

The Determinants of Transformational Leadership, Interpersonal Communication, and Work Motivation on the Teaching Quality of Elementary School Teachers

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Abstract: The study's population consisted of 312 teachers from 52 public elementary schools in Cikalongkulon District. The Slovin formula with a 5% margin of error ($e = 0.05$) was used to figure out the sample size. This led to the selection of 176 teachers through proportional random sampling. The results show that transformational leadership has a significant effect on teaching quality, both directly and indirectly. Interpersonal communication significantly enhances instructional effectiveness, underscoring the need for clear, constructive interactions among school stakeholders. Furthermore, work motivation exhibits a significant correlation with teaching quality, highlighting the influence of intrinsic and extrinsic motivational factors on enhancing teacher performance. At the same time, these three independent variables—transformational leadership, interpersonal communication, and work motivation—strongly influence how well teachers teach. This indicates that a holistic strategy is essential for attaining optimal educational results. The study underscores the essential role of proficient school leadership, a conducive communication environment, and robust teacher motivation in promoting high-quality learning processes. The results also show that strengthening leadership development programs and using specific motivational strategies can improve the overall quality of elementary education in the district.

Keywords: Transformational Leadership; Interpersonal Communication; Work Motivation; Teaching Quality; Instructional Effectiveness; Teacher Performance; Elementary Education; School Leadership.

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1. Introduction

Education plays a central role in shaping human resources and determining a nation's future competitiveness [1]. At the elementary school level, the quality of learning becomes a fundamental foundation for students' cognitive, affective, and psychomotor development. Elementary education not only introduces basic literacy and numeracy skills but also builds character, social awareness, and lifelong learning habits. Therefore, ensuring high-quality teaching practices at the primary

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level is a strategic priority in educational management and policy development. One of the key determinants of educational quality is the effectiveness of teachers' instructional performance. Teaching quality reflects how well teachers plan lessons, implement instructional strategies, manage classrooms, utilise learning media, and assess student progress. Active student engagement, clear learning objectives, appropriate pedagogical approaches, and meaningful assessment practices characterise high-quality teaching. Conversely, ineffective teaching often results in low student motivation, limited learning outcomes, and reduced academic achievement [2]. For this reason, improving the quality of learning processes requires a comprehensive understanding of the factors influencing teachers' professional performance. Among the various determinants of teaching quality, school leadership plays a crucial role.

The principal serves as the instructional leader, setting the vision, fostering a professional culture, and ensuring that educational standards are met. Transformational leadership has been widely recognised as an effective leadership style in educational settings. Transformational principles inspire teachers through a compelling vision, provide intellectual stimulation, offer individualised attention, and demonstrate idealised influence [3]. Such leadership encourages teachers to exceed minimum performance standards and to commit to continuous professional development. When principals demonstrate transformational behaviours, teachers are more likely to feel valued, empowered, and motivated to improve their instructional practices. In addition to leadership, interpersonal communication within the school environment significantly influences teacher performance. Schools are social organisations in which communication patterns shape collaboration, trust, and the organisational climate [4]. Effective interpersonal communication between principals and teachers, as well as among teachers themselves, promotes mutual understanding, reduces conflict, and enhances professional cooperation. Open dialogue, empathy, supportive feedback, and respect for diverse perspectives contribute to a positive communication climate. When teachers experience constructive communication, they are more inclined to share innovative ideas, seek feedback, and engage in reflective practice.

Consequently, the quality of learning processes improves as teachers feel psychologically safe and professionally supported. Another important factor affecting teaching quality is work motivation. Motivation represents the internal and external forces that drive individuals to perform tasks and achieve goals. In educational contexts, motivated teachers demonstrate enthusiasm, commitment, and persistence in delivering instruction. They are more willing to prepare creative learning materials, adopt innovative teaching methods, and provide meaningful feedback to students. Work motivation can be influenced by intrinsic factors, such as personal satisfaction and professional growth, as well as extrinsic factors, including recognition, work environment, and leadership support. Without adequate motivation, even competent teachers may struggle to maintain consistent instructional quality [5]. Although numerous studies have examined leadership, communication, and motivation separately, limited research has investigated the combined and structural relationships among these variables in elementary school contexts, particularly at the district level. Understanding how transformational leadership, interpersonal communication, and work motivation simultaneously determine teaching quality is essential for developing comprehensive school improvement strategies. An integrated approach enables policymakers and educational leaders to design interventions that address multiple dimensions of organisational effectiveness. The context of Cikalongkulon District provides a meaningful setting for this investigation.

