

The Influence of Principals' Transformational Leadership on Teachers' Performance Through Work Culture, Job Satisfaction, and Work Motivation

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ABSTRACT

Purpose -This study examines the influence of principals' transformational leadership on teachers' performance and the roles of work culture, job satisfaction, and work motivation in explaining this relationship in public elementary schools in Sosopan District, Padang Lawas Regency, North Sumatra Province, Indonesia.

Methodology - This study employed a quantitative approach with an explanatory survey design. The research was conducted from March to June 2026 in twelve public elementary schools in Sosopan District. The population consisted of 159 teachers, and 129 teachers were selected using proportionate random sampling. Data were collected through structured questionnaires using a five-point Likert scale. Data were analyzed using path analysis, preceded by a Lilliefors normality test. Partial relationships were tested using t-tests, and the simultaneous model was tested using an F-test at $\alpha = 0.05$.

Findings - The results revealed that principals' transformational leadership has a positive and significant direct effect on work culture ($\rho = 0.335$; $t = 4.013$; $p < 0.05$), job satisfaction ($\rho = 0.233$; $t = 2.698$; $p < 0.05$), work motivation ($\rho = 0.234$; $t = 2.707$; $p < 0.05$), and teachers' performance ($\rho = 0.170$; $t = 2.506$; $p < 0.05$). Furthermore, work culture ($\rho = 0.508$; $t = 6.910$; $p < 0.05$), job satisfaction ($\rho = 0.146$; $t = 2.076$; $p < 0.05$), and work motivation ($\rho = 0.135$; $t = 2.056$; $p < 0.05$) were found to have positive and significant direct effects on teachers' performance. Simultaneously, transformational leadership, work culture, job satisfaction, and work motivation significantly influenced teachers' performance ($F = 32.650$; $p < 0.05$), with an Adjusted R^2 value of 0.512. Among the predictor variables, work culture emerged as the strongest determinant of teachers' performance.

Contribution - The study contributes to educational leadership research by integrating leadership, organizational culture, and psychological working conditions into a single empirical path model

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INTRODUCTION

Teacher performance remains one of the most critical determinants of educational quality worldwide. Numerous studies have demonstrated that teachers significantly influence students' academic achievement, learning engagement, and overall school effectiveness. In the era of educational transformation, teachers are expected not only to deliver instructional content but also to facilitate student-centered learning, integrate technology, foster critical thinking, and adapt to rapidly changing educational demands. Consequently, improving teacher performance has become a major concern for educational policymakers and school leaders across the globe.

Teacher performance is a central determinant of educational quality because teachers translate curriculum, school policies, and leadership priorities into classroom practice. Contemporary primary education requires teachers to facilitate student-centered learning, assess learning continuously, use technology appropriately, develop critical thinking, and respond to diverse learner needs. These demands make teacher performance not merely an individual issue but an organizational outcome shaped by leadership, school culture, and teachers' psychological conditions.

Evidence from Indonesia shows that the quality of classroom practice remains uneven. The World Bank's Teach Primary classroom-observation study, based on 993 observations of 501 teachers, found relatively strong classroom culture but much weaker performance in instruction and socio-emotional skills; only 26% of observed teachers reached at least 3 out of 5 in instruction, and 10% reached that level in socio-emotional skills (Dini et al., 2024). These findings indicate that improvement is still needed in instructional facilitation, checking students' understanding, feedback, and higher-order thinking. Thus, examining factors associated with teacher performance remains empirically relevant rather than merely theoretical.

The issue is also salient in Padang Lawas Regency. The district government's 2026 budget policy document explicitly notes a decline in educational quality in 2024 and identifies limited access to education, uneven teacher distribution, and deteriorating learning facilities as contributing challenges. The document consequently prioritizes improving access, teacher quality, distribution, and school facilities (Government of Padang Lawas Regency, 2026). At the local level, Lubis (2023) also reported concerns about teacher competence, teaching quality, and motivation in early-childhood education institutions in Barumun District, Padang Lawas. Although that study concerns PAUD rather than elementary schools, it provides contextual evidence that teacher professionalism is a relevant local issue.

Within this context, principals' leadership is a plausible starting point because principals shape expectations, professional support, collaboration, and the conditions under which teachers work. Transformational leadership is particularly relevant because it emphasizes vision, inspiration, intellectual stimulation, and individualized consideration (Alzoraiki et al., 2024; Dewi et al., 2025). When principals communicate a clear educational purpose, recognize teachers' contributions, encourage experimentation, and provide individualized support, teachers may be more willing to collaborate, improve their practice, and invest effort beyond minimum role requirements.

The relationship between transformational leadership and teacher performance can be understood in terms of work culture. Leadership behaviors translate into shared norms when teachers consistently experience expectations, collaboration, professional trust, discipline, and opportunities for innovation. In this sense, transformational leadership may influence performance indirectly by creating a work culture that makes effective professional behavior easier to sustain. Recent evidence from Yemeni public schools similarly found that transformational leadership was associated with school culture and teaching performance and that school culture functioned as an explanatory pathway (Alzoraiki et al., 2024).

Job satisfaction provides a second psychological pathway. Teachers who perceive recognition, supportive supervision, fair working conditions, constructive collegial relationships, and opportunities for professional growth are more likely to develop positive attitudes toward their work. Transformational leadership can influence these perceptions by changing how teachers experience support and meaning at work. Job satisfaction can subsequently strengthen persistence and commitment to instructional responsibilities. However, this relationship is not universal; recent evidence from Merangin District found that teacher job

satisfaction was not a significant predictor of teacher performance, indicating that contextual conditions may determine whether satisfaction is translated into observable performance (Andriadi et al., 2026).

