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The Influence of Transformational Leadership and Teacher Professional Competence on Organizational Citizenship Behavior Through Job Satisfaction of Public Middle School Teachers in Padang Pariaman Regency

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Abstract
Organizational citizenship behavior (OCB) is essential to school effectiveness because it reflects teachers' voluntary contributions beyond formal role requirements. This study examines a conceptual model linking principals' transformational leadership and teachers' professional competence with OCB through job satisfaction among public junior high school teachers in Padang Pariaman Regency, Indonesia. A quantitative correlational design was employed, with a target sample of 314 teachers selected through proportional and cluster-based random sampling. Data were collected using five-point Likert instruments representing transformational leadership, professional competence, job satisfaction, and OCB. Before structural testing, the instruments were piloted with 30 teachers and evaluated using Pearson item–total correlations and Cronbach's alpha. The reported results show strong measurement readiness: 35 of 36 OCB items, all 39 transformational-leadership items, 18 of 26 professional-competence items, and 34 of 35 job-satisfaction items met the validity criterion ($r > 0.361$). Internal-consistency coefficients were very high for OCB ($\alpha = 0.955$), transformational leadership ($\alpha = 0.989$), professional competence ($\alpha = 0.907$), and job satisfaction ($\alpha = 0.968$). These findings establish a sufficiently valid and internally consistent measurement foundation for subsequent path analysis of the proposed direct and mediated relationships. Practically, the validated instruments can support evidence-based diagnosis of leadership, competence, satisfaction, and extra-role behavior in secondary-school management, although structural-effect claims require the full path-analysis results to be reported.

Keywords: Job Satisfaction; Organizational Citizenship Behavior; Professional Competence; Transformational Leadership

INTRODUCTION

Schools increasingly depend on teachers not only to perform prescribed instructional and administrative duties but also to contribute voluntarily to collaboration, innovation, collegial support, and school improvement. These discretionary contributions are commonly conceptualized as organizational citizenship behavior (OCB), which in educational settings includes helping colleagues, conscientiously supporting school procedures, maintaining constructive interpersonal relations, and participating in activities that extend beyond minimum contractual obligations. Contemporary studies show that teacher OCB is associated with school effectiveness, collective efficacy, implementation capacity, and the ability of schools to respond to changing demands, while systematic evidence also identifies leadership as one of the most frequently examined organizational antecedents of teachers' extra-role behavior (Bogler & Somech, 2023; Erdogan et al., 2022; Ahmed, 2025; Sun et al., 2024). Accordingly, OCB is not merely an individual disposition but a context-sensitive work behavior that can be strengthened

or inhibited by school-level conditions, professional resources, and the quality of social exchange within the organization (Choong & Ng, 2024; Hsieh et al., 2022; Schwabsky & Somech, 2025).

Among the organizational conditions associated with OCB, transformational leadership is particularly salient because it emphasizes idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. In schools, principals who articulate a meaningful vision, model professional values, encourage reflective problem solving, and attend to teachers' developmental needs can create psychological and relational conditions that support discretionary contribution. Empirical studies across educational and other organizational contexts consistently report positive relationships between transformational leadership and OCB, although the strength and mechanisms of these relationships vary according to mediators such as job satisfaction, organizational commitment, work engagement, psychological contract fulfillment, communication, and quality of work life (Chen et al., 2024; Hermanto et al., 2024; Liu et al., 2025; Nurjanah et al., 2020; Zhang et al., 2020). This body of evidence suggests that transformational leadership should be examined not only as a direct predictor of teacher OCB but also as an antecedent that operates through teachers' work attitudes.

Teacher professional competence represents a second important resource because extra-role contribution is more sustainable when teachers possess the knowledge, pedagogical judgment, technological capacity, and professional confidence required to participate meaningfully in school improvement. Research on teacher competence indicates that professional knowledge and continuous development are linked with stronger professional practice, self-efficacy, work well-being, and job satisfaction, while earlier evidence has also connected teacher competences with OCB through empowerment processes (Kasekende et al., 2016; Meyer et al., 2023; Shi et al., 2025; Siri et al., 2020; Yoon & Kim, 2022). In the Indonesian context, professional development remains a strategic concern because competence-building initiatives are expected to improve instructional quality but can be weakened when training is insufficiently relevant, poorly followed up, or disconnected from teachers' actual needs (Revina et al., 2023; Nawas et al., 2025; Sundaya et al., 2025). Professional competence therefore warrants examination as both a performance-related capability and a potential organizational resource that may enable teachers to contribute beyond formally assigned tasks.

Job satisfaction is theoretically positioned as a plausible mediating mechanism between organizational or professional resources and OCB. It reflects teachers' evaluative responses to their work, including the work itself, supervision, collegial relationships, professional growth opportunities, rewards, and the broader school environment. Recent meta-analytic and cross-national research indicates that teacher job satisfaction is meaningfully associated with occupational well-being, retention-related outcomes, working conditions, professional development, and quality of professional functioning (Admiraal & Røberg, 2023; Christensen & Jerrim, 2025; Eryilmaz et al., 2025; Wartenberg et al., 2023). More specifically, studies of OCB show that job satisfaction may transmit the influence of leadership and organizational resources into voluntary pro-organizational behavior, although some studies report full mediation whereas others identify partial mediation or direct effects that remain significant (Birani-Nasraldin et al., 2024; Idris et al., 2021; Naimah et al., 2022; Phetsombat & Na-Nan, 2023). This inconsistency makes mediation testing especially relevant in school settings.

The present study was motivated by conditions observed in public junior high schools in Padang Pariaman Regency, where teacher participation in subject-teacher forums, peer support for instructional-material development, and voluntary involvement in school-development activities appeared uneven. Such observations should not be interpreted as evidence of causal relationships; rather, they provide a contextual rationale for examining the organizational and professional factors that may be associated with OCB. Prior studies demonstrate that OCB can be shaped by leadership, support, trust, self-efficacy, engagement, organizational justice, school

climate, and professional resources (Gnanarajan & Kengatharan, 2022; Hsieh et al., 2022; Hsieh et al., 2024; Sun et al., 2024). The practical challenge is therefore to identify a parsimonious model that is theoretically coherent and locally relevant, while maintaining adequate measurement quality before testing structural relationships.

Previous research has established several parts of the proposed model, but the evidence remains fragmented. Transformational leadership has repeatedly been linked with teacher OCB and job satisfaction (Chen et al., 2024; Liu et al., 2025; Maheshwari, 2022); teacher competence has been related to professional functioning, empowerment, and satisfaction (Kasekende et al., 2016; Shi et al., 2025; Yoon & Kim, 2022); and job satisfaction has been identified as a proximal attitudinal mechanism associated with citizenship behavior (Birani-Nasraldin et al., 2024; Idris et al., 2021; Naimah et al., 2022). Nevertheless, fewer studies integrate principals' transformational leadership and teachers' professional competence simultaneously as exogenous factors while positioning job satisfaction as a mediator of teacher OCB in Indonesian public junior high schools. Recent reviews further indicate that transformational leadership dominates the leadership–OCB literature, whereas the integration of teacher capability variables and mediating work attitudes remains comparatively less developed (Ahmed, 2025; Yang et al., 2023; Guiling et al., 2022).

