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Empirical Analysis of Leadership Management and Motivation Influence on School Principal Performance in Aceh Indonesia

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ABSTRACT: Leadership plays a crucial role in shaping school effectiveness and student outcomes. However, research on the specific factors influencing principal performance in Banda Aceh, Indonesia, remains limited. Existing studies predominantly focus on general leadership theories, often overlooking the unique socio-cultural and institutional challenges faced by school principals in this region. This study addresses this gap by examining the impact of Educational Management, Learning Leadership, Job Satisfaction, and Work Motivation on Principal Performance. Specifically, it aims to (1) analyze the direct effects of Educational Management and Learning Leadership on Principal Performance, (2) investigate the mediating roles of Work Motivation and Job Satisfaction, and (3) provide policy recommendations for improving leadership effectiveness in Banda Aceh. Using structural equation modeling, this study analyzes responses from 80 participants, including 67 educators (27 males and 40 females) and 13 principals (8 males and 5 females), representing diverse school contexts. The findings reveal that Educational Management significantly enhances Work Motivation, which in turn positively affects Principal Performance. While Educational Management also directly influences Job Satisfaction and Principal Performance, the mediating roles of motivation and satisfaction are critical. Learning Leadership, however, shows a weaker impact on Job Satisfaction and Principal Performance, indicating a need for more targeted leadership development initiatives. This study underscores the necessity of fostering a motivating and supportive environment to strengthen principal performance. It calls for refining Educational Management practices and designing leadership development programs tailored to the specific challenges of school leadership in Banda Aceh. These insights contribute to the broader discourse on educational leadership in developing regions, offering practical strategies for policymakers and educators

Keywords: Educational Management, Teacher performance, School Principals, Educational Leadership, Motivation Strategies.

I. INTRODUCTION

The effective performance of school principals is fundamental in shaping the academic success of students and the overall quality of education within schools (Lijun & Chun Te, 2024). In Aceh, a region with its distinct cultural, social, and geographical characteristics, school principals face unique challenges that influence their leadership and management styles. This study examines the interrelationships between learning leadership, educational management, and work motivation, and how these variables impact the performance of school principals. The research focuses on key factors such as leadership competence, vision and goal-setting, decision-making skills, and how these components influence the achievement of educational goals in Aceh's schools. Learning leadership is a critical variable in this study. Principals with strong leadership competencies are essential for creating a positive school environment and driving progress(Ariyani et al., 2021). The ability to inspire, guide, and innovate within leadership roles plays a vital part in fostering a sense of shared purpose among teachers and staff (Fajri et al., 2024). Moreover, the clarity of vision and goal-setting is central to directing school activities, ensuring that every aspect of school life aligns with the institution's long-term goals. Principals must also demonstrate effective decision-making skills to navigate challenges, balance the interests of stakeholders, and make informed choices that positively impact school performance.

The dimension of educational management involves managing the administrative and operational aspects of schools (Cornelissen & Smith, 2022). Principals' ability to handle planning and resource management is essential for ensuring that resources are allocated efficiently, and strategic goals are achieved. In a resource-constrained environment like Aceh, this skill becomes even more critical. Additionally, administrative skills ensure that school operations run smoothly, from handling budgets to managing staff. Fostering teacher and staff development is equally important, as the professional growth of the teaching staff directly correlates to the quality of education provided to students (Sariakin et al., 2025). Principals in Aceh need to cultivate a supportive environment that emphasizes continuous development for both teachers and staff. Work motivation, a central aspect of this study, determines how committed and engaged school principals are in their roles. Intrinsic motivation, driven by personal satisfaction and professional growth, plays a significant role in motivating principals to strive for excellence. On the other hand, extrinsic motivation, including rewards such as recognition, salary, and career advancement opportunities, can also contribute to job performance. Principals' motivation is often influenced by both intrinsic and extrinsic factors, and understanding this dynamic can provide valuable insights into leadership effectiveness in schools in Aceh.

This study contributes to educational leadership by examining the interplay between Educational Management, Learning Leadership, Job Satisfaction, and Work Motivation in shaping Principal Performance in Banda Aceh, Indonesia. While traditional leadership theories such as Transformational Leadership and Instructional Leadership direct leadership influence on school performance, this study highlights the mediating roles of motivation and job satisfaction, suggesting a more complex pathway to effective school leadership. The findings challenge the assumption in Transformational Leadership Theory that inspirational leadership alone directly enhances performance. Instead, the study shows that Learning Leadership has a limited effect on Principal Performance unless accompanied by strong motivation and job satisfaction. This indicates that leadership charisma alone is insufficient in the educational context of Banda Aceh, where external factors such as administrative policies, cultural expectations, and resource constraints significantly impact leadership effectiveness. Similarly, Instructional Leadership Theory posits that principals' direct involvement in curriculum and instruction enhances school effectiveness. However, this study finds that Educational Management and motivation play a more significant role, suggesting that leadership in this region requires a balance between managerial efficiency and instructional involvement.

The study also focuses on job satisfaction as a crucial component of a principal's overall work motivation. Job satisfaction reflects how content principals are with their role, their level of enthusiasm towards their duties, and their alignment with the school's mission and goals (Boudouaia et al., 2024). Principals who experience higher job satisfaction are likely to exhibit higher performance, remain committed to the school's values, and contribute positively to the school's mission (Kumari et al., 2022). Therefore, understanding the relationship between motivation, job satisfaction, and leadership is essential for improving the performance of school principals. Ultimately, this research aims to understand how these interconnected variables learning leadership, educational management, work motivation, and job satisfaction influence the performance of school principals in Aceh. By examining these factors, the study seeks to identify strategies that can enhance leadership capabilities, improve school management, and foster a more motivating environment for principals, ultimately improving the quality of education in Aceh's schools.

A key theoretical advancement of this study is the introduction of a context-specific leadership model that acknowledges the unique challenges of school leadership in Banda Aceh. Unlike Western-centric models that emphasize autonomy and innovation, this study demonstrates that structured management systems and motivational leadership are crucial in settings were rigid administrative frameworks and socio-cultural influences shape leadership effectiveness. Another contribution is the integration of Work Motivation and Job Satisfaction as central mediators rather than mere outcomes in leadership effectiveness. The study finds that Educational Management significantly enhances motivation, which in turn improves performance, leading to an extended leadership model that prioritizes motivation as a key mechanism. Furthermore, this research advocates for a policy-driven approach to leadership development, moving beyond individual leadership traits to emphasize institutional support structures and workplace conditions. This suggests that improving school leadership should not only focus on personal leadership styles but also on creating an environment that fosters motivation and job satisfaction. By shifting from leader-centric theories to holistic, system-oriented approaches, this study provides valuable insights for policymakers, educational institutions, and leadership training programs in developing regions.

