creating a safe and comfortable work environment (Prayuda, Praditya, & Purwanto, 2025). Thus, organizations can increase productivity without overburdening employees. Nevertheless, workloads that exceed capacity are a significant barrier to optimal productivity (Karundeng, Lapian, & Uhing, 2024). This condition can induce work stress, low motivation, and adversely affect work performance.

According to the prior studies Candrianto, Ningsih, Satrianto, and Lubis (2020); Pramesthi, Hartati, and Rahatmawati (2020), an unbalanced workload is among the primary reasons behind work stress, which inevitably lowers performance. Therefore, a balance between work and employee capabilities is a valuable aspect that ensures that the organization moves in a sustainable manner. Community Health Centres (Puskesmas) are essential parts of the Indonesian health system as the front line of public services (Lutfiana, Lestari, Annisa, Puspita, & Rasyid, 2024). Puskesmas not only serve as a source of simple health services but also serve as an impetus for promoting community health in their localities (Anita & Febriawati, 2019). To fulfil this position, the healthcare employees at Puskesmas must possess good performance and be capable of working with limited resources.

The situation in the UPTD Puskesmas Batang Gansal suggests a growth in work pressure because of having an extra workload other than direct duties, such as off-site documentation and counselling events. In addition, the fact that the educational background and the type of job do not match, and the work schedules do not provide any shift system, is a contributing factor to the situation. This led to an increase in working hours, particularly among the outpatient healthcare workers. This problem not only reduces the performance of individuals but can also translate to the performance of the overall levels of healthcare provided to the people. Several studies have discussed the relationship between workload and healthcare worker performance (Ernawati et al., 2025; Mahawati et al., 2021).

However, there has been little research investigating the role of the work environment as a mediating variable in the relationship between workload and healthcare worker performance, particularly at the primary care level, such as rural health centers. Thus, there is a research gap regarding how the work environment can strengthen or weaken the workload's influence on performance. Based on this description, this study aims to analyze the influence of workload on the performance of healthcare workers, both directly and through the mediation of the work environment, with a case study at the UPTD Puskesmas Batang Gansal. The results of this study are expected to provide practical benefits for Puskesmas management and local health departments in designing policies to improve the efficiency and well-being of healthcare workers in Indonesia. Academically, this study enriches the literature on human resource management in the healthcare sector, particularly in the context of public services at the primary level.

2. Literature review

2.1. Human Resource Management

Human resource management (HRM) is a continuous system that encompasses all actions, policies, and programs involved in recruiting, developing, and retaining employees (Siswanto, Ridwan, & Ayu, 2022). The primary goal of human resource management is to enhance both individual and overall organizational performance, enabling the achievement of set targets. Albugis (2018) states that human resource management plays a crucial role in motivating employees, while Kariyamin, Hamzah, and Lantara (2023); Septiana and Widjaja (2020) emphasise that human resources are the core of an organisation because they act as both planners and active participants in all organisational activities. Abdurrahim (2022) notes that human resource management encompasses a series of strategic goals that must be implemented to ensure organizational sustainability.

Human resource management functions are divided into two main groups: managerial and operational. Managerial functions include planning, organizing, directing, coordinating, and controlling. In contrast,

operational functions encompass employee procurement, development, compensation, integration, and maintenance. Both functions play important roles in preventing internal organizational problems and ensuring the company's sustainability. In line with Abdurrahim (2022), the human resource management system essentially focuses on effectiveness and efficiency to achieve organizational goals.

Various studies have confirmed that the success of human resource management is closely related to an organization's ability to manage workload and create a supportive work environment (Prayetno et al., 2022; Prayuda et al., 2025). However, few studies have linked the role of the human resource management system with the balance between workload and healthcare worker performance at the primary care level, such as in Community Health Centers (Puskesmas). Therefore, this study aims to fill this gap.

2.2. Workload

Workload is a succession of physical, mental, and social activities that a person must fulfill during a specific schedule based on their means in terms of physical and mental capabilities and limitations (Febrian, 2025; Mahawati et al., 2021). The workload of each individual varies based on the nature of their work and the position they hold in the organization. According to Budiasa (2021), there are two types of workload: actual workload and optimal workload. Actual workload refers to the actual working situation in which employees are employed, and optimal workload refers to the situation that offers maximum work efficiency without excessive fatigue.

The factors affecting workload are classified as either internal or external factors (Adhiati, Palupiningtyas, & Samtono, 2025; Maharani & Budianto, 2019). Internal factors refer to somatic factors such as age, sex, size, nutritional status, and physical health, as well as psychological factors including motivation, perception, beliefs, and job satisfaction. Other external factors include the physical attributes of tasks, mental attributes, and work organization, such as working hours, shifts, and organizational policies.

Mahawati et al. (2021) categorize the measurement approaches to workload correction into three categories: subjective method, performance method, and physiological method. Subjective measurements involve assessing perceptions of the perceived workload. Performance measures examine behavior and the time taken to complete tasks, whereas physiological measurements monitor bodily reactions, such as body movement and fatigue. Despite the extensive studies on the relationship between workload and work stress, as well as workload and productivity, only a few studies have examined the effects of workload on performance as a mediating variable, particularly with the work environment as the subject of the investigations, in the case of public healthcare facilities such as Puskesmas. This study seeks to address this research gap.

