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The Mediating Role of Self-Experience in the Influence of Principal Leadership and Self-Development on Teacher Competence: PLS-SEM Analysis

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ABSTRACT

Teacher competence greatly determines the quality of the learning process and outcomes, while principal leadership and self-development are important factors that influence these competencies. However, there is a gap in understanding how teacher self-experience can bridge the influence of these two factors on teacher competence, especially in an Islamic educational environment such as Madrasah Tsanawiyah. This study explores the influence of principal leadership and self-development on teacher competence by mediating self-experience. The research method used is a quantitative approach with a PLS-SEM analysis model. The sample of this study involved 58 teachers from MTsN 9 Magetan and MTsN 6 Madiun who were selected through purposive sampling. Data were collected using questionnaires and analyzed using path analysis techniques. The results showed that the direct influence of self-development and principal leadership had a positive but insignificant effect on teacher competence. The main findings showed that self-experience significantly mediated the relationship between self-development and teacher competence, while the mediating role in the relationship between principal leadership and teacher competence was not significant. The practical implications of this study emphasize the importance of creating a learning environment that supports practical experience for teachers, as well as the need for principals to focus on relevant self-development. Theoretically, this study contributes to a deeper understanding of the dynamics of the interaction between leadership, self-development, and teacher competence. It highlights the importance of self-experience in the self-development process.

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1. INTRODUCTION

Education plays a crucial role in producing a competent generation, and teachers as the spearhead of the education system have a great responsibility in achieving it. In the context of Madrasah Tsanawiyah education, the quality of teacher competence is one of the main determinants of the success of the learning process (Harwisaputra et al., 2024; Widiyaningrum et al., 2024). Teachers who have high competence can optimize students' potential and prepare them to face future challenges. The role of the principal's leadership and teacher self-development efforts are significant factors that influence the level of teacher competence in the madrasah environment (Istiqomah et al., 2024; Mukaromah et al., 2024). Therefore, it is important to

understand the factors that influence teacher competence so that the quality of education can continue to be improved (Badrusalam, 2021; Nogueiro & Saraiva, 2023).

Teacher competence is a fundamental element in the success of the education process at every level. Competent teachers are not only able to manage the class well but are also able to design teaching methods that are appropriate to students' needs (Baumgartner, 2022; H.-H. Wang et al., 2023). This is important because the quality of teaching greatly influences student learning outcomes, especially in improving their understanding of learning materials. Teacher competence also includes the ability to develop self-potential, innovate in teaching, and build good relationships with students (Antera, 2021; Demissie et al., 2022). Therefore, strengthening teacher competence is very vital in efforts to improve the quality of education in Madrasah Tsanawiyah (Widiyaningrum et al., 2024).

Principal leadership and teacher self-development have a significant role in shaping teacher professional competence (Chen, 2024; Kin & Kareem, 2018). Principals who have a good leadership style can provide the direction, motivation, and support needed by teachers to continue to develop (So-oabeb & Plessis, 2023; Sproule & Mombourquette, 2020; T. Wang & Tian, 2023). Teacher self-development, whether through training, workshops, or personal initiatives, greatly contributes to strengthening the competence needed to face the dynamics of education that continue to develop. With the positive influence of strong leadership and continuous self-development, teachers can achieve higher competence, so it is important to examine this relationship in the context of Madrasah Tsanawiyah.

Self-experience in self-development is one of the important factors that can mediate the influence of principal leadership and self-development on teacher competence. Individual experience in facing professional challenges, finding solutions, and applying the knowledge gained practically, can strengthen the competence possessed by a teacher (Lei & So, 2021; Truzoli et al., 2021). In the context of Madrasah Tsanawiyah, this self-experience is not only relevant for improving competence but also becomes a key mechanism that connects the efforts of self-development and principal leadership with the final result in the form of better teacher competence. Therefore, the mediating role of self-experience in this study is very important to reveal (Daumiller et al., 2021; Tsegay et al., 2022; Yen & Lin, 2022).