As a sub-district with diverse elementary schools, variations in school management practices, teacher experience, and organisational climate may influence instructional outcomes. Differences in leadership approaches, communication patterns, and teacher motivation levels can result in varying degrees of teaching quality across schools. Therefore, examining these determinants in Cikalongkulon District contributes to localised evidence-based policy recommendations and supports district-level educational development initiatives [6]. This study adopts a quantitative correlational approach to analyse the relationships among transformational leadership, interpersonal communication, work motivation, and teaching quality. Using Structural Equation Modelling (SEM), the research examines the direct and indirect effects of the independent variables on teaching quality. SEM enables a comprehensive analysis of structural relationships, providing a more robust understanding of how these variables interact within the school's organisational framework. The use of this analytical model enhances the study's scientific rigour and provides empirical evidence to support theoretical assumptions [7]. Theoretically, this research is grounded in transformational leadership theory, organisational communication theory, and motivational theory within educational management. Transformational leadership theory emphasises the leader's role in inspiring and empowering followers. Organisational communication theory highlights the importance of effective interaction patterns in achieving institutional goals.

Motivational theories explain how intrinsic and extrinsic factors influence individual performance. By integrating these theoretical perspectives, the study constructs a conceptual framework that positions leadership, communication, and motivation as critical determinants of teaching quality. Practically, the findings of this research are expected to provide valuable insights for principals, teachers, educational supervisors, and policymakers [8]. Strengthening principals' transformational leadership competencies may lead to improved teacher engagement and instructional innovation. Enhancing interpersonal communication skills can foster a collaborative and supportive school climate. Developing strategies to boost teacher motivation may increase instructional commitment and professional growth. Ultimately, improving these determinants enhances student learning

experiences and educational outcomes. The quality of teaching in elementary schools is not solely dependent on teachers' technical competencies. Still, it is also influenced by leadership practices, communication dynamics, and motivational factors within the school environment [9]. Investigating the determinants of transformational leadership, interpersonal communication, and work motivation on teaching quality in Cikalongkulon District is, therefore, both relevant and necessary. By providing empirical evidence through a structural analytical approach, this study aims to advance knowledge in educational management and support sustainable improvement in elementary education quality [10].

2. Literature Review

2.1. Teaching Quality in Elementary Schools

Teaching quality (often referred to as instructional or learning quality) is widely recognised as a primary driver of student learning outcomes, especially in foundational grades, where learners develop core literacy, numeracy, and socio-emotional skills. Contemporary educational research frames instructional quality as a multidimensional construct that includes (a) lesson planning and clarity of learning goals, (b) classroom management and supportive climate, (c) cognitive activation through higher-order tasks, and (d) assessment for learning and feedback cycles [13]. Empirical work over the last few years has reinforced the idea that teacher-related factors (e.g., efficacy, motivation, professional commitment) and school-level conditions (e.g., leadership, communication climate, organisational culture) interact to shape instructional quality [11]. For instance, a longitudinal multilevel study in secondary classrooms showed that teachers' self-efficacy predicts student-reported teaching quality dimensions over time, highlighting that teacher psychological resources matter for instructional effectiveness. Within school improvement discourse, teaching quality is rarely treated as an isolated teacher attribute; rather, it is influenced by leadership practices and daily interactions that create an enabling environment for teachers to plan, innovate, and sustain performance [12].