2.3. Performance

Performance is also a significant element of human resource management, indicating the degree to which an employee effectively executes their activities and functions to achieve the organization's objectives. According to Hutagalung (2022), performance refers to the outcomes of the performance plan or the product of the work plan, as implemented by all employees within an organization. Ikhsan, Farmia, and Munambar (2022) define performance as the actions or outcomes of individuals or groups within specified limits of authority and responsibility, considering both ethical and legal considerations. In the meantime, Adittya, Andini, and Sa'adah (2021); Daulay, Kurnia, and Maulana (2019) defines performance as the actions or outcomes of individuals or groups within specified limits of authority and responsibility, taking into account both ethical and legal considerations. Other factors affecting performance include leadership style, compensation, organizational culture, motivation, and commitment (Kundori, Fauziningrum, & Sukrisno, 2025).

Positive performance has a positive effect on organizational progress. In the healthcare services sphere, the effectiveness of healthcare workers is directly linked to the effectiveness of public services and patient satisfaction (Kariyamin et al., 2023; Sakaria & Umar, 2025). To objectively evaluate performance, Henrikus, Carcia, and Muda (2025) proposed six primary measures: quality, quantity,

timeliness, cost efficiency, need for supervision, and interpersonal impact. Nevertheless, past research tends to directly evaluate the performance of healthcare workers, ignoring intervening variables such as the work environment, which can enhance or dilute the correlation between workload and performance. Thus, this study endeavors to bridge this gap by examining the mediating role of the working environment.

2.4. Work Environment

A workplace is a significant factor that determines the level of comfort and output of employees (Hulu, Lahagu, & Telaumbanua, 2022; Marlita et al., 2025). A good working atmosphere makes one feel secure and comfortable, enabling employees to perform their best. On the other hand, poor working conditions may reduce motivation and performance (Endarwati, Subiyanto, & Septyarini, 2022). Physical and non-physical environments constitute two important aspects of the work environment (Ramdhona, Rahwana, & Sutrisna, 2022). The physical environment comprises room temperature, lighting, ventilation, cleanliness, and working facilities (Nisa & Wijayanti, 2021). In contrast, the non-physical environment encompasses social relationships in the workplace, communication between superiors and subordinates, and the support of colleagues (Rahman, 2021).

Markus, Hasanah, and Pahlan (2023); Steven and Yanuar (2024) further specified that psychological factors and the employee's well-being are also dimensions of the work environment that affect employee satisfaction and performance. Liu et al. (2022) indicated that a positive work environment can positively impact the quality of services provided to individuals in a healthcare organization. However, research on the explicit investigation of the work environment as a mediator between workload and healthcare worker performance remains limited, particularly in Indonesia (Nugroho, Said, & Said, 2025). Thus, this study offers empirical findings to reinforce the evidence of this relationship in the primary healthcare sector.

2.5. Healthcare Personnel

Healthcare workers are a key component of the healthcare system, playing a strategic role in achieving national health development goals (Riyanto, Fuad, & Chrisjanto, 2023). According to Law Number 17 of 2023 concerning Health, healthcare workers are individuals who dedicate themselves to healthcare services and possess exceptional knowledge and skills in the field of health through formal education and the authority to carry out their professional duties. Pesulima and Hetharie (2020) explain that healthcare workers include all individuals who play a role in promotive, preventive, curative, and rehabilitative efforts.

Meanwhile, medical personnel, as part of the healthcare workforce, are responsible for providing medical services in a professional and ethical manner (Arifin, Pasinringi, & Palu, 2018; Malingkas & Tulusan, 2018). In the context of Community Health Centers (Puskesmas), healthcare workers have a significant responsibility in providing direct services to the community (SyarifSyarif (2024), while also implementing various government health programs. Therefore, a balance between a proportionate workload and supportive work environment is a key factor in maintaining optimal performance and sustainability of healthcare services.

2.6. Hypothesis

Based on the material provided and the existing problems, the hypothesis for this study is presented in Figure 1.



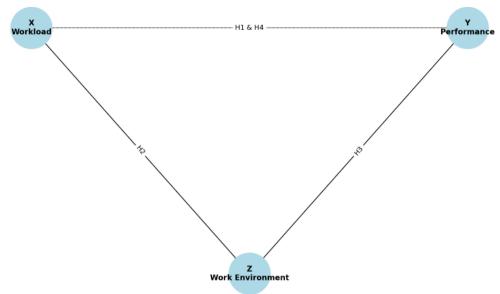


Figure 1. Hypothesis Diagram (Source: Own Elaboration, 2024)

- H1: Workload (X) influences the performance (Y) of healthcare workers at the Batang Gansal Public Health Centre
- H2: Workload (X) influences the work environment (Z) of healthcare workers at the Batang Gansal Public Health Centre
- H3: The work environment (Z) influences the performance (Y) of healthcare workers at the Batang Gansal Public Health Centre
- H4: Workload (X) influences the performance (Y) of healthcare workers through the work environment (Z) at the Batang Gansal Public Health Centre

3. Methodology

3.1. Research Design

This study was conducted at the Batang Gansal Public Health Center (UPTD Puskesmas Batang Gansal), located in the Seberida District, Indragiri Hulu Regency, Riau Province. The selection of this location was based on the consideration that healthcare workers at the community health center have a high variation in workload and diverse working environmental conditions, making it relevant to test the model of relationships between research variables. The research will be conducted from March to August 2024. The population in this study consisted of all healthcare workers at the Batang Gansal Public Health Center, totalling 103 people. Because the population size was relatively small, this study used a saturated sampling technique.

3.2. Types and Sources of Data

The data used consisted of primary and secondary data.

- 1. Primary data were obtained directly from respondents through questionnaires, observations, and interviews with agency leaders.
- 2. Secondary data were obtained from the administrative documents of the Community Health Centre, such as performance reports, personnel data, and service activity records.