To reinforce the positioning of the study, the original manuscript included an overlay visualization of keywords using VOSviewer (Figure 1). The map shows dense linkages around organizational citizenship and transformational leadership, with related themes including motivation, workplace behavior, performance, emotional intelligence, and organizational citizenship. The visualization is appropriately interpreted as a descriptive map of the literature rather than as independent evidence of causal relationships. Its value lies in showing that transformational leadership and OCB are established research clusters while teacher professional competence and job satisfaction are less visibly integrated within the same thematic network, supporting the need for a combined model rather than a repetition of a single direct-effect relationship (Guiling et al., 2022; Yang et al., 2023; Ahmed, 2025).

The research gap therefore concerns the limited empirical integration of leadership and teacher-capability factors within a mediated model of OCB in the specific context of Indonesian public junior high schools. The novelty of the proposed model lies in simultaneously positioning transformational leadership as an organizational resource and professional competence as an individual professional resource, with job satisfaction as the attitudinal pathway through which both may relate to OCB. This integration extends studies that focus primarily on leadership alone, leadership with commitment or engagement, or competence without a satisfaction-based mediation pathway (Hermanto et al., 2024; Hsieh et al., 2022; Liu et al., 2025). Accordingly, this study aims to examine the direct relationships of transformational leadership and teacher professional competence with job satisfaction and OCB, and to test whether job satisfaction mediates the relationships between the two antecedent variables and teachers' OCB. Because the results currently reported in the manuscript concern instrument validation, the first empirical requirement is to establish that all four constructs are measured with acceptable validity and internal consistency before the hypothesized structural relationships are interpreted.

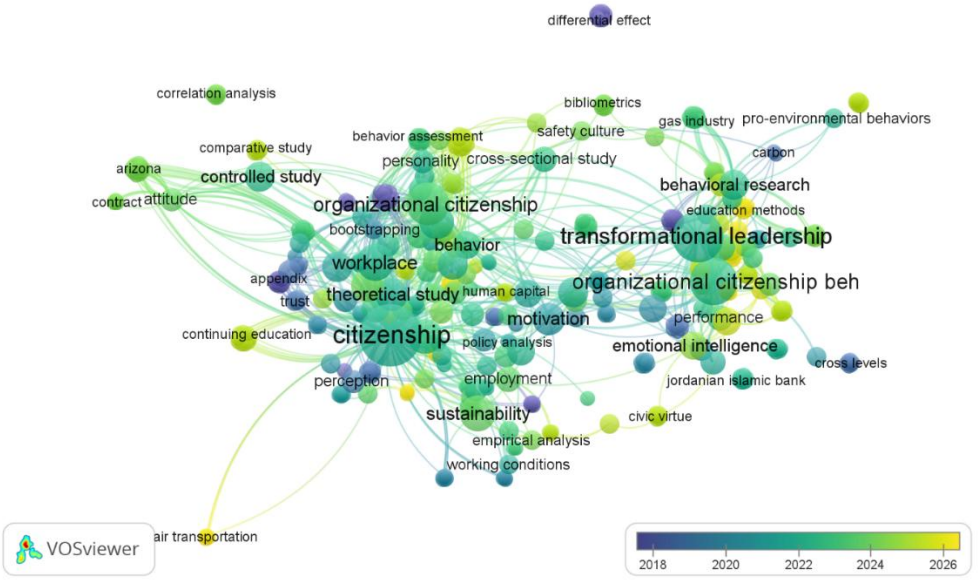


Figure 1. Bibliometric Analysis of Research Keyword Overlay

Figure 1 indicates that organizational citizenship and transformational leadership occupy prominent and interconnected positions in the mapped literature, while adjacent clusters emphasize motivation, performance, workplace behavior, emotional intelligence, and other organizational factors. Consistent with bibliometric studies of OCB, this pattern confirms that OCB is a mature but still expanding field in which leadership remains a major explanatory perspective (Guiling et al., 2022; Yang et al., 2023; Ahmed, 2025).

The visual concentration of leadership-related terms should not be conflated with the relative empirical importance of those variables in schools. Keyword proximity represents co-occurrence within the retrieved publications, not the size or significance of relationships between teachers' work attitudes and behaviors. Accordingly, the map offers a rationale for specifying the present four-construct model, but it cannot replace construct-level measurement or hypothesis testing. The more precise contribution of Figure 1 is to make visible the literature's thematic organization and to justify examining teacher competence and job satisfaction alongside leadership rather than treating either as a peripheral consideration.

At the same time, the map does not show teacher professional competence and job satisfaction as an equally dominant integrated pathway to teacher OCB. This absence should be treated cautiously because bibliometric visibility depends on the search strategy, database, period, and keyword harmonization; nevertheless, it is consistent with empirical literature showing that competence, satisfaction, engagement, commitment, and support are often examined in separate models rather than as one integrated school-management framework (Hermanto et al., 2024; Hsieh et al., 2022; Kasekende et al., 2016).

The research gap thus lies not in claiming that leadership–OCB relationships are unexplored, but in testing a context-specific model that combines an organizational factor (transformational leadership), an individual professional resource (teacher professional competence), and an attitudinal mediator (job satisfaction) to explain teacher OCB in public junior high schools in Padang Pariaman Regency. The study therefore seeks to test the direct and indirect relationships specified in Figure 2 after first establishing the adequacy of the measurement instruments used for all four constructs.

METHODS

This study employed a quantitative, cross-sectional correlational design to examine a proposed path model involving principals' transformational leadership (X1), teacher professional

competence (X2), job satisfaction (Z), and organizational citizenship behavior (Y). The design was appropriate for estimating patterns of association and indirect effects among measured variables, but it does not by itself establish temporal or causal ordering; consequently, the term influence is interpreted statistically within the specified path model rather than as proof of causation. The conceptual model in Figure 2 specifies direct paths from transformational leadership and professional competence to job satisfaction and OCB, together with an indirect pathway through job satisfaction. This specification is consistent with contemporary studies that use structural or path-based approaches to examine leadership, work attitudes, and citizenship behavior (Hermanto et al., 2024; Hsieh et al., 2022; Liu et al., 2025).

