



JTH

<https://jthkss.com/>

e-ISSN 2805-4431

DOI: <https://doi.org/10.53797/jthkss.v7i1.5.2026>



# The Influence of Instructional Leadership and School Culture on Teacher Job Satisfaction: Evidence from Cluster-Based Elementary Schools in Indonesia

Tri Mutoharoh<sup>1</sup>, Gunawan Setiadi<sup>2</sup>, Yuni Ratnasari<sup>3\*</sup>

<sup>1</sup>Master's Program In Elementary Education, Faculty Of Teacher Training And Education, Muria Kudus University, Indonesia

\*Corresponding author email: [mut13mutoharoh@gmail.com](mailto:mut13mutoharoh@gmail.com)

Received 15 May 2026; Accepted 15 May 2026; Available online 15 May 2026

**Abstract:** Teacher job satisfaction constitutes a critical determinant in ensuring instructional effectiveness and sustaining the quality of primary education. Instructional leadership and school culture have been recognized as key organizational factors influencing teachers' professional well-being; however, empirical studies examining these two variables simultaneously within cluster-based school systems remain limited. This study aimed to analyze the influence of principals' instructional leadership and school culture on teacher job satisfaction in elementary schools within the Penjawi Cluster, Pati Regency. A quantitative approach was employed using Partial Least Squares Structural Equation Modeling with a sample of 96 teachers. The findings indicated that instructional leadership significantly affected teacher job satisfaction ( $t = 7.136, p < 0.001$ ), while school culture also demonstrated a significant effect ( $t = 3.301, p = 0.001$ ). Together, both variables explained 83.6% of the variance in teacher job satisfaction ( $R^2 = 0.836$ ). Effect size analysis revealed that instructional leadership exerted a large effect ( $f^2 = 1.430$ ), whereas school culture showed a moderate effect ( $f^2 = 0.239$ ). These findings underscore the importance of strengthening academic leadership and fostering a collaborative school culture to enhance teacher job satisfaction at the primary education level.

**Keywords:** Instructional leadership, School culture, Teacher job satisfaction, Elementary education, SEM-PLS

## 1. Introduction

### 1.1 Background of Study

Primary education constitutes the foundational stage of formal schooling and plays a strategic role in shaping students' cognitive, social, and emotional development (Putri, 2024). At this level, teachers serve as the central agents of instructional delivery and the primary guarantors of learning quality. The success of primary education is determined not only by curriculum policies or the availability of infrastructure, but also by teachers' professional well-being. One of the most critical indicators of such well-being is job satisfaction.

Job satisfaction is defined as an individual's affective and cognitive evaluation of their work (Solomon & Thorpe, 2018). It reflects teachers' perceptions of their professional roles, which are influenced by working conditions, leadership practices, work-life balance, and personal experiences within the organization (Iskandar & Vidada, 2024). Teachers with high levels of job satisfaction tend to demonstrate stronger motivation, greater organizational commitment, and increased instructional innovation, ultimately contributing to improved learning quality and student outcomes (Rothinam et al., 2024).

\*Corresponding author: [mut13mutoharoh@gmail.com](mailto:mut13mutoharoh@gmail.com)

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2024). Conversely, low job satisfaction may reduce morale, decrease productivity, and increase turnover intentions, thereby threatening institutional stability and educational quality.

From an educational management perspective, teacher job satisfaction should not be viewed solely as an individual phenomenon, but rather as an outcome shaped by organizational factors embedded within the school environment. Two strategic determinants that have demonstrated significant theoretical and empirical relevance are principals' instructional leadership and school culture.

Instructional leadership emphasizes the principal's role as a learning leader who actively directs, supervises, and develops teaching and learning processes (Şenol & Lesinger, 2018; Lamsal, 2022). Unlike administrative leadership, which primarily focuses on managerial tasks, instructional leadership prioritizes the improvement of instructional quality. Within this framework, principals articulate a clear academic vision, coordinate curriculum implementation, conduct instructional supervision, and promote continuous professional development among teachers (Leithwood et al., 2004). Such leadership practices have the potential to create a structured, supportive, and quality-oriented work environment, thereby strengthening teachers' professionalism and job satisfaction.

