



Teacher Work Productivity in a Leadership Perspective: The Role of Instructional Leadership of School Principals, Employee Engagement and Power Motivation

Atria Liyustari

Padang State
University, Padang
City, Indonesia

Anisah

Padang State
University, Padang
City, Indonesia

Ahmad Sabandi

Padang State University,
Padang City,
Indonesia

Novriyanti Achyar

Padang State
University, Padang
City, Indonesia

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Abstract

Teacher work productivity is an important determinant of educational quality, yet it is influenced by both organizational conditions and teachers' psychological characteristics. This study aims to examine the effects of principal instructional leadership and employee engagement on teacher work productivity and to investigate the mediating role of teachers' power motivation. A quantitative approach with a correlational ex post facto design was employed. The population comprised 2,003 civil servant teachers from 45 public junior secondary schools in Padang, Indonesia. Using multistage sampling and the Cochran formula, 416 teachers from 28 schools were selected as respondents. Data were collected through a five-point Likert-scale questionnaire measuring instructional leadership, employee engagement, power motivation, and teacher work productivity. Data were analyzed using Partial Least Squares Structural Equation Modeling with SmartPLS through measurement- and structural-model evaluation and bootstrapping at a 5% significance level. The findings indicate positive relationships between instructional leadership, employee engagement, power motivation, and teacher work productivity. Instructional leadership and employee engagement also positively contributed to teachers' power motivation, while power motivation contributed positively to productivity. Furthermore, power motivation mediated the relationships between instructional leadership and teacher productivity and between employee engagement and teacher productivity. The model explained 52.1% of the variance in power motivation and 60.7% of the variance in teacher work productivity. These findings highlight the importance of integrating instructional leadership, employee engagement, and constructive power motivation to strengthen sustainable teacher productivity and school improvement.

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INTRODUCTION

Teacher work productivity is often associated with the completion of teaching responsibilities, yet effective educational practice requires much more than the fulfillment of formal duties. Teachers are expected to plan and deliver meaningful instruction, assess student learning, adapt teaching strategies, collaborate with colleagues, and continuously improve their professional competence. From this perspective, productivity reflects not only the quantity of work completed but also the effectiveness, quality, initiative, and innovation embedded in teachers' professional activities (Cukurova, 2025; Hosseini & Haghighi Shirazi, 2021; Murray, 2021). Recent research similarly demonstrates that teacher engagement, work efficacy, and performance are closely connected, indicating that productive teaching is shaped by both behavioral effort and psychological involvement in work (Mişu et al., 2022). This creates an important tension in school management: teachers are increasingly expected to demonstrate high levels of professional productivity, while the organizational and psychological conditions supporting such productivity may vary considerably across schools. Consequently, teacher productivity should not be viewed exclusively as an individual responsibility because the conditions established by school leaders and experienced by teachers can

* **Corresponding author:**

Liyustari et al, Padang State University, Padang City, Indonesia

atrialiyustari027@gmail.com

influence how professional responsibilities are translated into productive behavior. The issue becomes particularly important when productivity is understood as a sustained capacity to improve instructional quality rather than merely to complete assigned tasks. Examining the organizational and psychological factors underlying teacher productivity is therefore essential for understanding how schools can achieve continuous improvements in educational quality.

The importance of this issue is particularly evident in the Indonesian educational context, where school quality remains closely associated with the capacity of teachers and school leaders to improve learning processes. The Indonesian Education Report provides evidence-based information concerning student learning outcomes, instructional processes, equity of educational services, school management, and the quality of human resources involved in education (Ahmad, 2023; Smith et al., 2022). In the empirical setting of the present study, the initial manuscript identifies learning quality at the junior secondary level in Padang as an area requiring continued attention, particularly in relation to instructional quality, learning innovation, and student engagement. Such conditions suggest that improving educational quality requires more than curriculum implementation or administrative compliance because the quality of classroom practice ultimately depends on teachers' ability and willingness to perform their professional roles effectively (Rahmi & Rassanjani, 2025). Research examining Indonesian schools has similarly emphasized the importance of leadership practices in shaping teacher performance and the effectiveness of educational organizations (Elfira et al., 2024; Habibi et al., 2025; Roesminingsih & Windasari, 2025). For example, position instructional leadership as an important organizational factor in understanding teachers' job performance within Indonesian schools (Amzat et al., 2022; Rahman, 2021; Rohim et al., 2023). These findings indicate that teacher productivity needs to be examined within the organizational environment in which teachers work rather than treated solely as an individual attribute. The persistence of instructional-quality challenges therefore provides a strong rationale for investigating the conditions through which teachers become more productive and contribute more actively to school improvement.

One organizational condition that may shape teacher productivity is principal instructional leadership. Unlike leadership approaches that emphasize general administration, instructional leadership places teaching and learning at the center of school leadership through the establishment of academic goals, supervision of instruction, professional development, and the creation of a supportive learning climate (Shaked, 2022). Empirical evidence indicates that instructional leadership can contribute to teacher performance because principals influence the conditions under which teachers plan, implement, and evaluate instruction (Dutta et al., 2024; Gechere et al., 2025). Recent research has also increasingly conceptualized leadership effects as indirect processes in which school leadership shapes teacher-related psychological and organizational conditions before influencing performance outcomes. For example, evidence from educational settings shows that instructional leadership is associated with teacher commitment and collective efficacy, suggesting that leadership can strengthen teachers' capacity and willingness to contribute to school goals (Hammad et al., 2024; Karacabey et al., 2022; Thien et al., 2023). However, instructional leadership does not automatically produce higher productivity simply because principals establish academic targets or conduct supervision. Teachers interpret leadership practices through their experiences of support, trust, autonomy, recognition, and opportunities for professional participation (Nadeem, 2024; Sahlin, 2023; Zeynivandnezhad et al., 2024). When instructional leadership creates meaningful opportunities for teachers to develop and contribute, it may strengthen not only their competence but also their psychological willingness to become actively involved in school improvement. The question, therefore, is not merely whether instructional leadership influences teacher productivity, but how leadership practices are translated into teachers' productive motivation and behavior.