The proposed analytical framework distinguishes four constructs according to their roles in the model. Transformational leadership is treated as a school-management characteristic as perceived by teachers, while professional competence represents teachers' assessments of their own instructional and professional capabilities. Job satisfaction is specified as the intervening work attitude, and OCB is the outcome describing voluntary organizational contributions. This separation is analytically important: professional competence denotes what teachers consider themselves capable of doing, whereas OCB concerns discretionary behavior extending beyond required tasks. Treating the constructs as conceptually distinct helps avoid interpreting favorable perceptions of leadership or competence as direct evidence that teachers actually engage in extra-role activities.

The cross-sectional design is particularly suitable for an initial examination of covariation among these constructs because all measures can be collected within a common survey framework. Nevertheless, teachers' reported satisfaction and OCB may reflect reciprocal processes: teachers who frequently assist colleagues may also become more satisfied with their work, and satisfied teachers may perceive school leadership more favorably. The proposed arrow directions are therefore theoretical assumptions to be evaluated statistically, not temporal sequences demonstrated by the survey. This distinction is maintained when describing the planned direct and indirect pathways and when specifying what can reasonably be concluded from pilot-scale findings.

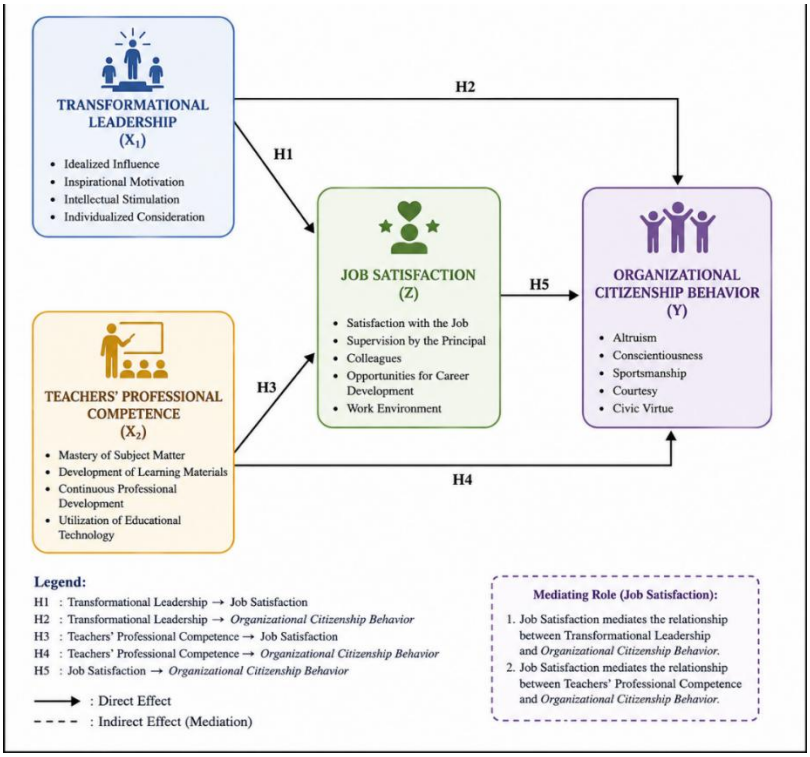


Figure 2. Research Conceptual

Figure 2 identifies five substantive direct pathways: leadership to job satisfaction, leadership to OCB, professional competence to job satisfaction, professional competence to OCB, and job satisfaction to OCB. It also depicts two proposed indirect pathways through job satisfaction. These relationships should be considered hypotheses rather than observed findings. In particular, the mediator occupies a theoretical position between the two antecedents and the behavioral outcome; showing arrows in the diagram does not demonstrate that the indirect effects exist. Testing the conceptual model requires coefficients, uncertainty estimates, and a defensible measurement structure from the main sample. The pilot findings reported in this article address only the preliminary instrument requirements for that later test.

The target population comprised teachers employed in public junior high schools in Padang Pariaman Regency during the 2025/2026 academic year, including both civil-service (ASN) and non-ASN teachers. The manuscript specifies a planned/main-study sample of 314 teachers selected using proportional and cluster-based random sampling so that schools and teacher groups were represented in accordance with their population proportions. Data were collected through closed-ended questionnaires using a five-point Likert response format ranging from 1 (strongly disagree) to 5 (strongly agree). Transformational leadership was operationalized through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration; professional competence through mastery of subject matter, development of learning materials, continuous professional development, and the use of educational technology; job satisfaction through satisfaction with the work itself, supervision, colleagues, career-development opportunities, and the work environment; and OCB through altruism, conscientiousness, sportsmanship, courtesy, and civic virtue. These domains are consistent with established leadership and citizenship-behavior frameworks and with contemporary teacher research on competence, satisfaction, and extra-role behavior (Bass & Avolio, 1994; Kasekende et al., 2016; Phetsombat & Na-Nan, 2023).

Proportional allocation and school-based clustering address different sampling considerations. Proportional allocation is intended to prevent schools or teacher categories with larger populations from being underrepresented, whereas cluster-based selection acknowledges that teachers belong to identifiable school units. The stated sample of 314 is a planned main-study target and should not be confused with the 30 teachers participating in the instrument pilot. Because the manuscript does not provide a completed school-by-school allocation table or the realized main-sample response profile, no numerical representativeness or response-rate claims are made here. Such information should accompany the eventual structural analysis to allow readers to assess coverage across schools and teacher groups.

The five-point response scale provides a consistent format across the four questionnaires, but shared response options do not make the measured constructs interchangeable. Responses to leadership statements concern perceptions of principal conduct, responses to professional-competence statements concern perceived capability, and responses to satisfaction and OCB items capture distinct evaluative and behavioral domains. In interpreting composite scores, the direction of all item wordings must be aligned so that higher values consistently represent higher levels of the intended construct. The original questionnaire and scoring key should therefore be retained as an audit trail, particularly for any reverse-worded items or statements modified following the pilot evaluation.

Before the main structural analysis, the questionnaire was piloted with 30 teachers whose characteristics were comparable to those of the target respondents. Item validity was assessed using Pearson item–total correlations, with $r = 0.361$ used as the critical value at the 5% level for the pilot sample. Items with coefficients below the criterion were removed before subsequent use. Internal consistency was assessed using Cronbach's alpha; coefficients of at least 0.70 were treated as acceptable, while very high alpha values were interpreted cautiously as evidence of

strong item interrelatedness rather than proof of unidimensionality. This distinction is important because coefficient alpha is sensitive to scale length and does not independently establish construct validity (Zakariya, 2022). The manuscript further specifies screening for normality, linearity, multicollinearity, and heteroscedasticity before path analysis, with statistical significance evaluated at $\alpha = 0.05$ and indirect effects intended to be assessed using a mediation significance procedure. Data collection followed voluntary-participation, confidentiality, and informed-consent principles. IBM SPSS Statistics was used for data preparation, descriptive analysis, instrument testing, and the planned path analysis. Because the results available in the submitted manuscript report only the pilot validity and reliability stage, this revision restricts empirical claims to measurement quality and does not infer unreported path coefficients or mediation effects.