LITERATURE REVIEW

1. GEOGRAPHICAL AND SOCIO-CULTURAL INFLUENCES ON EDUCATION IN ACEH

Education in Indonesia faces significant challenges due to its unique geography, which includes thousands of islands, mountainous regions, and remote areas, leading to unequal access to quality education(Maulana, 2023). While urban regions benefit from better resources and infrastructure, remote schools struggle with teacher shortages, poor facilities, and logistical barriers (Nagel et al., 2023). These disparities highlight the need for strong leadership strategies to improve educational access and outcomes. Aceh, located at the northern tip of Sumatra Island, presents additional complexities due to its coastal areas, mountainous terrain, and rural villages, making school accessibility a persistent issue. Limited transportation infrastructure affects school attendance, while deep-rooted Islamic traditions and Sharia law influence educational priorities, placing strong emphasis on religious studies. Furthermore, local customs, such as community decision-making, shape the interactions between schools, parents, and the broader society. Aceh's history marked by the 2004 tsunami and prolonged conflict—has also had lasting effects on the education system. Given these unique challenges, effective school leadership is crucial in ensuring that principals and educators can navigate socio-cultural expectations, improve educational management, and foster teacher motivation. This study applies Transformational and Distributed Leadership Models to explore how principals in Aceh can enhance school performance by addressing these region-specific obstacles.

Current leadership literature in Aceh is limited, relying heavily on Western-centric models that overlook local socio-cultural and administrative challenges. Existing studies fail to examine the mediating roles of Work Motivation and Job Satisfaction in leadership effectiveness, assuming a direct impact of leadership on performance. Additionally, research on how bureaucratic constraints, resource limitations, and cultural expectations influence principal performance remains scarce. This study is necessary to bridge these gaps by developing a context-specific leadership model that integrates Educational Management, Learning Leadership, and motivation factors. The findings will provide practical insights for policymakers and contribute to a more applicable leadership framework for Aceh's education system. Recovery efforts have focused on rebuilding schools, improving education quality, and addressing access disparities. These challenges require tailored solutions to improve educational outcomes. Educational leaders in Aceh play a vital role in addressing these challenges. Particularly in urban areas like Banda Aceh, where technology integration can drive improvements.

In rural areas, principals must navigate logistical difficulties, inspire teachers, and create collaborative networks to overcome limitations (Warisno & Hidayah, 2022). The leadership of educational institutions is crucial in responding to Aceh's unique challenges. In urban centers, principals can leverage infrastructure to enhance education, while in remote areas, leadership must adapt to address the difficulties posed by limited facilities and access to resources. Leadership that is responsive to local needs is key to achieving educational equity and effectiveness across Aceh. Ultimately, Aceh's education system is shaped by its geography, socio-cultural context, and history, requiring leadership that balances practical challenges with respect for local traditions. By aligning educational strategies with these values and embracing innovation, Aceh can build a resilient and inclusive system that meets the diverse needs of its communities.

2. CONCEPTUAL OF LEARNING LEADERSHIP IN EDUCATION

Learning leadership is a transformative approach that emphasizes continuous improvement in teaching and learning within educational institutions (Lailiyah & Imami, 2023). Unlike traditional leadership, which often focuses on administrative tasks and organizational control, learning leadership is centered around fostering a culture of learning and development at all levels teachers, students, and school leaders. It involves promoting professional growth, encouraging innovative teaching methods, and aligning school practices with the evolving educational needs of the community. In educational institutions, learning leadership plays a crucial role in ensuring that schools do not simply maintain status quo operations but continuously strive for excellence. By adopting a learning leadership framework, principals guide and support teachers in embracing new teaching strategies, implementing curriculum reforms, and creating environments that nurture students' intellectual, social, and emotional growth.

This leadership model emphasizes collaboration, shared decision-making, and the empowerment of all members of the school community (Alessa, 2021). School principals, as learning leaders, play a crucial role in

driving educational change within their institutions. Their responsibilities go beyond administrative tasks; they actively shape the school's culture and vision, establish clear academic goals, and cultivate a learning-focused environment. Effective principals promote teacher collaboration, encourage innovative teaching methods, and ensure that the school's curriculum is relevant to both student needs and community expectations. By fostering a supportive and goal-oriented educational setting, principals help improve teaching quality, student outcomes, and overall school performance (Hammond et al., 2022). The impact of school principals as learning leaders is profound in shaping school culture. A principal who adopts a learning leadership approach can cultivate a positive school climate that values continuous improvement, shared responsibility, and professional development. This leadership style inspires teachers to be more engaged in their teaching practices, enhances job satisfaction, and fosters a sense of purpose in the school community.

Moreover, learning leaders actively cultivate a growth mindset among both teachers and students, fostering a culture where learning is seen as a continuous and evolving process. By modeling reflective practices and promoting a data-driven approach to teaching and learning, principals ensure that instructional strategies are evidence-based and effective. This proactive leadership creates a school environment characterized by high expectations, accountability, and ongoing professional development, which ultimately enhances student achievement and overall school performance. The ability of principals to spearhead learning initiatives is critical in aligning educational goals with community needs and the broader educational landscape, ensuring that schools remain adaptive and forward-thinking in a rapidly changing world.

2. ROLE OF TEACHER MOTIVATION IN ENHANCING EDUCATIONAL QUALITY

Teachers play a central role in education, directly impacting student learning, engagement, and development(Vujčić et al., 2022). Their ability to inspire, mentor, and foster critical thinking is essential for shaping educational quality, particularly in regions like Aceh, where geographical, cultural, and social challenges amplify their responsibilities. In Aceh, teachers must bridge diverse community challenges while adhering to a curriculum influenced by local traditions and religious values. Effective teaching relies on evidence-based practices (Darling-Hammond et al., 2022), where data and research guide continuous improvement. Teachers can enhance educational quality by adapting their methods to student needs and collaborating with local communities to address resource gaps. This collective effort helps create a more inclusive educational environment.

Indonesian Government Regulation Number 74 of 2008 defines the responsibilities of teachers, emphasizing the importance of teaching talent, expertise, and experience. However, the persistent challenge of low teacher quality remains a significant concern, as it directly correlates with poor student outcomes. The education system's difficulty in adapting to reforms further underscores the need for strong leadership and high-performing educators committed to professional growth. To enhance teacher performance, it is essential to provide ongoing professional development, supportive leadership, and access to adequate resources. Initiatives such as training programs, upskilling opportunities, and teacher certification processes help ensure that educators stay updated with modern pedagogical strategies. Moreover, teachers must embody discipline, responsibility, and dedication to effectively address the evolving needs of students and contribute to overall educational success.

The improvement of teacher performance is influenced by several key factors. Continuous professional development, supportive leadership, and access to adequate resources enable teachers to enhance their skills and effectiveness (Iqbal & Ali, 2024). Motivation, job satisfaction, collaboration with peers, and constructive feedback from students are key factors in enhancing teaching practices and fostering a positive learning environment. These elements help create a school culture that supports growth, engagement, and continuous improvement in education. Additionally, reflective practices enable teachers to assess and refine their instructional methods, leading to better student outcomes and a more effective learning experience. Given the ongoing challenge of improving educational quality, particularly at the junior high school level in Aceh Besar, it is crucial to implement strategies that strengthen teacher motivation, promote collaboration, and encourage professional development to drive meaningful educational reforms.

3. THE RELATIONSHIP BETWEEN PRINCIPAL LEADERSHIP AND TEACHER EFFECTIVENESS

In educational administration, school principals are vital to ensuring smooth school operations and achieving educational goals (Dewi Puspitaningrum et al., 2021). To do this effectively, they must prioritize

efficiency by optimizing resource use and completing administrative tasks promptly. Effectiveness is also crucial, as principals must align educational programs with student needs and maintain high academic standards (Adair-Hauck et al., 2013). Productivity focuses on achieving results by setting clear goals and tracking progress to improve student learning outcomes. Creativity is essential for addressing challenges like limited resources or evolving educational demands, fostering an innovative and dynamic learning environment.

