

## **The Synergistic Effect of Academic Supervision and Principal Motivation on Teacher Performance: Evidence from Public High Schools in Indonesia**

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**Abstract:** Teacher performance gaps remain a persistent challenge in improving educational quality, influenced by the effectiveness of academic supervision and principals' motivational leadership. This study examines the extent to which these two factors contribute to the performance of public senior high school teachers in Banyuasin Regency. Employing a quantitative approach with a correlational design, the research involved 126 teachers selected through random sampling. The measurement instruments demonstrated adequate construct validity ( $AVE > 0.50$ ) and reliability (Cronbach's Alpha  $> 0.70$ ). Multiple linear regression analysis revealed that academic supervision ( $\beta = 0.261$ ;  $p = 0.003$ ) and principal motivation ( $\beta = 0.373$ ;  $p < 0.001$ ) exert significant positive effects on teacher performance, both individually and jointly ( $F = 11.222$ ;  $p < 0.001$ ), yielding an  $R^2$  value of 0.154. These findings underscore the relevance of Self-Determination Theory in explaining how leadership support fulfills teachers' psychological needs. Practically, the results highlight the importance of strengthening coaching-based supervision and motivational strategies to foster a more supportive professional environment and promote continuous performance improvement.

**Keywords:** Academic Supervision, Coaching-Based Supervision, Principal Motivation, Teacher's Performance

### **A. Introduction**

Teachers occupy a highly strategic position within the educational system, as their role directly determines the quality of teaching processes and student learning outcomes. Numerous studies on educational effectiveness have demonstrated that the teaching profession makes a significant contribution to student success and the quality of instructional implementation. Consequently, teacher performance assessment extends beyond the ability to deliver instructional content and includes competencies in lesson planning, classroom management, assessment practices, academic guidance, and the fulfillment of ongoing professional standards (Miller, 2023; Hallinger, 2011). The educational psychology literature further emphasizes that performance quality is

shaped not only by technical competence but also by internal motivational factors. Self-Determination Theory (SDT) posits that the basic psychological needs of autonomy, competence, and relatedness constitute the foundation of intrinsic motivation, which drives sustained performance (Ryan & Deci, 2000). Within the teaching profession, the fulfillment of these needs is essential for work engagement, pedagogical creativity, and performance continuity, as intrinsically motivated teachers are better able to maintain professional commitment and adaptively refine their instructional practices. SDT also distinguishes intrinsic from extrinsic motivation, where intrinsic motivation arises from personal values, while extrinsic motivation is driven by external incentives or pressures. Prior studies demonstrate that school environments providing autonomy, constructive feedback, and supportive interpersonal relationships are more likely to strengthen intrinsic motivation and enhance teachers' professional performance. However, such ideal conditions have not been fully realized in Banyuasin Regency, where supervisory practices and leadership styles have not yet been optimally aligned with the reinforcement of teachers' intrinsic motivation. This reinforces the urgency of identifying the contributions of academic supervision and principal motivation to explain variations in teacher performance in the region.

Despite the acknowledged strategic role of teachers, the quality of teacher performance in Indonesia continues to show substantial variation and has not fully met professional standards. This variation is influenced by school leadership quality, organizational culture, and limited access to continuous professional development programs (Elfira et al., 2024; Dewi, 2022). Similar patterns are also observed globally, particularly when academic supervision practices focus more on administrative compliance than on instructional development, which should be the primary goal of supervision (Regassa, 2024). The gap between the ideal conceptualization of supervision as a professional coaching process and field practices that tend to be mechanistic reflects structural challenges within teacher development systems. Theoretically, academic supervision is designed to improve instructional quality through observation, instructional analysis, and reflective feedback, and has been shown to enhance achievement motivation, pedagogical competence, and teacher innovation (Kraft & Blazar, 2020; Firman et al., 2024). From Herzberg's perspective, supervision may encompass motivating factors that enhance satisfaction as well as hygiene factors that prevent dissatisfaction. Supervisory practices that focus solely on administrative aspects generate minimal impact on professionalism, whereas those offering opportunities for development, recognition, and appreciation have stronger potential to improve performance (Shak et al., 2022). Reflective coaching-based supervision, which integrates both technical and psychological support, has thus become increasingly relevant; however, its implementation in practice remains far from ideal.