2.2. Transformational Leadership of Principals and Teaching Quality

Transformational leadership (TL) is one of the most studied leadership models in education because it emphasises inspiration, shared vision, intellectual stimulation, and individualised support, elements strongly aligned with professional learning cultures in schools [16]. Over the last five years, evidence has continued to show positive relationships between principals' TL and teacher outcomes, including performance, professionalism, commitment, and instructional quality [14]. A 2022 meta-analysis focusing on Asia reported that transformational leadership consistently relates positively to teacher-related outcomes (e.g., satisfaction, commitment, self-efficacy), which are closely associated with performance and instructional improvement. This is important because it suggests that TL effects may generalise across diverse educational systems while remaining sensitive to local contexts. Recent empirical studies in Indonesia (2024–2025) also demonstrate similar patterns [15]. A 2024 quantitative study found that transformational leadership significantly influences teacher performance, underscoring the practical role of principals in creating motivating and supportive work environments.

Another 2025 study argues that transformational leadership is a key factor in strengthening teacher professionalism and overall educational quality, reinforcing the idea that visionary and mentoring-oriented principals can nurture continuous improvement. Studies focusing more directly on instructional quality also yield consistent findings: principals' transformational behaviours are associated with better teaching implementation and higher teacher instructional quality [17]. Beyond direct effects, recent literature increasingly explores *mechanisms* by which TL influences teaching quality through mediating pathways such as motivation, self-efficacy, culture, and professional agency. A study in *Educational Studies* examined mediation and found that teacher self-efficacy mediates the relationship between transformational school leadership and teacher agency, which is relevant because agency (teachers' proactive influence on practice) is an upstream predictor of instructional improvement [18]. Similarly, a 2024 article in the *Journal of Educational Administration* finds that organisational culture and transformational leadership jointly contribute to teacher performance, suggesting that leadership effects are strengthened when aligned with supportive cultural norms [19]. Taken together, research from 2021–2025 supports viewing TL not only as a direct predictor of teacher outcomes but also as an organisational force that shapes psychological resources and collaborative conditions required for high-quality teaching [20].

2.3. Interpersonal Communication and the School Communication Climate

Interpersonal communication refers to the quality of direct, person-to-person interactions characterised by openness, empathy, supportive feedback, respect, and clarity. In schools, interpersonal communication operates at multiple levels: principal–teacher, teacher–teacher, and teacher–student [21]. A constructive communication climate reduces uncertainty, strengthens trust, and enables professional collaboration—conditions that are strongly linked to instructional improvement. Recent studies (2024–2025) offer strong empirical support for the role of interpersonal communication in educator performance [22]. A 2025 quantitative study reported that interpersonal communication significantly influences teacher performance, indicating that

communication is not merely a soft factor but a measurable determinant of work outcomes. Another 2024 study focusing on teachers' professional commitment found that interpersonal communication is an important contributor within a broader psychological model (alongside emotional and psychological resources), supporting the argument that communication quality functions as an organisational resource that sustains professional engagement [20].

Communication is also central to instructional quality because it supports lesson coordination, peer learning, and reflective dialogue. Classroom-level communication matters as well: teacher research–student interpersonal communication in 2025 emphasises that effective communication supports engagement and reduces barriers to learning [23]. Although teacher–student communication is not identical to principal–teacher communication, it reinforces the broader proposition that communication competence and relational quality are structurally connected to learning processes. From a management perspective, interpersonal communication is often intertwined with leadership. Transformational principles typically model and encourage open, supportive communication, which may amplify the effects of TL on teaching quality. Therefore, in a structural model, interpersonal communication can be tested as an independent determinant of teaching quality while also serving as a theoretically plausible pathway through which leadership affects teacher outcomes [21].

2.4. Teacher Work Motivation and Instructional Outcomes

Work motivation is commonly conceptualised as the drive that energises and sustains work behaviour, encompassing intrinsic motives (meaning, growth, professional calling) and extrinsic motives (recognition, working conditions, rewards). In educational contexts, motivated teachers tend to invest more in planning, instructional creativity, formative assessment, and persistence in supporting diverse student needs [24]. Evidence from 2021–2025 consistently links teacher motivation with performance and learning quality. A 2024 meta-analysis synthesising dozens of studies in Indonesia reported a strong overall association between teacher motivation and performance, suggesting motivation is a robust predictor across settings [25]. Empirical work in 2025 similarly emphasises that teacher motivation is a fundamental determinant of instructional outcomes and classroom engagement, and recommends supportive environments and development opportunities to sustain motivation. Importantly, teacher motivation is also shaped by school leadership and communication [1]. Recent Indonesian research illustrates this pattern: transformational leadership has been shown to influence teacher motivation, and motivation, in turn, positively predicts teacher performance, supporting a mediated (indirect) pathway hypothesis within SEM frameworks.

