Journal of Education and Teaching (JET)
Vol. 7 No. 1 2026

Transformational Leadership as a Mediator Between Parent Involvement and School Climate: A Structural Equation Modeling Study

Rini Aprilianda[1], Aan Komariah[2], Deni Kadarsah[3]
Educational Administration, Universitas Pendidikan Indonesia[1,2,3]
Corresponding Email: riniaprilianda@upi.edu

Draft article history
Submitted: 10-23-2025;
Revised: 12-03-2025;
Accepted: 12-11-2025;

ABSTRACT: This study investigates the mediating role of transformational leadership in the relationship between parent involvement and school climate, as perceived by teachers. A preliminary bibliometric mapping using VOSviewer was conducted to identify current research trends and gaps related to these constructs, providing a conceptual foundation for the empirical model. Using a quantitative causal–correlational design, data were collected from 93 teachers from ten top-ranking junior high schools in Bandung, Indonesia. Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 4.0 was employed to assess direct and indirect relationships among the constructs. The findings indicate that parent involvement significantly influences both school climate ($\beta = 0.230$, $p = 0.002$) and transformational leadership ($\beta = 0.740$, $p < 0.001$). Transformational leadership also has a positive effect on school climate ($\beta = 0.580$, $p < 0.001$) and partially mediates the relationship between parent involvement and school climate ($\beta = 0.429$, $p < 0.001$). These results highlight the importance of integrating external parental engagement with internal leadership practices to foster a supportive, collaborative, and positive school environment. The study contributes to the refinement of School Climate Theory by demonstrating how community participation and leadership dynamics jointly shape the school's organizational atmosphere.

Keywords: educational leadership, school climate, SEM-PLS, parent involvement, transformational leadership.

ABSTRAK: *Penelitian ini mengkaji peran mediasi kepemimpinan transformasional dalam hubungan antara keterlibatan orang tua dan iklim sekolah, sebagaimana dipersepsikan oleh guru. Pemetaan bibliometrik awal menggunakan VOSviewer dilakukan untuk mengidentifikasi tren dan kesenjangan penelitian terkini terkait konstruk-konstruk tersebut, sebagai landasan konseptual bagi model empiris. Menggunakan desain kuantitatif kausal–korelasional, data dikumpulkan dari 93 guru di sepuluh sekolah menengah pertama berperingkat unggul di Kota Bandung, Indonesia. Structural Equation Modeling–Partial Least Squares (SEM-PLS) dengan SmartPLS 4.0 digunakan untuk menguji hubungan langsung dan tidak langsung antar konstruk. Hasil penelitian menunjukkan bahwa keterlibatan orang tua berpengaruh signifikan terhadap iklim sekolah ($\beta = 0{,}230$; $p = 0{,}002$) dan kepemimpinan transformasional ($\beta = 0{,}740$; $p < 0{,}001$). Kepemimpinan transformasional juga berpengaruh positif terhadap iklim sekolah ($\beta = 0{,}580$; $p < 0{,}001$) serta memediasi secara parsial hubungan antara keterlibatan orang tua dan iklim sekolah ($\beta = 0{,}429$; $p < 0{,}001$). Temuan ini menegaskan pentingnya integrasi antara keterlibatan eksternal orang tua dan praktik kepemimpinan internal dalam menciptakan lingkungan sekolah yang suportif, kolaboratif, dan positif. Studi ini berkontribusi pada penguatan Teori Iklim Sekolah dengan menunjukkan bagaimana partisipasi komunitas dan dinamika kepemimpinan secara bersama-sama membentuk atmosfer organisasi sekolah.*

Kata kunci: *iklim sekolah, kepemimpinan pendidikan, keterlibatan orang tua, kepemimpinan transformasional,* SEM-PLS.

INTRODUCTION

Education plays a vital role in human development and societal progress (Haerani, 2024). It serves not only as a medium for transferring knowledge but also as a means to shape individual character and quality. According to Law No. 20 of 2003 on the National Education System, education is a conscious and planned effort to create a learning atmosphere that enables learners to develop their full potential—spiritually, intellectually, and emotionally. Education thus serves as the cornerstone of national development, as a nation's progress is determined not only by its natural resources but by the quality of its human resources capable of managing and utilizing those resources effectively (McCowan, 2019). Education can take place both formally within structured institutions and non-formally through training or courses, which together prepare individuals to contribute to the nation's advancement.

Within the formal education system, schools play a crucial role in nurturing students' potential (Sukmayadi & Yahya, 2020; Takala, 2010). They function as organizational systems that consist of interconnected elements requiring strong coordination to ensure effective operations. In practice, schools often face complex organizational dynamics influenced by environmental changes and evolving educational demands (Fidan & Balcı, 2017; Kershner & McQuillan, 2016). Amidst these challenges, strong leadership that fosters a positive school climate becomes essential for maintaining organizational harmony and ensuring that educational goals are achieved effectively (Sari & Lestari, 2025).

In the Indonesian context, this perspective aligns with the Minister of National Education No. 19 of 2007 on Educational Management Standards, which emphasizes the importance of school culture and environment. It mandates that school management include the development of codes of conduct, ethical standards for all school members, and operational procedures to create a positive and conducive school climate. This regulation underscores that school climate is a key factor that must be prioritized by every educational leader to ensure effective learning and teaching processes.

A positive school climate has long been associated with teachers' motivation, students' well-being, and the overall effectiveness of schools (Hadiyanto & Mathew, 2023; Hoy & Miskel, 2013). Numerous studies have shown that school climate is influenced by both internal factors, such as leadership (McCarley et al., 2016; Simbre et al., 2023), and external factors, such as parent involvement (Alinsunurin, 2020a). Parents' active engagement in school activities enhances communication, mutual trust, and collaboration between home and school (Epstein, 2018). However, while parent involvement has been extensively examined in relation to student achievement, its relationship with school climate—particularly through the mediating role of leadership—has received limited empirical attention (Yulianti et al., 2021).