Work motivation provides a third pathway. Transformational principles can strengthen motivation by connecting individual effort to meaningful school goals, recognizing achievement, providing autonomy, and stimulating professional aspirations. Motivated teachers may invest greater effort in planning, instruction, assessment, classroom management, and professional development. Nevertheless, evidence remains mixed: Dewi et al. (2025) found that transformational leadership did not significantly predict teacher performance directly in an inclusive-school context, although work motivation significantly predicted performance and mediated the leadership-performance relationship. This suggests that leadership effects may depend on the psychological mechanisms through which teachers experience their work.

The literature, therefore, does not support a simple, universal leadership-to-performance relationship. Some studies report positive effects, whereas others show no significant direct effects on leadership, culture, satisfaction, or motivation. For example, Arofah et al. (2024) found that leadership style and organizational culture were positive but not significant predictors of teacher performance, while motivation was significant. Similarly, Herliana et al. (2025) reported that work culture was not a significant predictor of teacher performance in two public junior high schools in Kotabaru, whereas work motivation was a significant predictor. These differences suggest that the strength of each relationship may depend on school level, organizational conditions, leadership enactment, and the way performance is measured.

Against this background, an important gap remains. Existing studies often examine transformational leadership and teacher performance as a direct relationship or focus on one organizational or psychological mechanism at a time. Fewer studies examine work culture, job satisfaction, and work motivation simultaneously within a single school-level model, particularly in rural Indonesian elementary school settings. The present study addresses this gap by testing a path model that places transformational leadership as the antecedent, work culture, job satisfaction, and work motivation as intervening pathways, and teacher performance as the outcome. The study is designed not only to determine whether the relationships are statistically significant but also to identify which factor has the strongest direct contribution to teacher performance in the study context.

The study aims to examine the influence of principals' transformational leadership on teachers' performance and to assess the roles of work culture, job satisfaction, and work motivation in explaining this relationship among teachers in public elementary schools in Sosopan District, Padang Lawas Regency, Indonesia. The findings are expected to strengthen educational leadership theory by clarifying how organizational and psychological conditions accompany leadership effects, while also providing evidence for school-level strategies to improve teacher performance.

METHODOLOGY

Research Design

This study employed a quantitative approach using an explanatory survey design. The design was selected because the study sought to estimate relationships among principals' transformational leadership, work culture, job satisfaction, work motivation, and teachers' performance through statistical hypothesis testing. Quantitative research is appropriate for examining measurable relationships among variables using statistical procedures (Creswell & Creswell, 2023). Path analysis was used to estimate the direct relationships specified in the empirical model. Because the data were collected at one point in time, the findings are interpreted as observed statistical relationships and do not establish experimental or temporal causality.

Population and Sample

The population consisted of 159 teachers working in twelve public elementary schools in Sosopan District, Padang Lawas Regency. A total of 129 teachers participated in the study. Respondents were selected using proportionate random sampling so that teacher representation across the twelve schools reflected the population distribution. The study was conducted from March to June 2026.

Data Collection

Data were collected through a structured questionnaire distributed to the selected teachers during the research period. Before completing the questionnaire, respondents were informed about the purpose of the study and the research use of their responses. The questionnaire used a five-point Likert scale and was organized around the operational indicators for each research variable.

Instruments

The instrument measured five constructs. Transformational leadership was measured through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Work culture was measured through discipline, commitment, collaboration, innovation, and professional ethics. Job satisfaction included satisfaction with work, supervision, promotion, colleagues, and working conditions. Work motivation included achievement, recognition, responsibility, self-development, and enthusiasm for work. Teachers' performance was measured through lesson planning, learning implementation, assessment, classroom management, and professional development. These indicators are presented in Table 1.

Data Analysis

Data were analyzed using path analysis to estimate the direct relationships among the variables in the proposed model. Before hypothesis testing, the estimated error distributions were examined using the Lilliefors normality test at $\alpha = 0.05$. Partial effects were evaluated using t-values, simultaneous effects using the F-statistic, and the coefficient of determination using Adjusted R². Statistical decisions were made at the 0.05 significance level.

Table 1. Operational Definition of Variables

Variable	Definition	Indicators
Transformational Leadership (X)	Leadership behavior that inspires and motivates teachers to achieve organizational goals beyond expectations.	Idealized Influence, Inspirational Motivation, Intellectual Stimulation, Individualized Consideration
Work Culture (M ₁)	Shared values, beliefs, and norms guide teachers' behavior within schools.	Discipline, Commitment, Collaboration, Innovation, Professional Ethics
Job Satisfaction (M ₂)	Teachers' positive feelings toward their work and work environment.	Satisfaction with Work, Supervision, Promotion, Colleagues, Working Conditions
Work Motivation (M ₃)	Internal and external drives influence teachers to perform their duties effectively.	Achievement, Recognition, Responsibility, Self-development, Work Enthusiasm
Teachers' Performance (Y)	Teachers' achievement in carrying out professional responsibilities.	Lesson Planning, Learning Implementation, Assessment, Classroom Management, Professional Development

Source: Research data and operationalization of variables.