The secondary data used covered the period from 2022 to 2024. This time range was selected based on the availability of relevant and up-to-date data. To ensure the reliability of the document data, a cross-verification process was conducted with the relevant authorities, and the content's suitability was analyzed against the research context.

3.3. Data Collection Techniques

Data were collected in three forms:

- 1. Questionnaire, closed statements with a five-point Likert scale.
- 2. Observation to gain direct insight into the working environmental circumstances.
- 3. Agency leaders were interviewed to obtain supporting information about healthcare personnel policies and management.

3.4. Data Analysis Techniques

The analysis of data in the study was performed through quantitative analysis of data with the help of the SmartPLS version 3.0 program, which is officially licensed software created by SmartPLS GmbH. The stages of analysis were as follows: (1) data summary using descriptive statistics (mean, percentage, frequency distribution); (2) conversion of Likert scale data into numerical form to subject to consistent processing; (3) testing of the outer model including convergent, discriminant, and construct validities (loading factor > 0.7; AVE > 0.5); and (4) testing of the inner model to analyze the relationship between variables using path coefficient values, R-square, and t-statistic values (> 1.96, a = 5%). The results of the analysis are provided in the table, graphical, and path diagrams created by SmartPLS 3.0 to facilitate the interpretation of the relationship between the variables. During this phase, the study is supposed to explain the relationship between the workload, work environment, and performance of healthcare workers at the UPTD Puskesmas Batang Gansal accurately and reliably.

4. Results and discussion

4.1. Outer Model

4.1.1. Convergent Validity

Convergent validity applies statistical measures to determine the effectiveness of existing indicators in explaining a dimension. This implies that the higher the convergent validity, the higher the dimension capacity to apply latent variables of that dimension to perform. The reference applied to this convergent validity was an extensive outer loading > 0.70 and a large AVE > 0.5 (Ghoza, 2024). The results of the convergent validity of the research variables are presented in Figure 2.

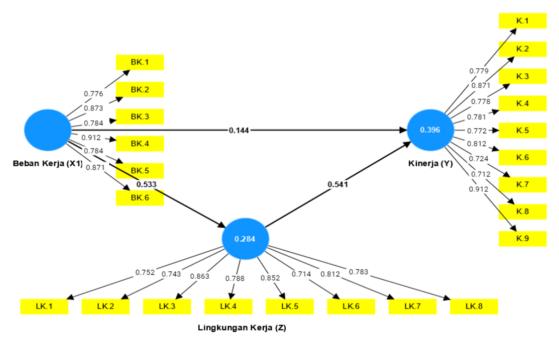


Figure 2. SEM PLS Algorithm (Source: Processed Data, 2024)

The validity of the indicators can be tested through the loading factor value (standardized loading), which indicates the magnitude of the correlation between the indicator and its construct. According to Perkasa and Mulyanto (2023), a loading factor value above 0.70 is ideal because it indicates that the indicator is valid in measuring the construct. However, if a value above 0.50 is still acceptable, a value

below 0.50 should be eliminated from the model. Thus, the item reliability assessment in this study can be seen in the standardized loading column, which is the primary reference for determining the suitability of the indicators. Based on Figure 2, it can be seen that all loading values are above 0.50; therefore, no indicators need to be eliminated. Thus, each indicator was declared valid in representing its respective latent variable, namely workload, work environment, and performance.

After ensuring that the outer loading values for each indicator were valid and acceptable, the AVE values for each variable used in the study were examined. Generally, an AVE value above 0.50 indicates that a construct has good convergent validity. In other words, the latent variable can explain more than half of the variance of its indicators.

Table 1. AVE Value

Variable	Average Variance Extracted (AVE)	Description
Workload (X)	0.673	Valid
Performance (Y)	0.781	Valid
Work Environment (Z)	0.822	Valid

Source: Processed Data, 2024

Based on Table 1, the AVE values for workload, performance is 0.781, and work environment were 0.673, 0.781, and 0.822, respectively. All of these AVE values were above 0.50, so the construct was considered to have good convergent validity. This indicates that the latent variable can explain, on average, more than half of the variance of the indicators that comprise it.

4.1.2. Discriminant Validity

Good discriminant validity requires a higher correlation between an indicator and the construct being measured than that measured among indicators of different constructs (Rezeki, Pasaribu, & Bahri, 2023). The following presents the discriminant validity values for each of the indicators.

Table 2. Outer Loading Result

Indicator	Workload	Performance	Work Environment
BK.1	0.776		
BK.2	0.873		
BK.3	0.784		
BK.4	0.912		
BK5	0.784		
BK.6	0.871		
K.1		0.779	
K.2		0.871	
K.3		0.778	
K.4		0.781	
K.5		0.772	
K.6		0.812	
K.7		0.724	
K.8		0.712	
K.9		0.912	
LK.1			0.752
LK.2			0.743
LK.3			0.863
LK.4			0.788
LK.5			0.852
LK.6			0.714
LK.7			0.812
LK.8			0.783

Source: Processed Data, 2024

Based on Table 2, the discriminant validity or loading factor values for each variable showed a higher correlation with its own variable than with other variables. The same is evident in the indicators of each variable. This finding indicates that the placement of indicators for each variable was correct.

4.1.3. Composite Reliability

Table 3. Cronbach's Alpha and Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability	Description
Workload (X)	0.700	0.737	Valid
Performance (Y)	0.818	0.807	Valid
Work Environment (Z)	0.755	0.854	Valid

Source: Processed Data, 2024

Based on Table 3, the composite reliability values for workload, performance is 0.807, and work environment were 0.737, 0.807, and 0.854, respectively. These three latent variables also had Cronbach's alpha values above 0.60, so it can be concluded that all factors have good reliability and are suitable for use as a measurement tool.

