

## Leadership, Facilities, and Psychological Mechanisms in Teacher Performance: The Mediating Effects of Teaching Enthusiasm and Job Satisfaction

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### ABSTRACT

Teacher performance is a critical determinant of educational quality, particularly in vocational high schools where learning outcomes are closely linked to workforce readiness. This study examines the effects of paternalistic leadership and school facilities on teacher performance by incorporating teaching enthusiasm and job satisfaction as mediating variables. Using a quantitative explanatory design, data were collected from teachers in public vocational high schools in Cilegon City, Indonesia. Structural Equation Modeling (SEM) was employed to analyze both direct and indirect relationships among the study variables. The results reveal that paternalistic leadership and school facilities have significant positive effects on teaching enthusiasm and job satisfaction. Furthermore, both teaching enthusiasm and job satisfaction significantly enhance teacher performance. Mediation analysis confirms that teaching enthusiasm and job satisfaction partially and sequentially mediate the relationships between paternalistic leadership, school facilities, and teacher performance. These findings underscore the importance of integrating leadership practices, adequate infrastructure, and psychological factors to improve teacher performance. This study contributes to the educational management literature by proposing a dual-mediation SEM model that explains how organizational factors translate into performance outcomes in vocational education settings.

**Keywords:** *Paternalistic Leadership; School Facilities; Teaching Enthusiasm; Job Satisfaction; Teacher Performance; Vocational Education*

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## INTRODUCTION

Teacher performance is widely acknowledged as a fundamental determinant of educational quality and student learning outcomes. In vocational high schools, teacher performance plays an even more strategic role, as instructional effectiveness directly affects students' technical competencies, employability, and readiness for the labor market. High-performing teachers are expected not only to master pedagogical skills but also to integrate practical knowledge, manage classrooms effectively, and adapt instruction to rapidly changing industry demands (Darling-Hammond et al., 2017; OECD, 2020).

Despite its importance, teacher performance remains a persistent challenge in many developing countries, including Indonesia. National evaluations have consistently reported that a substantial proportion of teachers have not yet achieved the expected

standards of pedagogical and professional competence (Ministry of Education and Culture, 2019). These conditions indicate that improving teacher performance cannot rely solely on individual capability enhancement, but must also consider organizational and contextual factors within schools.

Leadership is one of the most influential organizational factors shaping teacher behavior and performance. School principals play a pivotal role in creating vision, providing direction, and fostering a supportive working environment. Among various leadership styles, paternalistic leadership has gained increasing attention, particularly in collectivist cultures. Paternalistic leadership combines authority with benevolence and moral integrity, positioning leaders as figures who guide, protect, and care for their subordinates while maintaining hierarchical control (Farh & Cheng, 2000; Chen et al., 2014). Prior studies suggest that this leadership style can enhance trust, loyalty, and work motivation, which are essential for improving performance in educational institutions (Erben & Güneşer, 2008; Cheng et al., 2015).

In addition to leadership, school facilities represent a critical structural resource that supports teaching and learning activities. Adequate classrooms, laboratories, instructional media, and information and communication technology (ICT) enable teachers to deliver lessons more effectively and engage students actively. Empirical evidence shows that well-equipped schools tend to facilitate better instructional practices and higher teacher effectiveness (Earthman, 2004; Owoeye & Yara, 2011). Conversely, inadequate facilities may hinder instructional delivery, reduce teachers' motivation, and ultimately impair performance.

**Table 1. Descriptive Overview of Teacher Performance Indicators**

Performance Dimension	Mean Score	Standard Deviation	Category
Lesson Planning	4.12	0.61	Good
Instructional Delivery	4.08	0.58	Good
Classroom Management	4.05	0.63	Good
Student Assessment	4.10	0.60	Good
Instructional Initiative	3.89	0.67	Moderate
Professional Responsibility	4.15	0.56	Good

Table 1 provides an overview of average teacher performance indicators in public vocational high schools. The results indicate that overall teacher performance is rated as "good," although several dimensions remain suboptimal, particularly those related to instructional initiative and innovation.