The pilot evaluation followed a two-part decision sequence. First, each statement's Pearson correlation with its corresponding total score was compared with the stated critical value of 0.361 for the 30-person pilot. A coefficient exceeding the cutoff was treated as evidence that the item aligned with the aggregate scale score in that sample; a coefficient below the cutoff identified a statement for removal or substantive reconsideration. Second, scale-level internal consistency was inspected using Cronbach's alpha. These checks answer different questions: an item-total correlation concerns the performance of an individual statement, whereas alpha summarizes covariance across the set of statements. Neither procedure alone establishes that all theoretical dimensions have been measured comprehensively.

Item deletion also requires a content-based check, not simply a mechanical comparison with a statistical threshold. For instance, if several omitted competence statements address the same professional domain, the resulting questionnaire could become narrower even if its remaining items correlate strongly with the total score. A defensible final instrument should therefore be examined against the original construct blueprint, with attention to whether subject-matter mastery, material development, professional learning, and educational-technology use remain adequately represented. Once items have been deleted, reliability should be recalculated for the shortened forms in an independent or larger sample; the alpha coefficients reported for the original item counts cannot automatically be transferred to the final forms.

The planned path analysis would require additional reporting beyond the pilot-stage diagnostics. At minimum, the main-sample analysis should provide descriptive statistics, intercorrelations, relevant regression assumptions, coefficients for each hypothesized direct path, corresponding standard errors and significance levels, and indirect-effect estimates with confidence intervals. Because participants are associated with schools, the possibility of nonindependent responses should also be considered when selecting an estimation or variance-adjustment strategy. A significant direct association would not itself establish mediation; the mediated relationship must be evaluated through the indirect product and its uncertainty. These proposed reporting steps describe requirements for an adequate subsequent analysis and are not presented as analyses already completed.

The use of a single self-report survey also has consequences for data quality. Respondents are asked to evaluate their principals, their own competence, their satisfaction, and their voluntary conduct, making the measures susceptible to shared response tendencies and socially desirable answers. Anonymity, confidential handling of responses, and an explanation of voluntary participation are appropriate procedural safeguards, but they do not remove common-method variance. The later main-sample report should therefore describe the administration process and consider whether correlations remain plausible when construct distinctiveness is assessed. At the pilot stage, however, the stated purpose is more limited: determining which questionnaire statements exhibit acceptable item-total relationships and documenting the

internal consistency of the reported item sets. The available data cannot establish the practical magnitude of leadership effects or the direction of a satisfaction-mediated pathway.

RESULT AND DISCUSSION

Research Results

The reported empirical results concern the pilot-stage evaluation of the four questionnaires before the proposed structural model is tested. Thirty teachers with characteristics similar to those of the target population participated in the pilot. The analysis focused on item validity using Pearson item–total correlations and internal consistency using Cronbach's alpha. The original numerical findings are retained below and are integrated with Figures 3–6 and Tables 1–2 to clarify how the final item sets were determined.

Instrument Validity

Across the four constructs, each item was compared with the critical correlation value of r = 0.361. Items exceeding the criterion were retained, whereas items below the criterion were excluded from the instrument used in the next stage. Table 1 summarizes the number of tested, valid, and invalid items, while Figures 3–6 display the item-level pattern for each construct. In total, the strongest item retention was observed for transformational leadership, whereas teacher professional competence required the largest number of item deletions.

The validity results should be interpreted as evidence of item discrimination within the pilot sample rather than as a complete demonstration of construct validity. Nevertheless, the item-level screening provides an essential preliminary check before estimating relationships among the latent or composite variables because poorly functioning items can attenuate or distort subsequent structural estimates.

The 0.361 decision boundary is a practical screening criterion for this particular pilot size, rather than an inherent property of a valid questionnaire item. An item only slightly above the threshold may fail to meet it in another sample, while an item just below it may improve after clearer wording or broader respondent coverage. For that reason, the significance cutoff should be considered together with effect magnitude, content relevance, and the range of responses. The published summary does not indicate whether item-total correlations were corrected by excluding the target item from the total score; this distinction matters because including the item in its own total can inflate the apparent association. The final measurement report should make the computation explicit and provide the retained and rejected item coefficients for independent scrutiny.

The four instruments also differ substantially in length, from 26 to 39 items before screening and from 18 to 39 afterward. This matters for subsequent model estimation because scale length can affect score variability, internal-consistency statistics, and the proportion of theoretical content sampled. Applying a common correlation cutoff is a consistent initial rule, but it is not evidence that the shortened competence scale is measured with the same precision or breadth as the longer leadership scale. The present figures and tables should therefore be read as descriptive documentation of questionnaire refinement. They provide no evidence about the size of teacher-level relationships across schools, and the proposed associations must be tested separately using the main-sample data and the final item sets.

Organizational Citizenship Behavior (OCB) (Y)

The OCB instrument initially consisted of 36 statements representing altruism, conscientiousness, sportsmanship, courtesy, and civic virtue. As shown in Figure 3, 35 items produced calculated correlations above r = 0.361 and were retained, whereas one item yielded r = 0.288 and was removed. Among the retained items, coefficients ranged from 0.377 to 0.799. Item 31 produced the highest coefficient (r = 0.799), while item 35 produced the lowest coefficient that still met the criterion (r = 0.377). Thus, 35 OCB items were considered suitable for subsequent data collection.

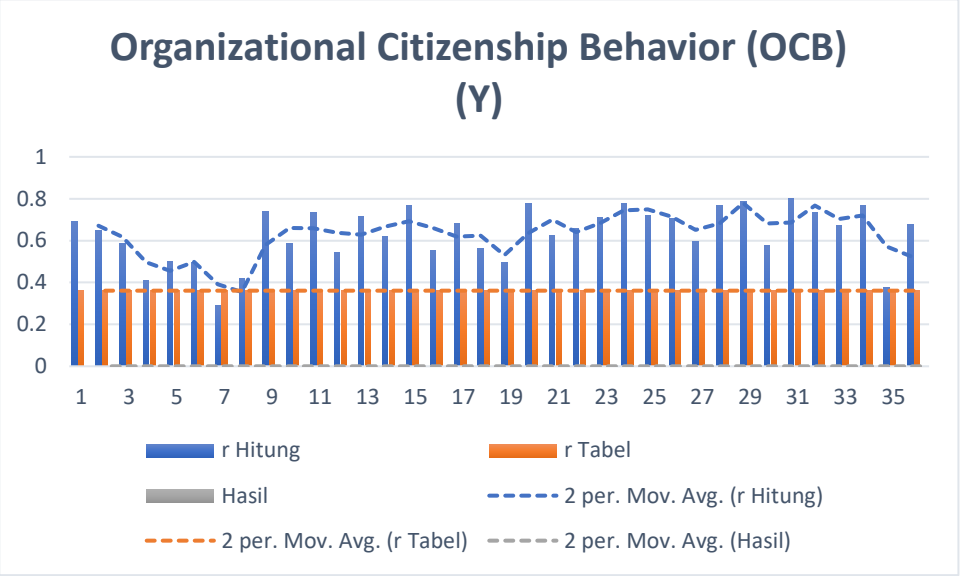


Figure 3. Comparison of the calculated r and r table values for the Organizational Citizenship Behaviour (OCB) variable.

