



Supporting Quality Education: The Influence of Principal Supportive Leadership and School Environment on Teacher Work Motivation

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Abstract: Teacher work motivation plays a crucial role in enhancing instructional quality and achieving educational goals. This study examined the influence of Principal Supportive Leadership and School Environment on Teacher Work Motivation among public junior high school teachers. A quantitative research design was employed using simple and multiple linear regression analyses. The study involved 276 teachers selected through proportionate stratified random sampling from 47 public junior high schools in a regency of West Sumatra Province, Indonesia. The sample size was determined using the Cochran formula. Data were collected using structured questionnaires and analyzed using IBM SPSS Statistics version 23. The findings revealed that Principal Supportive Leadership had a positive and significant influence on Teacher Work Motivation. Similarly, School Environment significantly influenced Teacher Work Motivation. The simultaneous analysis demonstrated that both variables jointly explained Teacher Work Motivation better than either variable individually. These findings highlight the complementary roles of supportive leadership and a positive school environment in fostering teachers' motivation. The study contributes to the educational leadership literature by providing empirical evidence that organizational conditions are important determinants of teacher work motivation and by offering practical implications for developing supportive school leadership and collaborative learning environments.

Keywords: Educational Leadership; Principal Supportive Leadership; School Environment; Teacher Work Motivation.

Introduction

Teacher motivation plays a pivotal role in improving educational quality by influencing teachers' commitment, instructional engagement, and willingness to go beyond formal job responsibilities. Teachers with higher levels of work motivation are more likely to participate in professional development, adopt innovative instructional practices, and contribute actively to school improvement activities (Chen & Rani, 2025; Richter et al., 2025; Taqwim, 2024). In contrast, declining motivation may reduce instructional effectiveness and organizational commitment (Agustina & Mahdi, 2025; Collie, 2023). Consequently,

strengthening teacher work motivation has become a strategic priority for schools seeking to improve teaching quality and sustain educational excellence (Saputra & Darmawan, 2023; Taqwim, 2024).

Growing evidence suggests that teachers' work motivation is shaped not only by individual characteristics but also by organizational conditions within schools. School leadership determines how teachers perceive professional support, recognition, and development opportunities, while the school environment influences teachers' daily experiences through organizational climate, collegial relationships, communication, and working conditions (Bektaş et al., 2022; Li et al., 2023; Tosun & Bozkurt Bostancı, 2024).

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Positive school organizational conditions have been consistently associated with greater job satisfaction, stronger professional commitment, and higher levels of teacher motivation (Anwar et al., 2023; Ker et al., 2022; Otrębski, 2022). Likewise, supportive work environments consisting of effective interpersonal relationships and adequate administrative support foster teachers' intrinsic motivation and psychological well-being (Bukhari et al., 2023; Noorhapizah et al., 2023; Taqwim, 2024).

Among school-level organizational factors, Principal Supportive Leadership and School Environment have received increasing attention because both directly influence teachers' professional experiences. Principals who provide encouragement, identify teachers' contributions, and facilitate collaboration create conditions that strengthen teachers' confidence and professional engagement (Ahmed & Ochieng, 2024; Ayumi & Nasution, 2025; Hayward & Ohlson, 2023; Hendriani et al., 2024). Similarly, positive school environments built on trust, effective communication, and opportunities for professional growth enable teachers to perform more effectively while reinforcing their commitment to school organizational goals (Alzoraiki et al., 2024; Barnová et al., 2022; Dutta & Sahney, 2022). Positive school organizational and environmental conditions collectively encourage teachers to remain motivated and actively participate in continuous school improvement (Kilag & Sasan, 2023; Shell et al., 2023).

The strong relationship between supportive leadership and the school environment suggests that both factors should be viewed as complementary rather than independent resources. School leadership practices help shape a positive work climate, while a supportive school environment reinforces the effectiveness of leadership by facilitating collaboration, professional learning, and teacher engagement (Heenan et al., 2023; Wang'ombe, 2023).