In addition, principal motivation plays a fundamental role in shaping teacher performance. As instructional leaders, principals are not only responsible for

administrative management but also for creating a supportive school climate, providing recognition, delivering constructive feedback, and offering professional development opportunities (Layek & Koodamara, 2024; Nizam et al., 2024). In Herzberg's theory, such support functions as a motivator, while in SDT it reflects leadership practices that fulfill teachers' psychological needs, thereby strengthening intrinsic motivation (Ryan & Deci, 2000). However, research examining how principal motivation interacts with academic supervision to influence teacher performance remains limited, particularly in the Banyuasin context. Empirical findings in the region also indicate disparities in teacher performance, where some teachers demonstrate high achievement while others face challenges related to motivation, instructional innovation, and engagement (Mwakajitu & Lekule, 2022; Firman et al., 2024). Formalistic and minimally reflective supervision, combined with principal support that does not adequately meet teachers' psychological needs, suggests a lack of motivating factors in Herzberg's framework and unmet basic needs in SDT. This further underscores the need to examine the individual and combined effects of academic supervision and principal motivation on teacher performance.

A review of national and international literature reveals that most previous studies have examined academic supervision and principal motivation separately, without considering their complementary relationship within instructional leadership mechanisms (Robinson et al., 2008; Hallinger & Heck, 2010). Empirical findings also show inconsistent effects of these variables, particularly when supervision remains heavily oriented toward procedural compliance and has not integrated psychological dimensions such as intrinsic motivation in SDT or motivating factors in Herzberg's theory (Shak et al., 2022). To date, no study has explicitly combined the SDT and Herzberg frameworks to explain the simultaneous effects of academic supervision and principal motivation on teacher performance, particularly in Banyuasin Regency. This gap highlights the need for research that examines not only the independent influence of each variable but also the integrative mechanisms linking supervision, principal motivation, and teacher performance.

Addressing this gap, the present study develops and tests an integrative model that, for the first time, brings together Self-Determination Theory (SDT) and Herzberg's theory to explain the simultaneous influence of academic supervision and principal motivation on the performance of public senior high school teachers in Banyuasin Regency through a reflective, coaching-based supervisory approach. This approach provides theoretical contributions by integrating psychological mechanisms (SDT) with structural-organizational mechanisms (Herzberg), and empirical contributions by offering new evidence from a relatively understudied regional context. Practically, the findings are expected to inform the strengthening of teacher development systems at both the school and regional education policy levels.

## B. Methods

This study employed a quantitative correlational design to examine the effects of academic supervision and principal motivation on teacher performance. The population comprised 184 public senior high school teachers in Banyuasin III and Sembawa, two subdistricts purposively selected due to their representative number of schools and documented differences in supervisory practices and leadership styles. A sample of 126 teachers was determined using the Slovin formula and selected through purposive sampling based on criteria such as permanent employment status, minimum tenure, and participation in principal-led supervision.

Data were collected using a four-point Likert-scale questionnaire consisting of 30 items for each variable. Sample items include:

1. Academic supervision: "My principal provides specific, actionable feedback after classroom observations"
2. Principal motivation: "My principal recognizes and appreciates my teaching achievements"
3. Teacher performance: "I prepare lesson plans aligned with curriculum standards"

The instrument was validated by three educational management experts and pilot-tested with 40 teachers, yielding valid items and reliability coefficients above 0.97. Data were gathered via Google Forms and analyzed using SPSS 26. Preliminary tests (normality, homogeneity, multicollinearity) preceded simple and multiple linear regression analyses. When homogeneity assumptions were violated, the Mann-Whitney U test was applied as a nonparametric alternative, providing complementary evidence on group differences and reinforcing the robustness of the regression findings.

## C. Results and Discussion

### The Influence of Academic Supervision on Teacher Performance

**Table 1. Results of Simple Linear Regression Analysis of Academic Supervision on Teacher Performance**

Predictor	B	SE B	$\beta$	T	p	Interpretation
(Constans)	80.950	8.139	=	9.945	.000	There is an
Academic Supervision	.237	.079	.261	3.011	.003	effect

Model Summary:  $R^2 = 0.068$ ; Adjusted  $R^2 = 0.061$

**Notes:** B = unstandardized coefficient; SE = standard error;  $\beta$  = standardized coefficient; p = significance level.