4.2. Inner Model

4.2.1. Model Goodness of Fit

The goodness of fit (GoF) test is a unique measurement that evaluates the total usefulness of the measurement and structural models. Based on the criteria proposed by Rezeki et al. (2023), the GoF values are interpreted as follows: 0.10 (small GoF), 0.25 (moderate GoF), and 0.36 (large GoF). The higher the GoF value, the more suitable the model is for the data. Table 4 presents the results of the goodness-of-fit calculation for the model.

Table 4. Goodness of Fit Test Result

Variable	AVE	R Square
Workload (X)	0.673	
Performance (Y)	0.781	0.773
Work Environment (Z)	0.822	0.795
Average	0.759	0.784
GOF	0	.771

Source: Processed Data, 2024

The higher the GoF value, the better is the model. The GoF value in this study was 0.771, which is considered large. This means that the measurement model using a structural model is suitable or valid.

4.2.2. Testing the Coefficient of Determination (R Square)

R-squared is a measure of the proportion of variation in the endogenous variable that can be explained by the exogenous variables. This measure is helpful in assessing the quality of the model, whether it is good or poor. According to Yamin (2023), an R-squared value of 0.75 indicates a substantial (good) model, 0.50 indicates a moderate (average) model, and 0.25 indicates a weak (poor) model. Based on the data processing results using SmartPLS 3.0, the R-squared values shown in Table 5 were obtained.

Table 5. R Square Test Result

Variable		R Square	
	Performance	0.773	
	Work Environment	0.795	

Source: Processed Data, 2024

Based on Table 5, the influence of X and Z on Y with an R-squared value of 0.773 indicates that 77.3% of the variation in Y's value can be explained by variables X and Z. Furthermore, testing the influence of X on Z with an R-squared value of 0.795 shows that the variation in X's value can explain 79.5% of

the variation in Z's value, or it can be said that the model is substantial or reasonable, and other variables influence 20.5% of the variation.

4.3. Hypothesis Testing

In a complete model SEM, the analysis serves not only to test the fit of the theory but also to explain the presence or absence of relationships between the latent variables. Hypothesis testing was performed by analyzing the Path Coefficient values in the inner model assessment. A hypothesis is deemed accepted if the T-statistic exceeds the T-table value of 1.96 at a significance threshold of 5% (α = 0.05). Consequently, if the T-statistic for each hypothesis surpasses the T-table value, the hypothesis may be accepted or validated (Ghoza, 2024). The results of the hypothesis test, including the direct and indirect effects of each variable, are presented in Table 6.

Table 6. Path Coefficients

Path	Original	Sample Mean	Standard Deviation	T Statistics	P
Analysis	Sample (O)	(M)	(STDEV)	(O/STDEV)	Values
X -> Y	0.144	0.151	0.086	1.674	0.000
$X \rightarrow Z$	0.533	0.560	0.064	8.306	0.000
$Z \rightarrow Y$	0.541	0.553	0.073	7.358	0.000
$X \rightarrow Y \rightarrow Z$	0.298	0.316	0.050	5.979	0.000

Source: Processed Data, 2024

The results of the hypothesis tests for the research variables can be summarized as follows (Table 6):

- 1. The t-statistic value for workload on performance is 1.674 < 1.96, the P-value is 0.000 < 0.05, and the original sample is 0.144. Therefore, based on the research findings, the hypothesis stating that workload affects the performance of healthcare workers at the UPTD Puskesmas Batang Gansal is **rejected** because the t-statistic value does not align with the rule-of-thumb.
- 2. The t-statistic value for workload on the work environment was 8.306 < 1.96, the P-value was 0.000 < 0.05, and the original sample size was 0.533. Therefore, based on the research findings, the hypothesis that workload affects the work environment of healthcare workers at the Batang Gansal Public Health Centre can be **accepted**.
- 3. The t-statistic value for the work environment on performance is 7.358 < 1.96, the P-value is 0.000 < 0.05, and the original sample size is 0.541. Therefore, based on the research findings, the hypothesis that the work environment influences the performance of healthcare workers at UPTD Puskesmas Batang Gansal can be **accepted**.
- 4. From the analysis results, it is known that the t-statistic value is 5.979 > 1.96 and the P-value is 0.000 < 0.05, and the original sample of 0.298. Based on these results, the hypothesis that workload through the work environment has a positive and significant effect on the performance of health workers at the Batang Gansal Community Health Centre UPTD can be **accepted**.

4.3.1. The Effect of Workload on Performance

The research report found that there was no direct effect of workload on the performance of healthcare workers at UPTD Puskesmas Batang Gansal. This observation suggests that workload, or the lack thereof, is not always a determinant of work outcomes (quality of work) among healthcare workers. This condition can be achieved, considering that other stronger factors, such as motivation, competence, managerial support, and the quality of the working environment, are also influential. This finding is similar to that described by Nabila and Syarvina (2022) and Sitompul and Simamora (2021), who also concluded that workload is not necessarily a performance determinant, as people can adapt and effectively arrange their workload. The level of physical and mental resilience, as well as the availability of positive social and cultural organizational support, might also explain such results. In theory, such findings contribute to the belief that workload can impact performance only when it is achieved with sufficient workplace support and intrinsic drive.