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

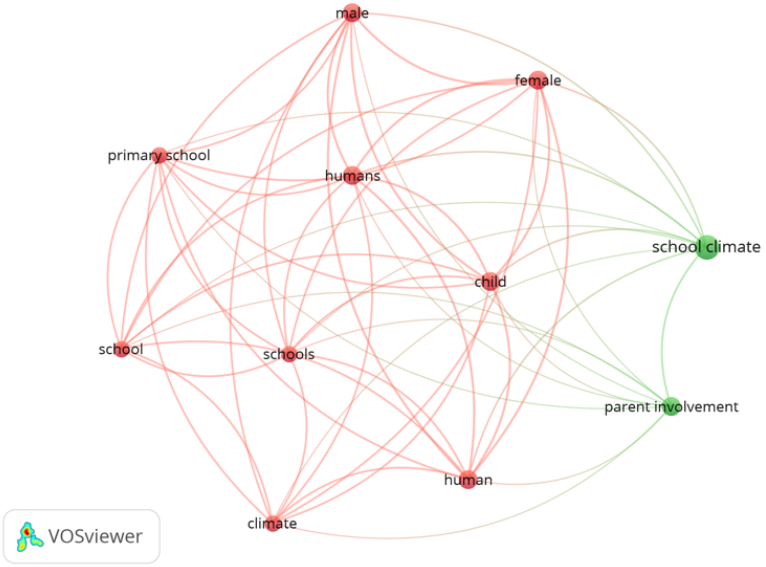

Figure 1. Co-occurrence Network of Keywords Related to "School Climate" and "Parent Involvement"

A bibliometric analysis using Scopus data (2015–2025) revealed that only 17 documents simultaneously addressed "school climate" and "parent involvement." Most of these studies primarily focused on issues of cultural sensitivity, diversity, and student outcomes rather than on organizational or leadership dimensions. Likewise, a VOSviewer co-occurrence analysis showed that school climate and parent involvement appeared in separate clusters, suggesting that these constructs have rarely been examined together within a single theoretical or empirical framework. This indicates that research connecting these two variables, especially in the context of leadership and school management, remains relatively scarce.

Previous studies have largely examined parent involvement from the perspectives of students and families, thereby overlooking the strategic roles of teachers and school principals (Berkowitz et al., 2021; Mera-Lemp et al., 2025; Povey et al., 2016; Waasdorp et al., 2011). Despite growing attention to the roles of parent involvement and school climate, the mediating influence of transformational leadership has not been thoroughly integrated into a single comprehensive framework. Consequently, studies examining the interplay between teachers' perceptions of parent involvement and principals' transformational leadership as mutually reinforcing factors in shaping school climate remain scarce (Mera-Lemp et al., 2025; Povey et al., 2016; Yulianti et al., 2021). This highlights the necessity for further research to explore how external parental engagement interacts with internal leadership practices in fostering a positive, collaborative, and supportive school environment that enhances the overall educational process.

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

Journal of Education and Teaching (JET) Volume 7 No. 1, 2026
DOI: 10.51454/jet.v7i1.796

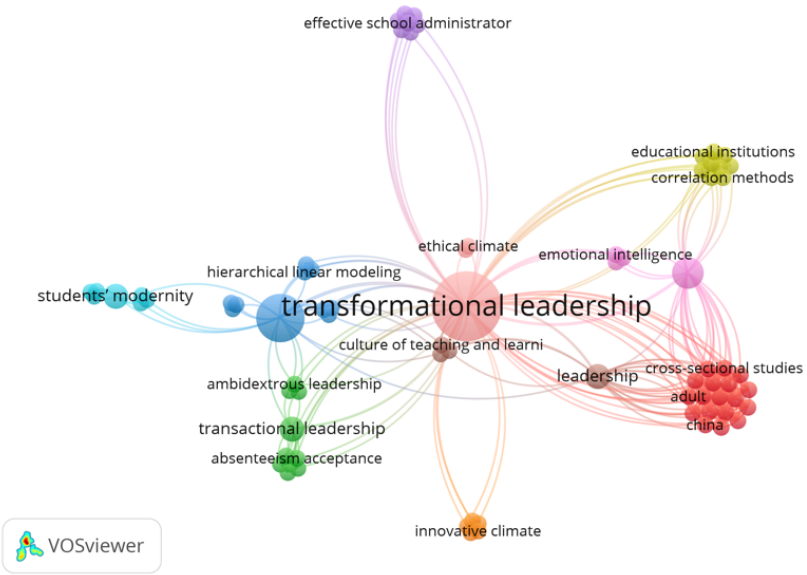

Figure 2. Co-occurrence Network of Keywords Related to "Transformational Leadership"

Similarly, a separate bibliometric visualization on transformational leadership revealed frequent associations with themes such as ethical climate, emotional intelligence, and effective school administration, but with little connection to parent involvement. This indicates that although transformational leadership has been recognized as a key driver of positive organizational culture, its mediating role between parent involvement and school climate remains underexplored.

This observation is supported by the study of (Yulianti et al., 2021) titled "Transformational Leadership for Parental Involvement: How Teachers Perceive the School Leadership Practices to Promote Parental Involvement in Children's Education." Their results showed that teachers' perceptions of transformational leadership were positively associated with their invitational behaviors toward parents. In other words, when teachers perceived their principals as transformational leaders—those who inspire, motivate, and provide individualized support—they were more likely to engage parents actively in the educational process. Such leadership behaviors foster a culture of openness and collaboration that encourages stronger home–school partnerships.

Building upon these findings, this study aims to investigate the role of transformational leadership in mediating the effect of parent involvement on school climate from teachers' perceptions. This research seeks to fill the theoretical and empirical gaps identified in previous studies by integrating external community engagement and internal school leadership into a single model, offering a comprehensive understanding of how collaborative efforts shape a positive educational environment.