FINDINGS

Normality and Linearity Tests

Before conducting the hypothesis testing, assumption tests were performed to ensure that the data met the requirements for regression and path analysis. The normality test showed that the estimated error distributions for all relationships in the model were normally distributed. The linearity test was subsequently conducted to determine whether the relationships between the variables were linear.

Table 2. Results of the Linearity and Regression Significance Tests

No.	Relationship	Linearity Test F	Sig.	Linearity Status	Regression Significance F	Sig.	Regression Status
1	$X_1 \rightarrow X_2$	0.608	0.933	Linear	16.103	<0.001	Significant
2	$X_1 \rightarrow X_3$	1.111	0.342	Linear	7.277	0.008	Significant
3	$X_1 \rightarrow X_4$	0.764	0.790	Linear	7.330	0.008	Significant
4	$X_1 \rightarrow Y$	0.724	0.835	Linear	24.989	<0.001	Significant
5	$X_2 \rightarrow Y$	1.304	0.152	Linear	99.849	<0.001	Significant
6	$X_3 \rightarrow Y$	1.084	0.370	Linear	29.163	<0.001	Significant
7	$X_4 \rightarrow Y$	0.889	0.665	Linear	15.343	<0.001	Significant

Source: Processed research data (2026)

The results indicate that all significance values in the linearity test were greater than 0.05. Thus, the relationships between the predictor and endogenous variables can be considered linear. Furthermore, all p-values for the regression tests were below 0.05, indicating that the regression coefficients for all tested relationships were statistically significant. These findings confirm that the data satisfy the linearity and regression significance requirements for subsequent path analysis.

Correlation Analysis

Pearson's product-moment correlation analysis was conducted to examine the direction and strength of the relationships among the variables. The results are presented in Table 3.

Table 3. Pearson Correlation Coefficients among Research Variables

No.	Relationship	Correlation Coefficient (r)	r-critical ($\alpha = 0.05$)	t-value	t-critical	Significance	Direction
1	$X_1 \leftrightarrow X_2$	0.335	0.159	4.007	1.960	Significant	Positive
2	$X_1 \leftrightarrow X_3$	0.233	0.159	2.700	1.960	Significant	Positive
3	$X_1 \leftrightarrow X_4$	0.234	0.159	2.712	1.960	Significant	Positive
4	$X_1 \leftrightarrow Y$	0.405	0.159	4.992	1.960	Significant	Positive
5	$X_2 \leftrightarrow Y$	0.663	0.159	9.981	1.960	Significant	Positive
6	$X_3 \leftrightarrow Y$	0.432	0.159	5.398	1.960	Significant	Positive
7	$X_4 \leftrightarrow Y$	0.328	0.159	3.913	1.960	Significant	Positive

Source: Processed research data (2026). $N = 129$.

The correlation results demonstrate that all relationships among the research variables are positive and statistically significant. The strongest bivariate relationship was observed between Work Culture and Teachers' Performance ($r = 0.663$), followed by Job Satisfaction and Teachers' Performance ($r = 0.432$), Transformational Leadership and Teachers' Performance ($r = 0.405$), and Work Motivation and Teachers' Performance ($r = 0.328$). These findings provide preliminary empirical support for the proposed relationships prior to examining the path coefficients.

Simultaneous Regression Analysis

Multiple regression analysis was conducted to determine whether Transformational Leadership, Work Culture, Job Satisfaction, and Work Motivation jointly explain variations in Teachers' Performance.

Table 4. Simultaneous Regression Test

Model	N	F-value	df ₁	df ₂	p-value	Adjusted R ²	Explained Variance
$X_1, X_2, X_3, X_4 \rightarrow Y$	129	32.650	4	124	<0.001	0.512	51.2%

Source: Processed research data (2026).

The F-test demonstrates that the regression model is statistically significant ($F = 32.650$, $p < 0.001$). Therefore, Transformational Leadership, Work Culture, Job Satisfaction, and Work Motivation jointly have a

significant effect on Teachers' Performance. The Adjusted R^2 of 0.512 indicates that the four predictor variables collectively explain 51.2% of the variance in Teachers' Performance, while the remaining 48.8% is attributable to other factors not included in the model.

Direct Path Analysis and Hypothesis Testing

The path analysis was conducted to examine the direct effects among the variables specified in the theoretical model. Seven direct paths were tested.

Table 5. Direct Path Coefficients and Hypothesis Testing

Hypothesis	Causal Relationship	Path Coefficient (β)	t-value	t-critical	p-value	Decision
H ₁	$X_1 \rightarrow X_2$	0.335	4.013	1.960	<0.001	Supported
H ₂	$X_1 \rightarrow X_3$	0.233	2.698	1.960	0.007	Supported
H ₃	$X_1 \rightarrow X_4$	0.234	2.707	1.960	0.007	Supported
H ₄	$X_1 \rightarrow Y$	0.170	2.506	1.960	0.014	Supported
H ₅	$X_2 \rightarrow Y$	0.508	6.910	1.960	<0.001	Supported
H ₆	$X_3 \rightarrow Y$	0.146	2.076	1.960	0.040	Supported
H ₇	$X_4 \rightarrow Y$	0.135	2.056	1.960	0.042	Supported

Source: Processed research data (2026).

All seven hypothesized direct relationships were statistically significant at $\alpha = 0.05$. Transformational Leadership significantly predicts Work Culture, Job Satisfaction, Work Motivation, and Teachers' Performance. In addition, Work Culture, Job Satisfaction, and Work Motivation each have a positive and significant direct relationship with Teachers' Performance.