4.3.2. The Effect of Workload on Work Environment

The given workload had a significant impact on the work environment, as revealed in this study. The more workload healthcare professionals encounter, the more pressure they experience, both physically

and psychologically, which may eventually impact their perception of working conditions in their environment. This finding aligns with the study by Ekowati, Supriyanto, Fatmawati, Mukaffi, and Setiani (2021), which concluded that workload growth is directly linked to a reduction in comfort and satisfaction with the work environment. This is because the workload may be heavy, resulting in stress, fatigue, and low morale, which in turn, affects the overall work environment. Nevertheless, these results also suggest that not only does workload impact perceptions of the work environment, but also psychological, social, and physical factors, including the relationships among employees, the functioning of reward systems, and the state of the working facilities. Therefore, work expansion and contraction in a conducive and productive working environment are significant concepts.

4.3.3. The Impact of On-the-job Environment on Performance

The environment has been identified as playing a significant role in the performance of healthcare workers at Batang Gansal UPTD Puskesmas. This observation demonstrates that the comfort and safety of working conditions are directly linked to the rise in motivation, initiative, and productivity of healthcare workers. This finding aligns with the studies by Marbun and Jufrizen (2022) and Rahmadani and Sampeliling (2023), which established that a good working environment can foster a positive work environment, enhance social relationships among employees, and improve morale. Once healthcare workers feel valued and established, they become more result-oriented, efficient, and focused. Thus, growth in performance should be possible not only through supervision and training but also through the provision of a physically, socially, and psychologically friendly working environment.

4.3.4. The Workload and Performance Effect on the Work Environment

The research findings also suggest that the work environment is another mediating variable between workload and healthcare workers' performance. This implies that workload does not necessarily reduce or lead to an increase in performance, but that the working environmental conditions mediate this impact. This observation aligns with the Job Demands-Resources (JD-R) Model, which proposes that work demands, such as workload, and the lack of work resources can negatively impact performance unless there is an equal balance between the two. In this regard, a conducive physical and social working environment serves as a buffer, reducing the adverse effects of workload and even turning it into a source of achievement motivation. The practical implications of this discovery include introducing a balanced workload through the establishment of teamwork and a relaxed workplace environment, thereby maintaining productivity. Additionally, the findings contribute to the theoretical foundation of the relationship between workload factors and performance, as they confirm the relevance of work environment aspects as a primary mediating factor.

5. Conclusions

5.1. Conclusion

This study proves that there is no direct relationship between the workload and performance of healthcare employees in the UPTD Puskesmas Batang Gansal. Nonetheless, indirect work affects performance through the work environment. The work environment is highly significant in enhancing performance and is a mediating variable between workload and performance. This observation suggests that a higher workload is not necessarily related to worse performance, as long as healthcare workers are in a safe, comfortable, and supportive environment that fosters collaboration. Therefore, in human resource management within the healthcare sector, not only workload management requires attention, but also the establishment of a positive work environment. However, the implementation of such research findings must be carried out selectively, as the conditions of every healthcare facility may vary based on the work culture, organizational structure, and the nature of the healthcare personnel within the particular facility.

5.2. Limitations

The limitation of this research lies in its scope, which focuses only on healthcare workers at the UPTD Puskesmas Batang Gansal. Therefore, the research results cannot yet be generalized to all healthcare institutions with varying characteristics. Additionally, the data used were cross-sectional and obtained through questionnaires. This means that they cannot capture changes in conditions over time and are potentially influenced by respondent subjectivity.

5.3. Suggestions

It is recommended that the management of UPTD Puskesmas Batang Gansal maintain workload proportionality through fair task distribution, balanced scheduling, and appropriate job rotation. Additionally, it is hoped that the quality of the work environment will be improved both physically through facility improvements, spatial arrangements, and lighting, and socially through effective communication and harmonious working relationships. Stress management and the development of teamwork skills are crucial for healthcare professionals to effectively manage their workload. For future research, it is recommended that studies be conducted with a broader scope and using a longitudinal approach to obtain a more comprehensive understanding of the dynamics of workload, work environment, and healthcare worker performance over time.

Acknowledgment

The author expresses gratitude to their family and the lecturers from the Doctor of Management program at Riau University and Riau Islamic University for their assistance with this research. We extend our gratitude to the reviewers for their valuable feedback.