RESEARCH METHODS

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

A bibliometric mapping was conducted using Scopus to position the study within existing scholarship. Searches employed TITLE-ABS-KEY combinations related to parent involvement, transformational leadership, and school climate, limited to peer-reviewed articles (2015–2025) in English. Retrieved documents were exported in CSV format, cleaned for duplicates and incomplete records, and analyzed using VOSviewer (version 1.6.20) with full counting and association-strength normalization to produce keyword co-occurrence maps. The visualizations showed limited overlap among the three constructs, indicating the need for an integrated empirical model.

This study used a quantitative causal–correlational design with Structural Equation Modeling–Partial Least Squares (SEM-PLS) using SmartPLS 4.0 to examine the relationships among parent involvement, transformational leadership, and school climate. SEM-PLS was chosen for its suitability for complex models and small samples. All research procedures—including instrument development, methodological decisions, and data interpretation—were reviewed and supervised by an academic advisor experienced in educational leadership.

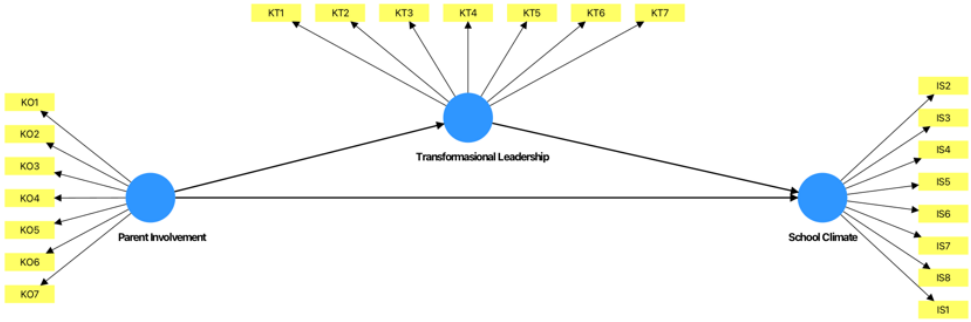

Figure 3. Research Model in SEM-PLS 4.0

The sample consisted of 93 teachers selected through proportional random sampling from ten top-ranking junior high schools in Bandung. School selection was based on accreditation ratings, student achievement rankings, and official performance indicators from the local education authority. Teacher lists from each school were proportionally allocated and randomly selected. Participants varied in gender (68.8% female, 31.2% male), age (majority 31–45 years), teaching experience (20.4% <5 years; 37.6% 5–10 years; 41.9% >10 years), and roles (subject teachers, homeroom teachers, and administrative coordinators). Although diverse, the focus on high-performing schools introduces limitations in generalizability.

Data were collected through a five-point Likert-scale questionnaire distributed via Google Forms. The instrument consisted of three self-developed scales grounded in established theoretical dimensions; parent involvement (7 items; 5 retained), transformational leadership (7 items; 5 retained), and school climate (8 items; 6 retained). Items were self-developed using established theoretical dimensions from previous literature (Bass & Riggio, 2006; Epstein, 2018; Hoy & Miskel, 2013). Content validity was reviewed by experts, and a pilot test confirmed reliability (Cronbach's $\alpha > 0.70$).

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

Ethical approval was granted by the thesis advisor (expert in educational management) at Universitas Pendidikan Indonesia. Formal permission to conduct the study was additionally obtained from the university and the principals of all participating schools. Informed consent was secured from all participants, and anonymity and confidentiality were ensured throughout data handling.

Data analysis included evaluation of the measurement model (convergent validity, discriminant validity, and reliability) followed by assessment of the structural model (path coefficients, R^2, f^2, Q^2, mediation analysis). Model fit was evaluated using SRMR, and significance was tested via bootstrapping with 5,000 subsamples.

RESULT AND DISCUSSION

Outer Model (Measurement Model)

Convergent Validity

This indicates the extent to which the indicators of a construct are highly correlated with one another. A construct is considered valid if the factor loading is equal to or greater than 0.70 and the Average Variance Extracted (AVE) is equal to or greater than 0.50 (Fornell & Larcker, 1981; Hair et al., 2019).

Table 1. Indicator Refinement: Initial vs. Final Measurement Model

Construct	Indicator	Initial Loading	Decision	Statistical Reason	Conceptual Justification
Parent Involvement	KO1	0.510	Deleted	Loading < 0.70	The item reflects a superficial aspect of parental engagement and does not fully capture core involvement behaviors.
	KO2	0.765	Retained	Loading ≥ 0.70	The item strongly represents parents' participation in school activities.
	KO3	0.877	Retained	Loading ≥ 0.70	Reflects a central dimension of parental support perceived by teachers.
	KO4	0.724	Retained	Loading ≥ 0.70	Conceptually relevant to communication between school and parents.
	KO5	0.779	Retained	Loading ≥ 0.70	Represents parental responsiveness and contribution to school programs.
	KO6	0.884	Retained	Loading ≥ 0.70	Strongly captures proactive parental involvement.
	KO7	0.475	Deleted	Loading < 0.70	The item overlaps with other indicators and

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

Construct	Indicator	Initial Loading	Decision	Statistical Reason	Conceptual Justification
					shows weak conceptual clarity.
Transformational Leadership	KT1	0.810	Retained	Loading ≥ 0.70	Captures a fundamental element of inspirational motivation.
	KT2	0.765	Retained	Loading ≥ 0.70	Represents individualized consideration.
	KT3	0.877	Retained	Loading ≥ 0.70	Reflects the leader's intellectual stimulation behavior.
	KT4	0.724	Retained	Loading ≥ 0.70	Conceptually consistent with transformational leadership theory.
	KT5	0.679	Deleted	Loading < 0.70	The indicator is conceptually weak and does not represent transformational practices clearly.
	KT6	0.884	Retained	Loading ≥ 0.70	Strongly reflects the leader's ability to motivate and influence staff.
	KT7	0.475	Deleted	Loading < 0.70	The item lacks conceptual distinctiveness within the leadership construct.
School Climate	IS1	0.783	Retained	Loading ≥ 0.70	Represents the supportive dimension of the school atmosphere.
	IS2	0.839	Retained	Loading ≥ 0.70	Captures teachers' perception of collegiality and cooperation.
	IS3	0.745	Retained	Loading ≥ 0.70	Reflects overall school environment consistency.
	IS4	0.497	Deleted	Loading < 0.70	The item does not adequately represent the climate dimension.
	IS5	0.765	Retained	Loading ≥ 0.70	Represents clarity of school rules and expectations.
	IS6	0.839	Retained	Loading ≥ 0.70	Strongly reflects positive interpersonal relationships.
	IS7	0.819	Retained	Loading ≥ 0.70	Captures collaborative cultural practices.