Employee engagement provides a second perspective for understanding this process because teachers who are psychologically connected to their work are more likely to invest sustained energy and attention in professional activities. Work engagement is commonly characterized by vigor, dedication, and absorption, reflecting the extent to which individuals approach their work with energy, commitment, and deep involvement (Pimenta et al., 2023). Evidence from pre-university education demonstrates a positive relationship between teachers' work engagement and work performance, reinforcing the argument that psychological involvement is relevant to productive professional behavior (Piele et al., 2026). Research among primary and secondary school teachers

also shows that supportive school culture is positively associated with work engagement, while personal psychological resources can help explain this relationship (Mei & Alias, 2026; Pham et al., 2025; Skaalvik & Skaalvik, 2023). These findings are consistent with the Job Demands–Resources perspective, which proposes that adequate job resources can stimulate motivational processes that strengthen engagement and productive behavior (Albrecht et al., 2021; Tummers & Bakker, 2021). From this perspective, engaged teachers are unlikely to restrict their contribution to the minimum requirements of their formal positions because strong involvement in work can encourage initiative, persistence, collaboration, and willingness to assume additional responsibilities. Nevertheless, employee engagement does not fully explain why some teachers move from being highly involved in their work to actively seeking opportunities to influence colleagues, lead activities, or shape school practices. This limitation suggests that an additional motivational mechanism may be needed to explain how psychological involvement is transformed into broader forms of professional influence and productivity.

Power motivation offers a potentially important explanation for this missing mechanism. Rooted in McClelland's theory of acquired needs, the need for power refers to an individual's desire to influence, direct, or have an impact on other people and events (Joshi et al., 2025; Theocharis & Tsekouropoulos, 2025). In educational organizations, however, power motivation should not necessarily be interpreted as a desire for personal dominance or formal authority because influence can also be exercised in socially constructive ways that serve collective and organizational goals. Teachers routinely exercise influence when they lead classroom activities, guide students, share instructional practices, coordinate academic programs, support colleagues, and initiate improvements within their schools. Earlier research has shown that teachers possess meaningful differences in their need for power, sense of power, and directiveness, demonstrating that power-related motives are relevant to understanding professional behavior in teaching (Shoukry & Fatien, 2024). More recent research on teacher leadership likewise emphasizes that teachers' capacity to influence others is an important component of professional leadership and school development (Oppi et al., 2023). When power motivation is oriented toward collective goals, it can encourage teachers to take responsibility, exercise initiative, and seek opportunities to improve organizational outcomes. This perspective provides a theoretically plausible explanation for why highly engaged teachers may become more willing to assume influential roles and why supportive instructional leadership may stimulate teachers' motivation to contribute beyond routine duties. Power motivation may therefore function as a psychological bridge through which organizational support and work engagement are translated into productive professional action.

The existing literature provides considerable evidence for positive relationships among instructional leadership, employee engagement, and teacher performance, but these relationships have generally been examined through relatively separate explanatory pathways. Studies of instructional leadership have linked principals' instructional practices with teacher performance, commitment, efficacy, and other work-related outcomes (Alzoraiki et al., 2023; Nguyen, 2023). Research on employee engagement has likewise established that engaged teachers tend to demonstrate stronger performance and work efficacy Shu (2022), while evidence on school culture suggests that supportive organizational environments can strengthen teacher engagement through psychological processes (Heim & Holt, 2021; Nugroho et al., 2026). Other research has examined employee engagement as a mediating mechanism between leadership and teacher-related outcomes, indicating that leadership effects may operate through teachers' psychological involvement rather than solely through direct influence (Ahmed, 2024). The JD-R perspective further supports this indirect logic by explaining how organizational resources can initiate motivational processes that subsequently affect work behavior and performance (Demerouti & Bakker, 2023). Despite this growing evidence, the literature has paid considerably less attention to the role of power motivation in explaining how teachers transform organizational support and work engagement into productive behavior. Most studies have focused on constructs such as commitment, self-efficacy, job satisfaction, organizational culture, or engagement, while the motivational desire to influence others has remained comparatively peripheral. Consequently, the existing literature establishes the importance of leadership and engagement but leaves the motivational pathway linking these conditions to teacher productivity insufficiently explained.