References

- Abdurrahim, B. (2022). Faktor-faktor yang Mempengaruhi Kinerja Karyawan Produksi Produsen Herbal. Politeknik Pembangunan Pertanian Yogyakarta Magelang, Magelang. Retrieved from http://repository.pertanianpolbangtanyoma.ac.id/id/eprint/368
- Adhiati, C. S., Palupiningtyas, D., & Samtono, S. (2025). Generation Z Work-life Preferences: Organizational, Social, and Arrangement Effects. *Annals of Human Resource Management Research*, 5(3), 227-239. doi:https://doi.org/10.35912/ahrmr.v5i3.3342
- Adittya, A., Andini, L., & Sa'adah, L. (2021). Pengaruh Kompetensi dan Motivasi terhadap Kinerja dengan Pengembangan Karier sebagai Variabel Mediasi (Studi Kasus Pada Badan Keuangan Daerah Kabupaten Pasuruan). *JMK (Jurnal Manajemen dan Kewirausahaan)*, 6(1), 42-59. doi:https://doi.org/10.32503/jmk.v6i1.1214
- Albugis, A. R. P. (2018). Pengaruh Motivasi, Kompetensi dan Kompensasi Terhadap Kinerja Karyawan di Perusahaan Pupuk Organik (Studi Kasus di PT. Sam). Universitas Brawijaya, Malang. Retrieved from https://repository.ub.ac.id/id/eprint/13726
- Anita, B., & Febriawati, H. (2019). *Puskesmas dan Jaminan Kesehatan Nasional*. Yogyakarta: Penerbit Deepublish.
- Arifin, N. F., Pasinringi, S. A., & Palu, B. (2018). Kepuasan Kerja Tenaga Medis pada Era Jaminan Kesehatan Nasional. *Media Kesehatan Masyarakat Indonesia*, 14(2), 190-200. doi:https://doi.org/10.30597/mkmi.v14i2.4531
- Artamevia, A., Surya, D., Fiti, T. K., & Kusumaningrum, H. (2025). Pengembangan SDM Berkualitas: Kunci Sukses Institusi Pendidikan. *Harmoni Pendidikan: Jurnal Ilmu Pendidikan, 2*(1), 1-11. doi:https://doi.org/10.62383/hardik.v2i1.893
- Budiasa, I. K. (2021). Beban Kerja dan Kinerja Sumber Daya Manusia. Jawa Tengah: CV. Pena Persada.
- Candrianto, Ningsih, R., Satrianto, A., & Lubis, R. F. (2020). Analisis Beban Kerja dan Jumlah Tenaga Kerja pada Bagian Bahan Baku Menggunakan Metode Workload Analysis. *INVENTORY: Industrial Vocational E-Journal On Agroindustry, I*(1), 36-43. doi:https://doi.org/10.52759/inventory.v1i1.21
- Chaerudin, A., Rani, I. H., & Alicia, V. (2020). Sumber Daya Manusia: Pilar Utama Kegiatan Operasional Organisasi. Jawa Barat: CV Jejak.
- Daulay, R., Kurnia, E., & Maulana, I. (2019). Analisis Faktor-Faktor yang Mempengaruhi Kinerja Karyawan pada Perusahaan Daerah di Kota Medan. *Prosiding Seminar Nasional Kewirausahaan*, *I*(1), 209-218. doi:https://doi.org/10.30596/snk.v1i1.3612
- Ekowati, V. M., Supriyanto, A. S., Fatmawati, Y. D., Mukaffi, Z., & Setiani, S. (2021). An Empirical Effect of Workloads on Employee Satisfaction: Mediating by Work Environment. *Journal of Southwest Jiaotong University*, 56(1), 154-163. doi:https://doi.org/10.35741/issn.0258-2724.56.1.14
- Endarwati, W. D., Subiyanto, E. D., & Septyarini, E. (2022). Pengaruh Gaya Kepemimpinan, Lingkungan Kerja dan Kepuasan Kerja Terhadap Perilaku Inovatif Pegawai SMK Nasional

- Berbah. *J-MACC: journal of Management and Accounting*, 5(2), 15-28. doi:https://doi.org/10.52166/j-macc.v5i2.3474
- Ernawati, Isnaini, R. G., Ramadhany, Y., Ardiansyah, Kasun, B. L. R., & Sarman. (2025). Pengaruh Lingkungan Kerja Fisik dan Lingkungan Kerja Non Fisik Terhadap Kinerja Asn di BKPSDM Kabupaten Paser. *Jurnal Analisis dan Manajemen Strategis*, 6(3), 33-45.
- Febrian, W. D. (2025). Boosting Travel Agency Efficiency: A Holistic Approach. *Annals of Human Resource Management Research*, 5(1), 91-104. doi:https://doi.org/10.35912/ahrmr.v5i1.2792
- Ghoza, H. A. A. (2024). Strategi Peningkatan Kinerja Karyawan pada Salah Satu Produsen Obat Herbal di Magelang. Politeknik Pembangunan Pertanian Yogyakarta Magelang, Magelang. Retrieved from http://repository.pertanianpolbangtanyoma.ac.id/id/eprint/882
- Henrikus, Y., Carcia, M. S. M., & Muda, V. A. (2025). The Effect of Workload and Work Stress on Employee Per-formance at the Regional Revenue Agency of Sikka Regency. *Proceeding of the International Conference on Management, Entrepreneurship, and Business, 2*(1), 1-6. doi:https://doi.org/10.61132/icmeb.v2i1.161
- Hulu, D., Lahagu, A., & Telaumbanua, E. (2022). Analisis Lingkungan Kerja dalam Meningkatkan Produktivitas Kerja Pegawai Kantor Kecamatan Botomuzoi Kabupaten Nias. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi, 10*(4), 1480-1496. doi:https://doi.org/10.35794/emba.v10i4.43971
- Hutagalung, B. A. (2022). Analisa Faktor–Faktor yang Mempengaruhi Kinerja Pegawai: Kompetensi, Motivasi dan Lingkungan Kerja (Penelitian Literature Review Manajemen Sumber Daya Manusia). *Jurnal Manajemen Pendidikan dan Ilmu Sosial*, 3(1), 201-210. doi:https://doi.org/10.38035/jmpis.v3i1.866
- Ikhsan, M. F., Farmia, A., & Munambar, S. (2022). Pengaruh Reward dan Punishment Terhadap Kinerja Karyawan PT X. *Jurnal Agristan*, 4(2), 104-113. doi:https://doi.org/10.37058/agristan.v4i2.5495
- Kariyamin, Hamzah, N., & Lantara, N. (2023). Pengaruh Motivasi, Kompetensi, dan Lingkungan Kerja terhadap Kinerja Pegawai. *Tata Kelola*, 10(1), 25-34. doi:https://doi.org/10.52103/jtk.v10i1.65
- Karundeng, A., Lapian, S. J., & Uhing, Y. (2024). Pengaruh Stress Kerja, Beban Kerja dan Lingkungan Kerja Terhadap Efektivitas Kerja Karyawan pada PT. Clanthy Mitra Gas Bitung. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi, 12*(2), 12-22. doi:https://doi.org/10.35794/emba.v12i2.55110
- Kundori, Fauziningrum, E., & Sukrisno. (2025). Physical and Social Environment as Predictors of Job Satisfaction for Seafarers: an Empirical Study of the Shipping Industry in Indonesia. *Annals of Human Resource Management Research*, 5(3), 95-108. doi:https://doi.org/10.35912/ahrmr.v5i3.3156
- Liu, D., Yang, X., Zhang, C., Zhang, W., Tang, Q., Xie, Y., & Shi, L. (2022). Impact of Job Satisfaction and Social Support on Job Performance Among Primary Care Providers in Northeast China: A Cross-Sectional Study. *Frontiers in Public Health*, 10, 1-10. doi:https://doi.org/10.3389/fpubh.2022.884955
- Lutfiana, A., Lestari, I. S., Annisa, K., Puspita, R., & Rasyid, Y. (2024). Strategi Pusat Kesehatan Masyarakat (Puskesmas) Kecamatan Cilandak dalam Meningkatkan Akreditasi ke Tingkat Paripurna. *Pentahelix*, 2(2), 217-227. doi:https://doi.org/10.24853/penta.1.1.1-14
- Maharani, R., & Budianto, A. (2019). Pengaruh Beban Kerja Terhadap Stres Kerja dan Kinerja Perawat Rawat Inap Dalam. *Journal of management Review, 3*(2), 327-332.
- Mahawati, E., Yuniwati, I., Ferinia, R., Rahayu, P. F., Fani, T., Sari, A. P., . . . Mayasari, I. (2021). Analisis Beban Kerja dan Produktivitas Kerja. Medan: Yayasan Kita Menulis.
- Malingkas, V., & Tulusan, F. (2018). Pengaruh Kualitas Tenaga Medis Terhadap Pelayanan Kesehatan (Di Puskesmas Kecamatan Ratahan Kabupaten Minahasa Tenggara). *Jurnal Administrasi Publik*, 4(65), 10-17.
- Marbun, H. S., & Jufrizen, J. (2022). Peran Mediasi Kepuasan Kerja pada Pengaruh Dukungan Organisasi dan Lingkungan Kerja Terhadap Kinerja Pegawai pada Kantor Dinas Ketahanan Pangan dan Peternakan Provinsi Sumatera Utara. *Jesya (Jurnal Ekonomi Dan Ekonomi Syariah)*, 5(1), 262-278. doi:https://doi.org/10.36778/jesya.v5i1.617

