

The Effect of Employee Engagement and Work Environment on Teacher Performance with Job Satisfaction as an Intervening Variable

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Abstract

This study aims to analyze the influence of employee involvement and the work environment on teacher performance, with job satisfaction serving as an intervening variable, in Muhammadiyah Schools in Banda Aceh and Aceh Besar. The research employs a quantitative method using the SEM-PLS approach. A total of 240 respondents participated in the study. The results indicate that employee involvement has a positive and significant impact on both job satisfaction and teacher performance. Additionally, the work environment has been shown to have a positive and significant effect on teacher performance. Furthermore, job satisfaction acts as a mediating variable that strengthens the influence of employee involvement and the work environment on teacher performance. These findings have important implications for school management, suggesting that improving the quality of the work environment and encouraging active teacher participation in organizational activities can serve as effective strategies to enhance educational performance

Keywords: Financial Sustainability, Dependence, Expenditure, Investment, Reserve Funds

Introduction

The competence and professionalism of educators are directly correlated with students' learning abilities, making teacher performance a crucial indicator of educational excellence. The Teacher Competency Test (UKG) in Indonesia revealed that the majority of educators failed to meet the required standards from 2012 to 2015. This highlights the nationally inadequate quality of teacher performance (Firdausi, 2021). Such conditions significantly impact students' learning effectiveness and academic development (Widiawati, 2020).

Educator involvement in extracurricular activities significantly influences student success. There is a clear relationship between instructors' level of involvement and their commitment and enthusiasm in fulfilling their responsibilities. Increased productivity is a direct result of engaged employees, as demonstrated by research conducted by Samud (2021). Furthermore, a supportive work environment is essential for fostering instructors' comfort, creativity, and productivity (Siagian, 2014; Ardhianti, 2020).

Job satisfaction at work is another important factor. Narsih (2017) stated that instructors who feel satisfied with their work tend to exhibit strong motivation and a sustained desire to improve their performance. Suardi's research (2020) demonstrates that job satisfaction has a significant impact on employee performance.

The past three years (2021–2023) have shown an alarming increase in teacher turnover at Muhammadiyah schools in Aceh Besar and Banda Aceh. This trend suggests potential issues related to

teacher engagement, workplace conditions, and overall job satisfaction. The graph below illustrates this pattern:

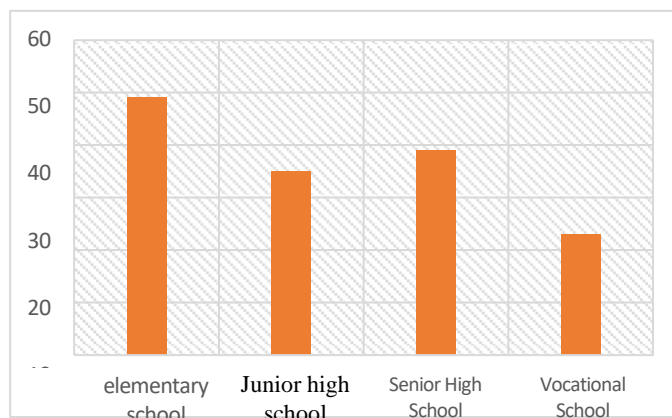


Figure 1.1 Teacher Turnover Rate in Muhammadiyah Schools in Banda Aceh and Aceh Besar

The graph above illustrates the significant teacher turnover rates in Muhammadiyah schools in Banda Aceh and Aceh Besar from 2021 to 2023. Factors such as teacher engagement, work environment, and job satisfaction may contribute to this issue. Therefore, researchers in Banda Aceh and Aceh Besar aimed to examine "The Impact of Employee Engagement and Work Environment on Teacher Performance, with Job Satisfaction as a Mediating Variable.

Literature Review

A teacher's performance reflects the culmination of their efforts to fulfill their duties and meet professional standards in the classroom (Mukhtar, 2009; Rusman, 2013). Various factors, such as principal supervision, motivation, work environment, and socioeconomic status, influence this performance. Supardi (2014) identified the following competencies as key performance indicators: the ability to organize and conduct learning activities, the capacity to foster interpersonal relationships, proficiency in assessment, and competence in managing enrichment and remedial programs. Additionally, performance standards encompass professional, social, educational, and personality competencies.

