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# LEADERSHIP AND TEACHER PERFORMANCE: A DIRECT RELATIONSHIP ANALYSIS FROM AN EDUCATIONAL MANAGEMENT PERSPECTIVE

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## ABSTRACT

This study aims to analyze the direct effect of leadership on teacher performance in State Islamic Senior High Schools (Madrasah Aliyah Negeri) in West Sumatra and to address the research gap concerning the direct influence of leadership in educational contexts. The study employed a quantitative, causal research design using Structural Equation Modeling (SEM) based on Partial Least Squares (PLS). The sample consisted of 309 teachers selected through proportional stratified random sampling. Data were collected using a Likert-scale questionnaire that met validity and reliability requirements. The results indicate that leadership has a positive and significant effect on teacher performance ( $\beta = 0.150$ ;  $p < 0.05$ ), with the model explaining 61.2% of the variance in teacher performance, reflecting moderate to strong predictive power. Although the direct effect is moderate, leadership plays a crucial role in creating a conducive work environment and enhancing teacher professionalism. Theoretically, this study reinforces the position of leadership as a direct determinant within educational management models. In practice, it has important implications for strengthening madrasah leadership to improve teacher performance and achieve sustainable educational quality.

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**KEYWORDS:** Educational leadership; Teacher performance; Instructional leadership; SEM-PLS; Madrasah education; Educational management; School leadership

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## 1. INTRODUCTION

Education is a fundamental aspect of human civilization and national development. A developed nation is characterized by its prioritization of education in enhancing the quality of human resources and societal advancement. In Indonesia, education remains a strategic sector that continues to receive significant attention through various policies and continuous evaluations. Education is defined as a conscious and planned effort to create a learning environment and learning process in which students actively develop their potential, including spiritual strength, self-control, personality, intelligence, and skills necessary for social, national, and civic life. This perspective aligns (Darling-Hammond *et al.*, 2017), who emphasizes that the quality of education plays a critical role in shaping student learning outcomes.

Constitutionally, education is a fundamental right of every citizen as mandated in Article 31 of the 1945 Constitution of Indonesia. This provision underscores the government's responsibility to ensure quality education for all citizens. In line with this, Law Number 20 of 2003 on the National Education System states that national education functions to develop individuals' capabilities and to shape a dignified national character and civilization (Indonesia, 2003).

However, in practice, the implementation of education in Indonesia continues to face complex challenges, particularly in the era of globalization and rapid technological advancement. The quality of education is influenced by multiple factors, including government policies, curriculum, educational facilities, and human resources, especially teachers, as the primary actors in the learning process. In this regard, (Hattie, 2008) and (Stronge, 2018) assert that teacher quality is the most influential factor in determining instructional effectiveness and student achievement.

Teachers play a strategic role in determining educational success. They function not only as transmitters of knowledge but also as educators, mentors, facilitators, evaluators, and motivators for students. Therefore, teachers are key determinants of educational quality. Optimal teacher performance directly impacts student learning outcomes, as effective teachers deliver high-quality instruction, motivate students, and foster student engagement in the classroom. It is further supported by (Darling-Hammond *et al.*, 2017), who highlights the strong correlation between teacher quality and student academic achievement.

Teacher performance can be defined as the level of achievement in fulfilling professional duties and

responsibilities, including lesson planning, instructional delivery, and learning evaluation. Such performance does not occur in isolation but is influenced by both individual and organizational factors. Gibson (1985) states that performance is shaped by ability, motivation, and the work environment.

Empirical evidence indicates that teacher performance remains suboptimal, as reflected in literacy, numeracy, and learning quality outcomes that are still categorized as moderate. This condition suggests that underlying factors affecting teacher performance require further investigation. One of the most critical factors is school leadership, particularly the principal or head of the madrasah, within the organizational environment.