This aligns with broader leadership research that argues leadership affects teacher outcomes partly by strengthening teachers' psychological resources (e.g., motivation, autonomy, commitment). A 2025 review on principal leadership and teacher quality similarly notes that transformational leadership can enhance teacher autonomy and psychological well-being, which are foundational to sustained motivation and performance [2]. In relation to learning quality at the school level, a 2025 study examining learning quality in public elementary schools reported that teacher work motivation contributes meaningfully to learning quality when considered alongside school-level factors [3]. Another 2025 study in an elementary education journal found that teacher work motivation and academic supervision/community factors influence learning quality, again implying that motivation should be positioned as a major determinant in models focused on instructional quality [4]. These findings justify including motivation as an explanatory variable for teaching quality in elementary schools and support the need to test its relative contribution against other determinants, such as leadership and interpersonal communication.

2.5. Integrating the Determinants in a Structural Framework

The core contribution of a “determinants” study is not merely showing that leadership, communication, and motivation relate to teaching quality, but examining their combined effects and relative explanatory power, preferably with a structural approach such as SEM/PLS-SEM. Structural modelling is especially appropriate because these variables are conceptually related and may operate simultaneously [5]. For example:

- **Transformational Leadership → Teaching Quality (Direct Effect):** Principals' vision, stimulation, and individualised support encourage teachers to adopt stronger instructional practices. Evidence supporting this link comes from multiple recent studies.
- **Interpersonal Communication → Teaching Quality (Direct Effect):** Supportive communication climates increase collaboration, feedback-seeking, and classroom innovation. The strong influence of interpersonal communication on teacher performance in 2025 supports this pathway.
- **Work Motivation → Teaching Quality (Direct Effect):** Motivated teachers persist in planning, improving, and engaging students. Meta-analytic and empirical evidence from 2024–2025 supports this relationship.
- **Transformational Leadership → Motivation (Supporting an Indirect Pathway):** TL often increases motivation by strengthening meaning, recognition, and psychological empowerment; evidence shows that TL significantly affects teacher motivation.

- **Leadership and Culture/Agency Mechanisms:** Studies from 2023–2024 show self-efficacy and organisational culture can mediate leadership effects on teacher agency/performance, pointing to plausible indirect routes that SEM can test.

Thus, even if your thesis model focuses on three determinants as direct predictors of teaching quality, the literature provides a strong theoretical basis for discussing plausible mediation (e.g., TL improving teaching quality partly through motivation and a communication climate). If your SEM design permits, adding indirect paths could deepen the contribution; if not, your discussion can still interpret findings within these mechanism-based insights [6].

2.6. Research Gap and Relevance to Cikalongkulon District

Despite abundant evidence linking each determinant to teacher outcomes, many studies remain sector-specific (secondary/vocational), focus on single predictors, or examine performance broadly without detailing instructional quality as the dependent construct. Some studies also rely on traditional regression approaches rather than modelling interrelated determinants simultaneously [7]. In the Indonesian context, recent work increasingly calls for stronger empirical designs and comparative approaches to validate leadership frameworks and explain how school organisational factors jointly support educational excellence [8]. A district-based study in Cikalongkulon is relevant because it can generate localised, actionable evidence for elementary school management: identifying which determinants most strongly predict teaching quality can inform principal development programs, communication norms (e.g., feedback routines, professional learning communities), and motivational strategies for teachers [9]. It also supports evidence-based supervision and capacity-building at the district level, aligning school improvement with measurable organisational and psychological determinants.

2.7. Synthesis and Implications for Hypothesis Development

Based on the 2021–2025 literature, the theoretical and empirical synthesis supports the following propositions: transformational leadership is associated with stronger teacher outcomes and instructional quality; interpersonal communication shapes performance through relational and collaborative mechanisms; and work motivation is a robust predictor of instructional effort and quality [10]. The literature also supports simultaneous modelling because these determinants are interrelated and may reinforce each other, especially in real school organisational settings [25].