Although substantial evidence supports the importance of leadership and school environment, previous studies have largely focused on outcomes such as teacher performance, teacher effectiveness, teacher competency, organizational commitment, and student achievement rather than teacher work motivation (Bada et al., 2024; Nurhayati, 2023). Moreover, teacher motivation has frequently been positioned as a mediating mechanism explaining the relationship between leadership and performance instead of being examined as the principal outcome of organizational practices (Bektaş et al., 2022; Berkovich & Hassan, 2024; Nurmalasari et al., 2026). Another limitation concerns the leadership perspectives adopted in previous studies, which have predominantly emphasized transformational, instructional, distributed,

participative, and democratic leadership, while comparatively little attention has been given to Principal Supportive Leadership despite its emphasis on professional support, teacher empowerment, and collaborative relationships (Arina et al., 2023; Schmitz et al., 2023; Tang et al., 2022). Furthermore, empirical studies simultaneously examining Principal Supportive Leadership and School Environment as predictors of Teacher Work Motivation remain limited.

Addressing these gaps is important because teacher work motivation represents a fundamental prerequisite for sustaining instructional quality and achieving broader educational improvement. While leadership and school environment have individually been associated with various educational outcomes, limited evidence is available regarding their complementary contributions to teacher work motivation within a single analytical framework. Understanding how these organizational factors jointly influence teachers' motivation may provide a stronger empirical foundation for designing school improvement strategies that foster supportive leadership practices and positive working environments, both of which are essential for advancing Quality Education (SDG 4). Therefore, the novelty of this study lies in integrating Principal Supportive Leadership and School Environment as complementary organizational predictors of Teacher Work Motivation, while positioning teacher work motivation as the primary outcome rather than as a mediating variable.

Therefore, this study examines the influence of Principal Supportive Leadership and School Environment on Teacher Work Motivation among teachers in public junior high schools. Specifically, the study investigates the individual effects of Principal Supportive Leadership and School Environment on Teacher Work Motivation, as well as their simultaneous influence using simple and multiple linear regression analyses. The findings are expected to enrich the educational leadership literature by providing empirical evidence on how complementary organizational factors contribute to strengthening teacher work motivation and by offering practical guidance for school leaders seeking to create supportive and motivating school environments.

Method

This study adopted a quantitative research design to examine the relationships between Principal Supportive Leadership, School Environment, and Teacher Work Motivation. The effects of the independent variables on the dependent variable were analysed using both simple and multiple linear regression, which are appropriate for assessing the individual and combined contributions of predictor

variables in educational research (Bardach et al., 2022; Campbell et al., 2022; Ridwan et al., 2025). The target population consisted of 970 junior high school teachers employed in 47 public junior high schools located in a regency of West Sumatra Province, Indonesia. The required sample size was determined using the Cochran formula with a 95% confidence level and a 5% margin of error, resulting in a minimum sample of 276 teachers. The sample was subsequently allocated proportionally to each school according to the number of teachers employed in each institution to ensure proportional representation across the study population. Within each school, respondents were then selected using simple random sampling, providing every eligible teacher with an equal probability of participation.

Data were collected using structured questionnaires designed to assess Principal Supportive Leadership, School Environment, and Teacher Work Motivation. All questionnaire items were measured on a five-point Likert scale ranging from strongly disagree to agree strongly. Prior to data collection, the instruments underwent expert validation to establish content validity. Subsequently, item validity was assessed using Pearson's product-moment correlation coefficient, while the internal consistency of each construct was evaluated using Cronbach's alpha. The statistical analyses were performed using IBM SPSS Statistics version 23. The analytical procedure consisted of descriptive statistics, assumption testing, simple linear regression, and multiple linear regression. Descriptive analysis was conducted to summarise respondents' responses through the mean, standard deviation, minimum, and maximum scores. Before testing the proposed hypotheses, the data were examined to ensure compliance with the assumptions underlying linear regression, including tests of normality, linearity, multicollinearity, and heteroscedasticity. Simple linear regression was used to evaluate the independent effects of Principal Supportive Leadership and School Environment on Teacher Work Motivation. In contrast, multiple linear regression was used to assess the joint contribution of both independent variables to Teacher Work Motivation. Figure 1 presents the overall workflow of the research methodology adopted in this study.