Although many studies have been conducted on the influence of principal leadership and self-development on teacher competency, there is a significant gap in the literature that discusses the role of self-experience as a mediator in the context of Madrasah Tsanawiyah. Most previous studies, such as those conducted by Chen (2024) and Kin & Kareem (2024), tend to focus on the direct relationship between leadership and self-development with teacher competency, without considering how teachers' personal experiences in facing professional challenges may influence these outcomes. For example, research by Mukaromah et al. (2024) showed that strong leadership can increase teacher motivation, but did not explore the internal processes experienced by teachers in their self-development. In addition, Istiqomah et al. (2024) explained the importance of teachers' personal experiences in strengthening professional competency, but the study did not specifically highlight how these experiences function as mediators between leadership and self-development.

In the context of Madrasah, where the culture and educational practices may differ from regular schools, it is important to understand how self-experience can serve as a bridge connecting principal support and self-development programs to teacher competency enhancement. This study aims to fill this gap by exploring in depth the mediating role of self-experience, thereby providing new insights relevant to educational policy development in Madrasah settings. Thus, this study not only contributes to the existing literature but also provides practical recommendations for Madrasah principals and managers in designing more effective leadership strategies and self-development programs.

2. METHOD

2.1. Research Design

This study uses a quantitative design with the Partial Least Squares-Structural Equation Modeling (PLS-SEM) approach. This approach was chosen because it allows researchers to test the causal relationship between complex latent variables, including the mediating role in the research model (Anggarini et al., 2024; Daryono et al., 2024; Pratiwi et al., 2024). This design focuses on testing the influence of principal leadership and self-development on teacher competence, with self-experience as a mediator. PLS-SEM is also very suitable for research with a relatively small sample size and a predictive model (Faidah et al., 2024; Priamono et al., 2024; Saifudin et al., 2024; Supriyanto et al., 2023).

2.2. Research Sample and Procedure

The sample in this study was all teachers at MTsN 9 Magetan and MTsN 6 Madiun, totaling 58 people. In this study, the sampling method used was non-probability sampling with a purposive sampling technique.

This technique was chosen for several reasons related to the characteristics of the respondents and the objectives of the study. First, in the context of Madrasah Tsanawiyah, the researcher selected teachers who had at least three years of teaching experience and were involved in self-development programs, so that the data obtained were more in-depth and relevant. Second, the unique characteristics of Madrasah Tsanawiyah, such as a religion-based curriculum and an educational environment that is different from public schools, require the selection of respondents who understand the context. By using purposive sampling, the researcher can ensure that the respondents involved have a good understanding of the dynamics of principal leadership and self-development in the context of Islamic education.

The sample size used in this study was 58 teachers, which may be considered small in the context of quantitative research. However, the selection of this sample size was based on practical and methodological considerations. First, this study used a purposive sampling technique, which allows researchers to select respondents who meet certain criteria and are relevant to the focus of the study so that even though the number is small, the data obtained remains rich and informative. In addition, the analysis carried out using PLS-SEM is very suitable for small sample sizes, because this method does not require the assumption of a normal distribution and can provide valid estimates even with a limited number of respondents.

Hair et al. (2021) explained that in PLS-SEM analysis, the minimum number of samples required is 10 times the number of the largest structural paths leading to a construct in the structural model. In this study, there are three structural paths leading to the dependent variable, namely teacher competence. Therefore, the recommended minimum sample size is 30 respondents. Thus, the number of respondents of 58 teachers is considered adequate to represent various characteristics of the population and allow for the generalization of the research results. Sampling was conducted using the purposive sampling method. Previous research by Purnomo et al. (2024) also showed that PLS-SEM can provide generalizable results even with a small sample size, as long as the selection of respondents is carried out appropriately and representatively. Therefore, even though this sample size is relatively small, this study can still provide valuable insights into the influence of leadership and self-development on teacher competence in Madrasah Tsanawiyah.

2.3. Data Collection Techniques

The data in this study were collected using a Likert-scale-based closed questionnaire, which was designed to measure the variables of principal leadership, self-development, self-experience, and teacher competence. This study involved four main variables, namely principal leadership (X_1), self-development (X_2), self-experience (Z), and teacher competence (Y). Each variable was measured using a questionnaire with a Likert scale of 1-5, where respondents were asked to state how much they agreed or disagreed with the related statement.