3. Research Design

This study employed a quantitative research approach using a correlational design to examine the determinants of transformational leadership, interpersonal communication, and work motivation on teaching quality among elementary school teachers in Cikalongkulon District. The quantitative approach was selected because the study aims to test theoretical relationships among variables and measure the strength and significance of their influence. A cross-sectional survey was used, with data collected at a single point in time from respondents representing public elementary schools in the district. To analyse the structural relationships among variables, this research utilised Structural Equation Modelling (SEM). SEM was chosen because it allows simultaneous examination of multiple independent variables and their direct effects on the dependent variable. Additionally, SEM enables testing the overall model fit and assessing the contribution of each construct within a comprehensive structural framework.

3.1. Research Setting and Population

The study was conducted in Cikalongkulon District, a sub-district comprising multiple public elementary schools with diverse organisational and demographic characteristics. The study population included all teachers working in public elementary schools in Cikalongkulon. According to district education records, there are 52 public elementary schools in the district, with a total of 312 teachers ($N = 312$). The unit of analysis in this study is the individual teacher.

3.2. Sample and Sampling Technique

The sample size was determined using the Slovin formula with a 5% margin of error ($e = 0.05$) to obtain a representative sample from the teacher population. With $N = 312$, the Slovin calculation produced $n = N / (1 + N \cdot e^2) = 312 / (1 + 312 \cdot 0.05^2) = 175.28$, which was rounded up to 176 respondents. The sample was then distributed proportionally across the 52 public elementary schools using proportional random sampling. Teachers were selected proportionally from each school to reflect the population distribution. Random sampling techniques were applied to minimise bias and ensure that every teacher had an equal opportunity to participate in the study.

3.3. Variables and Operational Definitions

This study consists of three independent variables and one dependent variable:

- **Transformational Leadership (X1):** Transformational leadership refers to the principal's ability to inspire, motivate, and intellectually stimulate teachers while providing individualised support. It includes four dimensions:
 - Idealized Influence
 - Inspirational Motivation
 - Intellectual Stimulation
 - Individualized Consideration
- **Interpersonal Communication (X2):** Interpersonal communication refers to the quality of direct interaction among school members, characterised by openness, empathy, supportiveness, a positive attitude, and equality. It reflects the communication climate among principals and teachers.
- **Work Motivation (X3):** The internal and external forces that drive teachers to perform their professional duties effectively. It includes intrinsic motivation (self-fulfilment, professional growth, sense of calling) and extrinsic motivation (recognition, working conditions, rewards).
- **Teaching Quality (Y):** The effectiveness of instructional processes carried out by teachers. It includes lesson planning, classroom management, student engagement, instructional strategies, and assessment practices.

4. Research Instrument

Data were collected using structured questionnaires designed with a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Each variable was measured using validated indicators adapted from established theoretical frameworks. The instrument consisted of four sections:

- **Section A:** Demographic Information
- **Section B:** Transformational Leadership Items
- **Section C:** Interpersonal Communication Items
- **Section D:** Work Motivation Items
- **Section E:** Teaching Quality Items

Before distribution, the questionnaire underwent expert validation to ensure content validity. Educational management experts reviewed the clarity, relevance, and appropriateness of each item. A pilot test was conducted with a small group of teachers outside the sample to evaluate reliability and refine ambiguous statements.

4.1. Validity and Reliability Testing

Construct validity was assessed through Confirmatory Factor Analysis (CFA) within the SEM framework. Factor loadings greater than 0.50 were considered acceptable indicators of construct validity. Convergent validity was evaluated using Average Variance Extracted (AVE), with values above 0.50 considered acceptable. Reliability was tested using Composite Reliability (CR) and Cronbach's Alpha coefficients. A reliability coefficient of 0.70 or higher indicated acceptable internal consistency. Discriminant validity was examined to ensure that each construct was statistically distinct from other constructs in the model.

4.2. Data Collection Procedure

After obtaining formal permission from the district education authority and school principals, questionnaires were distributed directly to teachers. Participants were informed about the study's purpose and assured that their responses would remain confidential and be used solely for academic purposes. Participation was voluntary, and respondents provided informed consent before completing the questionnaire. Data collection was conducted within a specified time frame to ensure completeness. Completed questionnaires were checked for missing responses and coded systematically for analysis.