Figure 1. Workflow of the research methodology

Result and Discussion

Result

Descriptive Statistics

Table 1 presents the descriptive statistics for the study variables, including Principal Supportive Leadership, School Environment, and Teacher Work Motivation. Overall, the respondents reported relatively high scores across all variables, indicating positive perceptions of school leadership, organisational conditions, and work motivation. Among the three variables, Teacher Work Motivation recorded the highest average score ($M = 128.64$, $SD = 11.77$), followed by Principal Supportive Leadership ($M = 127.74$, $SD = 10.12$) and School Environment ($M = 123.31$, $SD = 11.50$). The relatively moderate standard deviation values indicate that respondents' perceptions were reasonably consistent, suggesting limited variability in responses across the sample. Furthermore, the observed minimum and maximum scores indicate that responses spanned a broad range of the measurement scale, providing sufficient variation for subsequent regression analyses.

Table 1. Summary of Descriptive Statistics

Variable	Mean	Std. Deviation	Max	Min
Principal Supportive Leadership	127.74	10.12	150	98
School Environment	123.31	11.50	147	92
Teacher Work Motivation	128.64	11.77	150	91

Assumption Testing

Prior to conducting the regression analyses, assumption testing was performed to verify the suitability of the data for linear regression. The results indicated that all regression assumptions were satisfied. The normality test yielded a p-value of 0.06, exceeding the 0.05 threshold, indicating that the residuals were normally distributed. The linearity tests also confirmed linear relationships between the independent and dependent variables, with significance values for deviations from linearity of 0.32 for the relationship between Principal Supportive Leadership and Teacher Work Motivation and 0.06 for the relationship between School Environment and Teacher Work Motivation, both of which were greater than 0.05. Furthermore, the multicollinearity test showed a Variance Inflation Factor (VIF) of 1.03 for both independent variables, indicating no multicollinearity. Finally, the heteroscedasticity test produced significance values of 0.08 for Principal Supportive Leadership and 0.10 for School Environment, suggesting that heteroscedasticity was not present. Collectively, these results confirm that the data

met the assumptions required for subsequent simple and multiple linear regression analyses.

Regression Analysis

The results of the simple and multiple linear regression analyses are presented in Tables 2-4. The simple regression analysis indicated that Principal Supportive Leadership had a positive and significant effect on Teacher Work Motivation ($\beta = 0.35$, $t = 6.27$, $p < 0.00$). The model yielded a correlation coefficient of $R = 0.35$, indicating a positive association between the two variables. The coefficient of determination ($R^2 = 0.13$) indicates that Principal Supportive Leadership explained 13% of the variance in Teacher Work Motivation, with the remaining 87% attributable to other factors outside the model.

The second simple regression analysis demonstrated that School Environment had a positive and significant effect on Teacher Work Motivation ($\beta = 0.72$, $t = 17.06$, $p < 0.00$). The correlation coefficient ($R = 0.72$) indicates a strong positive relationship between the two variables. Moreover, the coefficient of determination ($R^2 = 0.52$) suggests that School Environment explained 52% of the variance in Teacher Work Motivation, indicating substantially greater explanatory power than Principal Supportive Leadership when each predictor was analysed separately.

The multiple linear regression analysis revealed that Principal Supportive Leadership and School Environment jointly had a significant effect on Teacher Work Motivation. The regression model was statistically significant ($F = 180.68$, $p < 0.00$), indicating that the two predictors collectively explained variations in Teacher Work Motivation. The model produced a correlation coefficient (R) of 0.76 and an R^2 of 0.57 (Adjusted $R^2 = 0.57$), indicating that the combined effects of Principal Supportive Leadership and School Environment explained 57% of the variance in Teacher Work Motivation. The regression coefficients further showed that both Principal Supportive Leadership ($\beta = 0.24$, $t = 5.89$, $p < 0.00$) and School Environment ($\beta = 0.68$, $t = 16.79$, $p < 0.00$) made significant positive contributions to the model. Among the two predictors, School Environment emerged as the stronger predictor of Teacher Work Motivation, as indicated by its larger standardised regression coefficient. Although the intercept was not statistically significant ($p = 0.269$), this does not affect the interpretation of the regression model because the primary objective of the analysis was to estimate the effects of Principal Supportive Leadership and School Environment on Teacher Work Motivation. Both predictor variables remained statistically significant, and the overall regression model was significant.

Table 2. Summary of Regression Models

Analysis	R	R ²	Adjusted R ²	Std Error of the Estimate
PSL → TWM	0.35	0.13	0.12	11.03
SE → TWM	0.72	0.52	0.51	8.21
PSL, SE → TWM	0.76	0.57	0.57	7.75

Note: Principal Supportive Leadership (PSL), School Environment (SE), and Teacher Work Motivation (TWM).