These elements together contribute to the school's success and its ability to provide quality education. Enhancing the quality of educational institutions is essential to ensuring that students receive the best education and develop the necessary skills for success (Duan & Zhao, 2024). This requires focusing on the effectiveness of inputs such as curriculum design, teaching resources, and technological support to improve learning outcomes. Equally important is the quality of human resources, especially educators and school leaders, who must have the knowledge, skills, and competencies to manage and deliver educational programs effectively (Leithwood, 2021). Additionally, management efficiency is crucial for optimizing resource use, streamlining administrative processes, and creating a productive school environment (Maulana, 2023). By addressing these key areas input effectiveness, human resource quality, and management efficiency educational institutions can lay the foundation for continuous improvement and excellence.

These factors effective inputs (Nagel et al., 2023), quality human resources (Mulang, 2021), and efficient management (Srivastava, 2023), directly impact the quality of education produced by a school. The principal's managerial ability is a crucial aspect that needs ongoing development to ensure the school operates optimally and meets its educational goals (Liao & Wu, 2023). A principal with strong leadership skills can create a positive school culture, implement effective teaching strategies, and manage resources efficiently. Furthermore, strengthening a principal's managerial skills helps secure the necessary support from teachers, parents, and the community, which is essential for the success and improvement of the school. By focusing on developing the principal's leadership and management skills, schools can create an environment conducive to academic excellence and student growth. Thus, the principal must fulfill their duties and responsibilities to the best of their ability, acting as both a leader and manager. Additionally, the school serves as a catalyst for change, meaning the principal must recognize this role and work to improve their ability to implement change for the school's success. Effective principal leadership and management are strongly linked to overall improvements in teacher performance

In this study, the research variables are systematically structured to examine the interrelationships among key factors influencing the research objectives. Each variable is defined based on theoretical foundations and empirical studies to ensure conceptual clarity and relevance. The variables are categorized into independent, dependent, and mediating/moderating variables, each playing a critical role in shaping the study's analytical framework. To enhance the precision of data collection and analysis, the study provides clear operational definitions and measurement indicators, ensuring that each variable is measurable and aligned with the research objectives. This structured approach facilitates a comprehensive examination of how leadership, motivation, and management impact educational outcomes in the study context.

4. RESEARCH QUESTION AND HYPHOTESES

In this study, the research questions structured to examine the relationships between key factors influencing this research. The research questions for this study are as follows:

1. How does learning leadership (X1) influence the performance of school principals (Y)?
2. How does educational management (X2) impact the performance of school principals (Y)?
3. What is the effect of work motivation (Z1) on the performance of school principals (Y)?
4. How does job satisfaction (Z2) affect the performance of school principals (Y)?
5. To what extent do learning leadership (X1), educational management (X2), work motivation (Z1), and job satisfaction (Z2) collectively influence the performance of school principals (Y)?
6. Does work motivation (Z1) mediate the relationship between learning leadership (X1), educational management (X2), and the performance of school principals (Y)?
7. Does job satisfaction (Z2) mediate the relationship between learning leadership (X1), educational management (X2), and the performance of school principals (Y)?

5. RESEARCH OBJECTIVE

The specific research objectives of this study are:

1. To analyze the direct influence of Learning Leadership (X1) on the Performance of School Principals (Y) and determine whether leadership style alone significantly impacts school leadership effectiveness.
2. To examine the impact of Educational Management (X2) on the Performance of School Principals (Y) and assess the role of structured management practices in enhancing leadership effectiveness.
3. To evaluate the effect of Work Motivation (Z1) on the Performance of School Principals (Y) and identify whether motivated principals demonstrate higher performance levels.
4. To investigate how Job Satisfaction (Z2) affects the Performance of School Principals (Y) and determine whether satisfied school leaders perform better in their roles.
5. To assess the combined effects of Learning Leadership (X1), Educational Management (X2), Work Motivation (Z1), and Job Satisfaction (Z2) on the Performance of School Principals (Y) to identify the most influential factors contributing to leadership success.
6. To examine the mediating role of Work Motivation (Z1) in the relationship between Learning Leadership (X1), Educational Management (X2), and the Performance of School Principals (Y) to determine whether motivation strengthens or weakens these relationships.
7. To explore the mediating role of Job Satisfaction (Z2) in the relationship between Learning Leadership (X1), Educational Management (X2), and the Performance of School Principals (Y) to understand whether satisfaction plays a crucial role in leadership effectiveness.

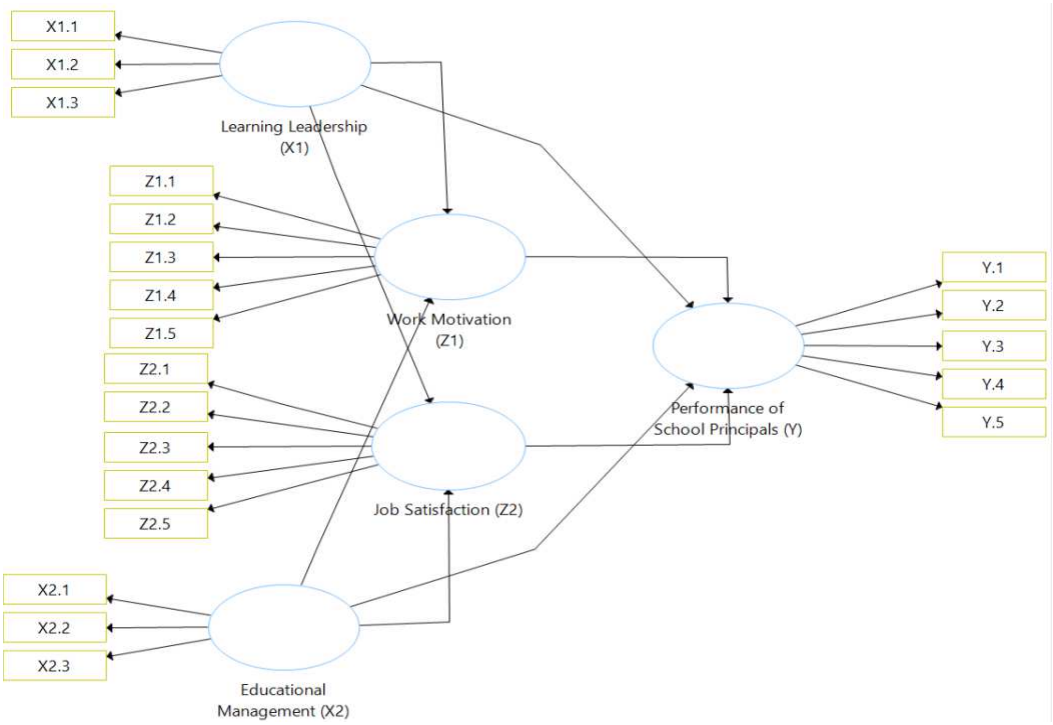


Figure 1. Research Framework Model
Source: Analysis Data Primer Smart PLS- SEM (2025)

6. HYPOTHESIS

H1: Learning leadership (X1) has a positive and significant effect on the Performance of Schools Principals (Y).
H2: Educational management (X2) has a positive and significant effect on the Performance of Schools Principals (Y).
H3: Work motivation (Z1) has a positive and significant effect on the Performance of Schools Principals (Y).
H4: Job satisfaction (Z2) has a positive and significant effect on the Performance of Schools Principals (Y).
H5: Learning leadership (X1), educational management (X2), work motivation (Z1), and job satisfaction (Z2) collectively have a positive and significant effect on the Performance of Schools Principals (Y).