Beyond leadership practices, school culture represents another critical organizational determinant influencing teachers' perceptions and work experiences. School culture refers to the shared system of values, norms, beliefs, traditions, and interaction patterns embraced by members of the school community (Deal & Peterson, 2016; Schein, 2010). It shapes the organizational "personality" of the school, as reflected in communication patterns, decision-making processes, collegial relationships, and responses to change. Hoy and Miskel (2013) distinguish between open school climates characterized by supportive leadership and authentic professional relationships and closed climates, which tend to be rigid and control-oriented. A positive school culture fosters collaboration, trust, and collective commitment to student success, whereas a toxic culture may generate conflict, resistance, and dissatisfaction (Deal & Peterson, 1999). Thus, the quality of school culture directly and indirectly shapes teachers' professional experiences and job satisfaction.

Previous studies have demonstrated that leadership and organizational culture significantly influence teacher job satisfaction (Nurlela, 2016; Kumbaraningtyas et al., 2025). However, most prior research has examined these variables independently or focused primarily on secondary education contexts. Studies investigating the simultaneous effects of instructional leadership and school culture on teacher job satisfaction within elementary school cluster systems remain limited. This gap is notable, as school cluster systems—designed as collaborative governance structures—possess distinctive leadership dynamics and cultural configurations that may influence teacher job satisfaction differently from stand-alone schools.

In response to this gap, the present study aims to examine the partial and simultaneous effects of principals' instructional leadership and school culture on elementary school teachers' job satisfaction using Structural Equation Modeling based on Partial Least Squares (SEM-PLS). By integrating leadership and cultural dimensions within a single structural model, this study seeks to provide a more comprehensive understanding of the organizational mechanisms shaping teacher job satisfaction in primary education contexts. The novelty of this study lies in its simultaneous examination of two primary organizational determinants instructional leadership and school culture within a clustered elementary school setting using a SEM-PLS approach, an integrated empirical model that remains underexplored in current educational management research.

## 1.2 Problem Statement

Teacher job satisfaction is a critical determinant of instructional sustainability and organizational stability in primary education. Nevertheless, persistent variability in teachers' levels of job satisfaction indicates the presence of structural challenges within school organizations. While many studies emphasize individual determinants of job satisfaction, growing empirical evidence suggests that organizational factors particularly leadership practices and school culture play a more systemic role in shaping teachers' professional experiences. In practice, however, the implementation of instructional leadership and the cultivation of a supportive school culture are often inconsistent, creating a gap between teachers' professional expectations and the realities of their working environments. Such discrepancies may undermine motivation, weaken organizational commitment, and ultimately affect the quality of instruction, especially in primary schools where stability and collaborative practices are essential.

Although prior research has examined the relationships among leadership, organizational culture, and teacher job satisfaction, most studies have treated these variables independently or have focused predominantly on secondary education settings. Empirical investigations that simultaneously analyze the effects of instructional leadership and school culture on teacher job satisfaction within elementary school cluster systems remain limited. This gap is particularly significant, as clustered school governance structures exhibit distinctive leadership dynamics and cultural configurations that may shape teacher satisfaction differently from stand-alone institutions. The absence of an integrated structural model that captures the combined influence of these organizational determinants results in a fragmented understanding of the mechanisms underlying teacher job satisfaction. Therefore, a more comprehensive and integrated empirical examination is needed to clarify how instructional leadership and school culture jointly contribute to shaping teacher job satisfaction in primary education contexts.

### 1.3 Research Objective

This study aims to examine the partial and simultaneous effects of principals' instructional leadership and school culture on elementary school teachers' job satisfaction within a clustered school system. Specifically, the study seeks to investigate the extent to which instructional leadership practices and shared organizational culture contribute individually and collectively to shaping teachers' professional well-being. By employing Structural Equation Modeling based on Partial Least Squares (SEM-PLS), this research further aims to develop an integrated structural model that explains the organizational mechanisms underlying teacher job satisfaction in primary education contexts.