Direct Effects on Teachers' Performance

Because the primary dependent variable in this study is Teachers' Performance, the four direct paths leading to Y can also be presented separately for clearer interpretation.

Table 6. Direct Effects of the Predictor Variables on Teachers' Performance

Predictor	Dependent Variable	β	t-value	p-value	Effect Direction	Significance
Transformational Leadership (X_1)	Teachers' Performance (Y)	0.170	2.506	0.014	Positive	Significant
Work Culture (X_2)	Teachers' Performance (Y)	0.508	6.910	<0.001	Positive	Significant
Job Satisfaction (X_3)	Teachers' Performance (Y)	0.146	2.076	0.040	Positive	Significant
Work Motivation (X_4)	Teachers' Performance (Y)	0.135	2.056	0.042	Positive	Significant

Source: Processed research data (2026).

The results show that Work Culture has the largest standardized direct path coefficient to Teachers' Performance ($\beta = 0.508$), followed by Transformational Leadership ($\beta = 0.170$), Job Satisfaction ($\beta = 0.146$), and Work Motivation ($\beta = 0.135$).

Direct Effect of Transformational Leadership on the Mediating Variables

The results also demonstrate that Transformational Leadership significantly predicts the three intervening variables in the proposed causal model.

Table 7. Effects of Transformational Leadership on Work Culture, Job Satisfaction, and Work Motivation

No.	Relationship	β	t-value	p-value	Effect Direction	Decision
1	$X_1 \rightarrow X_2$	0.335	4.013	<0.001	Positive	Significant
2	$X_1 \rightarrow X_3$	0.233	2.698	0.007	Positive	Significant
3	$X_1 \rightarrow X_4$	0.234	2.707	0.007	Positive	Significant

Source: Processed research data (2026).

The results indicate that Transformational Leadership has significant positive effects on Work Culture, Job Satisfaction, and Work Motivation. The strongest relationship is observed between Transformational Leadership and Work Culture ($\beta = 0.335$), followed by Work Motivation ($\beta = 0.234$) and Job Satisfaction ($\beta = 0.233$).

Relative Contribution to Teachers' Performance

The path decomposition analysis was used to examine the relative contribution of each predictor to Teachers' Performance. The results are presented below.

Table 8. Relative Contribution of the Predictor Variables to Teachers' Performance

Rank	Predictor Variable	Direct Effect	Relative Contribution	Contribution (%)
1	Work Culture (X_2)	0.508	0.258	25.8%
2	Transformational Leadership (X_1)	0.170	0.029	2.9%
3	Job Satisfaction (X_3)	0.146	0.021	2.1%
4	Work Motivation (X_4)	0.135	0.018	1.8%

Source: Processed research data (2026).

The results show that Work Culture has the largest relative contribution, at 25.8%, followed by Transformational Leadership at 2.9%, Job Satisfaction at 2.1%, and Work Motivation at 1.8%. The relatively large contribution of Work Culture is consistent with its comparatively high path coefficient ($\beta = 0.508$), indicating that Work Culture is the most prominent predictor of Teachers' Performance in the proposed model.

Decomposition of the Effects on Teachers' Performance

To further examine the causal relationships specified in the proposed path model, the effects of Principals' Transformational Leadership (X_1), Work Culture (X_2), Job Satisfaction (X_3), and Work Motivation (X_4) on Teachers' Performance (Y) were decomposed into direct and indirect effects. This decomposition was conducted to determine whether the effect of Transformational Leadership on Teachers' Performance was transmitted through Work Culture, Job Satisfaction, and Work Motivation.

Table 9. The Effect of Transformational Leadership on Teachers' Performance

Effect of X_1 on Y	Calculation	Effect
Direct effect	0.170	0.170
Indirect effect through Work Culture (X_2)	0.335×0.508	0.170
Indirect effect through Job Satisfaction (X_3)	0.233×0.146	0.034
Indirect effect through Work Motivation (X_4)	0.234×0.135	0.032
Total decomposed effect		0.406

Source: Processed research data (2026).

The results indicate that Transformational Leadership has a direct effect on Teachers' Performance with a path coefficient of 0.170. In addition to its direct effect, Transformational Leadership is also associated with Teachers' Performance through the three intervening variables. The indirect effect through Work Culture was calculated as the product of the path coefficient from Transformational Leadership to Work Culture (0.335) and the path coefficient from Work Culture to Teachers' Performance (0.508), yielding an indirect effect of approximately 0.170. Similarly, the indirect effect through Job Satisfaction was calculated as 0.233×0.146 ,

yielding approximately 0.034, while the indirect effect through Work Motivation was calculated as 0.234×0.135 , yielding approximately 0.032.

The decomposition results show that Transformational Leadership contributes to Teachers' Performance both directly and indirectly through the intervening variables. The largest indirect pathway is observed through Work Culture, with an estimated indirect effect of 0.170. This is consistent with the relatively strong path from Transformational Leadership to Work Culture ($\beta = 0.335$) and from Work Culture to Teachers' Performance ($\beta = 0.508$). The indirect effects through Job Satisfaction and Work Motivation are smaller, at approximately 0.034 and 0.032, respectively.