Table 1. The Construct of the Research Variables

No	Variables	Indicators	Constructs	References
1	Principal Leadership (X_1)	Leadership Style	PL1	(Galdames-Calderón, 2023; González-López et al., 2021; Karakose et al., 2023; Kin & Kareem, 2018; Sproule & Mombourquette, 2020)
2		Pioneer of Reform	PL2	
3		Supervision and Evaluation	PL3	
4		Facilitation and Resource Provision	PL4	
5		Communication and Support	PL5	
6		Involving Teachers	PL6	
7		Concern for Teacher Welfare	PL7	
8	Self-Development (X_2)	Mastery of Learning Methods	SD1	(Palermo & Thomson, 2018; Portillo et al., 2020; Robson, 2018; Vandenbroucke et al., 2018; Vrieling et al., 2018)
9		Motivation to Develop	SD2	
10		Continuing Education and Training	SD3	
11		Adapting to Technology and Innovation	SD4	
12		Work Environment Support	SD5	
13		Research and Innovation Experience	SD6	
14	Self-Experience (Z)	Teaching and Classroom Management	SE1	(Daumiller et al., 2021; Gkonou & Miller, 2021; Lei & So, 2021; Oliveira et al., 2021; Y. Wang et al., 2022)
15		Supervision and Evaluation	SE2	
16		Experience with Student Characteristics	SE3	
17		Cooperation and Collaboration	SE4	
18		Leadership	SE5	

No	Variables	Indicators	Constructs	References
19		Time Management and Commitment	SE6	
20		Dealing with Challenges and Conflicts	SE7	
21	Teacher Competence (Y)	Pedagogical Competence	TC1	(Cañadas, 2023; Demissie et al., 2022; Hanaysha et al., 2023; Knezek et al., 2023; H.-H. Wang et al., 2023)
22		Professional Competence	TC2	
23		Personality Competence	TC3	
24		Social Competence	TC4	
25		Technological Competence	TC5	
26		Spiritual Competence and Islamic Values	TC6	
27		Support from School Management	TC7	
28		Work Environment	TC8	
29		Curriculum Policy	TC9	

2.4. Research Hypothesis

This study proposes two types of hypotheses, namely direct effects and indirect effects.
H-DIR$_1$: Principal leadership has a positive effect on teacher competence.
H-DIR$_2$: Self-development has a positive effect on teacher competence.
H-DIR$_3$: Principal leadership has a positive effect on self-experience.
H-DIR$_4$: Self-development has a positive effect on self-experience.
H-DIR$_5$: Self-experience has a positive effect on teacher competence.
H-INDIR$_1$: Self-experience mediates the influence of principal leadership on teacher competence.
H-INDIR$_2$: Self-experience mediates the influence of self-development on teacher competence.

2.5. Data Analysis

The questionnaire validation process in this study was carried out through several systematic steps to ensure that the instruments used had high construct validity and reliability. First, the questionnaire designed based on a review of relevant literature and theories was tested on a small group of respondents (n=30) who had similar characteristics to the target population. This trial aimed to identify ambiguities in the questions and ensure that each item could be clearly understood by the respondents. Furthermore, reliability analysis was carried out using CA, rho_A, and CR, where values above 0.70 indicated that the questionnaire had good internal consistency. In addition, construct validity was tested through factor analysis, which ensured that the items in the questionnaire measured the intended construct. With these steps, researchers can ensure that the questionnaire used in this study is valid and reliable so that the results obtained can be relied upon.

The collected data will be analyzed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique with the help of SmartPLS software. The analysis stages include evaluating the measurement model to test the validity and reliability of the construct, as well as evaluating the structural model to test the relationship between variables (Angraini & Syah, 2023; Fatimah et al., 2024; Hariyanto et al., 2022; Khoiriyah et al., 2023). In addition, a mediation test is also carried out to determine the role of self-experience as a mediator. PLS-SEM analysis allows researchers to see direct and indirect influences, as well as assess the strength of the relationship between latent variables (Ary et al., 2024; Nurdian et al., 2024).