Figure 3 visually confirms that almost all OCB items exceeded the reference line corresponding to r = 0.361. The single item below the criterion was eliminated, preserving the substantive breadth of the five OCB dimensions while reducing the risk that a weak item would contribute measurement noise to the composite score.

The retained OCB statements represent 97.2% of the original 36-item pool, indicating that the initial questionnaire underwent only limited numerical pruning. Nevertheless, the item with r = 0.288 did not meet the pilot criterion, and retaining it solely to preserve questionnaire length would weaken the consistency of the screening rule. The fact that item 35 was retained with r = 0.377 also deserves attention: its coefficient was above the cutoff by only 0.016, so it may be sensitive to changes in the composition of the respondent group. Such threshold-adjacent items are best reviewed for wording clarity and substantive relevance rather than assumed to be permanently satisfactory.

Substantively, citizenship behavior spans helping colleagues, adherence to professional norms, constructive responses to inconvenience, interpersonal consideration, and participation in collective school affairs. A strong aggregate item-total relationship cannot establish that these five facets are equally represented or equally stable. The figure should therefore be read as a statement-level screening display, not a comparison of the effectiveness or prevalence of different citizenship behaviors. Further item-level and dimensional evidence from the 314-teacher sample would be needed to establish the measurement properties of the retained OCB scale more conclusively.

Transformational Leadership (X1)

The transformational-leadership questionnaire comprised 39 statements reflecting idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Figure 4 shows that all 39 calculated item correlations exceeded r = 0.361. Consequently, every item was retained. The 100% retention rate indicates strong item–total alignment in the pilot sample and suggests that the instrument consistently captured the intended leadership domain without requiring item deletion at this screening stage.

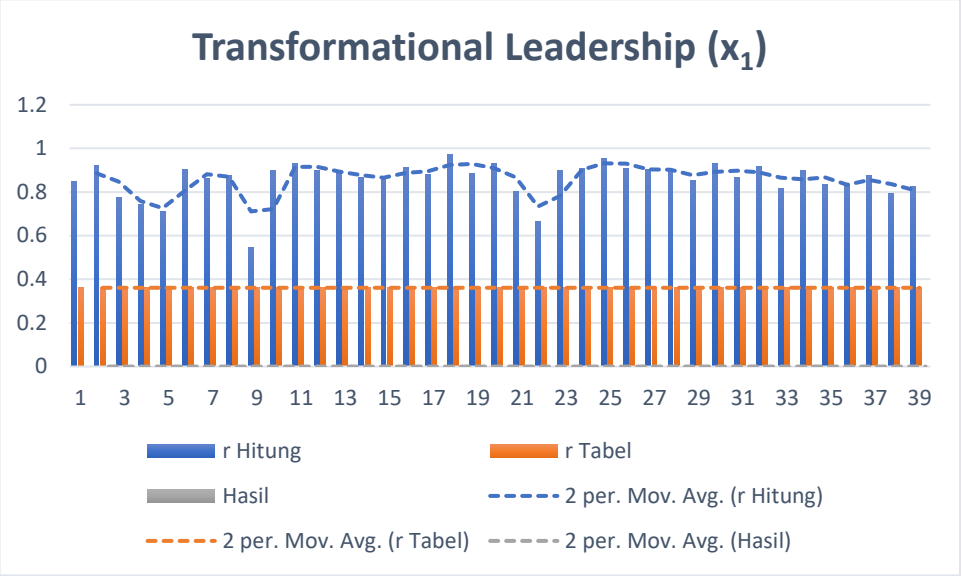


Figure 4. Comparison of the calculated r and r table values for the transformational leadership variable.

The pattern in Figure 4 is notable because no item fell below the validity criterion. Although this result supports the suitability of the 39-item set for the next stage, it should not be interpreted as sufficient evidence of factor structure; confirmation of dimensionality would require factor-analytic evidence in a larger sample.

The complete retention of the 39 leadership items (100%) contrasts with the item losses observed for professional competence. On the narrow pilot criterion, this means that all statements covaried adequately with their scale score, not that every statement measures a unique aspect of transformational leadership. The instrument includes idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration; because these facets may be interrelated, a single total score can obscure differences in their relative representation. The figure consequently supports preliminary item suitability but does not show whether a four-factor or higher-order leadership structure fits the data.

An additional consideration is the exceptionally high alpha of 0.989 shown later in Table 2. Read alongside the absence of invalid items, this suggests a very homogeneous response pattern but also raises the possibility of overlapping or repetitious statements. This possibility cannot be resolved from a plot of item-total correlations alone. In later analysis, researchers should inspect item wording, inter-item associations, and factorial evidence before concluding that a lengthy scale adds meaningful measurement precision. Such checks are especially important because an overredundant leadership scale may inflate apparent internal consistency without corresponding gains in conceptual coverage.

Teacher Professional Competence (X2)

The teacher professional-competence instrument initially contained 26 statements covering mastery of subject matter, development of teaching materials, continuous professional development, and the use of educational technology. Figure 5 shows greater variability than the other instruments: 18 items had calculated correlations above r = 0.361 and were retained, whereas eight items did not reach the criterion and were removed. The resulting 18-item set therefore represents the empirically stronger indicators of professional competence in the pilot sample.