### 1.4 Significance of The Study

This study provides a comprehensive analysis of the organizational determinants of teacher job satisfaction in primary education by integrating instructional leadership and school culture within a single structural framework. It deepens the understanding of how leadership practices and shared organizational values interact to shape teachers' professional well-being. By introducing an integrated model that simultaneously examines leadership and cultural dimensions through a SEM-PLS approach, this study advances existing educational leadership literature and offers a multidimensional perspective for analyzing teacher job satisfaction in clustered school systems.

Practically, the study addresses persistent challenges related to teacher motivation and organizational stability in primary schools. It offers evidence-based insights for school principals, education authorities, and policymakers by highlighting the strategic role of strengthening instructional leadership and cultivating a positive school culture. The findings suggest that improving supervisory practices, fostering collaborative environments, and reinforcing shared professional values can serve as sustainable mechanisms to enhance teacher job satisfaction and ultimately improve instructional quality and institutional effectiveness.

## 2. Methodology

This study employs a quantitative cross-sectional survey design to examine the partial and simultaneous effects of principals' instructional leadership and school culture on elementary school teachers' job satisfaction within a clustered school system. The population consisted of 128 teachers from ten elementary schools in the Penjawi Cluster, Pati Regency, from which 96 respondents were selected using random sampling based on the Slovin formula with a 5% margin of error. Data were collected using a structured questionnaire developed from established theoretical frameworks of instructional leadership, school culture, and job satisfaction. All items were measured on a five-point Likert scale ranging from strongly disagree to strongly agree. The instrument was designed to capture key dimensions of leadership practices, shared organizational values, and teachers' professional well-being.

Data analysis was conducted using Structural Equation Modeling based on Partial Least Squares (SEM-PLS) to allow simultaneous evaluation of both the measurement and structural models. The measurement model was assessed for convergent validity, discriminant validity, and construct reliability using outer loadings, Average Variance Extracted (AVE), Composite Reliability, and Cronbach's Alpha. The structural model was evaluated by examining path coefficients, t-statistics, p-values, the coefficient of determination ( $R^2$ ), and effect size ( $f^2$ ) to determine the strength and significance of relationships among variables. This analytical approach enables a comprehensive and robust examination of the organizational mechanisms underlying teacher job satisfaction in primary education contexts.

## 3. Results

The descriptive analysis presents the results of processing the responses of 96 participants to the research questionnaire, which measured the variables of principals' instructional leadership (X1), school culture (X2), and teacher job satisfaction (Y). Results been layout in Table 1.

**Table 1: Descriptive statistics of variables X1, X2, and Y**

Variable	Instructional Leadership	School Culture	Teacher Job Satisfaction
Sample (N)	96	96	96
Total Score	8,758	9,199	6,157
Mean	91.23	95.82	64.14
Minimum	54	77	41
Maximum	100	100	70
Standard Deviation	7.67	3.83	4.83

The descriptive results indicate that principals' instructional leadership (X1) obtained a mean score of 91.23, with a minimum value of 54 and a maximum value of 100. School culture (X2) showed a mean score of 95.82, with scores ranging from 77 to 100. Teacher job satisfaction (Y) yielded a mean score of 64.14, with a minimum value of 41 and a maximum value of 70. These findings suggest that respondents generally perceived instructional leadership and school culture positively, while teacher job satisfaction was reported at a relatively high level within the observed range.

The evaluation of the research model shown as Fig. 1, was conducted in two stages: the measurement model (outer model) and the structural model (inner model). The outer model assessment focused on examining the validity and reliability of the indicators used to measure the latent constructs. This stage included tests of convergent validity, discriminant validity, and construct reliability. The inner model evaluation examined the relationships among latent variables and assessed the strength and significance of these relationships. The structural model was evaluated using the coefficient of determination ( $R^2$ ), path coefficients, and the statistical significance of the hypothesized paths.