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

Construct	Indicator	Initial Loading	Decision	Statistical Reason	Conceptual Justification
	IS8	0.628	Deleted	Loading < 0.70	The indicator lacks conceptual strength and overlaps with stronger items.

The initial measurement model evaluation identified several indicators with factor loadings below the recommended threshold of 0.70 (Fornell & Larcker, 1981; Hair et al., 2019). Consequently, KO1, KO7 (Parent Involvement), KT5, KT7 (Transformational Leadership), and IS4, IS8 (School Climate) were removed to improve convergent validity. These items were retained only if they met both statistical and conceptual criteria. After refinement, all remaining indicators exhibited loadings above 0.70 and AVE values above 0.50, confirming satisfactory convergent validity. Table 1 summarizes the initial and final indicators, along with their statistical and conceptual justification.

Reliability Test

Reliability ensures that the indicators of a construct are consistent in measuring the same concept. The criteria used to assess reliability are: Cronbach's Alpha ≥ 0.70 and Composite Reliability (CR) ≥ 0.70 (Nunnally & Bernstein, 1994).

Table 2. Reliability Test

Construct	Cronbach's Alpha	Composite Reliability	Status
Parent Involvement	0.846	0.890	Reliable
Transformational Leadership	0.839	0.886	Reliable
School Climate	0.867	0.901	Reliable

As shown in Table 2, the values of Cronbach's Alpha **and** Composite Reliability (CR) for *Parent Involvement*, *Transformational Leadership*, and *School Climate* all exceeded the threshold of 0.70, indicating that each construct is reliable (Hair et al., 2019). These results suggest that the indicators consistently measure their respective latent variables and that the data used in this study are stable and dependable.

Discriminant Validity

Discriminant validity assesses the degree to which constructs are conceptually and empirically distinct from one another. In this study, discriminant validity was evaluated using two complementary approaches: (1) the Fornell–Larcker criterion, and (2) the Heterotrait–Monotrait Ratio (HTMT), which is recommended in modern SEM practices (Henseler et al., 2015).

Table 3. Discriminant Validity – Fornell–Larcker Criterion

	Parent Involvement	School Climate	Transformational Leadership
SC1	0.735	**0.805**	0.751

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

	Parent Involvement	School Climate	Transformational Leadership
SC2	0.602	**0.822**	0.713
SC3	0.610	**0.663**	0.607
SC5	0.559	**0.662**	0.496
SC6	0.651	**0.853**	0.742
SC7	0.685	**0.836**	0.716
PI2	**0.710**	0.538	0.613
PI3	**0.892**	0.765	0.797
PI4	**0.755**	0.595	0.602
PI5	**0.673**	0.386	0.490
PI6	**0.884**	0.851	0.823
TL1	0.763	0.756	**0.823**
TL2	0.560	0.598	**0.791**
TL3	0.454	0.517	**0.634**
TL4	0.852	0.841	**0.897**
TL6	0.660	0.635	**0.743**

As presented in Table 3, the diagonal values representing the √AVE of each construct are higher than their corresponding inter-construct correlations. Specifically, *Parent Involvement* (0.710), *Transformational Leadership* (0.823), and *School Climate* (0.805) each show greater √AVE values than their correlations with other variables. These results confirm the model demonstrates strong discriminant validity**,** all constructs are empirically distinct and conceptually reliable.

Table 4. HTMT Values

Construct Pair	HTMT Value	Interpretation
Parent Involvement – Transformational Leadership	0.742	Valid (HTMT < 0.85)
Parent Involvement – School Climate	0.681	Valid (HTMT < 0.85)
Transformational Leadership – School Climate	0.794	Valid (HTMT < 0.85)

All HTMT values range between 0.681 and 0.794, which are below the recommended conservative threshold of 0.85. These results further confirm that all constructs in the model demonstrate strong discriminant validity.

Based on both the Fornell–Larcker criterion and the HTMT ratios, the model satisfies the requirements for discriminant validity. The √AVE values for all constructs exceeded their correlations with other constructs, and all HTMT values were below the conservative threshold of 0.85. This indicates that Parent Involvement, Transformational Leadership, and School Climate are empirically distinct and conceptually reliable constructs within the model.

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

Common Method Bias (CMB) and Collinearity Testing

Because all variables in this study were measured using self-report questionnaires from the same respondents, it was necessary to assess the potential presence of Common Method Bias (CMB). Several recommended procedures were applied to ensure that CMB and multicollinearity did not threaten the validity of the findings.

Harman's single-factor test was conducted by loading all measurement items into an exploratory factor analysis. The results showed that the first unrotated factor accounted for **28.4%** of the total variance—well below the conservative threshold of 50%. This indicates that no single factor dominates the variance, suggesting that CMB is unlikely to be a serious issue.

Table 5. Harman's Single-Factor Test

Component	Variance Explained
First Factor	**28.4%**
Total Variance	100%

Full collinearity VIF values were also examined to simultaneously assess CMB and multicollinearity. The results showed that all constructs had VIF scores below the conservative cutoff of 3.3, indicating the absence of both CMB and collinearity problems.