This limitation reveals a more specific theoretical and empirical gap. First, previous studies have predominantly examined the direct relationship between instructional leadership and teacher performance, with fewer studies explaining whether leadership influences productivity by stimulating a teacher's motivation to exercise constructive influence within the organization. Second, although employee engagement has repeatedly been associated with teacher performance, the literature has rarely examined whether engagement strengthens teachers' power motivation and whether this motivation subsequently contributes to productivity. Third, research on power-related motives among teachers remains limited compared with research on more conventional psychological constructs, and existing studies have generally considered power in relation to directiveness, influence, or teacher leadership rather than as a mediating mechanism (Deniz, 2025). Fourth, recent educational research increasingly recognizes that organizational factors influence teacher outcomes through psychological mechanisms, but the mechanisms examined have tended to involve efficacy, empathy, commitment, culture, or engagement rather than power motivation (Fu et al., 2022). This indicates that the central gap is not simply a lack of studies examining instructional leadership or employee engagement, but a lack of an integrated explanation of how these organizational and psychological conditions are connected to teacher productivity through a motivational mechanism of influence (DeCuir, 2025; Layek & Koodamara, 2024). The gap is also contextual because empirical evidence integrating these constructs among ASN teachers in Indonesian public junior secondary schools remains limited. The present study addresses this gap by positioning teachers' power motivation as an intervening mechanism linking principal instructional leadership and employee engagement with teacher work productivity. Such an approach allows teacher productivity to be understood as the outcome of an interaction between organizational leadership, psychological involvement, and individual motivational orientation rather than as the consequence of a single organizational factor.

Against this background, the present study aims to examine the effects of principal instructional leadership and employee engagement on teacher work productivity and to determine whether teachers' power motivation mediates these relationships among ASN teachers in public junior secondary schools in Padang. The study develops an integrated model consisting of instructional leadership, employee engagement, power motivation, and teacher work productivity to explain both direct and indirect relationships among the constructs. Theoretically, the study contributes by connecting an organizational leadership perspective with employee engagement and the motivational concept of power, thereby extending existing explanations of teacher productivity beyond conventional direct-effect models. More specifically, positioning power motivation as a mediator provides a basis for explaining how leadership practices and teachers' psychological involvement may be translated into active professional contribution and productive behavior. Empirically, the study extends existing evidence by testing this mechanism in the context of Indonesian public junior secondary schools, where research integrating these constructs remains relatively limited. Practically, the findings may help school principals develop instructional leadership practices that provide teachers with meaningful opportunities to participate, lead, influence colleagues, and contribute to school improvement. The findings may also assist school managers in strengthening employee engagement not merely as an indicator of teacher well-being but as a potential foundation for constructive professional influence and productivity. Ultimately, the study argues that sustainable improvement in teacher productivity requires more than administrative supervision; it requires an organizational environment in which instructional leadership and employee engagement can activate teachers' constructive motivation to influence and contribute to the improvement of their schools.

METHOD

Research Design

This study employed a quantitative approach with a correlational ex post facto design to examine the relationships among principal instructional leadership, employee engagement, teachers' power motivation, and teacher work productivity. The design was selected because the study aimed to estimate the direct and indirect relationships among naturally occurring variables without

manipulating or assigning treatments to the participants. Principal instructional leadership and employee engagement were specified as exogenous constructs, teachers' power motivation was positioned as a mediating construct, and teacher work productivity was specified as the endogenous outcome construct. The conceptual model therefore examined both the direct effects of instructional leadership and employee engagement on teacher work productivity and their indirect effects through teachers' power motivation. This design was appropriate because the variables represented existing perceptions and psychological conditions experienced by teachers in their regular school environments. Data were collected through a structured self-report questionnaire using a five-point Likert response scale ranging from 1 (strongly disagree) to 5 (strongly agree). The hypothesized relationships were subsequently tested using Partial Least Squares Structural Equation Modeling (PLS-SEM), which enabled simultaneous assessment of the measurement and structural models.

Research Setting and Time

The study was conducted in public junior secondary schools (Sekolah Menengah Pertama Negeri, SMP Negeri) in Padang, West Sumatra, Indonesia, focusing on teachers with civil servant status (Aparatur Sipil Negara/ASN). The selection of this setting was consistent with the research objective of examining teacher work productivity within the organizational context of public junior secondary education. The target population was distributed across 45 public junior secondary schools in Padang, providing a broad institutional context for examining differences in leadership practices, teacher engagement, motivational orientation, and productivity. Schools from different subdistrict clusters were considered in the sampling process to provide geographical representation within the city. Data were collected through the administration of structured questionnaires to selected teacher respondents, followed by systematic coding and preparation of the resulting dataset for statistical analysis. The current manuscript does not specify the exact month or dates of data collection; therefore, this information should be added from the original research records before the manuscript is submitted. All responses were treated as research data and analyzed in aggregate to examine the relationships among the study constructs.

Population and Sampling

The population consisted of 2,003 ASN teachers distributed across 45 public junior secondary schools in Padang. A multistage sampling procedure was employed to obtain a sample that represented the geographical and teacher characteristics of the target population. In the first stage, cluster sampling was conducted based on subdistricts, resulting in the selection of 28 public junior secondary schools with an accessible population of 1,239 teachers. In the second stage, proportional stratified random sampling was applied to ensure that teachers from different educational-level and length-of-service strata were appropriately represented. The minimum sample size was determined using the Cochran formula with a 95% confidence level and a 5% margin of error, resulting in a minimum requirement of 385 respondents. Proportional allocation was subsequently applied across the identified strata, and the final sample comprised 416 ASN teachers from 28 public junior secondary schools. The inclusion criterion was that participants were ASN teachers working in the selected public junior secondary schools, while individuals outside the target population were excluded from the sampling frame. This multistage procedure was intended to strengthen sample representativeness and reduce the potential overrepresentation of particular schools or teacher groups.