The simple regression analysis indicates that academic supervision has a positive and significant effect on teacher performance ( $\beta = 0.261$ ;  $p = 0.003 < 0.05$ ). This finding suggests that increasing the intensity and quality of academic supervision can enhance teachers' professional performance. Systematic supervision supported by reflective feedback and continuous professional development encourages teachers to strengthen their responsibility, creativity, and instructional innovation (Wardani et al., 2020). The coefficient of determination ( $R^2 = 0.068$ ) shows that academic supervision accounts for only 6.8% of the variation in teacher performance, while the remaining 93.2% is influenced by other factors such as work motivation, organizational support, and school culture (Hattu et al., 2024). This low  $R^2$  value can be explained by the nature of supervision as an external mechanism whose influence on instructional behavior is largely indirect. In many educational settings, teacher performance is shaped more strongly by internal psychological factors, professional autonomy, and the broader school environment, making the contribution of supervision partial and highly dependent on implementation quality.

Conceptually, academic supervision is a form of professional guidance designed to enhance teachers' instructional competence through classroom observation, constructive feedback, and reflective practice. Effective supervision goes beyond administrative evaluation and emphasizes continuous improvement and pedagogical capacity-building. According to Singerin (2021), systematic supervision strengthens teacher self-efficacy, which forms the foundation of pedagogical competence and professional growth. This aligns with Hattu et al. (2024), who argue that collaborative, needs-based supervision enhances instructional skills and fosters confidence in adopting innovative teaching models.

Within the Self-Determination Theory (SDT) framework, supportive academic supervision can fulfill teachers' basic psychological needs – autonomy, competence, and relatedness. When supervision provides space for professional dialogue, constructive feedback, and empathetic support, teachers' needs for competence and relatedness are strengthened, stimulating intrinsic motivation that ultimately improves performance. Conversely, controlling supervision risks suppressing intrinsic motivation and diminishing its impact on performance.

From Herzberg's Two-Factor Theory perspective, academic supervision can function both as a hygiene factor and as a motivator. When supervision is primarily administrative and focuses on procedural compliance, it operates as a hygiene factor that prevents dissatisfaction but does not enhance performance. However, supervision that promotes achievement, professional development, and recognition of teacher competence acts as a motivator that meaningfully elevates teacher performance. Differences in the quality of supervisory practices explain why the magnitude of supervision effects – including  $R^2$  values – varies across schools.

Furthermore, this study reinforces the findings of Muttaqin et al. (2023), who reported that academic supervision has direct effects on teacher commitment and performance, with teacher commitment serving as a significant mediating variable. The holistic and reflective supervision model proposed by Ambarwangi & Rachman (2015) highlights that the quality of supervisory interactions pedagogical dialogue, formative feedback, and sustained guidance is more influential for professional growth than administrative oversight alone. Similarly, Indi (2024) study on supervision management emphasizes its role as a quality-control mechanism that significantly enhances teachers' pedagogical competence and overall performance.

In addition, systematic and continuous supervision supports teachers in improving instructional quality. Supervision serves not only as an administrative monitoring tool but also as an instrument of professional development through educational dialogue and reflective practice. This corresponds with Bjørndal et al. (2024), who highlight the importance of collaborative and reflective supervision in elevating teaching quality through empathetic pedagogical dialogue that encourages refinement of instructional strategies. Nevertheless, the relatively low  $R^2$  value indicates that the effects of academic supervision are indirect and highly dependent on its quality—a pattern consistent with SDT's assumption that optimal work behavior is driven more by intrinsic factors than by external mechanisms, and consistent with Herzberg's view that the effect of supervision depends substantially on its qualitative characteristics.

These observations align with international research. Robinson et al. (2008) emphasize that instructional leadership, including supervision, influences teacher performance mainly through changes in instructional practice rather than direct intervention. Likewise, Witziers et al. (2003) found that leadership effects on performance are often mediated by school climate and teacher collaboration. Hallinger & Heck (2010) also assert that leadership impacts learning outcomes gradually through the strengthening of school capacity, not through direct supervisory actions.

Based on these findings, it can be interpreted that the effectiveness of academic supervision depends less on its frequency and more on the quality of its collaborative and reflective interactions. When principals foster open and empathetic professional communication, teachers feel valued, receive clear direction for improvement, and are motivated to further develop their competencies. Conversely, supervision that emphasizes procedural compliance without pedagogical interaction contributes minimally to performance. From an SDT perspective, overly controlling supervision limits teacher autonomy, while from a Herzberg perspective, such supervision functions only as a hygiene factor that does not promote optimal performance.