3. RESULTS AND DISCUSSION

3.1. Evaluation of the Measurement Model

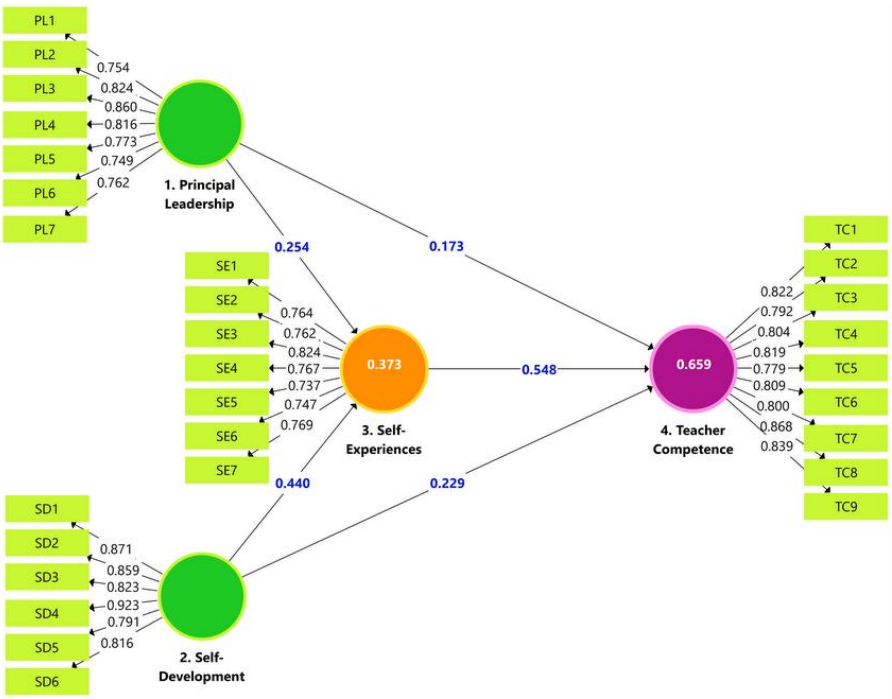

Figure 1. Evaluation of the Measurement Model

Measurement model testing that includes convergent validity, discriminant validity, and internal consistency reliability is very important to ensure the quality of measuring instruments in research. Convergent validity aims to confirm that the indicators used to measure a construct have a strong relationship with each other, usually with an average variance extracted (AVE) value above 0.50. Meanwhile, discriminant validity ensures that each construct is different and does not overlap with other constructs, which prevents multicollinearity problems. Internal consistency reliability testing measures the consistency between indicators in a construct, with a composite reliability value above 0.70 indicating good reliability. These three tests together ensure that the measuring instruments used in the study have high validity and reliability. This is important so that the results of the structural model analysis in the study can be relied upon and are valid. Without proper measurement model testing, the risk of misinterpretation and bias in research results increases.

Table 2. Convergent Validity, Consistency Reliability dan VIF

No	Variables	Constructs	Convergent Validity		Consistency Reliability			VIF (<5.00)
			FL (≥0.70)	AVE (≥0.70)	CA (≥0.70)	Rho_A (≥0.70)	CR (≥0.70)	
1	Principal Leadership (X_1)	PL1	0.754	0.627	0.901	0.909	0.922	2.048
2		PL2	0.824					2.474
3		PL3	0.860					3.809
4		PL4	0.816					2.779
5		PL5	0.773					2.521
6		PL6	0.749					1.705
7		PL7	0.762					2.283
8	Self-Development (X_2)	SD1	0.871	0.719	0.921	0.927	0.939	3.088
9		SD2	0.859					2.935
10		SD3	0.823					2.482
11		SD4	0.923					4.559
12		SD5	0.791					2.416
13		SD6	0.816					2.478
14	Self-Experience (Z)	SE1	0.764	0.589	0.884	0.889	0.909	1.857
15		SE2	0.762					1.995
16		SE3	0.824					2.427
17		SE4	0.767					2.011
18		SE5	0.737					1.816