Robbins (2007) and Zainal (2014) define job satisfaction as the extent to which an individual derives pleasure and motivation from their work. This level of job satisfaction is influenced by factors such as fairness, alignment of expectations, and the presence or absence of incentives and challenges. These factors include opportunities for growth, job stability, quality of supervision, work environment, quality of social interactions, and accessibility of facilities (As'ad, 2004). Employee job satisfaction depends on several aspects, including supervisors, compensation, opportunities for growth, and relationships with coworkers.

Engaged employees exhibit enthusiasm, dedication, and full involvement in their work (Schaufeli & Bakker, 2004). Active participation, commitment to organizational goals, and wholehearted dedication are the hallmarks of engagement. Alongside other factors such as development potential, exceptional support, and clarity of work, the primary indicators of engagement are energy, dedication, and absorption.

The physical environment, along with the social and psychological factors that employees encounter in the workplace, can significantly impact their well-being and productivity (Saputri, 2022; Hello, 2022). The non-physical work environment encompasses aspects such as positive interpersonal interactions, social support, and effective communication, while the physical environment includes elements such as lighting, temperature, noise, safety, and facilities (Sedarmayanti, 2018). Indicators of the work environment include climate, lighting, team morale, job security, and interpersonal relationships.

Method

The research team in this quantitative study conducted a survey of instructors from Muhammadiyah schools in Aceh Besar and Banda Aceh. The data analysis strategy employed Structural Equation Modeling with Partial Least Squares (SEM-PLS) to test the correlations. The study used saturated sampling to collect data from the entire population based on a predetermined sample size:

Table 1. Research Sample

Yes	School Name	Number of Teachers
1	Muhammadiyah Elementary School 1	19
2	Muhammadiyah Elementary School 2	6
3	Muhammadiyah Junior High School	14
4	Muhammadiyah High School 1	20
5	Muhammadiyah Vocational School	23
6	Mts Baitul Arqam	10
7	MA Baitul Arqam	10
Total		102

The analysis method selected for this study is PLS-SEM. PLS-SEM is particularly advantageous for models involving multiple independent and dependent variables and is effective with small sample sizes. The two fundamental components of PLS-SEM are the measurement model and the structural model. The measurement model evaluates the relationships between observed indicators and latent variables, while the structural model examines the relationships among latent variables (Musyaffi, 2021; Jogiyanto, 2007).

This study employs PLS-SEM as the analytical technique. PLS-SEM is effective for models with multiple independent and dependent variables and performs well with small sample sizes. The two fundamental components of PLS-SEM are the measurement model and the structural model. Measurement models assess the relationships between observed indicators and latent variables, while structural models examine the relationships among latent variables.

To ensure the accuracy of the indicators, we conducted validity and reliability assessments on the external model. Discriminant validity was evaluated using cross-loadings and the Heterotrait-Monotrait ratio (HTMT), with a threshold of less than 0.90. Convergent validity was assessed based on factor loadings greater than 0.70 and an Average Variance Extracted (AVE) exceeding 0.50. Reliability was tested using Composite Reliability and Cronbach's Alpha, both with a minimum acceptable value of 0.70.

Various model fit measures are used to assess internal models. This analysis includes the Variance Inflation Factor (VIF) to evaluate multicollinearity, R^2 to measure the explanatory power of endogenous variables, Q^2 to assess the model's predictive ability, and effect size (f^2) to quantify the impact of independent variables on dependent variables. Additionally, we used PLS Predict to compare the predictive performance of PLS models with that of linear regression models.

To ensure the model's adequacy, we look for SRMR values below 0.10 and NFI values close to 1. Additionally, t-statistics and p-values were used for hypothesis testing, adhering to the significance criteria of $t > 1.96$ and $p < 0.05$. We tested our hypotheses by analyzing both direct and indirect influences between factors, including mediating variables.

Results

In Banda Aceh and Aceh Besar, 102 educators from Muhammadiyah schools participated in this survey. Men comprised 19.6% of the sample, while women accounted for 80.4%. Among the respondents, 62.7%

were aged 21–30 years, and 30.4% were aged 31–40 years. The majority of respondents hold a bachelor's degree (91.2%), while 8.8% possess a master's or doctoral degree, representing their highest level of education. Most instructors (73.5%) have 1–5 years of experience, with others having 6–10 years or more. The longest tenure exceeds 21 years.