- Markus, Hasanah, T., & Pahlan, M. (2023). Disiplin Kerja, Motivasi Kerja, dan Lingkungan Kerja Terhadap Produktivitas Kerja Pegawai. *Journal of Management and Bussines (JOMB)*, 5(1), 741-749. doi:https://doi.org/10.31539/jomb.v5i1.6060
- Marlita, D., Lesmini, L., Handayani, S., Indriyati, I., Soekirman, A., Saribanon, E., & Sihombing, S. (2025). Analysis of Factors Affecting Employee Turnover with Career Path as an Intervening Variable. *Annals of Human Resource Management Research*, 5(3), 209-225. doi:https://doi.org/10.35912/ahrmr.v5i3.3197
- Nabila, V. S., & Syarvina, W. (2022). Analisis Pengaruh Beban Kerja Terhadap Kinerja Karyawan PT. Perkebunan Nusantara IV Medan. *Jurnal Kewarganegaraan*, 6(2), 2788-2797. doi:https://doi.org/10.31316/jk.v6i2.3133
- Nisa, A. I., & Wijayanti, Y. K. (2021). Pengaruh Kompensasi, Motivasi dan Lingkungan Kerja Terhadap Kinerja Karyawan CV. Boen Interior Surabaya. *Jurnal Eksekutif*, 18(2), 75-86. doi:https://doi.org/10.60031/jeksekutif.v18i2.285
- Nugroho, S. H., Said, M., & Said, L. R. (2025). The Effect of Work Environment, Compensation, Career Development, Leadership, and Workload on Job Satisfaction with Work Motivation as an Intervening Variable. *Annals of Human Resource Management Research*, 5(3), 13-35. doi:https://doi.org/10.35912/ahrmr.v5i3.2826
- Nusantoro, E. (2020). Optimalisasi Pemberdayaan Sumber Daya Manusia dalam Lingkungan Bekerja. *Edukasi, 14*(1), 1-12. doi:https://doi.org/10.15294/edukasi.v14i1.965
- Perkasa, D. H., & Mulyanto, H. (2023). Pengaruh Beban Kerja, Gaya Kepemimpinan dan Kedisplinan Terhadap Kinerja Guru *Revenue: Lentera Bisnis Manajemen, 1*(4), 149-161. doi:https://doi.org/10.59422/lbm.v1i04.85
- Pesulima, T. L., & Hetharie, Y. (2020). Perlindungan Hukum Terhadap Keselamatan Kerja Bagi Tenaga Kesehatan Akibat Pandemi Covid-19. *SASI*, 26(2), 280-285. doi:https://doi.org/10.47268/sasi.v26i2.307
- Pramesthi, R. A. J., Hartati, A. S., & Rahatmawati, I. (2020). Pengaruh Beban Kerja Dan Kompetensi Terhadap Kinerja Pegawai Yang Dimediasi Oleh Stres Kerja (Studi Pada Pegawai Negeri Sipil Dinas Koperasi Usaha Kecil Dan Menengah Provinsi Daerah Istimewa Yogyakarta). *Jembatan: Jurnal Ilmiah Manajemen, 17*(1), 47-60. doi:https://doi.org/10.29259/jmbt.v17i1.10910
- Prayetno, S., Permadi, H., & Sarikusumaningtyas, W. (2022). Pengaruh Kompetensi Terhadap Kinerja Superior Advokat pada Kantor Hukum. *Media Bina Ilmiah*, 17(3), 537-548. doi:https://doi.org/10.33578/mbi.v17i3.162
- Prayuda, R. Z., Praditya, R. A., & Purwanto, A. (2025). Penerapan Lingkungan Kerja dan Kepuasan Kerja Terhadap Kinerja Organisasi. *PROFESOR: Professional Education Studies and Operations Research*, 2(2), 10-19. doi:https://doi.org/10.7777/vcg5xm67
- Rahmadani, F., & Sampeliling, A. (2023). Pengaruh Lingkungan Kerja dan Kepuasan Kerja terhadap Kinerja Karyawan. *Kinerja: Jurnal Ekonomi dan Manajemen, 20*(1), 77-86. doi:https://doi.org/https://doi.org/10.30872/jkin.v20i1.12872
- Rahman, A. (2021). Pengaruh Lingkungan Kerja dan Disiplin Kerja Terhadap Kinerja Pegawai di Dinas Kependudukan dan Pencatatan Sipil Kabupaten Pandeglang. *ATRABIS Jurnal Administrasi Bisnis (e-Journal)*, 7(1), 52-60. doi:https://doi.org/10.38204/atrabis.v7i1.582
- Ramdhona, T. S., Rahwana, K. A., & Sutrisna, A. (2022). Pengaruh Lingkungan Kerja dan Motivasi Kerja Terhadap Disiplin Kerja Guru. *Jurnal Valuasi: Jurnal Ilmiah Ilmu Manajemen dan Kewirausahaan*, 2(2), 891-914. doi:https://doi.org/10.46306/vls.v2i2.119
- Rezeki, D. S., Pasaribu, S. E., & Bahri, S. (2023). Peran Mediasi Stres Kerja pada Pengaruh Beban Kerja dan Lingkungan Kerja Terhadap Kinerja Perawat di Ruang Perawatan Pasien Covid-19 RSUD Dr. Pirngadi Medan. *Jesya (Jurnal Ekonomi dan Ekonomi Syariah)*, 6(1), 328-345. doi:https://doi.org/10.36778/jesya.v6i1.920
- Riyanto, O. S., Fuad, & Chrisjanto, E. (2023). Pelayanan Kesehatan yang Berkeadilan: Peran Tenaga Kesehatan dalam Menjamin Hak Setiap Pasien. *Juris Humanity: Jurnal Riset dan Kajian Hukum Hak Asasi Manusia*, 2(2), 77-87. doi:https://doi.org/10.37631/jrkhm.v2i2.30
- Sakaria, M., & Umar, M. (2025). The Effect of Compensation, Discipline and Work Environment on the Performance of State Civil Apparatus (ASN) of the Transportation Service of Parigi Moutong Regency. *Annals of Human Resource Management Research*, 5(1), 209-222. doi:https://doi.org/10.35912/ahrmr.v5i1.3514