H6: Work motivation (Z1) mediates the relationship between learning leadership (X1), educational management (X2), and Performance of Schools Principals (Y).
H7: Job satisfaction (Z2) mediates the relationship between learning leadership (X1), educational management (X2), and Performance of Schools Principals (Y).

II. MATERIAL AND METHOD

This study adopts a quantitative methodology, employing survey research to explore the dynamics within senior high schools. The primary focus of the investigation is on teachers, while the leadership and administrative skills of senior high school principals serve as the central aspect of the study. Through the survey, the research aims to assess how principals' leadership qualities and administrative capabilities impact the teaching environment, teacher performance, and overall school effectiveness.

1. DATA COLLECTION

The data collection process in this study was carefully designed to ensure the reliability and validity of the findings, allowing for a thorough analysis of the relationship between learning leadership, educational management, work motivation, job satisfaction, and the performance of school principals. The study involved multiple steps, including population selection, sampling, a pilot study, ethical considerations, data collection techniques, and data analysis.

1.1 Population And Sample

The population of this study consists of all educators and principals from senior high schools, totaling 95 individuals. These individuals play a crucial role in shaping educational leadership, administration, teacher motivation, and job satisfaction. The population is divided into two main groups: educators and principals. Educators, who make up the majority, include teachers from various subjects, grade levels, and experience backgrounds. They represent diverse disciplines such as science, mathematics, language, and social studies, with teaching experience ranging from novice teachers with 0–5 years of experience to highly experienced educators with over 10 years in the profession. Meanwhile, principals form a smaller but significant part of the population, responsible for school leadership, decision-making, and overall management. The study includes principals from different schools, ensuring diversity in leadership experience, geographical distribution (urban and rural schools), and school size

To ensure the sample accurately represents the entire population, a proportional random sampling technique is employed. This method ensures that the proportion of educators and principals in the sample mirrors their distribution in the total population, maintaining balance and preventing overrepresentation of any group. If 70% of the population consists of educators and 30% are principals, the sample will reflect the same ratio. The sampling process begins by dividing the population into subgroups based on their roles, after which individuals are randomly selected within each subgroup using a computer-generated random selection tool or random number assignment. This approach ensures that all teachers, regardless of subject expertise or years of experience, have an equal chance of inclusion, while principals from different types of schools are proportionally represented. The choice of proportional random sampling is justified as it ensures representativeness, reduces selection bias, and enhances the validity of the study. By maintaining the same proportion of educators and principals as in the total population, the sample provides a realistic and accurate picture of leadership and teaching dynamics in senior high schools. This method allows for balanced data collection, ensuring that perspectives from different educational backgrounds and leadership levels are adequately captured for comprehensive analysis.

1.2 Data Types

This study employs a combination of primary and secondary data to ensure a well-rounded and in-depth analysis of leadership, administration, and educational practices in senior high schools. Primary data is obtained directly from the selected sample of educators and principals using structured research instruments, including surveys, interviews, and questionnaires. These data collection methods are designed to capture firsthand perspectives on leadership effectiveness, school management strategies, teacher motivation, and job satisfaction. Surveys consist of a mix of closed-ended and open-ended questions to collect both quantitative

and qualitative insights. Interviews allow for deeper exploration of leadership styles, decision-making processes, and challenges faced by educators and school leaders. Additionally, questionnaires provide structured responses that can be statistically analyzed to identify trends and correlations among key variables.

In contrast, secondary data is sourced from existing literature, official reports, and reputable databases to provide contextual support for the primary findings. These sources include research articles, government regulations, educational policy documents, school performance reports, and organizational records. Secondary data helps in establishing a background for the study, verifying patterns observed in primary data, and offering a broader understanding of leadership and educational trends. For instance, previous studies on school leadership and teacher performance in Indonesia are reviewed to compare findings, while government documents such as Indonesian Government Regulation Number 74 of 2008 provide legal and institutional context. Additionally, statistical reports from education ministries and local agencies contribute to understanding trends in teacher qualifications, student performance, and policy impacts over time.

1.3 Data Analysis Technique

The data is analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through the Smart PLS software, a robust technique for examining complex relationships between variables. The analysis begins with the measurement model, which assesses the reliability and validity of the constructs. Reliability is evaluated using Cronbach's alpha and composite reliability, while validity is tested through convergent validity (using Average Variance Extracted, AVE) and discriminant validity (using the Fornell-Larcker Criterion and Heterotrait-Monotrait Ratio, HTMT). Once the measurement model is validated, the structural model is analyzed to test the hypothesized relationships. Path coefficients are estimated to determine the strength and direction of relationships, with significance tested using bootstrapping. The coefficient of determination (R^2) measures the variance explained in the dependent variable (performance of school principals), and effect size (f^2) assesses the contribution of each independent variable. For mediation analysis (H6 and H7), the direct, indirect, and total effects of learning leadership (X1) and educational management (X2) on performance (Y) through work motivation (Z1) and job satisfaction (Z2) are examined. Bootstrapping is used to determine the significance of mediation effects by calculating confidence intervals.

1.4 Ethical

This study upheld ethical standards through informed consent, confidentiality, and data security. Participants voluntarily signed consent forms, and their data remained anonymous and securely stored. Ethical approval was obtained, and participants could withdraw anytime without consequences.

2. RESEARCH DESIGN

This study employs a quantitative research design to examine the relationships between learning leadership, educational management, work motivation, job satisfaction, and the performance of school principals. The design is structured to test the hypotheses using statistical methods, ensuring a rigorous and systematic analysis of the proposed relationships. The data is analyzed using Smart PLS (Partial Least Squares Structural Equation Modeling), a powerful statistical tool for examining complex relationships between variables. Smart PLS is particularly suitable for this study because it allows for the simultaneous analysis of multiple relationships, including direct and indirect (mediating) effects, making it ideal for testing the proposed hypotheses. Descriptive statistics are first used to summarize the characteristics of the sample and variables, providing an overview of the data distribution through measures such as mean and standard deviation. Smart PLS-SEM is employed to test the hypotheses. For hypotheses H1, H2, H3, H4, and H5, which focus on the direct effects of learning leadership (X1), educational management (X2), work motivation (Z1), and job satisfaction (Z2) on the performance of school principals (Y), Smart PLS evaluates the strength and significance of these relationships. Additionally, Smart PLS is used to test hypotheses H6 and H7, which examine the mediating roles of work motivation (Z1) and job satisfaction (Z2) in the relationships between learning leadership (X1), educational management (X2), and the performance of school principals (Y). The software's ability to model mediation effects ensures a thorough analysis of both

direct and indirect pathways. Finally, Smart PLS also assesses the reliability and validity of the measurement model.