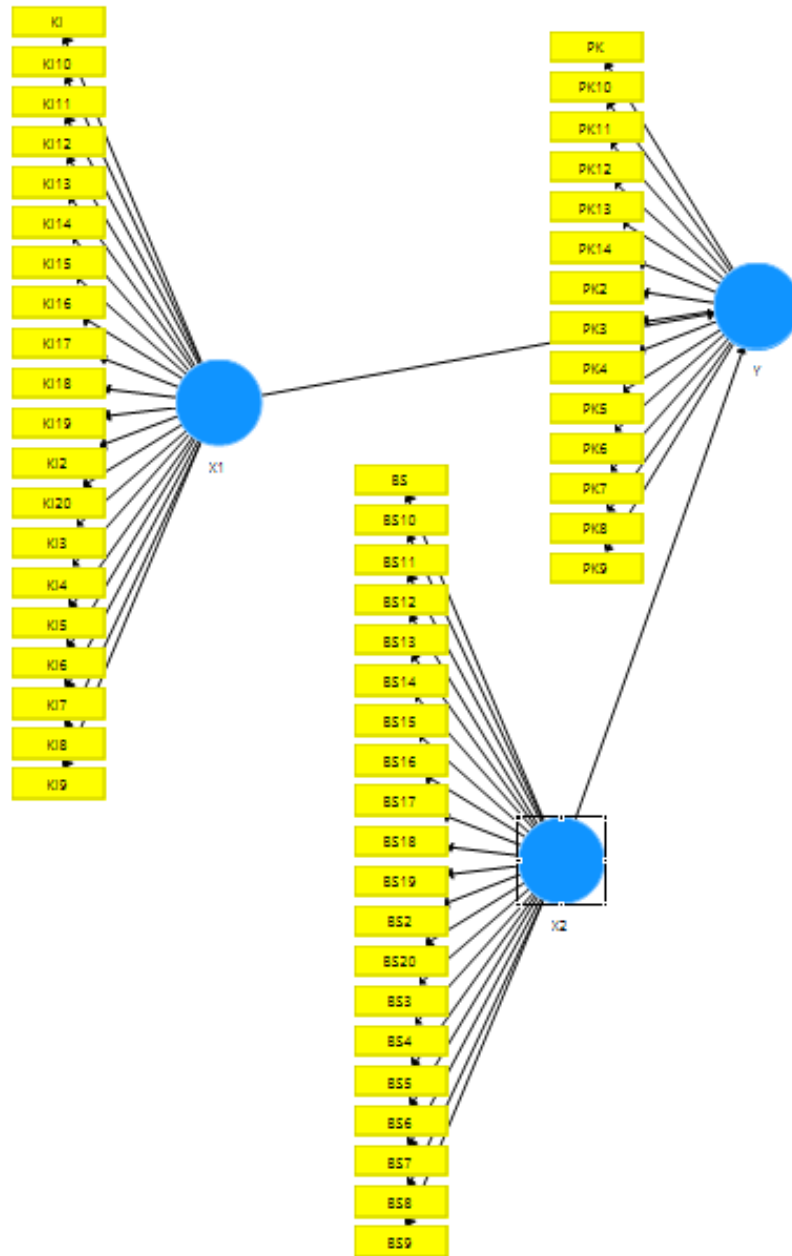


Figure 1: Structural model of the latent variables

### 3.1 Measurement Model (Outer Model)

The evaluation of the outer model was conducted to assess the validity and reliability of the indicators used to measure the latent constructs. The purpose of this stage was to ensure that the measurement instrument demonstrated adequate psychometric properties. The assessment included tests of convergent validity, discriminant validity, and construct reliability.

#### 3.1.1 Convergent Validity

Convergent validity was evaluated using two criteria: factor loadings and Average Variance Extracted (AVE). Factor loading represents the extent to which an observed indicator contributes to its corresponding latent construct in factor analysis. An indicator is considered valid when it has a loading value greater than 0.70. Indicators that do not meet this threshold are considered insufficiently representative of the construct and should be removed from further analysis.