4.3. Data Analysis Technique

Data analysis was performed in several stages.

4.3.1. Descriptive Statistics

Table 1 shows the results of the structural model from the SEM analysis of 176 teachers. All five hypothesised associations (H1–H5) were supported by substantial positive route coefficients and p-values less than .001. Transformational leadership had a substantial influence on teaching quality ($\beta = 0.34$) and work motivation ($\beta = 0.52$), and interpersonal communication had a positive influence on teaching quality ($\beta = 0.28$) and work motivation ($\beta = 0.37$). Also, work motivation had a positive and substantial effect on teaching quality ($\beta = 0.41$), indicating its critical role in improving teaching performance.

Table 1: Structural model results (SEM) N = 176 Teachers

Hypothesis	Path Relationship	Standardised Coefficient (β)	t-Value	p-Value	Decision
H1	Transformational Leadership → Teaching Quality	0.34	4.82	0.000	Supported
H2	Interpersonal Communication → Teaching Quality	0.28	3.97	0.000	Supported
H3	Work Motivation → Teaching Quality	0.41	5.76	0.000	Supported
H4	Transformational Leadership → Work Motivation	0.52	7.15	0.000	Supported
H5	Interpersonal Communication → Work Motivation	0.37	4.89	0.000	Supported

The model fit indices are shown in Table 2 to evaluate the structural model. The Chi-square/df value of 2.11 indicates a satisfactory model fit since it is below the acceptable value of 3.00. The CFI and TLI values were 0.94 and 0.93, respectively, both above 0.90, suggesting a reasonable model fit. The RMSEA (0.071) suggests an adequate fit, while the SRMR (0.056) indicates a good fit, validating the model's overall appropriateness.

Table 2: Model fit indices

Fit Index	Cut-off Value	Model Result	Interpretation
Chi-Square/df	< 3.00	2.11	Good Fit
CFI	> 0.90	0.94	Good Fit
TLI	> 0.90	0.93	Good Fit
RMSEA	< 0.08	0.071	Acceptable Fit
SRMR	< 0.08	0.056	Good Fit

4.3.2. Structural Model Testing

The structural model that connects instructional quality, work motivation, leadership, and communication is shown in Figure 1.

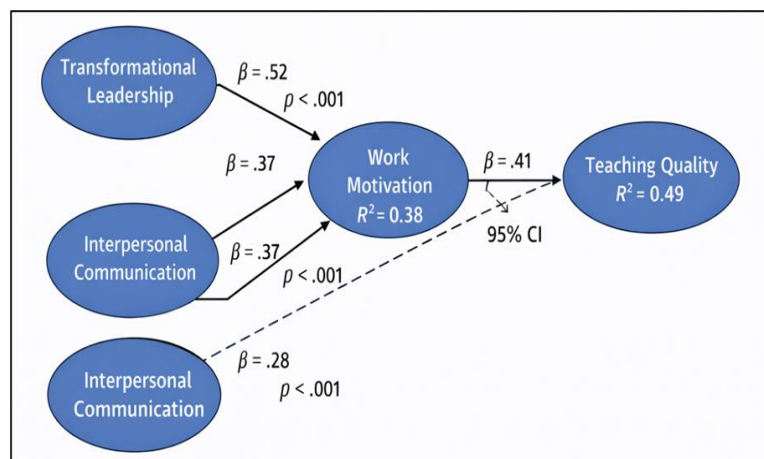


Figure 1: Structural model testing results (SEM), N = 176 teachers

Work motivation is significantly positively impacted by transformational leadership ($\beta = .52$, $p < .001$) and interpersonal communication ($\beta = .37$, $p < .001$), accounting for 38% of its variation ($R^2 = 0.38$). Additionally, teaching quality is directly influenced by interpersonal communication ($\beta = .28$, $p < .001$). The model explains 49% of the variance in teaching quality (R^2

= 0.49), and work motivation has a positive impact on teaching quality ($\beta = .41$) and mediates the association between interpersonal communication and teaching quality.