Table 6. Full Collinearity VIF

Construct	Full VIF
Parent Involvement	2.41
Transformational Leadership	2.87
School Climate	2.63

To further verify that the structural and measurement components of the model were free from multicollinearity, construct-level (inner) VIF and indicator-level (outer) VIF values were also evaluated. All inner VIF scores ranged between **1.00 and 2.19**, while outer VIF scores ranged from **1.84 to 2.33**, well below the acceptable limit of 5.

Table 7. Inner VIF (Construct-Level Collinearity)

Endogenous Construct	Predictor	VIF
Transformational Leadership	Parent Involvement	1.00
School Climate	Parent Involvement	2.19
School Climate	Transformational Leadership	2.19

Table 8. Outer VIF (Indicator-Level Collinearity)

Construct	Indicator	VIF
Parent Involvement	KO2	1.92
	KO3	2.13
	KO4	1.88
	KO5	2.01

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

Construct	Indicator	VIF
	KO6	2.26
Transformational Leadership	KT1	2.14
	KT2	1.97
	KT3	2.28
	KT4	1.84
	KT6	2.10
School Climate	IS1	2.21
	IS2	2.19
	IS3	1.98
	IS5	2.12
	IS6	2.33
	IS7	2.06

The results from Harman's single-factor test, full collinearity VIF, inner VIF, and outer VIF collectively indicate that neither common method bias nor multicollinearity pose a threat to the integrity of the data. Since all test values fall within acceptable thresholds, the measurement and structural model estimates can be considered robust, unbiased, and suitable for further analysis.

Inner Model (Structural Model)

Coefficient of Determination (R^2)

This indicates the proportion of variance in the endogenous construct that is explained by the exogenous constructs. The coefficient of determination (R^2) is interpreted as follows: 0.75 indicates a strong explanatory power, 0.50 indicates a moderate level, and 0.25 indicates a weak level.

Table 9. Coefficient of Determination (R^2)

Construct	R^2	Interpretation
School Climate	0.673	Strong Explanatory Power
Transformational Leadership	0.548	Moderate–Strong

These results suggest that the predictors used in the study effectively explain a significant portion of the variability in both constructs.

Effect Size (f^2)

Effect size was assessed to determine the substantive impact of each exogenous construct on the endogenous variables.

Table 10. Effect Size (f^2)

Relationship	f^2	Effect Size
Parent Involvement → Transformational Leadership	**0.55**	Large
Parent Involvement → School Climate	**0.08**	Small
Transformational Leadership → School Climate	**0.38**	Large

As shown in Table 6, Parent Involvement demonstrated a large effect size on Transformational Leadership ($f^2 = 0.55$) but only a small effect on School Climate

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

(f^2 = 0.08). Transformational Leadership showed a large effect on School Climate (f^2 = 0.38). These results indicate that transformational leadership plays a substantial role in shaping the school climate, while the direct impact of parent involvement is comparatively weaker.

Predictive Relevance (Q^2)

Predictive relevance was evaluated using the blindfolding procedure. Both endogenous constructs yielded Q^2 values above zero, indicating predictive relevance. Transformational Leadership exhibited a Q^2 value of 0.372, and School Climate showed 0.401, both exceeding the threshold for large predictive relevance. This suggests that the model has strong predictive capability.

Table 11. Predictive Relevance (Q^2)

Construct	Q^2	Interpretation
Transformational Leadership	**0.372**	Large predictive relevance
School Climate	**0.401**	Large predictive relevance

Model Fit (SRMR)

Model fit was assessed using the Standardized Root Mean Square Residual (SRMR). The SRMR value of 0.056 falls below the recommended cutoff of 0.08, indicating a good fit between the model and the empirical data.

Table 12. Model Fit (SRMR)

Index	Value	Threshold	Interpretation
SRMR	**0.056**	< 0.08	Good model fit

Path Coefficients (Direct Effects)

This indicates the direction and strength of the relationships between constructs. The test is conducted using the bootstrapping method with 5,000 subsamples. The relationship is considered significant if the t-statistic is greater than 1.96 and the p-value is less than 0.05.

Table 13. Direct Effects

Path	β	t-stat	p-value	Result
Parent Involvement -> School Climate	0.230	2.451	0.002	Significant
Parent Involvement -> Transformational Leadership	0.740	9.801	0.000	Significant
Transformational Leadership -> School Climate	0.580	6.897	0.000	Significant

The results of the structural model assessment are presented in Table 9. Parent involvement has a strong and positive effect on transformational leadership (β = 0.740, t = 9.801, p < 0.001), indicating that higher levels of parental engagement are associated with more transformational leadership practices as perceived by teachers. Parent involvement also has a positive direct effect on

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

school climate (β = 0.230, t = 2.451, p = 0.002). In addition, transformational leadership exerts a significant positive influence on school climate (β = 0.580, t = 6.897, p < 0.001), suggesting that principals who display transformational behaviors foster a more supportive and collaborative school environment.

Indirect Effect (Meditation Test)

This assesses whether the indirect effect through a mediating variable is significant. Mediation is considered significant if the indirect effect has a p-value less than 0.05 (Hair et al., 2019).

Table 14. Indirect Effect

Path	β (Indirect)	t-stat	p-value	Mediation Type
Parent Involvement → Transformational Leadership → School Climate	0.429	4.912	0.000	Partial Mediation

The table showed the indirect effect of Parent Involvement on School Climate through Transformational Leadership. The indirect beta (β) value is 0.429, with a t-statistic of 4.912 and a p-value of 0.000, indicating a highly significant effect. The mediation type is identified as partial mediation, meaning that while Transformational Leadership significantly mediates the relationship, Parent Involvement also has a direct influence on School Climate. This suggests that both direct and indirect pathways contribute to improving the overall school environment.