School leadership plays a crucial role in determining the direction and quality of teacher performance. Leadership is not merely about directing tasks; it is also about influencing, inspiring, and empowering teachers to achieve educational goals. (Burns, 1978) argues that transformational leadership enhances performance by providing vision and inspiration that motivate individuals to transcend personal interests. This view is reinforced by (Bass, 1985), who asserts that effective leadership improves performance through inspirational motivation, intellectual stimulation, and individualized consideration.

In the educational context, (Hallinger, 2003) emphasizes that instructional leadership focuses on improving the quality of teaching and learning through the management of instructional programs and teacher professional development. It is supported by (Leithwood *et al.*, 2020), who identify leadership as the second most influential factor after teaching in determining educational success. Additionally, (Grissom *et al.*, 2021) demonstrate that school principals significantly influence instructional quality and teacher performance.

Furthermore, studies by Sebastian and (Sebastian *et al.*, 2016) and (Hallinger *et al.*, 2014) indicate that school leadership has both direct and indirect effects on classroom instruction and student learning outcomes. Meanwhile, the OECD (2019, 2020) reports that collaborative, learning-oriented leadership enhances teacher motivation and work effectiveness.

Therefore, leadership plays a strategic role in improving teacher performance. Effective leadership can create a conducive work environment, provide clear direction, and encourage teachers to perform optimally. It aligns with (Bush, 2020) and (Day *et al.*, 2020), who emphasize that effective educational leadership is a key determinant of school quality and

teacher performance. Accordingly, it is essential to examine in greater depth the direct influence of leadership on teacher performance to identify effective leadership models that can enhance educational quality, particularly in madrasahs in West Sumatra Province.

## 2. RELATED WORK

The study of leadership's influence on teacher performance has advanced significantly in the field of educational management. Classical approaches conceptualize teacher performance as the result of the interaction between ability, motivation, and the work environment (Syafii et al., 2015). This perspective has been further expanded by contemporary organizational theories, which emphasize leadership as a strategic factor influencing individual behaviour and performance (Zaccaro et al., 2001); (Bush, 2020). In this context, leadership is no longer viewed as a supporting variable but rather as a key determinant that exerts both direct and indirect effects on teacher performance.

Subsequent developments indicate a shift from administrative to transformational and instructional leadership. Transformational leadership theory highlights the importance of vision, inspiration, and empowerment in enhancing subordinate performance (Burns, 1978); (Bass, 1985). A meta-analytic study by (Leithwood et al., 2020) and (Wang et al., 2019) further confirms that transformational leadership has a significant impact on teacher commitment and performance. Meanwhile, instructional leadership focuses on improving the quality of teaching and learning by managing instructional programs and supporting teachers' professional development (Hallinger, 2003). (Robinson & Goodway, 2009) demonstrate that instructional leadership has a stronger impact on student outcomes compared to other leadership models.

Recent studies also emphasize the importance of leadership grounded in organizational culture, collaboration, and change. (Day et al., 2020) argue that effective leadership contributes to the development of a positive and sustainable school culture. It is reinforced by (Wang et al., 2019) who highlights the importance of adaptive leadership in responding to uncertainty and rapid changes in the educational environment. Furthermore, leadership plays a crucial role in fostering professional environments that support teacher development (Kraft & Papay, 2014)

Empirical research consistently demonstrates that school leadership significantly improves teacher

performance. (Leithwood et al., 2020) identify leadership as the second most influential factor after teaching quality in determining educational success. Similarly, (Grissom et al., 2021) show that principals significantly influence instructional quality and overall school effectiveness. Studies by (Sebastian et al., 2016) and (Hallinger et al., 2014) further indicate that leadership has both direct and indirect effects on classroom instruction and student learning outcomes. Additionally, the (OECD, 2018) reports that collaborative, learning-oriented leadership enhances teacher motivation and work effectiveness.

Despite the substantial body of research on leadership and teacher performance, several research gaps remain.