Table 3. Regression Coefficients

Analysis	Model	B	Std Error	Beta	t	p
PSL → TWM	(Constant)	76.00	8.42		9.02	0.00
	PSL	0.41	0.07	0.35	6.27	0.00
SE → TWM	(Constant)	38.05	5.33		7.13	0.00
	SE	0.74	0.04	0.72	17.06	0.00
PSL, SE → TWM	(Constant)	7.94	7.17		1.11	0.27
	PSL	0.28	0.05	0.24	5.89	0.00
	SE	0.69	0.04	0.68	16.79	0.00

Table 4. ANOVA

Model	Sum of Squares	df	Mean Square	F	p
Regression	21709.09	2.00	10854.55	180.68	0.00
Residual	16400.40	273.00	60.08		
Total	38109.49	275.00			

Discussion

The findings of this study demonstrate that both Principal Supportive Leadership and School Environment play important roles in strengthening Teacher Work Motivation. These findings reinforce the

view that teacher work motivation is not solely an individual attribute but is significantly influenced by organisational conditions within schools, particularly supportive leadership from principals and the quality of the school environment. When teachers perceive

continuous professional support from school leaders and experience a positive working environment, they are more likely to demonstrate stronger commitment, greater enthusiasm, and higher willingness to invest additional effort in achieving educational goals. This interpretation reinforces the perspective that teacher motivation is embedded in the organisational context in which teachers perform their professional responsibilities, rather than being determined exclusively by personal characteristics (Bukhari et al., 2023; Collie, 2023).

The positive influence of Principal Supportive Leadership indicates that supportive leadership practices create psychological and professional conditions that encourage teachers to remain motivated in carrying out their instructional responsibilities. Principals who recognise teachers' contributions, encourage collaboration, provide constructive feedback, and facilitate professional development foster teachers' perceptions of organisational support and professional value (Maryati et al., 2025; Nurlaili, 2025; Syarip & Dadang, 2025). Such conditions strengthen teachers' confidence, reinforce their sense of belonging, and encourage them to participate actively in school improvement initiatives. Rather than functioning merely as administrative supervisors, supportive principals become professional partners who assist teachers in addressing instructional challenges and achieving professional growth. Consequently, teachers are more willing to demonstrate commitment beyond their formal responsibilities because they perceive that their efforts are appreciated and supported by school leadership (Ahmed & Ochieng, 2024; Galdames-Calderón, 2023; Shell et al., 2023; Sudibyo, 2024).

These findings also suggest that supportive leadership influences teacher motivation by fostering positive interpersonal relationships within schools. A leadership approach oriented towards trust, open communication, and professional encouragement reduces the psychological barriers that often limit teacher engagement. Under supportive leadership, teachers are more likely to exchange ideas, collaborate with colleagues, and participate in continuous professional learning, all of which contribute to stronger intrinsic motivation (Nisak et al., 2025; Raharjo et al., 2026). This interpretation is consistent with previous evidence demonstrating that supportive and instructional leadership strengthen teachers' professional engagement by creating environments that promote autonomy, empowerment, and continuous learning (Bada et al., 2024; Khan, 2025; Schmitz et al., 2023).

The results further indicate that School Environment represents an equally important factor in fostering Teacher Work Motivation. A positive school

environment provides teachers with environmental conditions that facilitate effective teaching while reducing unnecessary workplace stress. Supportive collegial relationships, constructive communication, adequate administrative support, and opportunities for professional collaboration enable teachers to perform their responsibilities more comfortably and confidently. Such conditions enhance teachers' psychological well-being and reinforce their willingness to contribute to school improvement. Therefore, teacher motivation should be understood not only as a consequence of individual aspirations but also as an outcome of supportive environments that enable teachers to perform effectively (Agustina & Niron, 2025; Barnová et al., 2022; Liao et al., 2023).

The influence of School Environment may also be explained by its role in fulfilling teachers' professional and psychological needs throughout their daily work. Teachers who experience positive work climates generally perceive greater fairness, stronger collegial support, and more opportunities for professional development. These experiences create a positive emotional attachment to the school and encourage teachers to invest more effort in instructional activities. Previous studies similarly reported that supportive work environments strengthen teachers' intrinsic motivation by improving working conditions and interpersonal relationships (Bukhari et al., 2023). Favourable school environments have also been associated with improvements in teachers' professional competence and work commitment, both of which contribute to stronger work motivation over time (Arifin et al., 2024; Nurhayati, 2023).