As shown in Table 10, parent involvement has a significant indirect effect on school climate through transformational leadership (β = 0.429, t = 4.912, p < 0.001). The calculated VAF of 65.1% indicates partial mediation, meaning that parent involvement improves school climate both directly and, to a greater extent, indirectly by enhancing transformational leadership.

Discussion

To further clarify the statistical findings, Table 15 presents the results of the hypothesis testing, including path coefficients, t-values, and significance levels for each proposed relationship.

Table 15. Hypothesis Testing Summary

Hypothesis	Relationship	β	t-value	p-value	Result
H1	Parent Involvement -> School Climate	0.230	2.451	0.002	Supported
H2	Parent Involvement -> Transformational Leadership	0.740	9.801	0.000	Supported

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

Hypothesis	Relationship	β	t-value	p-value	Result
H3	Transformational Leadership -> School Climate	0.580	6.897	0.000	Supported
H4	Parent Involvement → Transformational Leadership → School Climate	0.429	4.912	0.000	Supported

The findings of this study confirm that parental involvement exerts a significant direct effect on school climate (β = 0.230; t = 2.451; p = 0.002). This result answers the research question concerning how parent participation influences the quality of the educational environment. From the perspective of Hoy and Miskel's School Climate Theory, school climate is a multidimensional construct that reflects the collective perceptions of teachers, students, and parents toward the school's social and organizational environment (Đurišić et al., 2023; Hoy & Miskel, 2013; Lewno-Dumdie et al., 2020). In this context, parental involvement plays a key role in shaping relational trust and collaboration—two critical components of a healthy school climate. Empirical evidence supports that schools with active parental engagement tend to demonstrate higher levels of social cohesion, transparency, and mutual respect (Eden et al., 2024; Koutsouveli & Geraki, 2022). Therefore, the present study strengthens the notion that school climate is not solely a product of internal leadership, but also a reflection of the interactions between schools and their external stakeholders, particularly parents (Chotimah et al., 2024; Singh et al., 2024).

Beyond its direct effect, parental involvement also influences the internal functioning of the school by shaping principal behavior. When parents actively communicate, collaborate, and participate in school activities, they generate social expectations and relational pressures that encourage school leaders to demonstrate more transparent, responsive, and inspirational leadership behaviors. From the social capital perspective, strong parent–school relationships build trust and shared norms, which enhance leaders' capacity to articulate vision, motivate teachers, and support innovation (Alinsunurin, 2020b) Thus, parental involvement serves as an external social force that stimulates principals to exhibit transformational leadership characteristics (Alinsunurin, 2020a).

The study also found a strong positive relationship between parental involvement and transformational leadership (β = 0.740; t = 9.801; p = 0.000). This implies that when parents are actively engaged in the educational process, school leaders tend to adopt more transformational behaviors, such as articulating a clear vision, motivating staff, and fostering collaboration. Within Hoy and Miskel's theoretical framework, leadership is considered a core dimension influencing school climate through the establishment of norms, values, and expectations that guide organizational behavior. Recent studies highlight that transformational leadership positively affects teachers' perceptions of openness, collegiality, and

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

trust—key indicators of an effective school climate (Alzoraiki et al., 2024; Heenan et al., 2023; Komariah & Kurniady, 2021). Thus, the interaction between parent engagement and leadership behavior functions as a reciprocal system that enhances the overall school atmosphere.

This relationship can also be explained through Organizational Systems Theory, which views schools as open systems influenced by both internal and external inputs. Parental involvement, as an external subsystem, provides informational, emotional, and motivational resources that leaders must interpret and translate into schoolwide practices (Hoy & Miskel, 2013). Through intellectual stimulation, individualized consideration, inspirational motivation, and idealized influence, transformational leaders act as "processors" of external support, transforming parental engagement into improved teacher morale, clearer organizational goals, and stronger schoolwide norms (Bush & Glover, 2014; Hallinger, 2011).

Furthermore, the significant direct influence of transformational leadership on school climate ($\beta = 0.580$; $t = 6.897$; $p = 0.000$) underscores the managerial importance of leadership in establishing a positive and productive organizational environment. Leadership behaviors shape school climate through the development of supportive norms and shared goals that align with teacher and student needs (Osias Kit T. Kilag et al., 2023; Sultana et al., 2024). This assertion aligns with more recent findings suggesting that transformational school leaders improve school culture by promoting professional collaboration and intellectual stimulation among teachers (Sultana et al., 2024; Toprak et al., 2023). Consequently, leadership within the school climate framework functions as the "cultural architect" of the institution—building trust, respect, and engagement across the educational community.

Leadership's mediating role is theoretically expected because principals act as boundary spanners who connect the external environment (parents) with internal school processes (teachers, learning, norms). Systems theory suggests that external resources do not directly influence organizational climate unless they are processed by leadership (Hoy & Miskel, 2013). Transformational leaders translate parental expectations into shared vision, professional support, and consistent norms, thereby amplifying the positive effects of parental involvement.

The mediation analysis demonstrates that transformational leadership partially mediates the relationship between parental involvement and school climate ($\beta = 0.429$; $t = 4.912$; $p = 0.000$). This partial mediation indicates that while parental involvement directly enhances the school climate, its influence is amplified when mediated by effective leadership. Within the Organizational Climate Model of Hoy and Miskel, this reflects the interaction between the "open system" (external parental participation) and the "organizational subsystem" (leadership practices) that together sustain an open and supportive climate. Empirical evidence further supports this interaction—schools characterized by collaborative leadership and high parental trust display significantly stronger climates of collegiality and shared responsibility (Alzoraiki et al., 2024; Koutsouveli & Geraki, 2022). Hence, the results emphasize that a healthy school climate is the

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

product of synergy between leadership behaviors and external stakeholder engagement.

Additionally, the dimensions of each construct in this study further clarify the mechanism of influence. Parental involvement consisted of communication, responsiveness, participation in school activities, and contribution to decision-making—dimensions that directly interact with leadership practices. Transformational leadership encompassed idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, explaining its strong mediating capacity (Bass & Riggio, 2006). School climate was represented by teacher relationships, fairness and safety, leadership support, and positive learning atmosphere, providing a multidimensional reflection of how external and internal factors converge to shape the environment (Hadiyanto & Mathew, 2023).