III. DATA ANALYSIS

The demographic distribution of respondents provides valuable insights into the representation of educators and principals in the study. With a total of 80 respondents, the sample ensures a balanced perspective from both teaching and leadership roles in schools. Among the 67 educators, the majority are female (40 individuals or 59.7%), while males make up 27 individuals (40.3%). This indicates that female teachers form a significant proportion of the teaching workforce, which may influence perspectives on leadership, motivation, and job satisfaction. The diverse teaching backgrounds of the educators, including different subject areas and experience levels, contribute to a comprehensive understanding of school performance factors. The 13 principals in the sample include 8 males (61.5%) and 5 females (38.5%), reflecting a gender disparity in leadership positions. This distribution suggests that male principals may hold a greater share of leadership roles in the sampled schools, which could impact school management styles and leadership effectiveness.

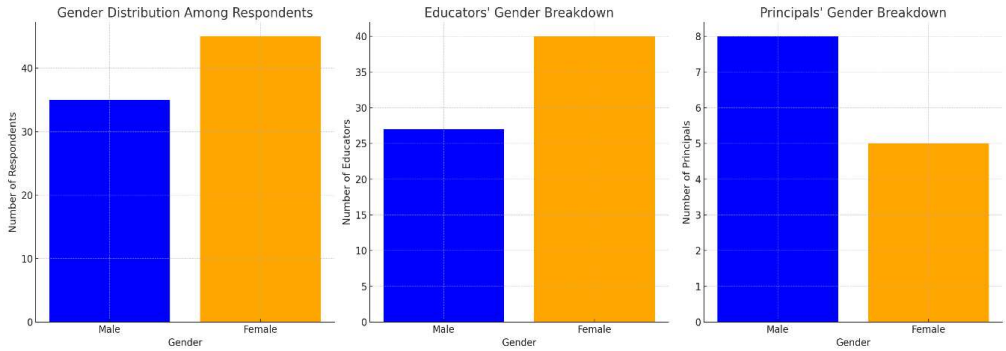


Figure 2. The Graphical Representations of Respondents

Overall, the total sample consists of 35 males (43.8%) and 45 females (56.2%), ensuring a gender-inclusive representation. The slightly higher proportion of female respondents aligns with general trends in the education sector, where women often make up a significant portion of the teaching workforce. This demographic balance strengthens the study's ability to capture diverse viewpoints on how leadership, management, work motivation, and job satisfaction influence school principals' performance.

Table 1. Composite Reliability

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Educational Management	0.937	0.933	0.018	52.508	0.000
Job Satisfaction	0.840	0.839	0.019	44.530	0.000
Learning Leadership	0.837	0.827	0.057	14.755	0.000
Performance of School Principals	0.890	0.887	0.018	49.327	0.000
Work Motivation	0.868	0.866	0.019	45.323	0.000

Source: Analysis Data Primer (2025)

The presents the composite reliability values for the study's variables, assessing the internal consistency of the measurement model. Composite reliability values above 0.70 indicate a high level of reliability, ensuring that the measurement items for each construct are consistent and reliable. Educational Management recorded the highest composite reliability score (0.937), with a T-statistic of 52.508 and a p-value of 0.000, confirming its strong reliability and statistical significance. Similarly, Job Satisfaction demonstrated a high reliability score (0.840), supported by a T-statistic of 44.530 and a p-value of 0.000, indicating a strong level of internal consistency. Learning Leadership, with a composite reliability of 0.837 and a T-statistic of 14.755, meets the reliability threshold despite being slightly lower than the other variables. The Performance of

School Principals exhibited a reliability score of 0.890, with a T-statistic of 49.327 and a p-value of 0.000, reinforcing the robustness of the measurement model. Lastly, Work Motivation demonstrated a composite reliability of 0.868, with a T-statistic of 45.323 and a p-value of 0.000, confirming its internal consistency. Given that all variables exceed the 0.70 reliability threshold, the measurement model is considered highly reliable, ensuring the validity of further statistical analysis.

Table 2. Cronbach's Alpha

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Educational Management	0.902	0.895	0.029	31.518	0.000
Job Satisfaction	0.749	0.748	0.034	21.790	0.000
Learning Leadership	0.709	0.706	0.046	15.336	0.000
Performance of School Principals	0.838	0.834	0.028	29.625	0.000
Work Motivation	0.820	0.817	0.027	30.573	0.000

Source: Analysis Data Primer (2025)

The Cronbach's Alpha analysis confirms the internal consistency and reliability of the study's variables, with all values meeting or exceeding the acceptable threshold of 0.70. Educational Management recorded the highest reliability score (0.902), with a T-statistic of 31.518 and a p-value of 0.000, indicating excellent internal consistency. Job Satisfaction demonstrated a reliability score of 0.749, supported by a T-statistic of 21.790 and a p-value of 0.000, reflecting good reliability. Similarly, Learning Leadership achieved a Cronbach's Alpha of 0.709, with a T-statistic of 15.336 and a p-value of 0.000. Although it has the lowest reliability among the variables, it still meets the minimum threshold, ensuring acceptable consistency. The Performance of School Principals variable showed a reliability score of 0.838, with a T-statistic of 29.625 and a p-value of 0.000, reinforcing the strength of its measurement scale. Lastly, Work Motivation demonstrated a Cronbach's Alpha of 0.820, supported by a T-statistic of 30.573 and a p-value of 0.000, confirming its strong reliability. Overall, the results indicate that all variables exhibit high reliability, ensuring the validity of subsequent statistical analyses.

Table 3. Confidence Intervals

Variable	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
Educational Management	0.902	0.895	0.823	0.937
Job Satisfaction	0.749	0.748	0.677	0.809
Learning Leadership	0.709	0.706	0.605	0.784
Performance of School Principals	0.838	0.834	0.767	0.880
Work Motivation	0.820	0.817	0.756	0.865

Source: Analysis Data Primer (2025)

Table 4. Confidence Intervals Bias Corrected

Variable	Original Sample (O)	Sample Mean (M)	Bias	2.5%	97.50%
Educational Management	0.902	0.895	-0.007	0.831	0.939
Job Satisfaction	0.749	0.748	-0.001	0.677	0.809
Learning Leadership	0.709	0.706	-0.004	0.600	0.781
Performance of School Principals	0.838	0.834	-0.005	0.772	0.881
Work Motivation	0.820	0.817	-0.004	0.769	0.870

Source: Analysis Data Primer (2025)

The data presented in Table 3 and Table 4 provides valuable insights into the significance and impact of various variables related to educational management, job satisfaction, learning leadership, performance of school principals, and work motivation. The analysis reveals that all variables are statistically significant, as their 95% confidence intervals do not include zero. This indicates a strong positive relationship between each

variable and the outcomes being measured. Among the variables, Educational Management stands out as the most influential, with an original sample estimate of 0.902 and a narrow confidence interval of 0.823, 0.937 in Table 5, slightly adjusted to 0.831, 0.939 in Table 6 after bias correction. This suggests that effective educational management is a critical driver of the outcomes studied, and interventions in this area could yield substantial benefits.

The bias correction applied in Table 6 has minimal impact on the results, as the bias values are small, ranging from -0.001 to -0.007. This indicates that the original estimates in Table 5 were already robust and reliable. For example, the bias for Educational Management is -0.007, which is negligible compared to its original estimate. Similarly, the bias-corrected confidence intervals show only slight adjustments, further confirming the stability of the findings. This minimal bias suggests that the analysis methods used were appropriate and that the results are trustworthy. In terms of variable importance, Performance of School Principals and Work Motivation also show strong influence, with original sample estimates of 0.838 and 0.820, respectively. These variables, along with Educational Management, appear to be key factors in achieving the desired outcomes. On the other hand, Job Satisfaction and Learning Leadership have lower estimates (0.749 and 0.709, respectively), indicating they are less influential but still statistically significant. The wider confidence interval for Learning Leadership suggests greater variability in its impact, which may warrant further investigation to better understand its role.