First, most existing studies tend to position leadership as an indirect variable mediated by factors such as motivation, job satisfaction, or supervision (Nguyen et al., 2020); (Liu & Hallinger, 2018). However, leadership can also exert a direct influence on individual performance, as suggested by organizational behaviour theory (Zaccaro et al., 2001). Therefore, studies that specifically examine the direct effect of leadership on teacher performance remain limited.

Second, many previous studies focus primarily on general school contexts, whereas research on madrasahs remains relatively scarce. Institutional differences may significantly influence leadership practices and teacher performance (Bush, 2020); (Mulyasa, 2008).

Third, prior research tends to adopt a partial approach to leadership by focusing on specific models such as transformational or instructional leadership. In contrast, contemporary theories suggest that educational leadership is inherently multidimensional, encompassing managerial, cultural, and change-oriented aspects (Day et al., 2020).

Fourth, there is limited integration between leadership theory and specific indicators of teacher performance. Teacher performance involves multiple dimensions, including pedagogical competence, classroom management, and instructional evaluation, all of which directly affect student outcomes (Stronge, 2018).

Fifth, from a methodological perspective, there is a need for more robust quantitative approaches, such as Structural Equation Modeling (SEM), to examine causal relationships among variables more comprehensively and accurately. (Hair et al., 2018) and (Imam & Hengky, 2021) emphasize that SEM-PLS is an effective method for analyzing complex relationships among constructs in social science research.

Although the relationship between leadership and teacher performance has been extensively studied, there remains significant scope for more comprehensive, context-sensitive, and methodologically rigorous research to advance both theoretical understanding and practical applications in education.

### 3. RESEARCH METHODOLOGY

This study employed a quantitative, causal research design to examine the direct effect of leadership on teacher performance. A quantitative approach was selected because the data collected were numerical and analyzed using statistical techniques to address the research questions (Sugiyono, 2017). This approach is widely used in educational research to systematically and objectively test relationships among variables. The analytical model used in this study was Structural Equation Modeling (SEM) based on Partial Least Squares (PLS), which enables simultaneous and comprehensive testing of causal relationships among variables. SEM-PLS is particularly suitable for analyzing complex models and predictive relationships in social science research (Hair et al., 2018); (Imam & Hengky, 2021). The study population consisted of all teachers at State Islamic Senior High Schools (Madrasah Aliyah Negeri/MAN) in West Sumatra, totaling 1,357 individuals. The sample was determined using proportional stratified random sampling to ensure representativeness across different groups. Using the Slovin formula with a precision level of 5%, a total sample of 309 respondents was obtained.

Data were collected using a questionnaire as the primary research instrument. The questionnaire was developed based on the conceptual and operational definitions of the research variables and translated into measurable indicators and Likert-scale items. The Likert scale is widely used in social science research for its effectiveness in quantitatively capturing respondents' perceptions and attitudes (Sugiyono, 2017). The questionnaire was designed as a closed-ended instrument, with respondents selecting one of the predefined response options: strongly agree, agree, neutral, disagree, or strongly disagree. This format facilitates data processing and statistical analysis while ensuring consistency in responses. Data collection was conducted both directly and through digital platforms (e.g., Google Forms) to enhance efficiency and accuracy. Prior to data collection, the instrument was tested for validity using Pearson's Product-Moment correlation and for reliability using Cronbach's Alpha to ensure it met

the required standards of validity and internal consistency.

Descriptive analysis was used to describe the general condition of the research variables based on respondents' data. This analysis included data verification, frequency and percentage distributions, mean calculations, and the computation of the Respondent Achievement Level (TCR) to categorize each variable. Inferential analysis was performed using SEM-PLS to examine the causal relationships among variables. SEM-PLS is a robust statistical technique that allows researchers to analyze complex relationships between latent constructs (Hair et al., 2018).