For Work Culture, Job Satisfaction, and Work Motivation, the direct path coefficients to Teachers' Performance were 0.508, 0.146, and 0.135, respectively. These coefficients represent their direct effects in the structural model. The corresponding bivariate correlation coefficients with Teachers' Performance were 0.663, 0.432, and 0.328, respectively. Because these correlation coefficients represent overall associations rather than decomposed causal effects, they are reported separately and are not labeled as total effects.

Table 10. Direct Effects and Bivariate Associations with Teachers' Performance

Predictor	Direct Path Coefficient (β)	t-value	p-value	Correlation with Y (r)
Transformational Leadership (X_1)	0.170	2.506	0.014	0.405
Work Culture (X_2)	0.508	6.910	<0.001	0.663
Job Satisfaction (X_3)	0.146	2.076	0.040	0.432
Work Motivation (X_4)	0.135	2.056	0.042	0.328

Source: Processed research data (2026).

The results presented in Table 11 should be interpreted by distinguishing between direct effects and bivariate associations. The path coefficient represents the estimated direct effect of each predictor on Teachers' Performance while controlling for the other predictors in the structural model. In contrast, the Pearson correlation coefficient represents the strength of the overall bivariate relationship between each predictor and Teachers' Performance. Accordingly, the correlation coefficients should not be interpreted as causal total effects.

DISCUSSION

The Direct Effect of Principals' Transformational Leadership on Work Culture

The positive relationship between transformational leadership and work culture can be explained by how principals translate leadership values into consistent organizational practices. Vision setting, recognition, participation, intellectual stimulation, and individualized support create behavioral signals about what is valued in the school. When those signals are reinforced consistently, teachers are more likely to develop shared expectations about collaboration, discipline, professional ethics, and innovation. This interpretation is consistent with the mechanism identified by Alzoraiki et al. (2024), who found that transformational leadership was positively associated with school culture in public schools. The implication is that principals who want to strengthen work culture should not rely on formal rules alone; they need to model the values they expect teachers to adopt and create regular opportunities for collaborative professional work.

The Direct Effect of Principals' Transformational Leadership on Job Satisfaction

Transformational leadership can also improve job satisfaction by reshaping teachers' experiences of support, recognition, autonomy, and professional meaning. Individualized consideration allows principals to respond to different teacher needs, while inspirational motivation can make routine responsibilities appear connected to a meaningful educational purpose. These conditions may increase positive evaluations of work even when material resources are limited. The present finding is therefore better interpreted as a process of improving teachers' work experience rather than simply as a consequence of a leadership style label. At the

same time, the relationship should not be treated as universal because satisfaction depends on working conditions and personal expectations; this contextual sensitivity is important when comparing schools.

The Direct Effect of Principals' Transformational Leadership on Work Motivation

The positive association between transformational leadership and work motivation is theoretically plausible because transformational leaders connect individual effort with valued collective goals. Recognition and constructive feedback can strengthen teachers' expectancy that effort will produce meaningful outcomes, while intellectual stimulation can increase intrinsic interest in solving instructional problems. This mechanism helps explain why leadership may be associated with teachers' willingness to persist and take initiative. The practical implication is that leadership development should include concrete skills in goal communication, feedback, recognition, and teacher empowerment rather than focusing only on the conceptual definition of transformational leadership.

The Direct Effect of Principals' Transformational Leadership on Teachers' Performance

The direct relationship between transformational leadership and teacher performance suggests that leadership can shape instructional behavior even when organizational and psychological pathways are considered simultaneously. Principals influence performance by setting clear expectations, protecting instructional time, coordinating professional development, monitoring learning processes, and giving teachers individualized feedback. However, the relatively smaller direct contribution compared with work culture suggests that leadership may be more effective when it is embedded in supportive organizational conditions. This interpretation is consistent with Alzoraiki et al. (2024). However, it also needs to be read alongside Dewi et al. (2025), who found a positive but non-significant direct effect of transformational leadership on teacher performance, and a significant effect mediated by work motivation. The difference indicates that leadership may operate differently across school contexts and that the organizational and psychological pathways deserve attention.

The Direct Effect of Work Culture on Teachers' Performance

Work culture emerged as the strongest direct predictor of teacher performance. This result can be explained by the cumulative effect of everyday organizational norms: teachers work more effectively when collaboration is routine, professional expectations are clear, discipline is supported fairly, innovation is encouraged, and colleagues can be trusted. A supportive culture reduces the social and procedural barriers that can prevent teachers from translating competence and motivation into consistent classroom practice. The finding is consistent with Alzoraiki et al. (2024), who linked school culture to teaching performance, but contrasts with Herliana et al. (2025) and Harun et al. (2024), who found non-significant effects of work culture on teacher performance in other contexts. The contrast reinforces the importance of context; culture appears most consequential when shared norms are translated into concrete professional routines and support systems.

The Direct Effect of Job Satisfaction on Teachers' Performance

The positive association between job satisfaction and teacher performance suggests that teachers' evaluations of their work experience can translate into stronger professional engagement. Satisfaction with supervision, colleagues, working conditions, recognition, and growth opportunities may reduce withdrawal tendencies and increase willingness to invest effort in planning, implementation, assessment, and professional development. The finding should nevertheless be interpreted with caution because satisfaction does not automatically translate into performance in every setting. Andriadi et al. (2026), for example, found that job satisfaction was not a significant predictor of teacher performance in senior high schools in Merangin District. The difference may reflect variations in school level, leadership practices, job conditions, or the extent to which performance is formally monitored (Safitri, 2024b; Safitri et al., 2025). Thus, school leaders should treat satisfaction as one component of a broader performance-support system rather than as a stand-alone solution.