From a practical perspective, the findings highlight the importance of prioritizing Educational Management, Performance of School Principals, and Work Motivation in policy and intervention strategies. For instance, investing in leadership training for school principals and initiatives to boost employee motivation could lead to significant improvements in organizational outcomes. While Job Satisfaction and Learning Leadership are less dominant, they should not be overlooked, as they still contribute meaningfully to the overall results. In conclusion, the data underscores the robustness of the analysis and provides clear guidance on where to focus efforts for maximum impact in educational and organizational settings.

Table 5. Discriminant Validity

Variable	Educational Management	Job Satisfaction	Learning Leadership	Performance of School Principals	Work Motivation
Educational Management	0.913				
Job Satisfaction	-0.278	0.754			
Learning Leadership	0.060	-0.104	0.795		
Performance of School Principals	-0.347	0.704	-0.268	0.819	
Work Motivation	0.446	-0.499	0.192	-0.588	0.755

Source: Analysis Data Primer (2025)

Table 5 provides an assessment of discriminant validity, which measures the extent to which each variable in the study is distinct from the others. The diagonal values in the table represent the square root of the average variance extracted (AVE) for each variable, indicating how much variance the construct captures relative to measurement error. These values are strong for Educational Management (0.913) and Performance of School Principals (0.819), and moderate for Job Satisfaction (0.754), Learning Leadership (0.795), and Work Motivation (0.755). For good discriminant validity, these diagonal values should be greater than the off-diagonal correlations in the same row and column, which is largely the case here.

The off-diagonal values represent the correlations between the variables. Educational Management shows weak to moderate correlations with other variables, ranging from -0.347 to 0.446, indicating it is distinct from the other constructs. Similarly, Job Satisfaction and Performance of School Principals exhibit a relatively strong correlation (0.704), which is slightly concerning as it approaches the square root of the AVE for Job Satisfaction (0.754). This suggests some overlap between these two constructs, which may warrant further investigation. On the other hand, Learning Leadership demonstrates weak correlations with most variables, ranging from -0.268 to 0.192, confirming its distinctiveness. Work Motivation shows moderate correlations with other variables, particularly a strong negative correlation with Performance of School Principals (-0.588), which may indicate an inverse relationship between these

constructs. Overall, the table demonstrates acceptable discriminant validity for most variables, as the diagonal values generally exceed the off-diagonal correlations. However, the stronger correlations between Job Satisfaction and Performance of School Principals, as well as between Work Motivation and Performance of School Principals.

Tabel 6. R Square

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Job Satisfaction	0.085	0.096	0.036	2.378	0.018
Performance of School Principals	0.598	0.605	0.049	12.280	0.000
Work Motivation	0.226	0.241	0.057	3.998	0.000

Source: Analysis Data Primer (2025)

Table 7. R Square Adjusted

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Job Satisfaction	0.073	0.084	0.036	2.007	0.045
Performance of School Principals	0.587	0.595	0.050	11.736	0.000
Work Motivation	0.216	0.231	0.057	3.764	0.000

Source: Analysis Data Primer (2025)

The analysis of R Square and Adjusted R Square values provides insight into the explanatory power of the model regarding job satisfaction, work motivation, and school principals' performance. The R^2 value of 0.085 for Job Satisfaction suggests that the independent variables in the model explain only 8.5% of its variance, leaving the majority influenced by external factors not included in the model. The Adjusted R^2 of 0.073 further indicates that after considering model complexity, the explanatory power remains low. This suggests that additional variables, such as work environment, leadership style, or job security, may need to be included to improve the model's ability to predict job satisfaction.

In contrast, the Performance of School Principals has the highest R^2 value of 0.598, meaning the model explains 59.8% of its variation. The Adjusted R^2 of 0.587 remains relatively stable, reinforcing the model's strength in predicting school principals' performance. This suggests that the independent variables significantly contribute to explaining performance outcomes, making the model more reliable for this variable. However, there is still a considerable proportion (around 40%) left unexplained, which could be addressed by incorporating additional relevant factors such as leadership development programs or policy influences. For Work Motivation, the R^2 value of 0.226 indicates that the model accounts for 22.6% of the variation in motivation levels. After adjustment, the Adjusted R^2 slightly decreases to 0.216, showing that the explanatory power remains moderate. While the model provides some insight into what drives work motivation, it is evident that other influential factors, such as intrinsic motivation, career progression opportunities, or work-life balance, might improve the predictive accuracy.

Overall, the results that the model is most effective in explaining the performance of school principals, while its explanatory power for job satisfaction and work motivation is relatively weaker. The statistical significance of all relationships, as indicated by T-statistics and p-values below 0.05, confirms the reliability of the model's findings. However, given the lower R^2 values for job satisfaction and work motivation, future research could benefit from expanding the model with additional independent variables to enhance its explanatory power and provide a more comprehensive understanding of these factors.

Table 8. F Square

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Educational Management -> Job Satisfaction	0.081	0.085	0.034	2.376	0.018
Educational Management -> Performance of School Principals	0.011	0.014	0.014	0.785	0.433

Educational Management-> Work Motivation	0.244	0.256	0.081	3.021	0.003
Job Satisfaction -> Performance of School Principals	0.541	0.558	0.138	3.923	0.000
Learning Leadership -> Job Satisfaction	0.008	0.017	0.020	0.412	0.680
Learning Leadership -> Performance of School Principals	0.061	0.067	0.042	1.455	0.146
Learning Leadership -> Work Motivation	0.036	0.049	0.038	0.937	0.349
Work Motivation -> Performance of School Principals	0.102	0.108	0.048	2.124	0.034

Source: Analysis Data Primer (2025)

The F Square (f^2) values in Table 8 indicate the effect size of each independent variable on the dependent variables, helping to determine the strength of their influence within the model. The results show varying degrees of impact across different relationships. Educational Management has a small effect on Job Satisfaction ($f^2 = 0.081$, $p = 0.018$), suggesting that while educational management plays a role in shaping job satisfaction, other factors may have a stronger influence. Its impact on Work Motivation is moderate ($f^2 = 0.244$, $p = 0.003$), indicating that better educational management significantly enhances work motivation. However, its effect on Performance of School Principals is negligible ($f^2 = 0.011$, $p = 0.433$), suggesting that other factors beyond educational management contribute more to school principals' performance. Job Satisfaction demonstrates a strong influence on Performance of School Principals ($f^2 = 0.541$, $p = 0.000$), implying that satisfied employees are more likely to contribute positively to their school's leadership and overall performance. This highlights the importance of improving job satisfaction to enhance school management effectiveness.