- Septiana, & Widjaja, O. H. (2020). Faktor-Faktor yang Mempengaruhi Kinerja Karyawan pada PT. Jocelyn Anugrah Jaya. *Jurnal Manajerial dan Kewirausahaan*, 2(3), 643-652. doi:https://doi.org/10.24912/jmk.v2i3.9576
- Siswanto, H. T., Ridwan, M., & Ayu, I. W. (2022). Manajemen Sumberdaya Manusia Berkelanjutan dalam Organisasi. *Jurnal Riset Kajian Teknologi dan Lingkungan*, *5*(2), 96-105. doi:https://doi.org/10.58406/jrktl.v5i2.1264
- Sitompul, S. S., & Simamora, F. (2021). Pengaruh Beban Kerja, Pengalaman Kerja, dan Kompensasi Terhadap Kinerja Karyawan PT. Tannery Sejahtera Mandiri Pekanbaru. *Management Studies and Entrepreneurship Journal (MSEJ)*, 2(2), 142-153. doi:https://doi.org/10.37385/msej.v2i2.213
- Steven, & Yanuar. (2024). Faktor-Faktor yang Mempengaruhi Kinerja Karyawan dengan Kepuasan Kerja sebagai Variabel Mediasi. *Jurnal Manajerial dan Kewirausahaan*, 6(2), 478-493. doi:https://doi.org/10.24912/jmk.v6i2.29852
- Sugianto, S., Rokhaminawanti, E., & Purwanda, E. (2025). Superior Human Resource Management With Creativity and Innovation. *Jurnal Online Manajemen ELPEI*, 5(1), 1223-1228. doi:https://doi.org/10.58191/jomel.v5i1.297
- Syarif, A. (2024). The Influence of Adversity Quotient on Nurses' Job Performance During the COVID-19 Pandemic AT Batam City Health Centers. *Annals of Human Resource Management Research*, 4(2), 213-224. doi:https://doi.org/10.35912/ahrmr.v4i2.3248
- Yamin, S. (2023). Olah Data Statistik SMARTPLS 3 SMARTPLS 4 AMOS & STATA (Mudah & Praktis) Edisi III. Bekasi: PT Dewangga Energi Internasional.