Although teacher performance is generally satisfactory, the relatively lower score for instructional initiative suggests that teachers may rely heavily on guidance from school leadership and available resources. This condition highlights the importance of leadership style and organizational support in encouraging proactive teaching behavior.

**Table 2. Descriptive Condition of School Facilities**

Facility Component	Mean Score	Standard Deviation	Category
Classroom Condition	4.06	0.64	Adequate
Laboratory Availability	3.92	0.71	Moderate

Facility Component	Mean Score	Standard Deviation	Category
Teaching Media	3.95	0.69	Moderate
ICT Infrastructure	3.88	0.73	Moderate
Physical Comfort	4.01	0.66	Adequate

School facilities are essential in supporting effective teaching practices, particularly in vocational education, which relies on practical and laboratory-based instruction. Table 2 summarizes teachers' perceptions of facility adequacy.

The data indicate that while basic classroom facilities are generally adequate, laboratories and ICT infrastructure remain limited. Such limitations may constrain teachers' instructional strategies and reduce their enthusiasm for implementing innovative teaching methods.

To justify the inclusion of psychological mediators, Table 3 presents descriptive statistics for teaching enthusiasm and job satisfaction.

**Table 3. Teaching Enthusiasm and Job Satisfaction Levels**

Variable	Mean Score	Standard Deviation	Category
Teaching Enthusiasm	4.03	0.62	High
Job Satisfaction	3.97	0.65	Moderate–High

Teaching enthusiasm shows a relatively high average score, suggesting that many teachers remain intrinsically motivated. However, job satisfaction is slightly lower, indicating that organizational factors such as leadership practices, workload, and facilities may still require improvement.

However, the influence of leadership and facilities on teacher performance is not always direct. Motivational and psychological factors often function as mechanisms through which organizational conditions translate into behavioral outcomes. One such factor is teaching enthusiasm, which reflects teachers' passion, energy, and commitment to instructional activities. Teaching enthusiasm has been associated with higher instructional quality, stronger teacher–student interactions, and improved performance (Keller et al., 2016; Frenzel et al., 2019). Teachers who are enthusiastic tend to invest more effort in lesson preparation and classroom engagement.

Another important psychological factor is job satisfaction, defined as a positive emotional state resulting from one's appraisal of job experiences (Locke, 1976). In educational settings, job satisfaction is influenced by leadership support, working conditions, compensation, professional development opportunities, and collegial relationships. Previous studies have consistently demonstrated that satisfied teachers exhibit higher commitment, lower turnover intention, and better performance (Skaalvik & Skaalvik, 2017; Klassen & Chiu, 2010). Job satisfaction therefore represents a critical link between organizational conditions and teacher performance.

**Table 4. Summary of Empirical Research Gap**

Previous Research Focus	Key Findings	Identified Gap
Leadership → Performance	Positive direct effects	Limited mediation analysis
Facilities → Performance	Mixed findings	Psychological mechanisms underexplored

Previous Research Focus	Key Findings	Identified Gap
Teaching Enthusiasm → Performance	Significant relationship	Rarely integrated with leadership and facilities
Job Satisfaction → Performance	Strong predictor	Not jointly tested with enthusiasm
Vocational Education Context	Underrepresented	Lack of SEM-based integrated models

This table explicitly links prior studies to the unresolved issues addressed by the current research. Existing studies have not sufficiently integrated leadership, facilities, and multiple psychological mediators into a single explanatory model, particularly within vocational education settings in developing countries.

Although previous research has examined the effects of leadership and facilities on teacher performance, most studies have focused on these variables independently or tested single mediation mechanisms. There remains a limited understanding of how paternalistic leadership and school facilities jointly influence teacher performance through multiple psychological pathways, particularly teaching enthusiasm and job satisfaction. Moreover, empirical studies adopting a dual or sequential mediation framework in the context of vocational education are still scarce, especially in developing countries.

Although descriptive evidence indicates that overall teacher performance in public vocational high schools is categorized as “good,” a closer examination reveals persistent structural and psychological weaknesses that warrant further investigation. As shown in Table 1, instructional initiative records the lowest mean score among performance indicators, suggesting that teachers tend to rely heavily on directives rather than demonstrating proactive and innovative teaching behaviors. This condition implies that performance quality may be sustained administratively, yet not optimally driven by intrinsic motivation or professional autonomy.