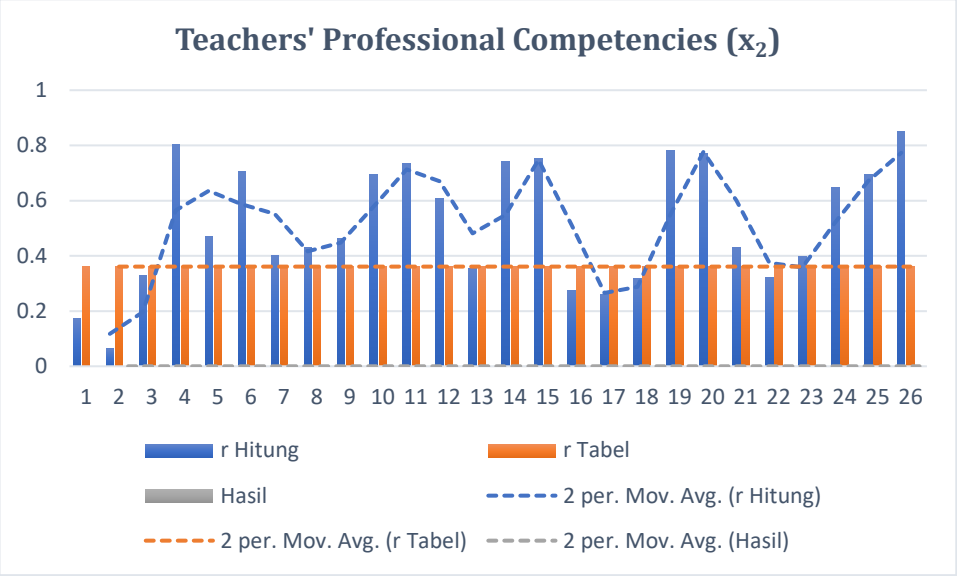


Figure 5. Comparison of the calculated r and r table values for the teacher professional competency variable

The elimination of eight professional-competence items is the most substantial refinement among the four instruments. This finding does not imply that the underlying competence dimensions are unimportant; rather, it indicates that some statements did not function adequately in their original wording or contextualization. Removing those items improves item–total coherence, but future validation should examine whether the retained items continue to cover each intended competence domain adequately.

Only 69.2% of the initial professional-competence items met the pilot criterion, compared with retention rates exceeding 97% for OCB and job satisfaction and 100% for transformational leadership. The eight omitted items account for 80% of all ten items excluded across the four questionnaires. This concentration of deletions makes professional competence the central measurement concern in the study. The figure indicates a heterogeneous item-correlation profile, but it does not reveal whether weaker statements share a common wording problem, concern a poorly represented competence dimension, or reflect the limited precision of a 30-person pilot. These alternatives require item-content inspection and subsequent validation rather than speculative attribution to teacher characteristics.

The consequences of deletion are both statistical and substantive. Removing low-correlation statements can produce a more internally coherent score, but a shorter instrument may underrepresent technology integration, curriculum-related material design, or continuing professional learning if items from those domains were disproportionately excluded. The manuscript does not identify the dimensions to which each rejected item belongs, so the breadth of the 18-item form cannot yet be verified from the published summary. Before the principal model is tested, the authors should document the content distribution of retained items and examine whether they still reflect the definition of teacher professional competence articulated in the study.

Job Satisfaction (Z)

The job-satisfaction questionnaire comprised 35 statements addressing satisfaction with the work itself, supervision, colleagues, career-development opportunities, and work-environment conditions. Figure 6 shows that 34 items exceeded the critical value of r = 0.361 and were retained, while one item fell below the criterion and was excluded. The high retention rate indicates that the instrument broadly represented the intended facets of teacher job satisfaction in the pilot sample.

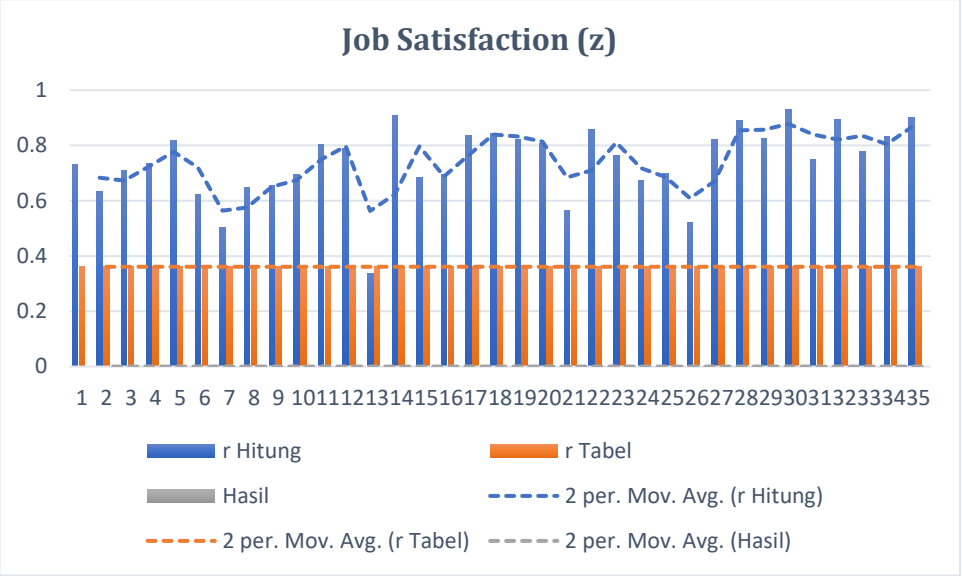


Figure 6. Comparison of the calculated r and r table values for the job satisfaction variable

Figure 6 indicates that the job-satisfaction scale retained 34 of its 35 items, equivalent to 97.1% of the initial pool. This high retention rate is encouraging for a construct designated as the mediator, because substantial item loss might otherwise have narrowed the meaning of satisfaction before any indirect pathway was evaluated. However, the figure presents item-total alignment rather than the observed level of satisfaction among teachers. Even a well-functioning questionnaire cannot show, without descriptive statistics, whether respondents are generally satisfied or dissatisfied with their work, supervision, colleagues, professional opportunities, or school environment.

The mediator's measurement deserves particular scrutiny because inaccuracies in job-satisfaction scores can affect both paths entering and leaving the mediator in a subsequent model. The alpha value of 0.968 suggests strong internal consistency for the reported item set, yet it is not evidence that satisfaction is empirically distinct from favorable perceptions of leadership. Additional analyses should examine the discriminant validity of these constructs and whether the retained questions adequately cover the specified satisfaction facets. Until these checks and the principal structural estimates are available, the visual pattern should be interpreted as preliminary measurement evidence only.

As summarized in Table 1, the validity-screening stage retained 35 of 36 OCB items, all 39 transformational-leadership items, 18 of 26 professional-competence items, and 34 of 35 job-satisfaction items. The table therefore provides a consolidated view of the refinement process: only one OCB item and one job-satisfaction item were removed, no transformational-leadership items were removed, and eight professional-competence items were removed.

Table1. Summary of Instrument Validity Test Results

No.	Variables	Number of Items	Item Valid	Invalid Item	Results
1	Organizational Citizenship Behaviour (OCB)	36	35	1	Worth using after removing 1 invalid item
2	Transformational Leadership	39	39	0	All items are valid and fit for use
3	Teacher Professional Competence	26	18	8	Worth using after removing 8 invalid items
4	Job Satisfaction	35	34	1	Worth using after removing 1 invalid item

Table 1 makes clear that the screening decisions were not evenly distributed across constructs. OCB lost one of 36 statements (2.8%), transformational leadership lost none of 39 (0%), professional competence lost eight of 26 (30.8%), and job satisfaction lost one of 35

(2.9%). The table therefore documents a total exclusion of ten items and a retained pool of 126 items. This distribution is important because the principal reduction occurred in the very construct expected to capture teachers' professional capacity, which combines knowledge, practice, and professional development rather than a single narrow behavior.