The first-stage loading factor results indicated that five indicators under the instructional leadership construct (KI2, KI7, KI9, KI14, and KI16) did not meet the validity criterion, as their loading values were below 0.70. Within the school culture construct, one indicator (BS1) was found to be invalid due to a loading value below 0.70. Similarly, two indicators under teacher job satisfaction (PK4 and PK9) did not meet the required threshold. These indicators were eliminated from the model, and the measurement model was re-estimated in the subsequent stage.

The second-stage loading results showed that all indicators for instructional leadership and school culture met the validity criterion, with loading values greater than or equal to 0.70. However, one indicator under teacher job satisfaction (PK2) remained below the threshold, with a loading value of 0.696. Consequently, this indicator was removed, and the model was re-evaluated.

The third-stage loading results demonstrated that all remaining indicators across the three constructs instructional leadership, school culture, and teacher job satisfaction achieved loading values greater than 0.70. This indicates that all retained indicators were valid and exhibited strong correlations with their respective latent constructs, thereby supporting the measurement model's convergent validity.

The Average Variance Extracted (AVE) values were also examined to assess convergent validity further. A construct is considered to have adequate convergent validity if the AVE value exceeds 0.50, indicating that the construct explains more than half of the variance of its indicators.

### 3.1 Measurement Model (Outer Model)

The Average Variance Extracted (AVE) results are presented in Table 2. A construct is considered to demonstrate adequate convergent validity if its AVE value exceeds 0.50.

**Table 2: AVE results for convergent validity**

Construct	Average Variance Extracted (AVE)	Remark
Instructional Leadership	0.746	Valid
School Culture	0.742	Valid
Teacher Job Satisfaction	0.751	Valid

The AVE values for instructional leadership (0.746), school culture (0.742), and teacher job satisfaction (0.751) all exceeded the threshold of 0.50, indicating that each construct explains more than half of the variance of its indicators. Therefore, all constructs satisfy the requirement for convergent validity.

#### 3.1.2 Discriminant Validity

Discriminant validity was assessed to ensure that each construct measures a distinct concept and does not overlap with other constructs in the model. Based on the cross-loading analysis, all indicators demonstrated higher loading values on their respective constructs compared to other constructs. This finding confirms that each indicator appropriately discriminates its intended construct from others, thereby satisfying the discriminant validity criterion.

Further evaluation using the Fornell–Larcker criterion revealed that the square root of the AVE ( $\sqrt{AVE}$ ) for each construct exceeded its correlations with other constructs. Evaluation shown in Table 3.

**Table 3: Fornell–Larcker criterion**

Construct	Instructional Leadership	School Culture	Teacher Job Satisfaction	Remark
Instructional Leadership	0.864			Valid
School Culture	0.713	0.861		Valid
Teacher Job Satisfaction	0.867	0.775	0.893	Valid

The  $\sqrt{AVE}$  value for instructional leadership (0.864) was greater than its correlations with school culture and teacher job satisfaction. Similarly, school culture (0.861) and teacher job satisfaction (0.893) exhibited  $\sqrt{AVE}$  values higher than

their respective inter-construct correlations. These results confirm that all constructs demonstrate adequate discriminant validity and that the measurement model satisfies the Fornell–Larcker criterion.

### 3.1.3 Construct Reliability

Construct reliability was assessed using Cronbach’s Alpha and Composite Reliability and been recorded in Table 4.

**Table 4: Cronbach’s alpha**

Construct	Cronbach’s Alpha	Remark
Instructional Leadership	0.975	Reliable
School Culture	0.979	Reliable
Teacher Job Satisfaction	0.966	Reliable

All constructs showed Cronbach’s Alpha values above 0.70, indicating strong internal consistency. The values for instructional leadership (0.975), school culture (0.979), and teacher job satisfaction (0.966) suggest excellent reliability.