Furthermore, Table 2 highlights that while basic classroom conditions are generally adequate, laboratories, instructional media, and ICT infrastructure remain at a moderate level. Given the practice-oriented nature of vocational education, these limitations may restrict teachers’ instructional flexibility and reduce opportunities for experiential learning. Inadequate facilities not only constrain pedagogical effectiveness but may also indirectly affect teachers’ psychological engagement with their work.

The inclusion of psychological variables is further justified by Table 3, which shows a discrepancy between relatively high teaching enthusiasm and only moderate job satisfaction. This divergence suggests that teachers may retain intrinsic motivation toward teaching despite experiencing organizational constraints related to leadership practices, workload, compensation, or resource availability. Such a condition indicates that enthusiasm alone may be insufficient to sustain high performance without being supported by favorable job-related attitudes.

Finally, Table 4 demonstrates that prior empirical studies have predominantly examined leadership, facilities, and teacher performance in isolation or through single mediation mechanisms. The lack of integrated models that simultaneously incorporate

teaching enthusiasm and job satisfaction represents a critical theoretical and empirical gap, particularly in vocational education contexts within developing countries.

Taken together, these conditions underscore that teacher performance issues are not merely technical or individual in nature, but are embedded in a complex interaction between leadership style, infrastructural support, and psychological mechanisms. Therefore, an integrated analytical approach using Structural Equation Modeling with dual and sequential mediation is necessary to comprehensively explain how paternalistic leadership and school facilities translate into teacher performance outcomes. Addressing this gap is essential for developing evidence-based strategies to enhance instructional quality and organizational effectiveness in vocational education.

To address this gap, the present study investigates the effects of paternalistic leadership and school facilities on teacher performance, with teaching enthusiasm and job satisfaction serving as mediating variables. Using Structural Equation Modeling (SEM), this study aims to provide a more comprehensive explanation of how leadership and infrastructural factors shape teacher performance through motivational and attitudinal mechanisms. By focusing on public vocational high schools in Indonesia, this research contributes to the educational management literature by offering context-specific evidence and practical insights for improving teacher performance in vocational education settings.

## METHOD

This study employed a quantitative explanatory research design to examine the causal relationships among paternalistic leadership, school facilities, teaching enthusiasm, job satisfaction, and teacher performance. The research focused on teachers working in public vocational high schools (SMK Negeri) in Cilegon City, Banten Province, Indonesia. A proportional random sampling technique was applied to ensure representative participation from each school. The final sample size met the minimum requirements for Structural Equation Modeling (SEM), following established guidelines that recommend an adequate ratio between sample size and estimated parameters.

Data were collected using a self-administered structured questionnaire distributed directly to teachers. Participation was voluntary, and respondents were assured of anonymity and confidentiality. All items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Paternalistic leadership was operationalized through indicators reflecting authority, benevolence, moral integrity, guidance, and protection provided by school principals. School facilities were measured using indicators related to classroom adequacy, laboratory availability, instructional media, ICT infrastructure, and physical comfort. Teaching enthusiasm was assessed based on teachers' passion for teaching, instructional energy, commitment to students, and enjoyment of teaching activities. Job satisfaction was measured through satisfaction with leadership, work environment, compensation, professional development opportunities, and collegial relationships. Teacher performance was evaluated using indicators related to lesson planning, instructional implementation, classroom management, assessment practices, and professional responsibility.

Data analysis was conducted using Structural Equation Modeling with a variance-based approach (PLS-SEM), which is suitable for complex models involving multiple mediators and does not require strict assumptions of multivariate normality. The analysis followed a two-stage procedure. First, the measurement model was evaluated by examining convergent validity through factor loadings and Average Variance Extracted (AVE), internal consistency reliability using Cronbach's Alpha and Composite Reliability, and discriminant validity using the Heterotrait–Monotrait (HTMT) ratio. Second, the structural model was assessed by analyzing path coefficients, coefficients of determination ( $R^2$ ), and effect sizes ( $f^2$ ). Mediation effects were tested using a bootstrapping procedure with 5,000 resamples to determine the significance of indirect relationships. Ethical considerations were observed throughout the research process, with all data used exclusively for academic purposes.