The analysis consisted of two main components:

- a. Measurement Model (Outer Model): The outer model was evaluated to assess the validity and reliability of the constructs. Convergent validity was assessed using outer loading values ( $>0.70$ ) and Average Variance Extracted (AVE  $>0.50$ ). Discriminant validity was evaluated by comparing cross-loadings, while reliability was assessed using Cronbach's Alpha and Composite Reliability ( $>0.70$ ).
- b. Structural Model (Inner Model): The inner model was evaluated to test the relationships among variables. It included the assessment of the coefficient of determination ( $R^2$ ), path coefficients, and the significance of relationships using T-statistics ( $>1.96$ ) and p-values ( $<0.05$ ) obtained through bootstrapping procedures (Imam & Hengky, 2021).

Through this analytical approach, the study examined the direct effect of leadership on teacher performance in a comprehensive, systematic, and empirically measurable manner.

### 4. RESULT

This section presents the findings of the study on the direct effect of leadership on teacher performance based on the analysis conducted using Structural Equation Modeling (SEM) with a Partial Least Squares (PLS) approach. The analysis was carried out systematically, beginning with the evaluation of the measurement model to ensure the validity and reliability of the constructs, followed by the assessment of the structural model to examine the hypothesized relationships among variables. The results are presented in three main parts: the structural model, hypothesis testing, and descriptive statistics. These findings provide both statistical evidence and empirical insights into the role of leadership in influencing teacher performance.

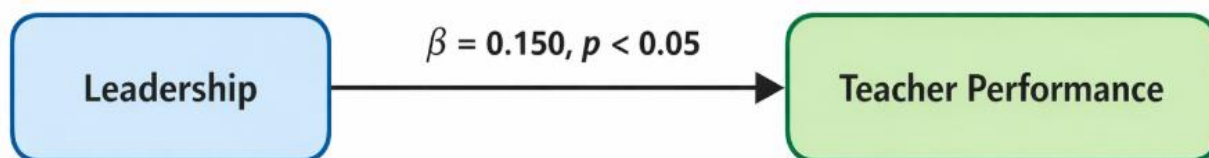


Figure 1: Structural Model (SEM)

Figure 1 illustrates the structural relationship between leadership and teacher performance. The positive path coefficient ( $\beta = 0.150$ ) indicates that leadership contributes positively to improving

teacher performance. The statistical significance ( $p < 0.05$ ) confirms that this relationship is meaningful and not due to random variation.

Table 1: Hypothesis Testing Results

Hypothesis	Relationship	Path Coefficient ( $\beta$ )	T-Statistic	P-Value	Decision
H1	Leadership → Teacher Performance	0.150	3.213	0.001	Supported

Table 1 presents the results of hypothesis testing using SEM-PLS. The path coefficient ( $\beta = 0.150$ ) indicates a positive relationship between leadership and teacher performance. The t-statistic of 3.213 exceeds the 1.96 threshold, and the p-value of 0.001 is

below 0.05, confirming that the effect is statistically significant. Therefore, Hypothesis 1 is accepted, indicating that leadership has a direct and significant influence on teacher performance.

Table 2: Descriptive Statistics

Variable	Mean	TCR (%)	Category
Leadership	4.10 - 4.58	82.18 - 91.69	Good - Very Good
Teacher Performance	3.84 - 4.51	76.82 - 90.26	High - Very High

Table 2 summarizes the descriptive statistics of the study variables. The leadership variable falls within the "good to very good" category, indicating that school leaders have effectively performed their roles across management, curriculum development, and organizational culture. Meanwhile, teacher performance is categorized as "high to very high," suggesting that teachers have demonstrated strong professional competence in planning, implementing, and evaluating instruction. These findings support the inferential results by showing that both variables are already at relatively high levels.

However, it also implies that there are additional factors outside the model that significantly influence teacher performance.