The 'worth using' decisions in Table 1 should be read as conditional recommendations following a preliminary pilot, not as definitive validation of final scales. The table identifies how many statements crossed the specified correlation threshold but does not provide an item-by-dimension matrix, independent expert review, or confirmatory factor results. In particular, if the eight excluded competence statements are concentrated within one dimension, the shortened questionnaire could satisfy the statistical rule while omitting theoretically relevant content. The next methodological step is therefore to compare retained items against the original domain blueprint and report the exact final composition before computing composite scores in the main study.

Instrument Reliability

Internal consistency was examined using Cronbach's alpha. Table 2 reports coefficients of 0.955 for OCB, 0.989 for transformational leadership, 0.907 for teacher professional competence, and 0.968 for job satisfaction. All coefficients exceed the conventional 0.70 threshold and therefore indicate strong internal consistency for the reported item sets in the pilot data. Transformational leadership yielded the highest alpha, followed by job satisfaction, OCB, and professional competence. The item counts printed in Table 2 match the initial versions of the questionnaires, which should be distinguished from the shortened forms recommended by Table 1.

Table 2. Results of the Reliability Test of the Research Instrument

No.	Variables	Number of Items	Cronbach's Alpha	Category
1	Organizational Citizenship Behaviour (OCB)	36	0,955	Very Reliable
2	Transformational Leadership	39	0,989	Very Reliable
3	Teacher Professional Competence	26	0,907	Very Reliable
4	Job Satisfaction	35	0,968	Very Reliable

Table 2 shows that the reported alpha coefficients for the four scales range from 0.907 to 0.989, all above the study's minimum criterion of 0.70. Their rank order is transformational leadership (0.989), job satisfaction (0.968), OCB (0.955), and professional competence (0.907). These results indicate strong internal consistency for the item sets represented in the reliability table. However, the table lists 36, 39, 26, and 35 items, respectively—the original questionnaire lengths, not the 35, 39, 18, and 34 items retained in Table 1. The reported values should consequently be attributed to those listed item sets unless a separate recalculation demonstrates otherwise.

This distinction affects the interpretation of instrument readiness. High alpha values from the original forms cannot be cited as confirmed reliability coefficients for shortened forms after ten items have been removed. A change in item number or item covariance may increase or decrease alpha, and even an alpha approaching 1.00 does not demonstrate factor structure or content validity. The pilot therefore provides valuable initial quality indicators, while the final scores used for path analysis require their own reliability estimates and evidence of construct separation. Reporting both pre- and post-screening coefficients would make the instrument-development process more transparent and reproducible.

Taken together, Tables 1–2 and Figures 3–6 show that the four instruments were sufficiently coherent for use in the next stage after the specified item deletions. The validity screening retained 126 of the 136 initially tested items, while all four alpha coefficients exceeded 0.90. Because extremely high alpha values may also reflect item redundancy, these coefficients should be interpreted alongside content coverage and, in future work, confirmatory factor

analysis rather than as stand-alone proof of construct validity (Zakariya, 2022). Most importantly, the present results establish measurement readiness; they do not by themselves demonstrate the hypothesized direct or indirect effects among transformational leadership, professional competence, job satisfaction, and OCB.

Across the four questionnaires, the proportion of items meeting the pilot validity threshold was 92.6% (126 of 136). This overall figure can appear reassuring, but its average masks the much lower retention in professional competence. A responsible interpretation considers both the high overall proportion and the uneven distribution of omissions: three instruments required little or no pruning, whereas the fourth required substantial reconsideration. The remaining 126 statements are a candidate item set for main-sample measurement, conditional on adequate content coverage and reassessment of reliability after deletion. Neither the overall retention percentage nor the reported alpha values indicates that the study's hypothesized direct, indirect, or mediated effects have been established.

Discussion

The principal contribution of the reported results is the establishment of a measurement foundation for the proposed leadership–competence–satisfaction–OCB model. The very high item-retention rates for OCB, transformational leadership, and job satisfaction are consistent with contemporary teacher studies in which these constructs have been measured reliably using multi-item scales and have supported structural analyses of extra-role behavior (Hsieh et al., 2022; Phetsombat & Na-Nan, 2023; Sun et al., 2024). The present findings are therefore compatible with the broader literature in suggesting that teachers can meaningfully distinguish leadership practices, satisfaction, and citizenship behaviors through structured questionnaire responses. However, the interpretation should remain at the level of measurement quality because no path coefficients are reported in the manuscript.

A second point concerns the OCB instrument. Retaining 35 of 36 items indicates strong coherence across behaviors such as helping colleagues, conscientious participation, courtesy, sportsmanship, and civic involvement. This aligns with research showing that teacher OCB is multidimensional and highly sensitive to school context, including studies linking it to collective efficacy, school climate, organizational support, trust, and crisis response (Bogler & Somech, 2023; Choong & Ng, 2024; Erdogan et al., 2022; Hsieh et al., 2022). Compared with these studies, the current instrument has broad content coverage, which is advantageous for school-management research. Its novelty at this stage lies not in proposing a new definition of OCB, but in preparing a context-specific measurement set for public junior high school teachers in Padang Pariaman Regency.

Third, all 39 transformational-leadership items met the item–total criterion and the scale produced the highest internal-consistency coefficient ($\alpha = 0.989$). This pattern is compatible with the central position of transformational leadership in the teacher-OCB literature. Studies in different educational contexts have reported positive associations between principals' transformational leadership and OCB, including pathways involving work engagement, communication, psychological resources, organizational commitment, or quality of work life (Chen et al., 2024; Hermanto et al., 2024; Liu et al., 2025; Zhang et al., 2020). The exceptionally high alpha nevertheless warrants methodological caution: internal consistency approaching 1.00 can indicate substantial overlap among items, so future confirmatory analysis should examine whether all items contribute unique information and whether the four theoretical dimensions remain empirically distinguishable.

Fourth, the professional-competence instrument required the greatest refinement, with only 18 of 26 items retained. This differs from the near-complete retention observed for the other constructs and suggests that professional competence may be more heterogeneous or more difficult to operationalize through self-report. The finding is plausible when compared with

research showing that teacher competence encompasses multiple domains and develops through professional learning, digital pedagogy, self-efficacy, and contextualized practice rather than through a single homogeneous attribute (Meyer et al., 2023; Revina et al., 2023; Shi et al., 2025; Yoon & Kim, 2022). Earlier work also shows that teacher competences can relate to OCB through empowerment rather than only through a simple direct pathway (Kasekende et al., 2016). Accordingly, the removal of eight items should be followed by careful content review to ensure that statistical refinement has not narrowed the conceptual domain excessively.