Research Instrument

Data were collected using a structured closed-ended questionnaire designed to measure four constructs: principal instructional leadership, employee engagement, teachers' power motivation, and teacher work productivity. All items were scored using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Principal instructional leadership was operationalized through indicators concerning the establishment of clear learning objectives, support for teachers' professional development, creation of a conducive school climate, and management and improvement of instructional quality. Employee engagement was represented by indicators concerning strong involvement in work, enthusiasm and energy, concentration or absorption in work, and initiative to improve performance. Teachers' power motivation included indicators related to the desire or ability to influence others, control or guide groups, assume leadership roles, and

obtain social influence. Teacher work productivity covered work effectiveness, work efficiency, initiative or innovation, and the quality of work outcomes. The questionnaire was developed based on the conceptual indicators underlying each construct and administered to the selected respondents after the measurement instruments had been prepared for empirical testing. The manuscript should additionally report the exact number of items and the original or adapted sources of each measurement scale if these details are available in the original research documentation.

Instrument Validity and Reliability

The quality of the measurement instruments was evaluated through the measurement model using convergent validity, discriminant validity, and internal consistency reliability. Convergent validity was assessed using indicator outer loadings and Average Variance Extracted (AVE), with outer loadings above 0.70 and AVE values above 0.50 considered acceptable. The results showed that all retained indicators had outer loading values above 0.70, while AVE values ranged from 0.762 to 0.851, indicating satisfactory convergent validity. Discriminant validity was assessed using the Heterotrait–Monotrait Ratio (HTMT), with the reported values ranging from 0.587 to 0.789, which were below the threshold of 0.85. Internal consistency reliability was examined using Cronbach's alpha and composite reliability. Cronbach's alpha values ranged from 0.896 to 0.941, whereas composite reliability values ranged from 0.928 to 0.958, exceeding the minimum criterion of 0.70. These findings indicate that the constructs demonstrated satisfactory validity and reliability for subsequent structural-model analysis. The current manuscript does not report a separate expert-judgment procedure or pilot-test results; therefore, such information should only be incorporated if it was actually conducted and documented.

Data Collection Procedure

The data collection procedure began with the identification of the research problem and development of the conceptual model linking instructional leadership, employee engagement, power motivation, and teacher work productivity. The target population was then identified, followed by school selection through cluster sampling and teacher selection through proportional stratified random sampling. The sample size was determined using the Cochran formula, resulting in a minimum requirement of 385 respondents, while the final sample consisted of 416 ASN teachers. The questionnaire was subsequently administered using a five-point Likert scale covering the four research constructs. After collection, the completed questionnaires were checked, coded, and organized into a dataset for statistical analysis. The data were then subjected to measurement-model evaluation to assess indicator validity and construct reliability. After the measurement model met the required criteria, the structural model was evaluated and direct and indirect relationships were tested using PLS-SEM and bootstrapping. The overall sequence of the research procedure is summarized in Figure 1.

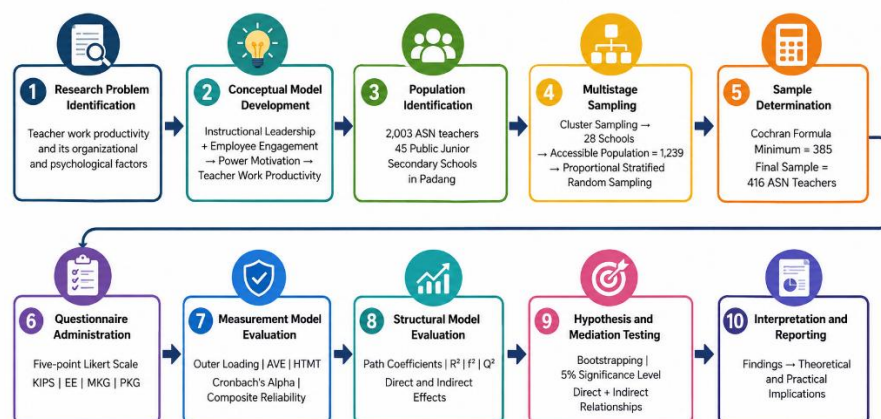


Figure 1. Research Procedure and Analytical Framework

The flowchart summarizes the research process from research problem identification, conceptual model development, population identification, multistage sampling, sample determination, questionnaire administration, measurement-model evaluation, structural-model evaluation, hypothesis and mediation testing, to findings and implications. In particular, the sampling

procedure follows the empirical design reported in the study, beginning with 2,003 ASN teachers across 45 public junior secondary schools, followed by the selection of 28 schools and an accessible population of 1,239 teachers, and finally producing 416 respondents. The analytical stages shown in the figure correspond to the PLS-SEM procedure used in the study, including outer loading, AVE, HTMT, Cronbach's alpha, composite reliability, R^2 , f^2 , Q^2 , path coefficients, and direct and indirect effects.

Data Analysis Technique

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. The analysis was conducted in two main stages: evaluation of the measurement model and evaluation of the structural model. The measurement model was assessed through indicator outer loadings and AVE for convergent validity, HTMT for discriminant validity, and Cronbach's alpha and composite reliability for internal consistency. After the measurement model satisfied the required criteria, the structural model was evaluated using path coefficients, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). The direct-effect analysis examined the relationships between instructional leadership and teacher work productivity, employee engagement and teacher work productivity, instructional leadership and power motivation, employee engagement and power motivation, and power motivation and teacher work productivity. The indirect-effect analysis examined whether teachers' power motivation mediated the relationships between instructional leadership and teacher work productivity and between employee engagement and teacher work productivity. Hypothesis testing was conducted using the bootstrapping procedure at a 5% significance level, with statistical decisions based on the inferential results obtained from the PLS-SEM analysis. The analytical procedure therefore enabled the study to evaluate both the direct contributions of organizational and psychological factors and the mediating role of power motivation in explaining teacher work productivity.