Therefore, strengthening academic supervision requires improving the quality of pedagogical dialogue, ensuring consistent follow-up, and implementing supervisory strategies that respond to teachers' developmental needs. Structured, reflective, and professionally oriented supervision has the potential not only to enhance individual

teacher performance but also to strengthen the school’s learning culture, foster pedagogical innovation, and improve student learning outcomes sustainably. In this way, effective academic supervision becomes a strategic instrument for improving overall educational quality.

### The Influence of Principals’ Motivation on Teachers’ Performance

**Table 2. Results of Simple Linear Regression Analysis of Principal Motivation on Teacher Performance**

Predictor	B	SE B	$\beta$	t	p	Interpretation
(Constans)	72.626	7.346	-	9.887	.000	There is an
Principal Motivation	.321	.072	.373	4.479	.000	effect

Model Summary:  $R^2 = 0.139$ ; Adjusted  $R^2 = 0.132$

**Notes:** B = unstandardized coefficient; SE = standard error;  $\beta$  = standardized coefficient; p = significance level.

**Table 3. Results of the Mann-Whitney U test of Principal Motivation on Teacher Performance (non-homogeneous data)**

	Test Statistics <sup>a</sup>	Interpretation
	Scores of Principal Motivation and Teacher Performance	
Mann-Whitney U	6511.000	
Wilcoxon W	14512.000	
Z	-2.468	
Asymp. Sig. (2-tailed)	.014	There is a significant difference

a. Grouping Variable: X2 & Y

**Notes:** X2 = Principal Motivation; Y = Teacher Performance

The regression analysis indicates that the motivation provided by school principals exerts a positive and significant influence on the performance of public senior high school teachers in Banyuasin Regency ( $\beta = 0.373$ ;  $p = 0.000 < 0.05$ ). This finding reinforces the notion that higher levels of principal-delivered motivation correspond to improved teacher performance, particularly in the domains of instructional planning, classroom implementation, and learning evaluation. The coefficient of determination of 13.9% ( $R^2 = 0.139$ ) suggests that principal motivation contributes meaningfully to shaping teacher performance rather than functioning merely as an auxiliary variable. However, this relatively low  $R^2$  can be explained by the nature of motivation as an external factor whose influence on instructional behavior is generally indirect. Within the framework of Self-Determination Theory (SDT), external motivation from principals is effective only to the extent that it satisfies teachers’ basic psychological needs for autonomy, competence, and relatedness. When these needs

are not fully met, its impact on teacher performance becomes limited, which helps explain the modest proportion of variance accounted for by the model. Likewise, according to Herzberg's Two-Factor Theory, motivation from principals typically functions as a hygiene factor that prevents dissatisfaction but does not necessarily operate as a direct motivator of performance. Consequently, variations in teacher performance are more strongly influenced by internal factors such as intrinsic motivation, self-efficacy, collaborative school culture, and institutional capacity, many of which are not captured within the regression model. Nevertheless, the contribution of principal motivation remains meaningful, demonstrating that part of the variance in teacher performance is attributable to the degree of moral support, professional guidance, and recognition teachers receive from their principals. This is consistent with the argument that leadership responsive to teachers' psychological needs fosters a stronger sense of belonging, increased participation in school activities, and greater commitment to educational quality (Hallinger & Heck, 2010). Moreover, the Mann-Whitney U test ( $p = 0.014$ ) reveals a significant difference in teacher performance between groups with high and low motivational support, implying that motivation is a powerful differentiating variable in determining work quality. A supportive school environment accompanied by recognition of teachers' achievements encourages professional behavior that is productive, collaborative, and ethically grounded (Shak et al., 2022).

Conceptually and theoretically, principal motivation is understood as both an internal and external force shaping teachers' professional conduct. Strong motivational support enhances enthusiasm, confidence, discipline, and achievement orientation, enabling teachers to execute their responsibilities effectively and with accountability (Firman et al., 2024). This aligns with Herzberg's Two-Factor Theory, which posits that motivator factors such as recognition, appreciation, and opportunities for development directly contribute to improved individual performance (Shak et al., 2022). Principals who provide positive reinforcement and implement effective teacher-empowerment strategies can foster continuous improvement in teacher performance, including mastery of educational technologies increasingly required in the digital era (Papadakis et al., 2024; Voelkel et al., 2024). Thus, motivation functions not merely as a temporary stimulus but as a fundamental element sustaining long-term teacher commitment to professionalism and instructional quality.