In conclusion, this study contributes to the refinement of School Climate Theory by illustrating how parental involvement and transformational leadership jointly construct a positive organizational environment. The findings highlight that improving school climate requires both internal reform through leadership development and external collaboration with parents and communities. Practically, educational policymakers should focus on leadership training that integrates community engagement strategies, ensuring that school leaders are not only instructional managers but also climate builders who foster trust, inclusivity, and shared accountability across the school ecosystem.

CONCLUSION

This study concludes that both parent involvement and transformational leadership play crucial roles in shaping a positive school climate. Parent involvement directly enhances school climate by fostering trust and collaboration, while transformational leadership strengthens this relationship by promoting vision, motivation, and collective commitment among school stakeholders. The partial mediation result demonstrates that leadership not only amplifies but also complements the impact of parental engagement. Practically, school leaders should cultivate transformational leadership practices that encourage active parent participation and shared accountability. Policymakers and educational institutions are encouraged to design leadership development programs that emphasize collaborative community engagement to sustain an inclusive and productive school environment.

ACKNOWLEDGMENTS

We would like to express our sincere gratitude to all parties who contributed to the completion of this study. Our appreciation goes to the participating teachers and school principals in Bandung for their valuable time and insights. We also thank our colleagues and reviewers for their constructive feedback, as well as the institution for supporting this research. Their contributions greatly enriched this work. We appreciate their generous collaboration and support.

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

REFERENCES

Alinsunurin, J. (2020). School Learning Climate in the Lens of Parental Involvement and School Leadership: Lessons for Inclusiveness Among Public Schools. *Smart Learning Environments*, *7*(1), 25. https://doi.org/10.1186/s40561-020-00139-2

Alzoraiki, D., Abdulrab, M., Saeed, Y., & Al-Shaibah, A. (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/feduc.2024.1413607

Berkowitz, R., Astor, R. A., Pineda, D., DePedro, K. T., Weiss, E. L., & Benbenishty, R. (2021). Parental Involvement and Perceptions of School Climate in California. *Urban Education*, *56*(3), 393–423. https://doi.org/10.1177/0042085916685764

Eden, C. A., Chisom, O. N., & Adeniyi, I. S. (2024). Parent And Community Involvement In Education: Strengthening Partnerships For Social Improvement. *International Journal of Applied Research in Social Sciences*, *6*(3), 372–382. https://doi.org/10.51594/ijarss.v6i3.894

Chotimah, C., Wulandari, M. P., & Nasution, Z. (2024). Enhancing School Reputation Through Effective Stakeholder Engagement. *SANGKéP: Jurnal Kajian Sosial Keagamaan*, *7*(2), 290–308. https://doi.org/10.20414/sangkep.v7i2.11166

Đurišić, M., Bunijevac, M., & Duhanaj, N. (2023). The Relationship of School Climate and Parental Involvement in Children's Education: A Research Review. *Društvene i Humanističke Studije (Online)*, *8*(1(22)), 269–280. https://doi.org/10.51558/2490-3647.2023.8.1.269

Epstein, J. L. (2018). *School, Family, and Community Partnerships*. Routledge. https://doi.org/10.4324/9780429494673

Fidan, T., & Balcı, A. (2017). Managing schools as complex adaptive systems: A strategic perspective. *International Electronic Journal of Elementary Education*, *10*(1), 11–26.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50.

Hadiyanto, & Mathew, B. (2023). *Classroom & School Climate: Theory, Research, Development, and Implication*. Penerbit Pustaka Tunggal.

Haerani, R. (2024). Development Of Social Education Innovations In Informatics And Multidisciplinary Bases To Improve The Welfare Of Society In Indonesia. *Edusight International Journal of Multidisciplinary Studies*, *1*(1). https://doi.org/10.69726/eijoms.v1i1.10

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications.

Heenan, I. W., De Paor, D., Lafferty, N., & McNamara, P. M. (2023). The impact of transformational school leadership on school staff and school culture in primary schools: A systematic review of international literature. *Societies*, *13*(6), 133. https://doi.org/10.3390/soc13060133

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

Hoy, W. K., & Miskel, C. G. (2013). *Educational Administration: Theory, Research, and Practice* (9th ed.). McGraw-Hill Education.

Kershner, B., & McQuillan, P. (2016). Complex Adaptive Schools: Educational Leadership and School Change. *Complicity: An International Journal of Complexity and Education*, *13*(1), 4–29.

Koutsouveli, E., & Geraki, A. A. (2022). School Management and Climate to Enhance Parental Involvement. *International Journal of Research in Education and Science*, *8*(4), 662–679. https://doi.org/10.46328/ijres.2921

Lewno-Dumdie, B. M., Mason, B. A., Hajovsky, D. B., & Villeneuve, E. F. (2020). Student-Report Measures of School Climate: A Dimensional Review. *School Mental Health*, *12*(1), 1–21. https://doi.org/10.1007/s12310-019-09340-2

McCarley, T. A., Peters, M. L., & Decman, J. M. (2016). Transformational leadership related to school climate. *Educational Management Administration & Leadership*, *44*(2), 322–342. https://doi.org/10.1177/1741143214549966

McCowan, T. (2019). *The Role of Education in Development* (pp. 27–58). https://doi.org/10.1007/978-3-030-19597-7_2

Mera-Lemp, M. J., Pizarro, J. J., & Guglielmetti-Serrano, F. (2025). Bridging cultures: the role of school's cultural diversity climate and cultural sensitivity in immigrant parents' school involvement. *Frontiers in Psychology*, *16*. https://doi.org/10.3389/fpsyg.2025.1561863