The Direct Effect of Work Motivation on Teachers' Performance

Work motivation was also positively associated with teacher performance, although its direct contribution was smaller than that of work culture and transformational leadership. Motivation can influence performance through the intensity and persistence of teachers' effort: motivated teachers are more likely to prepare lessons carefully, respond to student needs, assess learning, and pursue professional improvement. The result is consistent with Dewi et al. (2025) and Herliana et al. (2025), who also identified motivation as an important predictor of performance. Nevertheless, other studies have reported non-significant effects on motivation, suggesting that motivation may not translate into performance when teachers face structural constraints or weak instructional support. The practical implication is that motivational strategies should be combined with supportive leadership, adequate resources, clear expectations, and a work culture that enables teachers to act on their motivation.

Overall Discussion

Taken together, the findings indicate that teacher performance is better understood as the product of interacting leadership, organizational, and psychological conditions rather than as the consequence of a single leadership behavior. Transformational leadership is associated with work culture, job satisfaction, and work motivation, while work culture shows the strongest direct contribution to teacher performance (Safitri, Rosnawati, et al., 2024). This pattern suggests that leadership is most consequential when it is converted into everyday organizational practices that support teachers' work and when teachers experience those practices as meaningful and motivating.

Theoretically, the study contributes by integrating transformational leadership with organizational culture and psychological work-attitude perspectives into a single school-level model. The finding that work culture is the strongest direct predictor suggests that transformational leadership theory is more informative when leadership is examined alongside the organizational context in which teachers work (Safitri, Harahap, et al., 2022; Safitri, 2024a; Safitri & Ansyari, 2024). The findings also refine the common assumption that leadership effects are uniformly direct: the significant relationships with culture, satisfaction, and motivation indicate plausible pathways through which leadership translates into teacher behavior, although formal indirect-effect testing was beyond the scope of the present analysis.

In practice, the findings suggest that school improvement should combine principal leadership development with deliberate culture-building, teacher recognition, professional support, and motivational strategies (Harahap et al., 2022; Safitri, Muti'ah, et al., 2022; Uswatun Hasanah et al., 2023). Principals should establish collaborative routines, provide constructive feedback, recognize achievement, support professional learning, and create conditions in which teachers can exercise initiative. Because 48.8% of the variance in teacher performance remains unexplained, schools should also consider other factors such as teacher competence, workload, resources, academic supervision, professional development, and student characteristics.

The study has several limitations. First, the cross-sectional survey design captures relationships at one point in time and therefore cannot establish temporal causality. Second, the data are based primarily on teacher self-reports, which may introduce common-method and social desirability biases. Third, the sample is limited to 12 public elementary schools in one district, so generalizations to other regions and school levels should be made with caution. Fourth, although the conceptual model includes intervening pathways, the present analysis emphasizes direct and simultaneous effects rather than a formal bootstrap test of indirect effects. Future research should therefore use longitudinal or multilevel designs, combine questionnaire data with classroom observations or performance records, explicitly test indirect effects using SEM or bootstrapping, and compare rural and urban schools to determine whether the relative importance of leadership, culture, satisfaction, and motivation varies across contexts (Anjani & Safitri, 2023; Handayani et al., 2023; Safitri, Lestarani, et al., 2024).

The structural relationships among the variables are summarized in Figure 1. The figure presents the empirical path model used in the study and should be interpreted as a representation of the tested relationships rather than as evidence of causal mediation beyond the analyses reported.

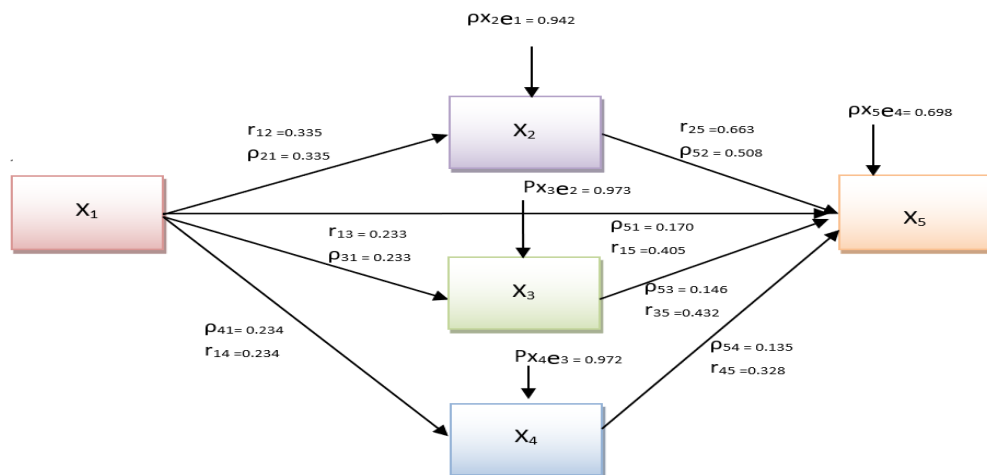


Figure 1. Empirical Causal Model of the Relationships Among Transformational Leadership, Work Culture, Job Satisfaction, Work Motivation, and Teachers' Performance