Furthermore, motivation provided by school principals plays a pivotal role in fostering a growth mindset the belief that professional competence can be continuously developed through effort and reflective learning. Principals who offer space for teacher creativity and value innovation encourage the development of adaptive, learner-centered instructional practices (Layek & Koodamara, 2024; Elfira et al., 2024). Emotional support such as empathetic communication and sincere appreciation also enhances job satisfaction and encourages teachers' active engagement in school improvement initiatives (Victor & Bao, 2024; Muttaqin et al., 2023). Teachers who consistently receive motivational reinforcement tend to be more

adaptive to curriculum changes and educational policy reforms, including the implementation of the Merdeka Curriculum, thereby strengthening the alignment of teaching practices with students' learning needs (Pardosi & Utari, 2025; Kaya, 2023).

In addition, sustained motivational support from school principals has been shown to enhance teachers' pedagogical creativity and their willingness to engage in instructional innovations that improve teaching and learning effectiveness (Yu & Jang, 2024). Principals who grant professional autonomy and facilitate the exploration of new instructional strategies contribute to cultivating an innovative and adaptive school culture (Zhang et al., 2025; Hsieh et al., 2024). Through constructive and purpose-oriented motivation, teacher professionalism is strengthened along with their active engagement in school quality improvement efforts. Recent studies further affirm the critical role of motivating leadership in enhancing teacher performance and instructional quality (Sariakin et al., 2025). Therefore, principal motivation can be regarded as a strategic determinant of teacher effectiveness and the attainment of educational goals. Nevertheless, these findings do not fully align with some previous studies which report that the influence of principal motivation on teacher performance is not always strong or consistent. Robinson et al. (2008) argue that motivation-based leadership tends to exert indirect effects on teacher performance because improvements are more often mediated by instructional practices. Witziers et al. (2003) also find that school leadership has relatively small direct effects on teacher outcomes. Hallinger & Heck (2010) explain that principal motivation becomes significant only when supported by school capacity-building and professional collaboration. Vermote et al. (2020) further contend that teacher performance is primarily influenced by psychological factors and intrinsic motivation, meaning external motivational support from principals does not invariably result in uniform performance improvement. Thus, the effectiveness of principal motivation is highly contextual and strongly shaped by teachers' psychological conditions and structural supports available within the school environment.

### **Simultaneous Influence of Academic Supervision and Principal Motivation on Teacher Performance**

**Table 4. Results of the F-Test of Academic Supervision and Principal Motivation on Teacher Performance**

Source	Df	SS	MS	F	p	Interpretation
Regression	2	1852.948	926.474	11.222	.000 <sup>b</sup>	There is an effect
Residual	123	10154.711	82.559	-	-	
Total	125	12007.659	-	-	-	

Model Summary:  $R^2 = 0.154$ ; Adjusted  $R^2 = 0.141$ ;  $F(2,123) = 11.222$ ;  $p < 0.000$ .

**Note:** df = degrees of freedom; SS = sum of squares; MS = mean square; p = significance.

The results of the multiple regression analysis show that academic supervision and principal motivation simultaneously exert a positive and significant influence on teacher performance ( $F = 11.222$ ,  $p = 0.000 < 0.05$ ,  $R^2 = 0.154$ ). The  $R^2$  value of 0.154 indicates that these two variables explain 15.4% of the variance in teacher performance, while the remaining proportion is influenced by other factors outside the scope of this study. This relatively moderate contribution suggests that although academic supervision and principal motivation play important roles, teacher performance is also shaped by other internal and external dynamics not captured in the model. Reflective academic supervision helps teachers identify strengths and weaknesses in their instructional practices, whereas motivation from the principal strengthens teachers' psychological drive for continuous professional growth. Together, these factors demonstrate a synergistic potential in forming a collaborative and learning-oriented school culture in Banyuasin Regency.

Theoretically, the modest  $R^2$  value can be understood through the lens of Self-Determination Theory (SDT). Within this framework, external motivation provided by the principal yields optimal effects only when it succeeds in fulfilling teachers' three basic psychological needs – autonomy, competence, and relatedness. When one or more of these needs are unmet, the impact of external motivation on professional behavior becomes limited, resulting in a smaller portion of performance variance explained by the model. Likewise, according to Herzberg's Two-Factor Theory, principal support in the form of recognition, appreciation, or a conducive work environment tends to function as hygiene factors. These factors prevent dissatisfaction but do not necessarily act as primary motivators that directly enhance performance. Consequently, the statistical contribution of supervision and motivation becomes limited, as internal factors such as intrinsic motivation, self-efficacy, professional capacity, and organizational characteristics exert a stronger yet unmeasured influence in the regression analysis.