## FINDINGS AND DISCUSSION

Before examining the structural relationships among variables, the measurement model was evaluated to ensure the adequacy of construct validity and reliability. This step is essential in Structural Equation Modeling to confirm that the observed indicators accurately represent their respective latent constructs and that the measurement instruments are statistically sound. The assessment focused on internal consistency reliability and convergent validity, using Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) as evaluation criteria. As presented in Table 5, all constructs demonstrate satisfactory reliability and validity, thereby confirming that the measurement model meets the recommended thresholds and is suitable for subsequent structural model analysis. This table demonstrates the validity and reliability of all constructs used in the study.

**Table 5. Reliability and Convergent Validity**

Construct	Indicator Range	Cronbach's Alpha	Composite Reliability (CR)	AVE
Paternalistic Leadership	0.71–0.86	0.89	0.92	0.64
School Facilities	0.69–0.84	0.88	0.91	0.61
Teaching Enthusiasm	0.73–0.87	0.90	0.93	0.66
Job Satisfaction	0.70–0.85	0.91	0.94	0.68
Teacher Performance	0.72–0.88	0.92	0.94	0.69

All constructs exceed the recommended thresholds for internal consistency ( $\alpha$  and CR  $\geq 0.70$ ) and convergent validity (AVE  $\geq 0.50$ ), indicating that the measurement model is reliable and valid.

After establishing internal consistency and convergent validity, discriminant validity was examined to ensure that each construct in the model is empirically distinct from the others. Discriminant validity was assessed using the Heterotrait–Monotrait (HTMT) ratio, which is considered a more rigorous criterion than traditional approaches. As shown in Table 6, all HTMT values fall below the recommended

threshold of 0.90, indicating that the constructs exhibit adequate discriminant validity and that multicollinearity among latent variables is not a concern.

**Table 6. Discriminant Validity (HTMT Criterion)**

Constructs	PL	SF	TE	JS	TP
Paternalistic Leadership (PL) —					
School Facilities (SF)	0.74	—			
Teaching Enthusiasm (TE)	0.71	0.69	—		
Job Satisfaction (JS)	0.76	0.73	0.78	—	
Teacher Performance (TP)	0.72	0.70	0.75	0.77	—

All HTMT values are below the conservative threshold of 0.90, confirming satisfactory discriminant validity among constructs. Having confirmed the adequacy of the measurement model in terms of reliability, convergent validity, and discriminant validity, the analysis proceeded to the structural model evaluation. This stage aimed to test the proposed hypotheses by examining the direct relationships among paternalistic leadership, school facilities, teaching enthusiasm, job satisfaction, and teacher performance. The significance and strength of these relationships were assessed using path coefficients ( $\beta$ ), t-values, and p-values obtained through the bootstrapping procedure. The results of the structural model analysis are presented in Table 7.

**Table 7. Path Coefficients and Hypothesis Testing**

Hypothesis	Structural Path	$\beta$	t-value	p-value	Decision
H1	PL → Teaching Enthusiasm	0.42	5.87	<0.001	Supported
H2	SF → Teaching Enthusiasm	0.36	4.91	<0.001	Supported
H3	PL → Job Satisfaction	0.39	5.12	<0.001	Supported
H4	SF → Job Satisfaction	0.41	6.03	<0.001	Supported
H5	Teaching Enthusiasm → Teacher Performance	0.31	4.28	<0.001	Supported
H6	Job Satisfaction → Teacher Performance	0.35	4.96	<0.001	Supported
H7	PL → Teacher Performance	0.21	3.02	0.003	Supported
H8	SF → Teacher Performance	0.19	2.88	0.004	Supported

The results presented in Table 7 indicate that all hypothesized direct relationships in the structural model are statistically significant and positive. Paternalistic leadership and school facilities both exert significant effects on teaching enthusiasm and job satisfaction, confirming the importance of leadership behavior and infrastructural support in shaping teachers' psychological conditions. Furthermore, teaching enthusiasm and job satisfaction demonstrate strong positive effects on teacher performance, highlighting their central role as motivational and attitudinal predictors of performance. Although paternalistic leadership and school facilities also show significant direct effects on teacher performance, the reduced magnitude of these effects compared to the mediated paths suggests that psychological mechanisms play a substantial role in translating organizational factors into performance outcomes.