CONCLUSION

This study demonstrates that principals' transformational leadership is positively associated with work culture, job satisfaction, work motivation, and teachers' performance, while work culture, job satisfaction, and work motivation are also positively associated with teacher performance; among the predictors, work culture has the strongest direct contribution, and the four predictors jointly explain 51.2% of the variance in teacher performance. The findings indicate that improving teacher performance in public elementary schools requires an integrated strategy in which principals provide inspirational and individualized leadership while simultaneously cultivating collaborative, disciplined, professional, and innovative work cultures and supporting teachers' satisfaction and motivation. Theoretically, the study demonstrates the value of linking transformational leadership to organizational and psychological conditions in explaining teacher performance; practically, it suggests that leadership development should be accompanied by culture-building, recognition, professional development, and supportive working conditions. Because the study is cross-sectional, geographically bounded, and largely based on self-reported data, future research should test the proposed pathways longitudinally and examine indirect effects using more rigorous mediation procedures across diverse school contexts.

Contribution

This study contributes to the theoretical understanding of teachers' performance by integrating Principals' Transformational Leadership, Work Culture, Job Satisfaction, and Work Motivation into a comprehensive explanatory framework. The findings show that Transformational Leadership has a positive and significant effect on Teachers' Performance and significantly predicts Work Culture ($\beta = 0.335$), Job Satisfaction ($\beta = 0.233$), and Work Motivation ($\beta = 0.234$). Work Culture demonstrated the strongest direct effect on Teachers' Performance ($\beta = 0.508$; $p < 0.001$), highlighting the importance of shared values, collaboration, discipline, commitment, and professional norms in shaping teacher performance. These findings extend perspectives in transformational leadership and organizational behavior by demonstrating that leadership influences teacher outcomes through direct, organizational, and psychological pathways. Overall, the model explains 51.2% of the variance in Teachers' Performance, indicating that leadership,

organizational culture, job satisfaction, and work motivation are important interconnected factors in explaining teacher performance.

From a methodological perspective, this study contributes by applying path analysis to examine both direct relationships and potential pathways linking Principals' Transformational Leadership to Teachers' Performance. Rather than examining the predictors independently, the model simultaneously considers the relationships among Transformational Leadership, the three intervening variables—Work Culture, Job Satisfaction, and Work Motivation—and their respective relationships with Teachers' Performance. The analysis provides evidence that the proposed structural relationships are statistically significant. The simultaneous regression test produced an F-value of 32.650 with $p < 0.001$. At the same time, the Adjusted R^2 of 0.512 indicates that the variables included in the model collectively explain 51.2% of the variance in Teachers' Performance. The path analysis further demonstrates that all seven hypothesized direct relationships are statistically significant. This methodological approach provides a more comprehensive representation of the relationships among leadership, organizational, psychological, and performance-related variables in the school context.

This study contributes to the theoretical understanding of Teachers' Performance by integrating Transformational Leadership, Work Culture, Job Satisfaction, and Work Motivation into an integrated framework. The findings show that Transformational Leadership significantly influences Teachers' Performance and is also significantly associated with Work Culture, Job Satisfaction, and Work Motivation, while Work Culture has the strongest direct effect on Teachers' Performance ($\beta = 0.508$; $p < 0.001$). These findings emphasize that teacher performance is shaped not only by individual factors but also by organizational and leadership conditions, with the proposed model explaining 51.2% of the variance in Teachers' Performance.

Future research should employ longitudinal and multilevel designs to examine changes in leadership, work culture, job satisfaction, work motivation, and teachers' performance over time and across school contexts. Future studies should also use objective performance indicators, such as classroom observations, student outcomes, teaching evaluations, attendance, and professional achievements, to strengthen measurement validity. In addition, formal mediation testing using bootstrapping is recommended to verify the indirect effects of Transformational Leadership through Work Culture, Job Satisfaction, and Work Motivation. Comparative studies across districts, school levels, and educational contexts are also encouraged to assess the consistency and generalizability of the findings.

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REFERENCES

- Anjani, D., & Safitri, I. (2023). Pembelajaran Kooperatif Tipe Tutor Sebaya dalam Meningkatkan Karakter Bersahabat/Komunikatif. *Jurnal Basicedu*, 7(1), 1065–1074. <https://doi.org/doi.org/10.31004/basicedu.v7i1.4833>
- Alzoraiki, M., Ahmad, A. R., Ateeq, A., & Milhem, M. (2024). The role of transformational leadership in enhancing school culture and teaching performance in Yemeni public schools. *Frontiers in Education*, 9, 1413607. <https://doi.org/10.3389/educ.2024.1413607>
- Andriadi, D., Sulisty, U., Sofyan, S., & Habibi, A. (2026). The effect of principal's transformational leadership

style on teacher performance mediated by motivation and job satisfaction in senior high schools in Merangin District. *Indonesian Educational Administration and Leadership Journal*, 8(1), 1–20. <https://doi.org/10.22437/ideal.v8i1.53919>