Learning Leadership, however, shows insignificant effects on all dependent variables. Its influence on Job Satisfaction ($f^2 = 0.008$, $p = 0.680$), Performance of School Principals ($f^2 = 0.061$, $p = 0.146$), and Work Motivation ($f^2 = 0.036$, $p = 0.349$) are all statistically insignificant, suggesting that leadership in learning environments alone does not directly contribute to these outcomes. Work Motivation has a small but significant effect on Performance of School Principals ($f^2 = 0.102$, $p = 0.034$), indicating that motivated individuals are more likely to contribute to better school management. However, the effect size is not substantial, suggesting that motivation alone may not be a dominant factor in improving school leadership performance.

Table 9. Total Direct Effects

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Educational Management -> Job Satisfaction	-0.273	-0.272	0.052	5.265	0.000
Educational Management -> Performance of School Principals	-0.332	-0.329	0.051	6.559	0.000
Educational Management -> Work Motivation	0.436	0.435	0.054	8.017	0.000
Job Satisfaction -> Performance of School Principals	0.540	0.540	0.045	12.010	0.000
Learning Leadership -> Job Satisfaction	-0.087	-0.090	0.086	1.012	0.312
Learning Leadership -> Performance of School Principals	-0.249	-0.249	0.077	3.238	0.001
Learning Leadership -> Work Motivation	0.166	0.176	0.074	2.253	0.025
Work Motivation -> Performance of School Principals	-0.255	-0.255	0.051	4.959	0.000

Source: Analysis Data Primer (2025)

The total direct effects provide insight into the strength and direction of relationships between variables in the model. The results reveal both positive and negative effects, highlighting key influences on job satisfaction, work motivation, and the performance of school principals. Educational Management has a

negative and significant direct effect on Job Satisfaction (O = -0.273, p = 0.000) and Performance of School Principals (O = -0.332, p = 0.000), indicating that certain aspects of educational management may reduce satisfaction and performance rather than enhancing them. This could imply that policies or management strategies in place are not effectively supporting school principals and staff, potentially due to excessive administrative burdens, inadequate resource allocation, or lack of leadership support.

However, Educational Management has a strong and positive effect on Work Motivation (O = 0.436, p = 0.000), suggesting that effective management strategies can significantly boost motivation among staff. This indicates that while educational management practices might not directly enhance job satisfaction or performance, they play a key role in fostering motivation, which could have indirect effects on overall school outcomes. While the Job Satisfaction has a strong positive direct effect on Performance of School Principals (O = 0.540, p = 0.000), highlighting that satisfied school principals are more likely to perform better in their roles. This emphasizes the importance of improving working conditions, professional development opportunities, and overall job fulfillment to enhance school leadership effectiveness.

The Impact of Learning Leadership exhibits a negative and insignificant effect on Job Satisfaction (O = -0.087, p = 0.312) and a significant negative effect on Performance of School Principals (O = -0.249, p = 0.001). This suggests that the current approach to learning leadership might not be effectively supporting job satisfaction and could even hinder school principals' performance. This could be due to ineffective leadership strategies, a lack of clear direction, or a failure to address the actual needs of school principals and staff. On the other hand, Learning Leadership positively influences Work Motivation (O = 0.166, p = 0.025), meaning that strong leadership in learning environments can still encourage motivation among educators and staff. However, its effect size is relatively small, suggesting that other factors might be more influential in driving motivation.

Interestingly, Work Motivation has a negative and significant direct effect on Performance of School Principals (O = -0.255, p = 0.000). This could indicate that while motivation is important, excessive pressure or high expectations may negatively impact overall performance. It is possible that motivated school principals face structural or operational challenges that prevent them from translating their motivation into effective leadership, such as bureaucratic constraints or limited resources. The findings suggest that Educational Management plays a crucial role in shaping motivation but negatively impacts satisfaction and performance. Job Satisfaction is the strongest predictor of School Principals' Performance, while Learning Leadership does not significantly enhance job satisfaction and may even reduce performance. The negative relationship between Work Motivation and Performance suggests potential challenges in translating motivation into actual improvements in leadership outcomes. To improve overall school leadership effectiveness, it is essential to enhance job satisfaction, refine educational management practices, and ensure that learning leadership approaches align with the needs of school principals and educators. Future research could explore indirect effects and mediation relationships to better understand the complex dynamics between these variables.

Table 9. Specific Indirect Effects

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Educational Management -> Job Satisfaction -> Performance of School Principals	-0.147	-0.147	0.029	5.107	0.000
Learning Leadership -> Job Satisfaction -> Performance of School Principals	-0.047	-0.048	0.046	1.026	0.305
Educational Management -> Work Motivation (Z1) -> Performance of School Principals (Y)	-0.111	-0.111	0.027	4.069	0.000
Learning Leadership (X1) -> Work Motivation (Z1) -> Performance of School Principals (Y)	-0.042	-0.044	0.020	2.150	0.032

Source: Analysis Data Primer (2025)

The specific indirect effects reveal how Educational Management and Learning Leadership influence the Performance of School Principals through Job Satisfaction and Work Motivation as mediating variables. These results help identify how these mediators shape the overall relationships among variables. Educational Management has a negative and significant indirect effect on the Performance of School Principals through

Job Satisfaction (O = -0.147, p = 0.000). This suggests that poor educational management lowers job satisfaction, which in turn decreases school principals' performance. The negative indirect effect highlights the importance of improving management strategies to enhance job satisfaction and, ultimately, performance. Similarly, Educational Management negatively affects Performance of School Principals through Work Motivation (O = -0.111, p = 0.000). This indicates that while educational management directly increases work motivation (as seen in the direct effects), its overall impact on performance remains negative. This may imply that motivation alone is insufficient to enhance performance if the underlying management structure remains ineffective or creates excessive pressure.

Learning Leadership does not significantly impact Performance of School Principals through Job Satisfaction (O = -0.047, p = 0.305). This suggests that even if Learning Leadership influences job satisfaction, it does not strongly translate into higher school principal performance. This could indicate a misalignment between leadership strategies and the practical needs of school leaders. However, Learning Leadership has a significant negative indirect effect on Performance of School Principals through Work Motivation (O = -0.042, p = 0.032). This indicates that while Learning Leadership may aim to improve motivation, it does not translate into better school leadership performance and may even hinder it. This could be due to ineffective leadership styles, lack of professional development, or failure to provide school principals with the autonomy needed to implement changes effectively.

The analysis of indirect effects reveals that both Job Satisfaction and Work Motivation play mediating roles in the relationship between Educational Management, Learning Leadership, and Performance of School Principals. However, the indirect effects of Educational Management and Learning Leadership on Performance are mostly negative, indicating structural weaknesses in leadership and management practices.

The findings of this study underscore the critical roles of Educational Management and Learning Leadership in shaping school principals' performance, aligning with prior research. (Pan & Chen, 2021) demonstrated that clear leadership practices and strong educational management directly impact school effectiveness. Robust management frameworks create structured environments that facilitate better decision-making and leadership. However, this study introduces a nuanced perspective, revealing that while Educational Management enhances Work Motivation, it does not always lead to higher Job Satisfaction or improved performance. This suggests that rigid management structures or excessive bureaucracy may hinder school principals' ability to excel. This contrasts with Harina et al., (2024) recommendation for flexible management models that foster adaptability and support in leadership.