RESULTS AND DISCUSSION

Results

Descriptive analysis was carried out to provide an overview of the condition of each research variable, namely teacher work productivity, power motivation, instructional leadership of school principals, and employee engagement. The results of the analysis show that in general, all variables are in the high to very high category. The results of the descriptive analysis showed that the teacher's work productivity had an average score of 162.29, with a minimum score of 81 and a maximum score of 180. The median value of 164.00, mode 180, and standard deviation of 14.271 showed that the data distribution was relatively normal and there were no significant deviations. Most of the respondents were in the score range of 153–176, so it can be interpreted that the majority of teachers have high work productivity in carrying out their professional duties. Based on the analysis of the Respondent Achievement Level (TCR), teachers' work productivity obtained a score of 90.2% in the very good category. The work effectiveness indicator obtained the highest achievement of 93.0%, followed by work efficiency of 90.8%. Meanwhile, indicators of work initiative or innovation (89.0%) and quality of work results (88.2%) are also in the good category. These findings show that teachers have been able to carry out their duties effectively and efficiently, although the aspects of innovation and the quality of work still have room to continue to improve.

The variable of teacher power motivation obtained an average score of 138.97, with a minimum score of 88 and a maximum score of 155. The median value of 139.50, mode 155, and standard deviation of 12.673 indicate that the data is spread relatively normally. The score distribution was dominated by an interval of 136–159, which indicated that most teachers had a power motivation in the high category. The results of the TCR analysis showed that the teacher's power motivation obtained a score of 90.2% with the very good category. The indicator of the ability to control the group obtained the highest score of 95.0%, followed by the desire to influence others at 91.8%. Meanwhile, the desire to take a leadership role and gain social influence each obtained a score of 87.2%. These results show that teachers have a strong drive to lead, positively influence the work environment, and contribute to the achievement of school goals. The principal's instructional leadership had an average score of 139.77, with a score of 141–158, which illustrates the high attachment of teachers to their work. The results of the TCR analysis showed that employee

engagement obtained a score of 93.4% with the very good category. The indicator of strong engagement to work obtained the highest achievement of 95.0%, followed by enthusiasm and energy in work at 94.4%, focus on work at 93.2%, and initiatives to improve performance at a minimum of 99 and a maximum score of 150. A median score of 145.00, mode 150, and a standard deviation of 11.820 showed that respondents' perceptions of the principal's instructional leadership tended to be homogeneous. The majority of respondents gave an assessment in the score range of 141–152, which shows that the principal is considered to have carried out the instructional leadership function optimally.

Overall, the TCR value of the instructional leadership variable reached 93.2% in the excellent category. The indicator set clear learning goals, support for teacher professional development, and the creation of a conducive school climate each received a score of 93.4%, while the indicator of managing and improving the quality of learning received a score of 92.6%. The findings show that the principal has carried out the role of a learning leader well through coaching, supervision, and professional development of teachers. The employee engagement variable obtained an average score of 140.19, with a minimum score of 78 and a maximum score of 150. The median value of 144.50, mode 150, and standard deviation of 11.392 indicate that the data distribution is relatively normal. Most of the respondents were in the range of 91.2%. These findings indicate that teachers have high enthusiasm, dedication, and commitment in carrying out their professional duties so that they have the potential to support increased work productivity.

Table 4. 1 Uji Convergent Validity

	Employee engagement	Principal Instructional Leadership	Teachers' Power Motivation	Teacher Work Productivity	AVE
EE1	0.894				0.822
EE2	0.910				
EE3	0.942				
EE4	0.880				
KIPS 1		0.889			0.818
KIPS 2		0.929			
KIPS 3		0.929			
KIPS 4		0.868			
MKG1			0.858		0.762
MKG2			0.889		
MKG3			0.891		
MKG4			0.854		
PKG1				0.904	0.851
PKG2				0.934	
PKG3				0.939	
PKG4				0.913	

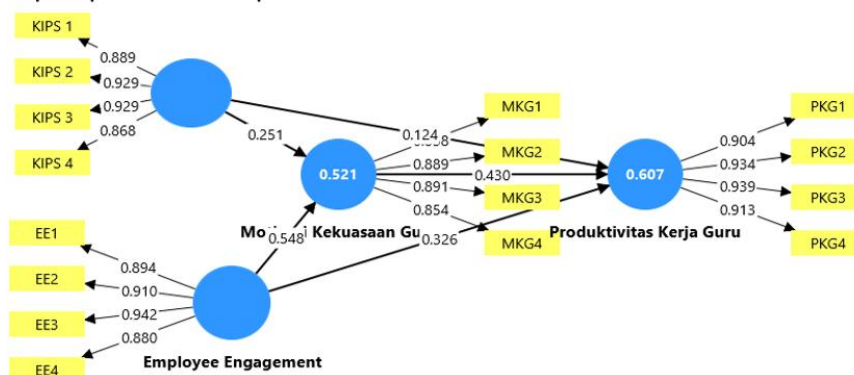
Based on the outer loading value in the table, it can be seen that each variable has an outer loading value above 0.6. Then the AVE value for all variables is > 0.50 . Based on the results of the analysis, all variables are in accordance with the convergent validity criteria. The evaluation of the measurement model was carried out through testing of convergent validity, discriminant validity, and construct reliability. The results of the convergent validity test showed that all indicators had an outer loading value above 0.70 with an Average Variance Extracted (AVE) value ranging from 0.762–0.851. This value has met the criteria recommended by Hair et al. (2019), so that all indicators are declared valid in measuring the research construct. Furthermore, the results of the discriminant validity test showed that all Heterotrait-Monotrait Ratio (HTMT) values were below the maximum limit of 0.85. The HTMT value ranges from 0.587–0.789, which indicates that each construct has a good ability to distinguish the concepts being measured. Thus, all constructs in the study have met the requirements of discriminant validity. Reliability testing was performed using Cronbach's Alpha and Composite Reliability values. The results of the analysis showed that all variables had a