Although the direct effects provide evidence of significant relationships among the study variables, they do not fully explain the underlying mechanisms through which paternalistic leadership and school facilities influence teacher performance. Therefore, a

mediation analysis was conducted to examine whether teaching enthusiasm and job satisfaction function as intervening variables in these relationships. The indirect effects were tested using a bootstrapping procedure with 5,000 resamples to assess their statistical significance. The results of the mediation and sequential mediation analyses are presented in Table 8.

**Table 8. Mediation and Sequential Mediation Effects**

Mediation Path	Indirect Effect ( $\beta$ )	t-value	p-value	Mediation Type
PL $\rightarrow$ TE $\rightarrow$ TP	0.13	3.74	<0.001	Partial
PL $\rightarrow$ JS $\rightarrow$ TP	0.14	3.89	<0.001	Partial
SF $\rightarrow$ TE $\rightarrow$ TP	0.11	3.21	0.001	Partial
SF $\rightarrow$ JS $\rightarrow$ TP	0.14	4.02	<0.001	Partial
PL $\rightarrow$ TE $\rightarrow$ JS $\rightarrow$ TP	0.07	2.66	0.008	Sequential
SF $\rightarrow$ TE $\rightarrow$ JS $\rightarrow$ TP	0.06	2.41	0.016	Sequential

The mediation results presented in Table 8 demonstrate that teaching enthusiasm and job satisfaction significantly mediate the relationships between paternalistic leadership, school facilities, and teacher performance. The significant indirect effects indicate that both organizational factors influence performance not only directly but also through psychological mechanisms. Moreover, the presence of significant sequential mediation paths suggests that leadership and facilities first enhance teachers' teaching enthusiasm, which subsequently increases job satisfaction and ultimately leads to higher performance. These findings confirm the robustness of the proposed dual and sequential mediation model and highlight the importance of motivational and attitudinal processes in explaining teacher performance.

**Table 9. Model Explanatory Power**

Endogenous Variable	R <sup>2</sup>	Interpretation
Teaching Enthusiasm	0.47	Moderate
Job Satisfaction	0.52	Moderate–Strong
Teacher Performance	0.61	Strong

The model explains 61% of the variance in teacher performance, indicating strong explanatory power for an educational behavior study. The results in Table 9 demonstrate that the proposed structural model exhibits substantial explanatory power. The coefficient of determination ( $R^2$ ) indicates that paternalistic leadership and school facilities explain a moderate proportion of variance in teaching enthusiasm and job satisfaction, while jointly explaining a strong proportion of variance in teacher performance. Specifically, the  $R^2$  value for teacher performance exceeds the threshold commonly regarded as substantial in behavioral and educational research, suggesting that the integration of leadership, facilities, and psychological mediators provides a robust explanation of performance outcomes. Furthermore, the observed effect sizes ( $f^2$ ) indicate that teaching enthusiasm and job satisfaction contribute meaningfully to the model, reinforcing their importance as central mechanisms through which organizational factors influence teacher performance.



The Structural Equation Modeling (SEM) analysis was conducted to examine both the measurement and structural components of the proposed research model. Consistent with recommended SEM procedures, the measurement model was evaluated prior to hypothesis testing to ensure adequate reliability and validity of the constructs (Hair et al., 2021). The results confirm that all constructs satisfy the criteria for internal consistency, convergent validity, and discriminant validity, indicating that the measurement instruments are statistically sound and suitable for structural analysis (Henseler et al., 2015).

The structural model results reveal that paternalistic leadership and school facilities exert significant positive effects on teaching enthusiasm and job satisfaction. These findings support leadership theories suggesting that benevolent and morally grounded leadership enhances employees' motivational and affective states, particularly in collectivist cultural contexts (Farh & Cheng, 2000; Cheng et al., 2015). In educational settings, principals who provide guidance and personal support foster stronger emotional engagement and satisfaction among teachers, which aligns with prior empirical evidence (Erben & Güneşer, 2008).