Perhaps the most important finding of this study is that Principal Supportive Leadership and School Environment jointly contribute to Teacher Work Motivation more strongly than either factor alone. This finding highlights the complementary relationship between leadership and organizational context in shaping teachers' professional experiences. Supportive leadership is more effective when implemented in a positive work environment, and a supportive school environment is more likely to be sustained through effective leadership practices. In other words, leadership establishes the direction and school culture, whereas the school environment reinforces these leadership practices through everyday interactions and collaboration. The combination of these two factors creates favourable conditions that strengthen teachers' motivation to perform professionally and contribute to school improvement (Heenan et al., 2023).

From a theoretical perspective, these findings extend the existing educational leadership literature by positioning Teacher Work Motivation as a direct outcome of both Principal Supportive Leadership and

School Environment. Previous studies have predominantly examined leadership and the school environment in relation to teacher performance, commitment, or instructional effectiveness. In contrast, this study demonstrates that both factors also directly strengthen teachers' motivation to work. By integrating supportive leadership and school environment within a single regression model, this study provides a more comprehensive understanding of how organizational resources collectively shape teachers' motivational processes in school settings (Bektaş et al., 2022; Berkovich & Hassan, 2024).

Implication

The findings imply that efforts to strengthen Teacher Work Motivation should not rely solely on improving principals' leadership competencies or on enhancing school facilities independently. Instead, schools should adopt integrated organizational strategies that simultaneously promote supportive leadership behaviours, strengthen collegial relationships, improve teamwork communication, and create working environments that encourage teachers' professional growth. Such integrated efforts are more likely to cultivate sustainable teacher motivation, enhance instructional quality, and ultimately contribute to continuous school improvement.

Limitation and Future Research

This study has several limitations that should be considered when interpreting the findings. First, the study employed a cross-sectional research design, in which data were collected at a single point in time. Consequently, the identified relationships between Principal Supportive Leadership, School Environment, and Teacher Work Motivation should be interpreted as associative rather than causal. Second, the study focused exclusively on teachers from public junior high schools in one regency of West Sumatra Province, Indonesia. Although the findings provide valuable insights into this educational context, their generalizability to other educational levels, private schools, or different geographical regions may be limited. Third, the study examined only two predictors of Teacher Work Motivation. Other factors, such as teacher self-efficacy, job satisfaction, commitment, work stress, or professional development opportunities, may also contribute to teachers' work motivation and should be considered in future investigations.

Future research is encouraged to employ longitudinal or mixed-methods designs to provide a more comprehensive understanding of how teacher work motivation develops over time and how supportive leadership and school environment influence motivational processes. Expanding the study

to different educational contexts and incorporating psychological variables may also provide a more holistic explanation of teacher work motivation. Furthermore, future studies could employ more advanced analytical approaches, such as structural equation modelling, to examine potential mediating or moderating mechanisms that underlie the relationships among leadership, the school environment, and teacher work motivation.

Conclusion

This study concludes that Principal Supportive Leadership and School Environment are significant organizational factors influencing Teacher Work Motivation. While both variables positively contribute to teacher motivation, their combined influence provides a more comprehensive explanation of teacher work motivation than either factor individually, highlighting the complementary roles of supportive leadership and School Environment in fostering teachers' motivation. These findings contribute to the educational leadership literature by demonstrating that teacher work motivation is shaped by organizational conditions within schools. Practically, schools should strengthen supportive leadership practices while creating positive and collaborative school environments to enhance teachers' motivation and support the improvement of teaching and learning quality. Future research is encouraged to examine additional organizational and psychological factors affecting teacher work motivation and to employ longitudinal or mixed-methods approaches to provide a more comprehensive understanding of teachers' motivational development.

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Author Contributions

Conceptualization, E.M.S., A.S., and N.; methodology, E.M.S. and A.S.; software, E.M.S.; validation, A.S., N., and H.A.K.; formal analysis, E.M.S.; investigation, E.M.S.; resources, A.S. and N.; data curation, E.M.S.; writing original draft preparation, E.M.S.; writing review and editing, A.S.; visualization, E.M.S.; supervision, A.S. and N.; project administration, E.M.S. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest

The authors declare no conflict of interest.

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