Cronbach's Alpha value between 0.896–0.941 and a Composite Reliability between 0.928–0.958. All of these values are above the minimum limit of 0.70, so it can be concluded that the research instrument has an excellent level of reliability.

Discriminant Validity Test based on Cross-loading

	Employee engagement	Instructional Leadership of School Principals	Motivation of Teacher Power	Teacher Work Productivity
Employee engagement				
Instructional Leadership of School Principals	0.615			
Motivation of Teacher Power	0.754	0.616		
Teacher Work Productivity	0.739	0.587	0.789	

The evaluation of the structural model is carried out through the testing of the determination coefficient (R-Square). The results of the analysis showed that the Teacher Power Motivation variable had an R^2 value of 0.521, which means that the principal's instructional leadership and employee engagement were able to explain 52.1% of the variation in teacher power motivation, while 47.9% was influenced by other factors outside the research model. Meanwhile, the variable Teacher Work Productivity obtained an R^2 value of 0.607, which shows that the model is able to explain 60.7% variation in teacher work productivity. This value indicates that the model has good predictive ability in explaining the relationship between research variables. The results of the direct influence test showed that all relationship paths in the model had a positive influence direction. The instructional leadership of the principal has a positive effect on the work productivity of teachers with a path coefficient of 0.124. Employee engagement also has a positive effect on teacher work productivity with a coefficient of 0.326. In addition, the instructional leadership of the principal had a positive effect on the motivation of teachers' power ($\beta = 0.251$), while employee engagement had a greater influence on the motivation of teachers' power ($\beta = 0.548$). Furthermore, the motivation of teachers' power has a positive effect on teachers' work productivity with a coefficient of 0.430. These findings show that increasing instructional leadership, employee engagement, and power motivation will be followed by increasing teacher work productivity.



Indirect influence testing showed that teachers' power motivation played a role as a mediating variable in the relationship between principal's instructional leadership and teachers' work productivity with a coefficient value of 0.108. In addition, teacher power motivation also mediates the relationship between employee engagement and teacher work productivity with a coefficient of 0.235. These results show that the influence of principal's instructional leadership and employee engagement on teachers' work productivity does not only occur directly, but also through increasing teachers' motivation as an intervening variable.

Discussion

The findings demonstrate that teacher work productivity is not adequately explained by a single organizational or individual factor, but rather emerges from the interaction between instructional leadership, employee engagement, and teachers' motivational orientation. The structural model explained 60.7% of the variance in teacher work productivity, indicating that the combination of organizational leadership and psychological resources provides substantial explanatory power. This result is theoretically important because it moves the discussion of teacher productivity beyond a predominantly administrative perspective toward an integrated organizational-psychological explanation. From the perspective of the Job Demands-Resources (JD-R) framework, instructional leadership can be interpreted as an organizational resource that clarifies expectations, supports professional development, and facilitates the conditions required to perform effectively, while engagement represents a motivational state through which such resources are converted into sustained work investment (Tummers & Bakker, 2021; Demerouti & Bakker, 2023). Recent evidence similarly indicates that instructional leadership is associated with teacher performance through psychological mechanisms such as self-efficacy, while teacher engagement is consistently related to stronger professional performance (Elfira et al., 2024; Dilekçi et al., 2025). The present findings therefore extend this literature by demonstrating that the productivity process may also involve teachers' motivation to influence, lead, and contribute within their organizational environment, positioning power motivation as an additional psychological mechanism in the explanation of teacher productivity.

The positive relationship between principal instructional leadership and teacher work productivity indicates that leadership practices directed toward teaching and learning have consequences that extend beyond formal supervision. Rather than functioning merely as an administrative control mechanism, instructional leadership appears to establish a cognitive and organizational structure within which teachers can organize their work, prioritize instructional objectives, and improve the quality and efficiency of professional tasks. This interpretation is consistent with instructional leadership theory, which conceptualizes principals as actors who shape academic direction, instructional improvement, professional learning, and the school climate supporting teaching and learning (Shaked, 2022). Empirically, the finding is consistent with evidence from Indonesian schools showing that instructional leadership has a positive association with teacher performance and that teacher self-efficacy can strengthen this relationship (Elfira et al., 2024); it also corresponds with meta-analytic evidence showing that instructional leadership is systematically associated with teacher-level psychological resources (Karakose et al., 2024). Nevertheless, the relatively smaller direct coefficient of instructional leadership on productivity ($\beta = 0.124$) compared with employee engagement and power motivation suggests that leadership alone may not be sufficient to produce substantial productivity gains. This weaker direct pathway is theoretically meaningful because it implies that principals influence productivity partly by creating conditions that activate teachers' internal psychological and motivational resources rather than by directly determining teachers' day-to-day performance.