A summary of each research variable was derived from the data description. The Teacher Performance variable recorded an impressive average score of 4.5, with the highest rating attributed to the ability to convey material clearly. The Job Satisfaction variable had an average score of 4.1, with the highest score related to pride in being a teacher. The Employee Engagement category received an average score of 4.3, with work intensity achieving the highest rating. The Work Environment variable earned an average score of 4.4, largely supported by positive feedback from superiors.

The majority of indicators in the areas of employee engagement, work environment, job satisfaction, and teacher performance met the AVE criterion of >0.50 and exhibited a factor loading value of >0.70, based on convergent validity assessments. However, during the subsequent model development, it became evident that some indicators remained below the threshold.

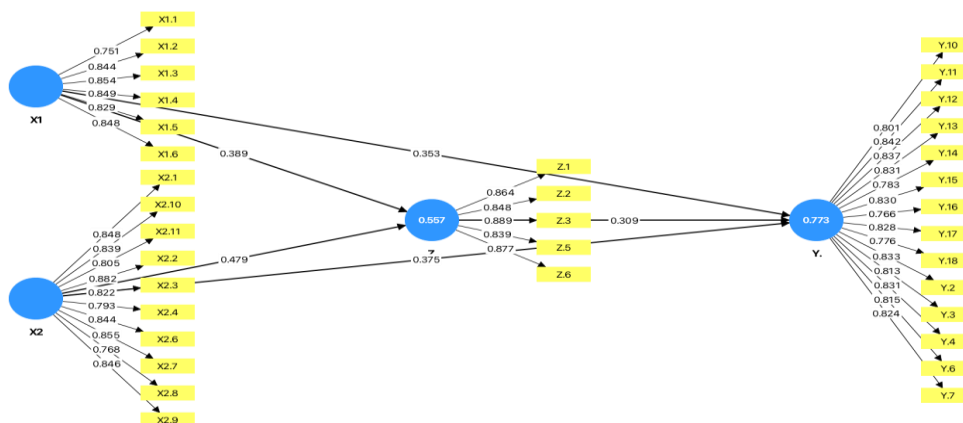


Figure 1 Outer Loading Factor

Source : Primary Data, 2025 (processed)

At the instrument testing stage, the results of the external model indicated that most indicators met the criteria for convergent validity, with factor loadings above 0.70 and Average Variance Extracted (AVE) values exceeding 0.50. The model components effectively differentiated between variables, as demonstrated by discriminant validity assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. Furthermore, all variables were deemed reliable, supported by Cronbach's Alpha and Composite Reliability values above 0.70.

The R-squared (R^2) score indicates that the model has substantial explanatory power in evaluating the inner model. An R^2 value of 0.773 means that employee participation and the work environment explain 77.3% of the variance in job satisfaction. Additionally, employee engagement, work environment, and job satisfaction together account for 55.7% of the variance in teacher performance, as shown by an R^2 value of 0.557. Both values fall within the range considered strong (substantial), demonstrating that this model provides a robust explanation of the observed relationships.

The predictive ability of the model is evaluated using Q-squared (Q^2) values. The Job Satisfaction variable has a Q^2 of 0.390, while Teacher Performance has a Q^2 of 0.499. Since all Q^2 values are greater than zero, the model is considered to have predictive relevance. This model effectively describes the relationships between variables and accurately predicts outcomes.

The results of the hypothesis test using the t-test indicated that all direct effects between variables were significant at the 5% significance level, as shown in the following table:

	Variable	Path Koef	t-Statistic	P Value
H1	Employee Engagement -> Performance Teacher	0,353	5,753	0.000
H2	Work Environment - Teacher Performance	0,375	5,318	0.000
H3	Employee Engagement - > Job Satisfaction	0,389	5,839	0.000
H4	Work Environment - > Job Satisfaction	0,479	6,966	0.000
H5	Job Satisfaction - Teacher Performance >	0,309	4,408	0.000

Employee engagement and the work environment have a strong and significant impact on teacher effectiveness and job satisfaction. Furthermore, job satisfaction greatly influences teacher performance. The t-statistic values for each effect were well above the minimum threshold of 1.96, including the impact of employee engagement on teacher performance ($t = 5.753$) and the influence of the work environment on job satisfaction ($t = 6.966$). These results indicate that the relationships in the model are stable and statistically significant.