Osias Kit T. Kilag, Felix M. Diano, Marsha H. Malbas, Debra P. Mansueto, Se P. Villar, & John Michael Sasan. (2023). The Role of Servant Leadership in Creating a Positive School Climate. *International Journal of Integrative Sciences*, *2*(11), 1773–1782. https://doi.org/10.55927/ijis.v2i11.6900

Povey, J., Campbell, A. K., Willis, L.-D., Haynes, M., Western, M., Bennett, S., Antrobus, E., & Pedde, C. (2016). Engaging parents in schools and building parent-school partnerships: The role of school and parent organisation leadership. *International Journal of Educational Research*, *79*, 128–141. https://doi.org/10.1016/j.ijer.2016.07.005

Sari, Y., & Lestari, S. (2025). Ethical Leadership Strategies of School Principals: Fostering a Harmonious and Productive Teacher Work Environment. *AL-ISHLAH: Jurnal Pendidikan*, *17*(1), 489–499.

Simbre, A. P., Buenaventura, Ma. L. D., Aquino, J. M., Vera, J. L. de, & Vera, M. G. D. de. (2023). The Effect of School Heads' Leadership Style on Learners' Perception of School Climate. *Jurnal Aplikasi Manajemen*, *21*(1), 1–13. https://doi.org/10.21776/ub.jam.2023.021.1.01

Singh, Dr. M., Srivastava, Dr. N., & Joshi, Dr. K. (2024). Enhancing Senior Secondary School Students Success: Dynamics Of School Climate. *Educational Administration: Theory and Practice*. https://doi.org/10.53555/kuey.v30i6.6323

Sukmayadi, V., & Yahya, A. (2020). Indonesian education landscape and the 21st century challenges. *Journal of Social Studies Education Research*, *11*(4), 219–234.

Sultana, N., Ayoob, M., Samson, H., & Saeed, A. (2024). Explore How Transformational Leadership Styles Impact Educational Environments and

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

Student. *Bulletin of Business and Economics (BBE)*, *13*(3), 500–507. https://doi.org/10.61506/01.00530

Takala, T. (2010). Contributions of Formal Education to Social Development – What do we Know on the Basis of Research Evidence? *Journal of Education and Research*, *2*(1), 1–8. https://doi.org/10.3126/jer.v2i0.7616

Toprak, M., Aksu, M., & Çetin, M. (2023). Transformational leadership, school climate, and teacher collaboration: Evidence from educational institutions. *International Journal of Educational Research*, *121*, 102181. https://doi.org/10.1016/j.ijer.2023.102181

Waasdorp, T. E., Bradshaw, C. P., & Duong, J. (2011). The Link Between Parents' Perceptions of the School and Their Responses to School Bullying: Variation by Child Characteristics and the Forms of Victimization. *Journal of Educational Psychology*, *103*(2), 324–335. https://doi.org/10.1037/a0022748

Yulianti, K., Denessen, E., Droop, M., & Veerman, G.-J. (2021). Transformational Leadership for Parental Involvement: How Teachers Perceive the School Leadership Practices to Promote Parental Involvement in Children's Education. *Leadership and Policy in Schools*, *20*(2), 277–292. https://doi.org/10.1080/15700763.2019.1668424

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)

APPENDIX A — Research Instrument (Final Version Using KO, KT, IS)

Construct	Code	Item Statement (Bahasa Indonesia)	Status
Parent Involvement	KO1	*Orang tua ikut berperan aktif dalam komite sekolah untuk mendukung kebijakan.*	Removed
	KO2	*Saya rutin menghubungi orang tua untuk melaporkan perkembangan siswa.*	Retained
	KO3	*Saya memberikan informasi nilai dan perkembangan anak dengan jelas kepada orang tua.*	Retained
	KO4	*Saya merespons pertanyaan orang tua mengenai siswa dalam waktu kurang dari satu hari.*	Retained
	KO5	*Orang tua membantu pelaksanaan kegiatan sekolah sesuai kemampuan mereka.*	Retained
	KO6	*Orang tua memberikan masukan atau saran kepada sekolah mengenai proses belajar anak.*	Retained
	KO7	*Orang tua mengikuti forum diskusi rutin antara guru dan orang tua.*	Removed
Transformational Leadership	KT1	*Kepala sekolah memberi teladan disiplin dan etika kerja dalam keseharian.*	Retained
	KT2	*Kepala sekolah menyampaikan visi sekolah dengan jelas dan menginspirasi.*	Retained
	KT3	*Kepala sekolah menetapkan target yang menantang bagi guru.*	Retained
	KT4	*Kepala sekolah mendorong guru mencoba metode mengajar baru.*	Retained
	KT5	*Kepala sekolah sering membuat keputusan tanpa melibatkan guru.*	Removed
	KT6	*Kepala sekolah memberi kebebasan kepada guru untuk mengembangkan materi pembelajaran.*	Retained
	KT7	*Kepala sekolah mengadakan diskusi akademik rutin setiap bulan.*	Removed
School Climate	IS1	*Saya menyapa dan membantu rekan guru saat menghadapi kesulitan.*	Retained
	IS2	*Saya membangun komunikasi yang hangat dan terbuka dengan rekan guru.*	Retained
	IS3	*Saya merasa aman dan nyaman saat berada di lingkungan sekolah.*	Retained

Construct	Code	Item Statement (Bahasa Indonesia)	Status
	IS4	*Lingkungan sekolah sering terasa tegang atau tidak nyaman.*	Removed
	IS5	*Saya memperlakukan siswa dan rekan guru secara adil dalam setiap situasi.*	Retained
	IS6	*Kepala sekolah menunjukkan sikap disiplin dan keteladanan dalam bekerja.*	Retained
	IS7	*Saya menciptakan suasana belajar yang positif dan menyenangkan bagi siswa.*	Retained
	IS8	*Kesalahpahaman antara guru sering terjadi.*	Removed

Corresponding author: Rini Aprilianda (riniaprilianda@upi.edu)