5. DISCUSSION

The findings presented in Figure 1, Table 1, and Table 2 collectively provide a comprehensive understanding of the relationship between leadership and teacher performance from both inferential and descriptive perspectives. Figure 1 visually illustrates the structural relationship, Table 1 statistically validates the hypothesis, and Table 2 provides contextual support through descriptive evidence.

Based on Structural Equation Modeling (SEM) data analysis using a Partial Least Squares (PLS) approach, it was found that leadership has a direct effect on teacher performance. The hypothesis testing results show a path coefficient value of 0.150, a t-statistic of 3.213 ( $> 1.96$ ), and a p-value of 0.001 ( $< 0.05$ ). These findings indicate that leadership has a positive and statistically significant effect on teacher performance. Therefore, the hypothesis stating that leadership directly influences teacher performance is accepted.

As shown in Figure 1 and confirmed in Table 1, leadership has a positive and statistically significant direct effect on teacher performance ( $\beta = 0.150$ ;  $t = 3.213$ ;  $p < 0.05$ ). It indicates that improvements in leadership practices are associated with increases in teacher performance, and the relationship is not due to random variation. The acceptance of Hypothesis 1 confirms that leadership is a meaningful predictor of teacher performance within the structural model. This finding supports organizational behavior theory, which posits that leadership plays a critical role in shaping individual performance through direction, motivation, and the creation of a conducive work environment (Leithwood et al., 2020); (Syafii et al., 2015).

Furthermore, the R-square value of 0.612 indicates that the model explains 61.2% of the variance in teacher performance. Leadership, along with other variables included in the model, makes a substantial contribution to explaining teacher performance.

However, the relatively moderate path coefficient suggests that leadership does not function as a dominant standalone factor. This interpretation becomes clearer when the findings are connected with Table 2. The descriptive results show that both leadership and teacher performance are already at relatively high levels, with leadership rated "good to very good" and teacher performance "high to very high." It indicates that, in practice, school leaders have effectively performed their roles, while teachers have demonstrated strong professional competence. The combination of high descriptive scores and a moderate structural effect suggests a ceiling effect, in which leadership continues to exert a positive influence. However, the magnitude of its contribution becomes limited by already high baseline conditions. In other words, leadership remains significant, but its incremental impact is relatively smaller because both variables have reached advanced levels.

Furthermore, the R-square value of 0.612 indicates that the model explains 61.2% of the variance in teacher performance. It shows relatively strong explanatory power, suggesting that leadership, along with other model variables, plays an important role in shaping teacher performance. However, it also implies that approximately 38.8% of the variance is explained by other factors not included in the model, reinforcing the view that teacher performance is multidimensional.

When interpreted in light of international literature, these findings are consistent with previous studies indicating that leadership significantly influences educational effectiveness, although its effects are often indirect and moderate. Meta-analytic evidence shows that leadership is the second most influential factor on student achievement after instructional quality, with its impact largely mediated by factors such as teacher professional capacity and school culture (Leithwood *et al.*, 2020); (Hallinger *et al.*, 2014). Thus, the present study strengthens the argument that, while leadership has a direct effect, it exerts a stronger influence through indirect mechanisms. In relation to instructional leadership, the findings suggest that leadership practices focusing on teaching and learning, such as curriculum development, instructional management, and teacher professional support, play a critical role in enhancing teacher performance. These aspects, which were rated very good in the descriptive results, align with prior research indicating that instructional leadership has a stronger impact on performance than administrative leadership (Robinson & Goodway, 2009); (Vazquez *et al.*, 2024).

Nevertheless, the relatively small coefficient observed in this study confirms that leadership alone is insufficient to produce large direct effects. It aligns with the view that educational leadership typically operates through mediating variables such as motivation, organizational commitment, and school culture (Hallinger, 2003). In this context, leadership can be understood as an enabling condition rather than a primary direct driver of teacher performance.