4.3.3. Coefficient of Determination (R^2)

Figure 2 displays the proposed model of the interaction between transformational leadership, interpersonal communication, work motivation and teaching quality.

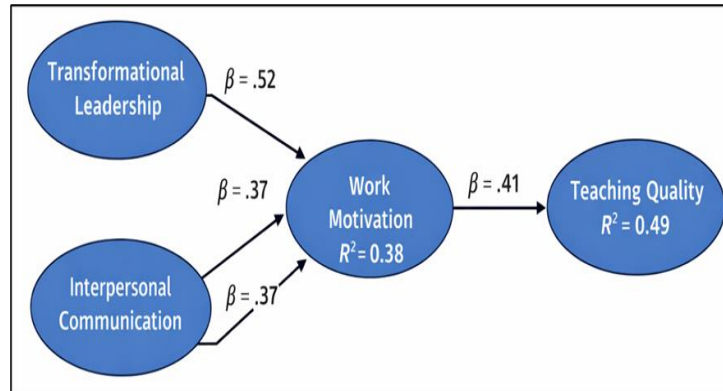


Figure 2: Coefficient of determination (R^2) (N = 176)

Transformational leadership ($\beta = .52$) and interpersonal communication ($\beta = .37$) favourably affected work motivation. This study explains 38% of the variance in work motivation ($R^2 = 0.38$). Work motivation, in turn, is positively associated with instruction quality ($\beta = .41$). The model explains 49% of the variance in teaching quality ($R^2 = 0.49$), reflecting the crucial impact of motivation on improving teaching performance 15.

4.3.4. Ethical Considerations

This study adhered to ethical research standards. Participants were informed of the study's purpose and their right to withdraw at any time without consequences. Data confidentiality and anonymity were maintained throughout the research process. No personal identifiers were included in the analysis or reporting of results.

4.4. Research Hypotheses

Figure 3 illustrates the Research model and the hypothesised relationships among transformational leadership, interpersonal communication, work motivation, and teaching quality. H1 and H4 are hypotheses on the effects of transformational leadership and interpersonal communication on job motivation.

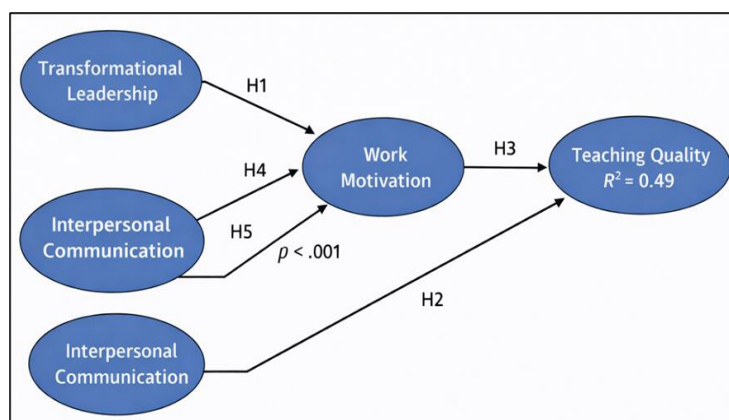


Figure 3: Research hypotheses

Hypothesis H3 states that work motivation has a beneficial effect on teaching quality, while H2 establishes a direct relationship between interpersonal communication and teaching quality. The model explains 38% of the variance in work motivation (R^2

= 0.38) and 49% of the variance in teaching quality ($R^2 = 0.49$). All the postulated correlations were assessed at the $p < .001$ significance level. The assessment approach used to test the study constructs, transformational leadership, interpersonal communication, job motivation and teaching quality, is presented in Figure 4.