This discrepancy among the instruments has implications for comparisons across constructs in the later path model. A comparatively homogeneous leadership score and a substantially shortened competence score may differ in reliability, breadth, and sensitivity to respondent variation. Observed differences between their regression coefficients could therefore partly reflect measurement properties rather than differences in the substantive importance of leadership and competence. For that reason, the main-study analysis should report final-form reliability and, where feasible, evidence that the competence dimensions remain distinguishable and adequately represented. The present pilot does not provide the information needed to conclude that one antecedent exerts a stronger influence on OCB than the other.

Fifth, the job-satisfaction scale retained 34 of 35 items and demonstrated very high internal consistency ($\alpha = 0.968$). This measurement strength is important because job satisfaction is the proposed mediator in the model. Recent evidence indicates that teacher satisfaction is associated with leadership quality, school working conditions, professional development, retention-related outcomes, and professional performance (Admiraal & Røberg, 2023; Eryilmaz et al., 2025; Wartenberg et al., 2023). In OCB research specifically, satisfaction has functioned as a mediator between leadership or organizational resources and citizenship behavior in several settings, although the magnitude and form of mediation differ across studies (Birani-Nasraldin et al., 2024; Idris et al., 2021; Naimah et al., 2022; Phetsombat & Na-Nan, 2023). The current study is therefore well positioned to test the proposed mediation once complete structural results are reported.

The intended mediating role of job satisfaction deserves an equally precise interpretation in relation to these findings. A reliable mediator scale is useful because instability in the mediator can obscure the two associations that together form an indirect effect. Yet the presence of reliable job-satisfaction items, even when coupled with reliable leadership and OCB scales, does not demonstrate that satisfaction transmits any influence between them. The later analysis should report the estimated indirect effect of leadership through satisfaction and the separate indirect effect of professional competence through satisfaction, preferably with confidence intervals that account for uncertainty in the product of coefficients. Direct effects should be reported alongside these estimates so that partial, full, or absent mediation is evaluated from the actual model results rather than inferred from theoretical expectations. Moreover, school context, teacher characteristics, and the cross-sectional ordering of the survey constrain causal claims. If significant mediated associations are ultimately observed, their interpretation should remain associational unless longitudinal or stronger designs establish temporal precedence. The distinctive value of the present pilot, therefore, is that it draws attention to the measurement prerequisites of those proposed tests rather than prematurely announcing their outcome.

The novelty of the study is best framed as an integrative, context-specific model rather than as a claim that any individual relationship is unprecedented. The model simultaneously combines an organizational antecedent (transformational leadership), an individual professional resource (teacher professional competence), an attitudinal mediator (job satisfaction), and an extra-role outcome (OCB) among public junior high school teachers in Padang Pariaman Regency. This configuration extends leadership-centered OCB research and responds to

systematic-review evidence that the literature frequently emphasizes leadership while examining mediating and capability variables in separate models (Ahmed, 2025; Yang et al., 2023; Guiling et al., 2022). Practically, the validated instruments can help school leaders and researchers diagnose leadership practices, professional-capacity needs, work satisfaction, and citizenship behavior with a common measurement framework before designing improvement strategies.

The proposed model also has an important practical distinction between identifying relevant organizational conditions and demonstrating an intervention that changes teacher behavior. Schools may reasonably use the pilot questionnaires to examine how teachers perceive leadership, competence, and work satisfaction, provided the shortened scales are reassessed. However, the correlations and reliability coefficients reported here do not identify which managerial action would increase OCB, nor whether increasing satisfaction would be sufficient to change teachers' voluntary contributions. Recommendations about leadership coaching, professional learning, or school climate should therefore be presented as theoretically informed possibilities rather than effects confirmed by these data. Such caution preserves the contribution of the measurement study while preventing the argument from extending beyond the evidence actually analyzed.

Several limitations should be made explicit. First, the empirical results currently available are limited to a 30-teacher pilot and therefore cannot support claims about direct, indirect, or mediating effects in the full population. Second, item–total correlation and Cronbach's alpha provide only preliminary evidence; they do not replace confirmatory factor analysis, convergent and discriminant validity, or tests of measurement invariance. Third, the planned main study is cross-sectional and relies on self-report data, which may inflate associations through common-method variance and cannot establish temporal causality. Fourth, the study is geographically limited to public junior high schools in one regency, which constrains generalizability. Future research should report the complete 314-teacher structural analysis, include stronger measurement-model evidence, consider multi-source or longitudinal designs, and examine additional organizational mechanisms such as school climate, organizational justice, teacher self-efficacy, and organizational commitment.

Transparent follow-up reporting would make this research program more useful for replication. The eventual main-study paper should distinguish the pilot participants from the 314-person target sample, provide the achieved sample and school coverage, identify the excluded items, and report reliability statistics based on the final questionnaire forms. It should also state how the direct and indirect effects were estimated, provide confidence intervals, and distinguish statistical significance from practical importance. These details are especially consequential for a cross-sectional study in which teachers are grouped within schools and measures originate from the same respondent. Without them, seemingly precise estimates of mediation or predictor importance could be interpreted more strongly than the design permits.

CONCLUSION

This study establishes a strong preliminary measurement foundation for examining the proposed relationships among principals' transformational leadership, teacher professional competence, job satisfaction, and organizational citizenship behavior among public junior high school teachers in Padang Pariaman Regency. The pilot results retained 35 of 36 OCB items, all 39 transformational-leadership items, 18 of 26 professional-competence items, and 34 of 35 job-satisfaction items, with Cronbach's alpha coefficients ranging from 0.907 to 0.989. These findings provide promising pilot-stage item validity evidence and high internal consistency for the initially tested item sets; reliability of the retained-item forms must be reassessed before the full structural analysis. The study's conceptual contribution lies in integrating leadership and

professional competence as complementary antecedents of OCB while positioning job satisfaction as a mediating work attitude. Nevertheless, the current manuscript does not report the main-sample path coefficients; therefore, conclusions regarding direct effects or mediation should be reserved until the full structural analysis is presented. The preliminarily screened measurement set provides a useful basis for that next stage and may support evidence-informed school management by enabling systematic assessment of leadership practices, teacher capability, satisfaction, and voluntary organizational contribution within the same analytical framework.

A further methodological qualification concerns the difference between the retained-item totals in the validity summary and the initial-item totals accompanying Cronbach's alpha. The present coefficients document the internal consistency of the item sets reported in Table 2; reliability of the final 35-, 39-, 18-, and 34-item forms should be confirmed separately. This clarification does not negate the pilot's utility, but it sets a necessary boundary around the evidence presently available and prevents preliminary instrument screening from being mistaken for completed testing of the leadership–competence–satisfaction–OCB model.

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