The relationship between employee engagement and teacher work productivity is substantially stronger, with employee engagement demonstrating a direct coefficient of $\beta = 0.326$ and a stronger association with power motivation than instructional leadership. This finding suggests that teachers' psychological investment in their work may be more proximal to productive behavior than the organizational leadership conditions surrounding them. Within the JD-R framework, engagement represents the motivational pathway through which available resources stimulate vigor, dedication, and absorption, enabling employees to invest greater cognitive, emotional, and behavioral energy in their work (Tummers & Bakker, 2021; Demerouti & Bakker, 2023). Recent research provides strong support for this interpretation: Dilekçi et al. (2025) found that teacher work engagement significantly predicted job performance, while Sheridan et al. (2025) demonstrated that teachers' personal and job resources are closely associated with engagement; longitudinal evidence further indicates that job resources and teacher engagement can reinforce one another over time (Uslukaya & Zincirli, 2025). The present result therefore supports existing motivational explanations while adding an important qualification: engagement appears not only to make teachers more persistent in completing existing responsibilities, but may also encourage them to seek opportunities to influence others and contribute beyond narrowly defined task requirements.

The particularly strong effect of employee engagement on teachers' power motivation ($\beta = 0.548$) provides one of the most important theoretical insights of the study because it suggests that psychological involvement in work can be transformed into a desire to exercise constructive influence. Teachers who are energetic, dedicated, focused, and willing to improve their performance may become more inclined to lead activities, guide colleagues, influence professional practices, and assume responsibility for collective outcomes. This interpretation is compatible with teacher-leadership perspectives, in which leadership is not restricted to formal positions but involves teachers' willingness to initiate improvement, collaborate with colleagues, and influence instructional practice (Oppi et al., 2023). It also corresponds with contemporary research showing that engaged teachers are more likely to develop resources and actively shape their working environments rather than simply respond to externally imposed conditions (Uslukaya & Zincirli, 2025; Huang et al., 2025). The finding consequently expands the JD-R explanation by suggesting that engagement may generate not only performance energy but also an orientation toward influence, thereby linking motivational involvement with informal leadership behavior. In this sense, power motivation can be interpreted as a proximal motivational mechanism through which teachers' psychological attachment to their work becomes translated into broader organizational contribution.

The positive effect of principal instructional leadership on teachers' power motivation ($\beta = 0.251$) further indicates that leadership can influence not only what teachers do but also their motivational orientation toward influence and responsibility. Instructional leaders who provide professional support, clarify academic goals, encourage participation, and create opportunities for teachers to contribute may communicate that influence is legitimate and valued within the school organization. This interpretation is consistent with research demonstrating that principal leadership can strengthen teacher efficacy, trust, professional learning, and commitment, which are important psychological conditions for active professional participation (Karacabey et al., 2022; Hammad et al., 2024). The finding is also compatible with research on leadership and power motives showing that the expression of power is not inherently dysfunctional; power motivation can be enacted through leadership, guidance, and prosocial influence when organizational conditions support constructive forms of influence (Schattke & Marion-Jetten, 2022; Friederichs et al., 2023). However, the relatively stronger effect of employee engagement on power motivation suggests that principals cannot simply "create" power motivation through supervision; rather, leadership appears to provide an enabling context in which an existing psychological willingness to contribute can be activated. The theoretical contribution therefore lies in repositioning instructional leadership as a contextual antecedent of teachers' motivational agency rather than viewing leadership exclusively as a direct determinant of performance.

Teachers' power motivation itself demonstrated a positive association with teacher work productivity ($\beta = 0.430$), indicating that the desire to influence, guide, lead, and obtain social influence may have functional consequences for professional performance. From the perspective of McClelland's acquired-needs theory, the need for power reflects an enduring motivational orientation toward influencing people, controlling resources, and producing effects within a social environment; in organizational settings, however, its consequences depend heavily on how the motive is expressed. Recent research supports this distinction by demonstrating that power motivation can take dominant or prosocial forms, with prosocial power being associated with helping, guiding, empowering, and constructive leadership behavior (Friederichs et al., 2023). Similarly, Schattke and Marion-Jetten (2022) showed that power motives are multidimensional: dominance is more strongly associated with counterproductive behavior, whereas leadership-oriented power is more closely associated with organizational citizenship behavior. The present finding should therefore not be interpreted as evidence that a generalized desire for control automatically improves productivity, because the questionnaire used in this study emphasizes influence, group control, leadership roles, and social influence without explicitly separating prosocial from dominant power orientation. Nevertheless, the high productivity associated with power motivation and the strong scores on constructive leadership-related indicators suggest that, in this educational context, power motivation may primarily operate as a form of professional influence that encourages initiative and responsibility.

The mediation findings provide the strongest evidence for the proposed integrated mechanism because teachers' power motivation transmitted part of the effects of both instructional

leadership and employee engagement to work productivity. The indirect effect of instructional leadership through power motivation was 0.108, whereas the indirect effect of employee engagement through power motivation was 0.235, indicating that both organizational conditions and psychological involvement can be translated into productivity through teachers' motivation to exercise influence. Because the corresponding direct relationships remained positive, power motivation should be understood as a partial rather than exclusive mechanism, suggesting that leadership and engagement affect productivity through multiple pathways. This pattern is consistent with recent educational research showing that leadership effects are frequently mediated by psychological resources rather than operating exclusively through direct behavioral control; for example, instructional leadership has been shown to influence teacher performance through self-efficacy, while leadership and collective efficacy are interconnected in explaining teacher-related outcomes (Elfira et al., 2024; Karakose et al., 2024). The present study extends these mediation models by introducing power motivation as a distinct motivational pathway, thereby broadening the psychological mechanisms traditionally used to explain how school leadership affects teacher productivity. Conceptually, the model suggests a sequence in which organizational support and psychological involvement create conditions for teachers to develop a stronger orientation toward influence, which subsequently encourages productive action and represents a novel integration of leadership, engagement, and motivation perspectives.