Indirect influence testing (mediation) also yielded significant results, as shown in Table 3 below.

	Variable	Path Koef	t-Statistic	P Values
H6	Employee Engagement -> Satisfaction Work -> Teacher Performance	0,120	3,355	0.001
H7	Work Environment -> Job Satisfaction -> Teacher Performance	0,148	3,931	0.000

Job satisfaction was found to moderate the influence of employee engagement on teacher performance ($t = 3.355$) and the impact of the work environment on teacher performance ($t = 3.931$). Therefore, job satisfaction serves as a crucial mechanism linking the effects of internal factors (engagement) and external factors (work environment) in enhancing teacher performance.

The model fit showed an SRMR value of 0.053, which is within the criterion of 0.08, indicating a satisfactory level of fit. The study's findings demonstrate that employee engagement and the work environment directly influence teacher performance and also have an indirect effect through job satisfaction as a mediating factor.

Discussion

The findings indicate that staff involvement positively and significantly impacts the performance of teachers in Muhammadiyah schools in Banda Aceh and Aceh Besar. This study demonstrates that greater teacher involvement and dedication in school activities correlate with improved performance. Educators who participate in decision-making, program development, and operational tasks exhibit high intrinsic motivation and tend to exceed minimal expectations. These results support the research conducted by Fathurrohman (2018) and Sukmawati et al. (2024), which confirm that work involvement enhances individual energy, dedication, and productivity, thereby promoting performance improvement.

The work environment significantly influences teacher performance. Educators evaluate their work environment, both physically and mentally, to facilitate effective task implementation. Adequate school infrastructure, conducive classrooms, a clean work environment, and collaborative working relationships are essential factors that enhance teacher motivation and productivity. These findings align with research conducted by Nurlela et al. (2024), which demonstrates that the work environment affects individual efficacy, concentration, and motivation. In Muhammadiyah schools, increased support and collaboration among educators notably strengthen the positive impact of the work environment on performance improvement.

The impact of employee engagement on job satisfaction is significant. Educators involved in various school processes perceive greater value in their work and have the opportunity to express their ideas and contribute meaningfully to the school's development. This environment fosters a sense of belonging and pride in the organization, ultimately leading to increased job satisfaction. This conclusion aligns with research conducted by Samud et al. (2021), which indicates that reduced employee involvement negatively affects job satisfaction. The study found that instructors who exhibited high levels of engagement reported greater satisfaction with their profession, social interactions, and work environment.

The work environment significantly influences job satisfaction. A supportive workplace, sufficient resources, and positive interactions with colleagues and supervisors enhance teachers' job happiness. In Muhammadiyah schools, well-maintained classrooms, modern teaching facilities, and a conducive work environment foster teachers' sense of belonging and increase job satisfaction. This conclusion aligns with research conducted by Arianti et al. (2025), which states that both the physical and social work environments substantially impact job satisfaction levels.

There is a strong correlation between instructors' job satisfaction and the effectiveness of their classes. Facilities, incentives, and relationships with colleagues all influence instructors' performance. Students benefit from increased self-discipline, well-organized sessions, and additional training. These findings align with those of Rahmasati and Hastuti (2023), who identified a similar relationship between satisfied educators and improved student performance.

The findings of this study suggest that job satisfaction mediates the relationship between employee engagement and classroom performance. Teachers' participation in extracurricular activities enhances their personal satisfaction at work, thereby improving their classroom effectiveness. Employee engagement influences performance through job satisfaction as a mediating factor. Consistent with Abadi's (2024) study, which demonstrates that job satisfaction is a significant mediator in the engagement-performance relationship, our findings support this conclusion.

A person's job satisfaction mediates the relationship between their work environment and their performance as an educator. Teachers' motivation to excel is closely linked to their enjoyment of a supportive and conducive environment. Field observations indicate that instructors are more likely to invest effort in student learning and achievement planning when they work in clean, well-equipped classrooms that foster job satisfaction. Consistent with these findings, Lubis (2024) emphasized that workplace characteristics can enhance performance by increasing employee job satisfaction.

The results of this study indicate that a supportive work environment, combined with individual factors such as work engagement, enhances teacher effectiveness. There is a strong correlation between these factors and teacher efficiency in the classroom, with job satisfaction serving as a mediating variable in this relationship. To achieve sustained performance improvements, educational institutions must improve workplace conditions and increase teacher participation in decision-making and school-wide activities.