No	Variables	Constructs	Convergent Validity		Consistency Reliability			VIF (<5.00)
			FL (≥0.70)	AVE (≥0.70)	CA (≥0.70)	Rho_A (≥0.70)	CR (≥0.70)	
19		SE6	0.747					2.063
20		SE7	0.769					2.342
21	Teacher Competence (Y)	TC1	0.822	0.664	0.937	0.938	0.947	3.290
22		TC2	0.792					3.654
23		TC3	0.804					3.169
24		TC4	0.819					4.117
25		TC5	0.779					3.697
26		TC6	0.809					3.012
27		TC7	0.800					2.441
28		TC8	0.868					4.729
29		TC9	0.839					3.990

In Table 1, convergent validity is measured through Factor Loading (FL) and Average Variance Extracted (AVE), and reliability is measured using Cronbach's Alpha (CA), Composite Reliability (CR), and rho_A. The minimum loading factor value is 0.737 (SE5: cooperation and collaboration), and the maximum value is 0.901 (PL2: pioneer of reform), both of which have met the cut-off point requirements, which are above 0.70, indicating good convergent validity. The Average Variance Extracted (AVE) test is used to measure convergent validity, namely the extent to which indicators in one construct can explain the variation of the construct. An adequate AVE threshold is ≥ 0.5, which means that more than 50% of the indicator variance can be explained by the latent construct. Based on the table, all variables have AVE values that meet this criterion. Principal leadership has an AVE value of 0.627, self-development of 0.719, self-experiences of 0.589, and teacher competence of 0.664. These values indicate that all constructs have good convergent validity so that the indicators can be trusted to represent latent variables. With these results, the measurement instrument can be said to be valid and reliable, supporting further analysis in the study.

Internal consistency reliability testing aims to evaluate the extent to which indicators in a construct consistently measure the same concept. Reliability is tested using CA, rho_A, CR with a cut-off point of ≥ 0.7. Based on the table, all constructs meet the reliability criteria, with values ranging from 0.884 to 0.947. The highest value is in the teacher competence construct (CR = 0.947), while the lowest value is in the self-experiences construct (CA = 0.884). Thus, it can be concluded that all constructs have high reliability and their indicators are consistent in measuring the concepts represented. The Variance Inflation Factor (VIF) value is used to measure the level of multicollinearity between independent variables in the regression model. In the context of this study, the VIF values obtained range from 1.705 to 4.729, all of which are below the commonly accepted threshold of 5.0. This indicates that there is no significant multicollinearity problem among the independent variables studied, such as principal leadership, professional development, and self-experience. In other words, each independent variable can make a unique contribution to the dependent variable without excessive overlap. This result implies that the model built can be relied upon to analyze the relationship between these variables, and the results of the analysis can provide clearer insights into the influence of each variable on teacher competence. Figure 2 visualizes the results of internal consistency reliability measurements consisting of CA, rho_A, CR, and AVE values from convergent validity measurements.