Meanwhile, Table 5 represented examination of composite reliability to further confirm internal consistency.

**Table 5: Composite reliability**

Construct	Composite Reliability	Remark
Instructional Leadership	0.978	Reliable
School Culture	0.981	Reliable
Teacher Job Satisfaction	0.971	Reliable

All constructs demonstrated Composite Reliability values above 0.70, confirming high reliability. Therefore, the measurement model (outer model) is considered valid and reliable for further structural analysis.

### 3.2 Structural Model (Inner Model)

The structural model evaluation included hypothesis testing, coefficient of determination ( $R^2$ ), and effect size ( $f^2$ ) presented in Table 6.

**Table 6: Hypothesis testing results**

Relationship	T-Statistics	P-Values	Remark
Instructional Leadership → Teacher Job Satisfaction	7.136	0.000	Significant
School Culture → Teacher Job Satisfaction	3.301	0.001	Significant

The results indicate that instructional leadership significantly influences teacher job satisfaction ( $t = 7.136, p < 0.001$ ). School culture also has a significant effect on teacher job satisfaction ( $t = 3.301, p = 0.001$ ). Since both t-values exceed the critical value of 1.96 at a 5% significance level, the partial hypotheses are supported.

The  $R^2$  value of 0.836 indicates that 83.6% of the variance in teacher job satisfaction as in Table 7, it is explained by instructional leadership and school culture. This suggests a substantial explanatory power of the structural model.

**Table 7: Coefficient of Determination ( $R^2$ )**

Dependent Variable	$R^2$	Adjusted $R^2$
Teacher Job Satisfaction	0.836	0.832

In a meantime, the effect size analysis shows in Table 8 reflects that instructional leadership has a large effect ( $f^2 = 1.430$ ) on teacher job satisfaction, while school culture has a medium effect ( $f^2 = 0.239$ ). These findings indicate that instructional leadership is the dominant predictor in the model.

**Table 8: Effect Size ( $f^2$ )**

Independent Variable	$f^2$	Category
Instructional Leadership	1.430	Large
School Culture	0.239	Medium

#### 4. Discussion

The findings reveal that instructional leadership has a significant and dominant effect on teacher job satisfaction. The high t-statistic value (7.136) reflects the strength of this relationship. This result confirms that principals who actively engage in academic supervision, instructional guidance, and professional development support significantly enhance teachers' job satisfaction. The finding reinforces the view that instructional leadership functions as a primary driver of teachers' professional work experiences (Lamsal, 2022; Kumbaraningtyas et al., 2025).

School culture also demonstrates a significant influence on teacher job satisfaction ( $t = 3.301$ ). A collaborative, communicative, and supportive work environment contributes to teachers' psychological comfort and professional stability (Nurlela, 2016; Sukadari, 2020). Although its effect is not as strong as instructional leadership, school culture remains a crucial factor in fostering emotional stability and organizational commitment.

Simultaneously, the model exhibits strong explanatory power, with an  $R^2$  value of 0.836. This indicates that instructional leadership and school culture collectively explain a substantial proportion of the variance in teacher job satisfaction. The effect size analysis further confirms that while both variables contribute significantly, instructional leadership plays a more dominant role.

Theoretically, these findings support the perspective that leadership and organizational culture are complementary elements in shaping employees' professional experiences (Schein, 2010; Deal & Peterson, 2016). Instructional leadership provides direction and structural guidance, whereas school culture reinforces shared values and norms that sustain professional practices. Together, they create a stable and supportive work environment that promotes teacher well-being.

#### 5. Conclusion

Instructional leadership and school culture significantly influence teacher job satisfaction in elementary schools within the Penjawi Cluster, Pati Regency. Instructional leadership emerges as the dominant predictor with a large effect size. Collectively, both variables explain a substantial proportion of the variance in teacher job satisfaction. Strengthening academic supervision practices and fostering a collaborative school culture therefore represent strategic approaches to enhancing teachers' professional well-being.

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