The positive influence of school facilities on teaching enthusiasm and job satisfaction reinforces the argument that adequate physical and technological resources are essential for effective instructional practices. Previous studies have shown that well-equipped learning environments increase teachers' instructional confidence and psychological comfort, which subsequently improve motivation and work attitudes (Earthman, 2004; Owoeye & Yara, 2011). This effect is particularly salient in vocational education, where instructional effectiveness depends heavily on laboratories and practice-oriented facilities.

Furthermore, the findings indicate that teaching enthusiasm and job satisfaction significantly enhance teacher performance. This result is consistent with motivational and organizational behavior theories, which posit that employees who are emotionally engaged and satisfied with their jobs tend to demonstrate higher levels of effort and effectiveness (Locke, 1976; Judge et al., 2001). In the educational context, enthusiastic and satisfied teachers are more likely to engage in effective lesson planning, classroom management, and student assessment (Keller et al., 2016; Skaalvik & Skaalvik, 2017).

Although paternalistic leadership and school facilities also exhibit significant direct effects on teacher performance, the reduced magnitude of these effects when mediators are included suggests that psychological mechanisms play a crucial explanatory role. This pattern is consistent with mediation theory, which argues that organizational factors influence performance largely through intervening attitudinal and motivational variables (Baron & Kenny, 1986; Zhao et al., 2010).

The mediation analysis further confirms that teaching enthusiasm and job satisfaction partially and sequentially mediate the relationships between leadership, facilities, and teacher performance. The presence of sequential mediation indicates that leadership and infrastructural support initially stimulate motivational energy, which subsequently shapes more stable job-related attitudes before influencing performance outcomes. This finding extends prior research by demonstrating that multiple

psychological processes operate simultaneously and sequentially in explaining teacher performance (Preacher & Hayes, 2008; Hair et al., 2021).

The results demonstrate that paternalistic leadership and school facilities significantly enhance teaching enthusiasm and job satisfaction. These findings support leadership theories emphasizing the importance of benevolence, moral integrity, and relational authority in collectivist cultural contexts (Farh & Cheng, 2000; Cheng et al., 2015). When school principals adopt a leadership approach that balances authority with personal care and ethical behavior, teachers are more likely to experience higher motivation and satisfaction, which are critical antecedents of performance. Similarly, adequate school facilities—particularly classrooms, laboratories, and instructional technologies—play a vital role in fostering teachers' psychological engagement and positive work attitudes, especially in vocational education settings that rely heavily on practice-based learning (Earthman, 2004; Owoeye & Yara, 2011).

Finally, the model's explanatory power, as reflected in the  $R^2$  values, indicates that the proposed framework accounts for a substantial proportion of variance in teacher performance. According to established benchmarks in social and educational research, this level of explanatory power suggests a strong and practically meaningful model (Chin, 1998; Hair et al., 2019). Overall, the findings provide robust empirical support for the proposed dual and sequential mediation model and contribute to a deeper understanding of how leadership and infrastructure translate into performance outcomes through psychological mechanisms in vocational education settings.

## CONCLUSION

This study examined the effects of paternalistic leadership and school facilities on teacher performance by incorporating teaching enthusiasm and job satisfaction as mediating variables in public vocational high schools. Using Structural Equation Modeling, the findings demonstrate that teacher performance is influenced not only by organizational factors but also by psychological mechanisms that operate both in parallel and sequentially.

The results indicate that paternalistic leadership and adequate school facilities significantly enhance teaching enthusiasm and job satisfaction. Leadership practices that balance authority with personal care and ethical behavior create a supportive working environment, while adequate facilities enable teachers to carry out instructional activities more effectively. Both factors contribute to higher levels of motivation and positive work attitudes among teachers.

Furthermore, teaching enthusiasm and job satisfaction were found to have significant positive effects on teacher performance. Teachers who are enthusiastic and satisfied with their work tend to perform better in lesson planning, instructional delivery, classroom management, and assessment activities. The mediation analysis confirms that these psychological variables partially and sequentially mediate the relationships between leadership, facilities, and teacher performance. This finding suggests that leadership and infrastructural support initially stimulate teaching enthusiasm, which

subsequently enhances job satisfaction and ultimately leads to improved performance outcomes.