- Arofah, S. N., Supeni, N., & Maspufah, H. (2024). Pengaruh gaya kepemimpinan, lingkungan kerja, budaya organisasi dan motivasi kerja terhadap kinerja guru di Madrasah Tsanawiyah Negeri 2 Jember. *JMBI: Jurnal Manajemen Bisnis dan Informatika*, 4(2), 193–208. <https://doi.org/10.31967/prodimanajemen.v4i2.993>
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). Sage Publications, Thousand Oaks, CA.
- Dewi, S. K., Bukhori, M., & Murtianingsih. (2025). The influence of a transformational leadership style on work motivation and its implications for teacher performance in implementing the MTSS (Multi-Tiered System of Supports) at Lazuardi GCS School, Depok. *Al Qalam: Jurnal Ilmiah Keagamaan dan Kemasyarakatan*, 19(5), 2886–2899. <https://doi.org/10.35931/aq.v19i5.5554>
- Dini, I. S., Kim, S., & Nomura, S. (2024). Teacher practices in Indonesia: Results of the Teach Primary classroom observation study. World Bank, Jakarta. <https://hdl.handle.net/10986/42153>
- Government of Padang Lawas Regency. (2026). *Kebijakan Umum APBD Kabupaten Padang Lawas Tahun Anggaran 2026*. Padang Lawas, Indonesia.
- Handayani, N., Safitri, I., & Harahap, R. D. (2023). Studi Kompetensi Guru Nonlinier di Sekolah Menengah Atas. *Jurnal Pendidikan Edutama*, 10(1), 153–162. <https://doi.org/dx.doi.org/10.30734/jpe.v10i1.3004>
- Harahap, A., Safitri, I., Adella, P., & Hijrah, N. (2022). Perbedaan Metode Inkuiri Dengan Metode Ekspositori Dalam Memecahkan Masalah Matematis Siswa di Kelas VIII SMP. *Jurnal Pembelajaran Dan Matematika Sigma (JPMS)*, 8(1), 44–56.
- Harun, S., Syam, A. W., & Sufardi. (2024). Work culture as a mediator: The impact of the work environment and compensation on teacher performance at the Firdaus Foundation, Maros Regency. *JPIM (Jurnal Penelitian Ilmu Manajemen)*, 9(2), 264–287.
- Herliana, P., Riskawaty, H., Hermawan, H., & Amelia, R. (2025). Analysis of work culture, leadership style, work motivation, and work discipline in improving teacher performance through a mixed methods approach in Kotabaru Regency secondary schools. *Improvement: Jurnal Ilmiah untuk Peningkatan Mutu Manajemen Pendidikan*, 12(1), 1–23. <https://doi.org/10.21009/improvement.v12i1.52661>
- Lubis, N. A. (2023). Permasalahan profesionalisme guru di Taman Kanak-Kanak Kecamatan Barumun Kabupaten Padang Lawas. *Childhood Education: Jurnal Pendidikan Anak Usia Dini*, 4(2), 100–106. <https://doi.org/10.53515/cej.v4i2.5223>
- Luthans, F. (2021). *Organizational behavior: An evidence-based approach* (14th ed.). McGraw-Hill.
- Safitri, I. (2024a). Should likert data be transformed using summated rating scale? A confirmatory factor analysis study on the continuous learning. *Jurnal Eduscience (JES)*, 11(3), 790–801. <https://doi.org/10.36987/jes.v11i3.6412>
- Safitri, I. (2024b). Transformation of Student Science Achievement Through Project-Based Learning (PjBL): A Meta Analysis Study. *Scientiae Educatia: Jurnal Pendidikan Sains*, 13(2). <https://doi.org/DOI:10.24235/sc.educatia.v13i2.18694>
- Safitri, I., Andriyanti, E., Ansyari, R., Harahap, R. D., Harahap, R. H., & Istiqlal, M. (2025). Character Education in Indonesia: Do Integrated Islamic Schools Outperform Public Schools? *Journal of Education Culture and Society*, 16(1), 251–270.
- Safitri, I., & Ansyari, R. (2024). The Calibration of Science Achievement Test Based on Integrated Islamic Curriculum. *8th International Conference on Education and Multimedia Technology (ICEMT)*, 329–336. <https://doi.org/10.1145/3678726.3678727>
- Safitri, I., Harahap, A., Hrp, N. A., Simanullang, D. ., & Nuraisyah. (2022). Pengaruh Model Pembelajaran Problem Based Learning Terhadap Kemampuan Pemecahan Masalah Matematika Siswa. *Jurnal Pembelajaran Dan Matematika Sigma (JPMS)*, 8(1), 72–86.
- Safitri, I., Lestarani, D., Imtikhanah, R. D. N. W., Akbarini, N. R., Sari, M. W., Fitrah, M., & Hapsan, A. (2024). *Teori Pengukuran dan Evaluasi*. CV. Ruang Tentor.

- Safitri, I., Muti'ah, R., & Sriono. (2022). *Nilai-nilai Karakter pada Siswa SMP (Studi di Kabupaten Labuhanbatu)*. PT. Mega Press Nusantara.
- Safitri, I., Rosnawati, R., & Ansyari, R. (2024). Estimasi Kesalahan Pengukuran dalam Penilaian Sidang Skripsi: Generalizability Theory Analysis. *Afeksi: Jurnal Penelitian Dan Evaluasi Pendidikan*, 5(1), 162–168. <https://doi.org/https://doi.org/10.35672/afeksi.v5i1.220>
- Uswatun Hasanah, U., Islamiani Safitri, I., & Risma Delima Harahap, R. (2023). Analisis Karakter Gemar Membaca Terhadap Kemampuan Literasi Digital Siswa Smp. *Semantik*, 12(2), 189–202. <https://doi.org/10.22460/semantik.v12i2.p189-202>
- Yukl, G. A. (2020). *Leadership in organizations* (9th ed.). Pearson Education.