Similarly, Learning Leadership, which aims to promote continuous professional development, did not yield the expected direct impact on Job Satisfaction or leadership performance. This aligns with who found that leadership strategies often fail when there is a disconnect between theoretical leadership development and the practical challenges school principals face (Zhang et al., 2022). further emphasized that leadership initiatives must be aligned with real-world school management needs, providing principals with autonomy and practical tools to enhance leadership effectiveness (Mustoip et al., 2023). Learning leadership strategies that do not equip school leaders with these tools may leave them unprepared for the dynamic demands of their institutions. The mediating role of Job Satisfaction between Educational Management and leadership performance is supported by previous studies. highlighted that job satisfaction is crucial for motivating school leaders to engage deeply with their work and implement school improvements (Anselmus Dami et al., 2022). When principals experience job satisfaction, they are more likely to adopt innovative practices and manage resources effectively. Self-Determination Theory reinforce this by emphasizing the role of intrinsic motivation in enhancing performance, suggesting that job satisfaction is a key component of effective leadership (Szulawski et al., 2021). This study confirms that while Work Motivation is essential, it alone does not guarantee improved performance without sufficient job satisfaction.

The study's findings on the indirect effects of Educational Management on school principals' performance through Job Satisfaction align with (Rachmawati & Suyatno, 2021) who argued that dissatisfaction diminishes leadership effectiveness. Their research found that principals facing excessive administrative pressures or lacking professional recognition are less likely to implement successful leadership strategies. This study further supports that dissatisfaction resulting from educational management policies can significantly hinder leadership effectiveness (Ertürk, 2022), in his study also emphasized that empowering school leaders and providing them with professional autonomy can enhance their satisfaction and improve leadership outcomes.

Motivation as a mediating factor between management and school leadership performance is well-supported by Social Cognitive Theory, which posits that motivation plays a vital role in influencing behaviors

and performance. However, this study highlights that motivation alone is insufficient unless complemented by a supportive work environment. (Aljumah, 2023) Suggest that intrinsic motivation, derived from fulfilling job roles and personal achievement, is crucial for enhancing school leadership performance. Thus, this study suggests that simply motivating principals is inadequate without addressing factors that contribute to job satisfaction. The study's findings emphasize the importance of a balanced leadership framework. argued that school leadership is most effective when supported by both structural elements, such as clear educational management policies, and psychological factors, including job satisfaction and motivation. The interplay between these elements forms a complex network that determines leadership success (Anselmus Dami et al., 2022) . leadership models emphasizing rigid management structures can alienate principals and reduce their effectiveness.

A critical examination of the interplay between management frameworks and leadership effectiveness reveals the necessity of adaptive policies. While structured management provides necessary guidance, excessive control may stifle creativity and decision-making abilities. This study supports the argument that school principals require a balance between directive management and professional autonomy to optimize performance. Furthermore, the role of motivation within educational leadership must be contextualized within broader systemic structures. The absence of a supportive and rewarding work environment can limit the positive effects of motivation. Goal-Setting Theory suggest that clear, challenging, and attainable goals significantly enhance motivation and performance (Colquitt & Salam, 2012; Shawn et al., 1995). However, this study finds that in the absence of recognition and professional development opportunities, motivation alone does not yield sustainable leadership improvements. Another dimension that this study brings to light is the role of institutional culture in shaping leadership outcomes. Organizational culture influences leadership practices, employee motivation, and job satisfaction. (Moore & Hanson, 2022) Argued that leadership effectiveness is deeply embedded within cultural norms, and any attempts to improve leadership must take institutional values and expectations into account. Findings from this study reinforce the need for leadership models that integrate institutional culture into management and motivational strategies.

IV. CONCLUSION

This research examined the influence of Educational Management, Learning Leadership, Job Satisfaction, and Work Motivation on the Performance of School Principals using a structural model approach. The model analysis revealed that Educational Management has a significant impact on Work Motivation, which, in turn, significantly affects principal performance. However, Educational Management had a more complex relationship with Job Satisfaction and principal performance. The model analysis also confirmed that Learning Leadership had a limited direct effect on principal performance and job satisfaction, pointing to the need for more practical leadership development programs. The findings of this study align with previous research that suggests the importance of Work Motivation in improving leadership effectiveness. Studies (Hyseni Duraku & Hoxha, 2021) have shown that motivation plays a pivotal role in the performance of leaders. This study extends those findings by demonstrating that Educational Management practices indirectly influence Principal Performance through motivation and job satisfaction, highlighting the mediation role of these factors. (Forson et al., 2021) Also supports the idea that leadership development should not only focus on technical skills but also address emotional and motivational needs. The direct effects revealed that Educational Management strongly influences Work Motivation, which is a critical mediator in improving Principal Performance.

The indirect effects showed that job satisfaction also plays a significant mediating role in the relationship between Educational Management and Principal Performance. This highlights the need for educational policies that enhance principals' work environment, ensuring their satisfaction and motivation. The lack of direct influence from Learning Leadership on Principal Performance suggests that more targeted and tailored professional development programs for school leaders are needed, focusing on the practical aspects of leadership rather than abstract leadership principles. In light of these findings, several recommendations can be made. First, educational institutions should invest in enhancing Educational Management practices that foster a motivating environment for school principals. Reducing administrative burdens and allowing more autonomy in decision-making could increase principal motivation and job satisfaction, thereby improving their overall performance. Second, Learning Leadership programs should be redesigned to better address the real-world challenges faced by school principals, offering hands-on leadership tools and support that align

with the day-to-day needs of the job. Overall, this study highlights the interconnectedness of educational management, leadership practices, and motivational factors in shaping the performance of school principals. Future research could explore how different contextual factors, such as school culture or community involvement, further influence these relationships, and assess the long-term impact of leadership development programs on school outcomes. By considering both the technical and emotional aspects of leadership, schools can better support their principals, leading to improved educational leadership and enhanced student outcomes

The findings of this study provide valuable insights for educational policymakers and school leaders in Aceh. Given that Educational Management significantly influences Work Motivation and Principal Performance, policymakers should prioritize policies that create supportive and well-structured administrative environments. Reducing excessive bureaucratic tasks and providing principals with greater autonomy in decision-making can enhance motivation and job satisfaction, leading to improved leadership effectiveness. Additionally, professional development programs should be restructured to focus on practical leadership skills rather than abstract theories. Training initiatives must address real-world challenges that principals face, such as conflict resolution, staff management, and community engagement.

For school principals, these findings highlight the importance of fostering a positive school culture that motivates both teachers and students. Encouraging collaboration, recognizing achievements, and implementing feedback mechanisms can boost overall motivation and job satisfaction, ultimately improving school performance. Policymakers should also consider introducing incentive structures that reward high-performing principals, further reinforcing motivation and job satisfaction. Future policies could integrate leadership mentoring programs where experienced principals support new school leaders, ensuring a smoother transition and stronger leadership development. Lastly, further research should explore how contextual factors, such as school culture and community involvement, influence these relationships to refine educational policies and practices.

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Conflicts of Interest
The authors declare no conflicts of interest.

Data Availability Statement
The data that support the findings of this study are available from the authors upon reasonable request, subject to ethical and privacy considerations.

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Clinical trial number: not applicable.

Consent to Publish
Not applicable.

Ethics approval and consent to participate
The research protocol was approved by the Ethics Committee of Universitas Almuslim in accordance with Indonesian national research ethics guidelines. All experiments and procedures involving human participants were performed in accordance with relevant guidelines and regulations and were carried out in line with the approved protocol prior to data collection. Informed consent was obtained from all participants before their participation in the study.

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