The mediation pattern also reveals an important asymmetry between the two organizational antecedents: employee engagement has a considerably stronger indirect effect through power motivation than instructional leadership. This suggests that the internalization of work may be more influential than external leadership in activating teachers' motivation to exercise influence, although leadership remains an important contextual resource. Such a pattern is consistent with the contemporary JD-R literature, which increasingly recognizes employees as proactive agents capable of generating resources and shaping their work environments through engagement and job-crafting behavior (Uslukaya & Zincirli, 2025; Huang et al., 2025). At the same time, the finding should be interpreted cautiously because the study employs a cross-sectional ex post facto design and self-reported measures, meaning that the estimated pathways cannot establish temporal causality. It is also possible that productive teachers perceive their principals more positively and report stronger engagement and power motivation because successful professional experiences reinforce these perceptions, creating a plausible reciprocal relationship. This alternative interpretation is particularly important given longitudinal evidence showing reciprocal relationships between job resources and teacher engagement rather than a simple one-directional process (Uslukaya & Zincirli, 2025). Accordingly, the contribution of the present study is not to claim a definitive causal sequence, but to provide empirical support for an integrated explanatory model that should be further examined through longitudinal, multi-source, and possibly multilevel research.

Taken together, the findings position teacher work productivity as a multidimensional organizational outcome produced through the interaction of leadership resources, psychological engagement, and motivational agency. The model's ability to explain 60.7% of the variance in productivity and 52.1% of the variance in power motivation indicates substantial explanatory value, while the unexplained variance simultaneously demonstrates that productivity remains dependent on additional factors not incorporated into the present framework. Theoretically, the study therefore extends instructional leadership and JD-R perspectives by incorporating power motivation as a motivational bridge between organizational conditions and productive professional behavior, while also refining the application of McClelland's theory to educational work by emphasizing influence-oriented rather than merely authority-oriented motivation. Practically, the findings imply that school improvement initiatives should not stop at strengthening principals' instructional supervision or increasing teacher engagement; they should deliberately create legitimate opportunities for teachers to lead professional learning, mentor colleagues, participate in decision-making, coordinate instructional initiatives, and contribute to school development. Such practices are consistent with contemporary scholarship emphasizing teacher leadership as an important pathway for sustainable school improvement (Oppi et al., 2023) and with evidence that supportive organizational resources can strengthen teachers' engagement and capacity to respond proactively to professional demands (Sheridan et al., 2025). The broader implication is that sustainable teacher productivity is more likely to emerge when schools develop an organizational culture in which leadership is shared, engagement

is sustained, and teachers' motivation to influence others is directed toward collective educational goals rather than personal dominance.

CONCLUSION

This study concludes that teacher work productivity in public junior secondary schools in Padang is shaped by the combined influence of organizational leadership and teachers' psychological conditions. Principal instructional leadership was found to contribute positively to teacher work productivity and teachers' power motivation, indicating that clear instructional direction, professional support, academic supervision, and a conducive learning climate can create conditions that encourage teachers to perform their responsibilities more effectively. Employee engagement demonstrated a stronger contribution, both to teacher work productivity and to power motivation, suggesting that teachers who experience greater enthusiasm, dedication, involvement, and commitment to their work are more likely to take initiative and assume influential roles within their schools. Teachers' power motivation also showed a positive relationship with work productivity and functioned as an intervening mechanism linking both instructional leadership and employee engagement to teacher productivity. The indirect effects indicate that productivity is not generated solely through external leadership practices or teachers' engagement with their work, but also through teachers' internal motivation to influence, lead, and contribute constructively to school development. The findings therefore extend the understanding of teacher productivity by demonstrating the importance of integrating organizational and psychological perspectives within a single explanatory model. From a practical perspective, school principals should strengthen instructional leadership while simultaneously creating opportunities for teachers to participate in decision-making, lead educational activities, collaborate with colleagues, and exercise constructive influence. Such an integrated approach can support not only the quantity and efficiency of teachers' work but also the quality, innovation, and sustainability of instructional improvement. Overall, strengthening instructional leadership, employee engagement, and constructive power motivation represents an important strategy for developing more productive teachers and supporting continuous improvement in school quality.

AUTHOR CONTRIBUTIONS STATEMENT

Atria Liyustari contributed to the conceptualization of the study, research design, data collection, data analysis, interpretation of findings, and preparation of the original manuscript. Anisah contributed to the development of the research framework, methodological design, interpretation of the findings, and critical revision of the manuscript. Ahmad Sabandi contributed to the development of the theoretical framework, methodological review, interpretation of the results, and critical evaluation of the manuscript. Novriyanti Achyar contributed to the literature review, interpretation of the findings, manuscript review, and refinement of the final manuscript. All authors contributed to the revision of the manuscript, approved the final version, and agreed to be accountable for all aspects of the work.

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