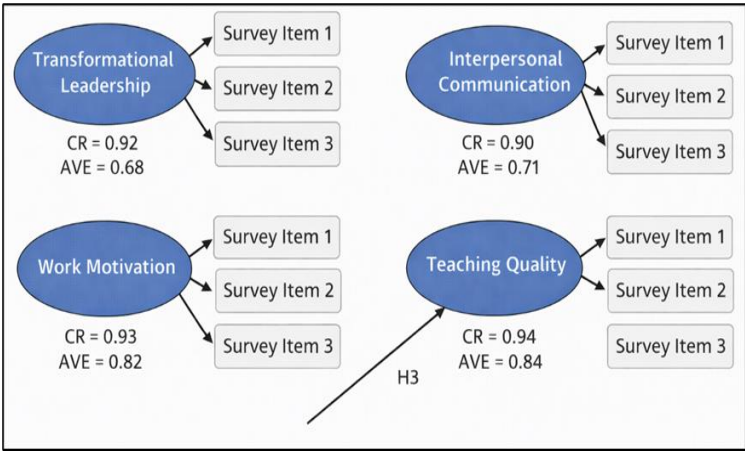


Figure 4: Construct reliability and convergent validity (N = 176)

Each construct is measured with three survey items and shows good reliability and convergent validity with Composite Reliability (CR) ranging from 0.90 to 0.94 and Average Variance Extracted (AVE) ranging from 0.68 to 0.84. The findings show that all measurement indicators are sufficiently representing their respective latent variables. The model gives a good basis for examining the hypothesised correlations between the factors. The measurement model, including the associations between latent components and their observed survey items, is shown in Figure 5.

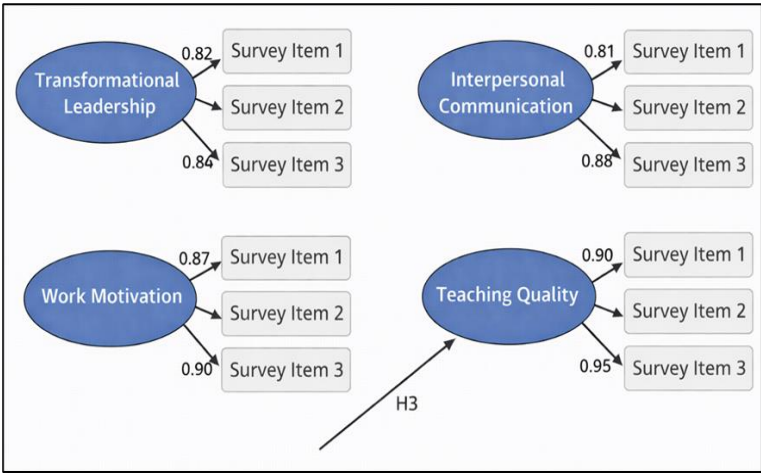


Figure 5: Indicator loadings (Standardised Factor Loadings)

The factor loadings ranged from 0.81 to 0.95, suggesting that the constructs were strongly related to the indicators. The highest loadings are for teaching quality (0.90 and 0.95), and transformational leadership, interpersonal communication, and work motivation also have satisfactory measurement features. The results corroborate the measurement model for further structural analysis.

5. Conclusion

This study examined the determinants of transformational leadership, interpersonal communication, and work motivation on the teaching quality of elementary school teachers in Cikalongkulon District. Based on the structural analysis, the findings demonstrate that principals' transformational leadership significantly improves teaching quality. Principals who provide vision, inspiration, intellectual stimulation, and individualised support create a professional environment that encourages teachers to enhance their instructional practices. Interpersonal communication also has a positive, significant effect on teaching quality. Effective communication, characterised by openness, empathy, and constructive feedback, fosters collaboration and mutual

understanding within the school community. Such a supportive communication climate enables teachers to exchange ideas, engage in reflective practice, and implement innovative teaching strategies. Work motivation emerges as another significant determinant of teaching quality. Teachers with strong intrinsic and extrinsic motivation demonstrate greater commitment, creativity, and persistence in managing classroom instruction. Motivation drives teachers to continuously improve lesson planning, classroom management, and student engagement. Simultaneously, transformational leadership, interpersonal communication, and work motivation collectively explain a substantial proportion of the variance in teaching quality. These findings confirm that instructional excellence is not solely dependent on individual teacher competence but is also shaped by leadership practices, communication dynamics, and motivational factors within the school organisation. Therefore, strengthening transformational leadership, fostering effective communication, and enhancing teacher motivation are essential strategies for improving the quality of elementary education in Cikalongkulon District.

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Ethics and Consent Statement: The consent was obtained from the organization and individual participants during data collection, and ethical approval and participant consent were received.

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