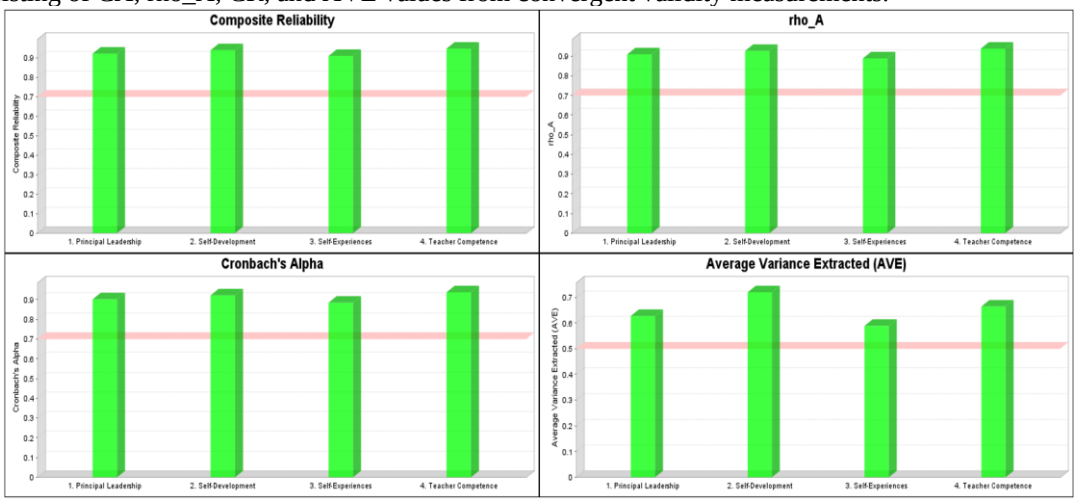

Figure 2. Internal Consistency Reliability & AVE

The Fornell-Larcker Criterion is used to test discriminant validity. From this table, it can be seen that the diagonal value (square root AVE value) is higher than the correlation value between other constructs in each column and row. For example, for the teacher competence variable (Y), the square root AVE value is 0.815, greater than the correlation value of other variables such as X_1 (0.554) and X_2 (0.631). This shows that each construct has good discriminant validity because the variable is more correlated with its indicators than with other constructs. HTMT is used to test discriminant validity with an alternative approach. The HTMT value between constructs must be below the threshold of 0.85. Based on the table, the highest HTMT value is between teacher competence (Y) and self-experience (Z), which is 0.821, which is still below the maximum limit of 0.85, indicating that there is no problem with discriminant validity. All HTMT values meet the recommended requirements, indicating that the constructs in this model are adequately discriminant.

Table 3. Discriminant Validity: Fornell-Larcker Criterion

Variables	X_1	X_2	Z	Y
1. Principal Leadership (X_1)	0.792			
2. Self-Development (X_2)	0.514	0.848		
3. Self-Experience (Z)	0.480	0.570	0.767	
4. Teacher Competence (Y)	0.554	0.631	0.762	0.815

Table 4. Discriminant Validity: Heterotrait-Monotrait Ratio (HTMT)

Variables	X_1	X_2	Z	Y
1. Principal Leadership (X_1)				
2. Self-Development (X_2)	0.559			
3. Self-Experience (Z)	0.506	0.612		
4. Teacher Competence (Y)	0.585	0.676	0.821	

3.2. Evaluation of the Structural Model

The coefficient of determination (R^2) is used to measure how well the independent variables explain the dependent variable. The highest R^2 value is for the teacher competence (Y) variable, which is 0.659, indicating that 65.9% of the variance in teacher competence can be explained by principal leadership, self-development, and self-experience. This indicates a moderate model. Meanwhile, the self-experience (Z) variable has an R^2 of 0.373, which is also considered moderate. For effect size (f^2), the variable with the largest influence is self-experience on teacher competence (0.552), indicating a significant mediation effect. Other influences such as principal leadership on self-experience (0.076) and self-development on teacher competence (0.093) have small to moderate effect sizes.

Table 5. Coefficient of Determination (R^2) dan Effect Size (f^2)

Variables	Coefficient of Determination (R^2)		Effect Size (f^2)			
			(Z)		(Y)	
	Value	Decision	Value	Decision	Value	Decision
1. Principal Leadership (X_1)	-	-	0.076	Small	0.060	Small
2. Self-Development (X_2)	-	-	0.227	Medium	0.093	Small
3. Self-Experience (Z)	0.373	Moderate	-	-	0.552	Large
4. Teacher Competence (Y)	0.659	Moderate	-	-	-	-

In PLS-SEM analysis, the Q^2 value is used to evaluate the predictive relevance of a structural model, especially in assessing the extent to which endogenous constructs can be predicted by exogenous variables in the model. Q^2 Redundancy reflects the extent to which endogenous latent variables can be predicted by related indicators, including the structural pathways that influence them. Meanwhile, Q^2 Communality focuses on the predictive ability of latent variables to their reflective indicators or the extent to which reflective indicators represent the constructs being measured. Further interpretation of the Q^2 value is often classified based on the categorization of predictive ability, namely weak (Q^2 around 0.02), moderate (Q^2 around 0.15), and strong (Q^2 around 0.35). Based on Table 6, the self-development variable has a Q^2 Redundancy of 0.181, indicating moderate predictive ability, while teacher competence has a Q^2 Redundancy of 0.395, indicating strong

predictive ability. All variables show relevant predictive ability according to their Q^2 Communality values, supporting good construct representation quality.