Conclusions

This study demonstrates that employee engagement and the work environment significantly influence teacher performance, both directly and indirectly through job satisfaction as a mediating factor. Teachers' job satisfaction and performance improve when they are actively involved in school activities and work in a supportive environment. To enhance teacher performance in Muhammadiyah schools in Aceh Besar and Banda Aceh, it is essential to increase teacher involvement and foster a more positive work environment.

The study's findings indicate that schools can enhance teacher satisfaction and productivity by improving internal communication, creating an optimal work environment, and involving teachers more actively in the decision-making process. To deepen the understanding of factors influencing teacher

effectiveness, future research should incorporate additional variables such as motivation, leadership, and organizational culture.

References

1. Abadi, A. (2024). *Work engagement and employee performance: A perspective of job satisfaction mediation*. Nusantara Literacy Publisher.
2. Ardhiyanti, S. (2020). *The influence of the work environment on teacher performance*. CV Jakad Media Publishing.
3. As'ad, M. (2004). *Industrial psychology: Human resource science series*. Liberty.
4. Arianti, D., Safitri, A., & Rahmawati, L. (2025). *The physical work environment and its influence on employee performance*. Deepublish Publisher.
5. Fathurrohman, M. (2018). *Educational organization and management*. Alfabeta Publishers.
6. Firdausi, F. (2021). *Analyze the results of the Teacher Competency Test (UKG) and its implications on the quality of learning*. Deepublish.
7. Ghazali, I. (2021). *Structural Equation Modeling: An alternative method with Partial Least Squares (PLS)* (4th Edition). Publishing Agency of Diponegoro University.
8. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
9. Hallo, M. (2022). *Management of the work environment in modern organizations*. Andalas University Press.
10. Jogiyanto, H. M. (2007). *Information systems research methodology*. Andi.
11. Lubis, S. (2024). *The influence of the work environment on teacher performance with job satisfaction as a mediator*. Publisher of Scientific Scripts.
12. Mukhtar. (2009). *Evaluation of teacher performance*. Echo of Persada Press.
13. Mulyanti, E. (2018). *Teacher performance: Influencing factors and their implications*. CV Bumi Aksara.
14. Musyaffi, Y. (2021). *SEM-PLS uses SmartPLS for management research*. Deepublish.
15. Narsih. (2017). *The Effect of Job Satisfaction on Employee Performance*. Media Friends of Scholars.
16. Nurlela, N., Putra, F., & Rahayu, D. (2024). *The relationship between the physical and psychological work environment and employee performance*. Journal of Management & Organization.
17. Octavia, D., & Suriawinata, A. (2021). *Validity and reliability in SEM-PLS*. Journal of Applied Statistics.
18. Rahajeng, N. (2021). *Discriminant validity test in SEM research*. Journal of Economics and Business.
19. Rahmasati, L., & Hastuti, S. (2023). *The effect of job satisfaction on teacher performance*. Indonesian Journal of Education.
20. Robbins, S. P. (2007). *Organizational behavior* (12th ed.). Prentice Hall.
21. Russian. (2013). *Learning models: Developing teacher professionalism*. Rajawali Press.
22. Samud, A. (2021). *Work involvement and its impact on employee performance*. Lakeisha Publishers.
23. Saputri, E. (2022). *Management of work environment and employee performance*. Deepublish.
24. Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement. *Journal of Organizational Behavior*, 25(3), 293–315. <https://doi.org/10.1002/job.248>

25. Serendipity. (2018). *Human resource management and work productivity*. Mandar Advanced.
26. Siagian, S. P. (2014). *Human resource management*. The Earth of Scripts.
27. Sukmawati, N., Ramadhan, R., & Lestari, S. (2024). *Work engagement and its effect on motivation and performance*. Journal of Applied Psychology.
28. Suardi. (2020). *Job satisfaction and employee performance*. Eastern Script Publisher.
29. Supardi. (2014). *Teacher performance*. RajaGrafindo Persada.
30. Widiawati, N. (2020). *Teacher performance and learning quality*. Independent Library.
31. Zainal, V. R. (2014). *Human resource management for companies*. Rajawali Press.