Despite these limitations, systematic and continuous academic supervision remains central to strengthening teachers' professional competence. Through supervision, principals can provide technical guidance related to the planning, implementation, and evaluation of instruction, thereby enabling teachers to engage in deeper reflection and improve their instructional practices in a more structured manner (Saleh & Ahmad, 2021). Supervision implemented with a coaching-oriented approach encourages teachers to broaden their pedagogical perspectives, develop classroom management skills, and select instructional strategies that are more responsive to students' learning needs (Pangestu & Wijayanti, 2025). This aligns with the fundamental objective of academic supervision, which emphasizes consistent capacity development to improve student learning outcomes.

Principal motivation also plays an essential role in reinforcing teacher commitment. Emotional support, empathetic communication, and the provision of recognition have been shown to increase teachers' discipline, confidence, and intrinsic drive to achieve

optimal performance (Puri et al., 2023). From Herzberg's perspective, positive reinforcement provided by principals functions as a motivator that fosters enthusiasm and encourages teachers to innovate. These various forms of support enable teachers to enhance instructional creativity and contribute to building a productive, collaborative, and quality-oriented school environment (He et al., 2024).

The findings of this study are consistent with previous research emphasizing that academic supervision and principal motivation are complementary components of instructional leadership that jointly foster improvements in teacher performance (Suriagiri et al., 2022). However, international literature highlights that the effectiveness of these two factors is highly dependent on organizational context. Hallinger & Heck (2010) noted that in bureaucratic school systems, principals tend to focus more on administrative tasks, thereby limiting opportunities for teacher professional development. Berhanu (2025) found that teachers with longer tenure tend to work more independently, reducing the effectiveness of both motivational and supervisory roles. Similarly, Tukiyo et al. (2024) observed that supervision produces significant effects only when supported by an open and participatory school culture.

Overall, the synergy between academic supervision and principal motivation is strongly shaped by leadership style and school climate. From an educational counseling perspective, this relationship aligns with the coaching approach—a developmental process that emphasizes reflective dialogue, role equality, and the strengthening of self-capacity (Ryan & Deci, 2000). Thus, this study concludes that the improvement of teacher performance in public senior high schools in Banyuasin Regency results from the integration of academic supervision as a professional development instrument and principal motivation as a psychological driver that strengthens teachers' commitment, responsibility, and professionalism (Maria & Tina, 2025).

#### **D. Conclusions**

The findings of this study show that academic supervision and principal motivation positively and significantly influence teacher performance, although their overall contribution is modest ( $R^2 = 0.154$ ). This indicates that while both variables support performance improvement, much of the variation is driven by broader psychological, individual, and organizational determinants that fall outside the scope of these managerial practices. Theoretically, the results provide partial support for Self-Determination Theory (SDT). The limited predictive power suggests that teachers' core psychological needs autonomy, competence, and relatedness are not yet adequately addressed through current supervisory and motivational approaches. From the lens of Herzberg's Two-Factor Theory, academic supervision and principal motivation function more as hygiene factors that prevent dissatisfaction rather than as true motivators capable of generating substantial performance gains. The absence of elements such as recognition, achievement, and opportunities for professional

growth explains their limited motivational impact. Practically, the findings highlight the necessity of more targeted leadership development. Principal preparation programs should integrate instructional coaching components such as goal-setting, structured feedback, and reflective dialogue alongside motivational leadership strategies focused on psychological safety, appreciation of teacher effort, and building collective efficacy. Professional development models that combine reflective supervision, instructional support, and motivational reinforcement are essential for cultivating a supportive school environment that promotes sustained performance improvement. This study has several limitations. The cross-sectional design does not allow causal interpretation. The use of self-reported data increases the risk of common method bias. The low  $R^2$  indicates that important predictors, such as school climate, teacher self-efficacy, or organizational capacity, were not included. Moreover, generalizability is limited to public senior high schools in the studied region of Indonesia. Future research should adopt longitudinal designs, incorporate qualitative inquiry into leadership practices, and examine potential mediating or moderating variables such as teacher self-efficacy, professional learning communities, school size, or teaching experience to better explain teacher performance dynamics.

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