From the perspective of transformational leadership theory, leadership contributes to performance by inspiring and motivating individuals (Burns, 1978). However, the empirical findings of this study indicate that such influence is partial and context-dependent. Leadership should be understood within a systemic framework that accounts for the interaction among multiple organizational factors (Day *et al.*, 2020). These findings are further supported by international reports highlighting that collaborative and participative leadership significantly enhances teacher performance and job satisfaction (OECD, 2019, 2020). However, this study adds an important nuance: strong leadership alone is not sufficient to produce substantial direct effects. Instead, optimal performance improvement requires integrating leadership with other factors, such as supervision, motivation, and professional development. Moreover, recent studies indicate that leadership contributes to improved teaching quality by influencing instructional practices in the classroom (Sebastian *et al.*, 2016). It confirms that leadership operates not only at the organizational level but also directly affects classroom-level practices.

Importantly, this study also demonstrates that the relationship between leadership and teacher performance is context-dependent. In the context of madrasahs in Indonesia, leadership functions not only structurally but also culturally, shaped by social and religious values. This contextual dimension may explain why the direct effect of leadership appears relatively modest, as part of its influence is embedded in social norms and interpersonal dynamics that are not fully captured through quantitative measures.

This study offers several important contributions to the literature. First, it empirically confirms the direct effect of leadership on teacher performance, addressing a gap in prior research that predominantly emphasizes indirect effects. Second, it makes a contextual contribution by examining leadership in the underexplored setting of madrasahs, incorporating socio-cultural and religious dimensions into the analysis. Third, the study adopts a multidimensional perspective of

leadership, integrating instructional, transformational, and organizational aspects, thereby extending existing theoretical frameworks. Fourth, it contributes methodologically by employing SEM-PLS to simultaneously test direct and indirect relationships, offering more robust empirical evidence. Finally, and most importantly, this study refines existing leadership theory by demonstrating that leadership functions primarily as an enabling condition within a systemic framework, rather than as a dominant direct driver. It highlights the importance of interaction effects among leadership and other organizational variables, advancing a more integrative, context-sensitive understanding of educational leadership.

## 6. CONCLUSION

Based on the findings and discussion, it can be concluded that the leadership of madrasah principals has a positive and significant direct effect on teacher performance, as evidenced by the SEM-PLS results showing a path coefficient of 0.150, a t-statistic of 3.213, and a p-value of 0.001, indicating that the research hypothesis is accepted; however, the magnitude of this effect is moderate, suggesting that teacher performance is influenced not only by leadership but also by other factors such as work motivation, supervision, professional competence, and the work environment, which is further supported by the R-square value of 0.612 indicating that 61.2% of the variance in teacher performance is explained by the model while the remaining variance is influenced by variables outside the model; descriptively, leadership is categorized as good to very good, reflecting strong capabilities in resource management, curriculum development, and

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organizational culture, while teacher performance is categorized as high to very high, indicating that teachers have generally performed their professional duties effectively, although certain aspects such as instructional evaluation still require improvement; therefore, leadership plays a strategic role as both a driving force and an enabling condition in enhancing teacher performance, functioning not only as a directive mechanism but also as a facilitator and motivator that fosters a supportive and collaborative work environment; consequently, madrasah principals are encouraged to strengthen instructional leadership, integrate leadership practices with teacher professional development, and promote continuous improvement through reflective teaching and evaluation practices, while policymakers are recommended to develop multidimensional leadership training programs, integrate leadership with teacher development systems, establish systemic support mechanisms, design context-sensitive leadership frameworks that reflect the socio-cultural characteristics of madrasahs, and promote evidence-based decision-making, including the use of advanced analytical approaches such as SEM, in order to achieve sustainable improvements in educational quality.

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“Conceptualization, S.P.; methodology, S.P.; validation, S.P.; formal analysis, S.M.; investigation, S.P.; resources, S.P.; data curation, R.M.; writing – original draft preparation, S.P, A.S.; writing – review and editing, R.D.; supervision, S.M., R.M., R.D.

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