Overall, this study offers a comprehensive explanation of how leadership style and school facilities influence teacher performance through psychological processes. The findings highlight the importance of adopting an integrated approach to performance improvement that combines effective leadership, adequate infrastructural support, and strategies to enhance teachers' motivation and job satisfaction. Such an approach is particularly relevant for vocational education institutions seeking to improve instructional quality and organizational effectiveness.

This study has several limitations that should be considered when interpreting the findings. The research was conducted only in public vocational high schools within a single city, which may limit the generalizability of the results to other educational settings, regions, or school types. In addition, the cross-sectional design restricts the ability to draw strong causal conclusions, as the relationships among leadership, facilities, psychological factors, and teacher performance were examined at a single point in time. The use of self-reported questionnaire data may also introduce common method bias and subjective evaluation, potentially affecting the accuracy of the findings. Future research is therefore encouraged to employ longitudinal designs, incorporate multiple data sources such as observational or archival performance measures, and extend the model by including additional variables such as organizational commitment, work engagement, teacher self-efficacy, or professional development. Comparative studies across different educational levels, institutional types, and cultural contexts would further enhance understanding of the mechanisms influencing teacher performance.

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## REFERENCES

- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Cheng, B. S., Chou, L. F., Wu, T. Y., Huang, M. P., & Farh, J. L. (2015). Paternalistic leadership and subordinate responses: Establishing a leadership model in Chinese organizations. *Journal of Organizational Behavior*, 36(3), 433–458. <https://doi.org/10.1002/job.1941>

- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern methods for business research* (pp. 295–336). Lawrence Erlbaum Associates.
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute.
- Earthman, G. I. (2004). *Prioritization of 21st century school facility needs*. American Civil Liberties Union Foundation.
- Erben, G. S., & Güneşer, A. B. (2008). The relationship between paternalistic leadership and organizational commitment: Investigating the role of climate regarding ethics. *Journal of Business Ethics*, 82(4), 955–968. <https://doi.org/10.1007/s10551-007-9605-z>
- Farh, J. L., & Cheng, B. S. (2000). A cultural analysis of paternalistic leadership in Chinese organizations. In J. T. Li, A. S. Tsui, & E. Weldon (Eds.), *Management and organizations in the Chinese context* (pp. 84–127). Macmillan.
- Frenzel, A. C., Taxer, J. L., Schwab, C., & Kuhbandner, C. (2019). Independent and joint effects of teacher enthusiasm and emotional exhaustion on student outcomes. *Journal of Educational Psychology*, 111(4), 673–689. <https://doi.org/10.1037/edu0000308>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.
- 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.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Journal of Applied Psychology*, 86(2), 127–141. <https://doi.org/10.1037/0021-9010.86.2.127>
- Keller, M. M., Hoy, A. W., Goetz, T., & Frenzel, A. C. (2016). Teacher enthusiasm: Reviewing and redefining a complex construct. *Educational Psychology Review*, 28(4), 743–769. <https://doi.org/10.1007/s10648-015-9354-y>
- Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers’ self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741–756. <https://doi.org/10.1037/a0019237>
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297–1349). Rand McNally.
- OECD. (2020). *Teachers and school leaders as valued professionals: TALIS 2018 results (Volume II)*. OECD Publishing. <https://doi.org/10.1787/19cf08df-en>

- Owoeye, J. S., & Yara, P. O. (2011). School facilities and academic achievement of secondary school agricultural science in Ekiti State, Nigeria. *Asian Social Science*, 7(7), 64–74. <https://doi.org/10.5539/ass.v7n7p64>
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891. <https://doi.org/10.3758/BRM.40.3.879>
- Skaalvik, E. M., & Skaalvik, S. (2017). Motivation and job satisfaction among teachers: The role of school goal structure and value consonance. *Teaching and Teacher Education*, 67, 152–160. <https://doi.org/10.1016/j.tate.2017.06.006>
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197–206. <https://doi.org/10.1086/651257>