Table 6. Construct Cross-Validated (Q^2)

Variables	Construct Cross-Validated					Predictive Power
	SSO	Q^2 Redundancy		Q^2 Communality		
		SSE	Q^2 (=1-SSE/SSO)	SSE	Q^2 (=1-SSE/SSO)	
1. Principal Leadership	406.000	406.000	-	206.980	0.490	Strong
2. Self-Development	348.000	348.000	-	137.355	0.605	Strong
3. Self-Development	406.000	332.414	0.181	228.734	0.437	Strong
4. Teacher Competence	522.000	315.969	0.395	237.176	0.546	Strong

3.3. Path Analysis and Hypothesis Testing

Path analysis and hypothesis testing, including direct and indirect effects (mediation), are essential to understanding the mechanisms of relationships between variables. This testing allows researchers to identify the extent to which independent variables directly influence dependent variables, and whether there are mediator variables that strengthen or explain some of the influence. In the context of this study, the mediating role of self-experience in the relationship between principal leadership and self-development with teacher competence can provide deeper insight into the factors that influence teacher competence.

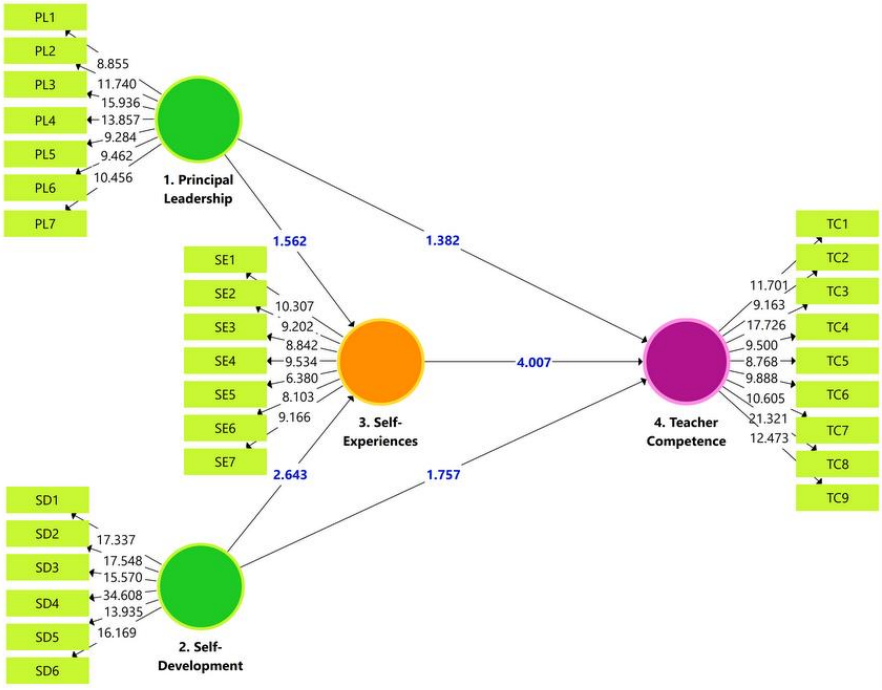

Figure 3. Hypothesis and Path Analysis

Based on Table 7, the results of direct hypothesis testing show that H-DIR_1 (principal leadership on self-experience) has a β-$_{value}$ of 0.254, T-$_{statistics}$ of 1.562, and ρ-$_{values}$ of 0.144. With a T-$_{statistic}$ value below the cut-off point threshold of 1.96, this hypothesis is rejected. This means that principal leadership does not have a significant influence on teacher self-experience at Madrasah Tsanawiyah. The same thing happened to H-DIR_4 (self-development on teacher competence), with a β-$_{value}$ of 0.229, T-$_{statistics}$ of 1.757, and ρ-$_{values}$ of 0.074, which was also rejected because the T-$_{statistics}$ were still below the cut-off point. On the other hand, H-DIR_3 and H-DIR_5 were accepted because they had T-$_{statistics}$ values above 1.96 and ρ-$_{values}$ below 0.05. H-DIR_3 shows that self-development has a significant effect on self-experience, while H-DIR_5 shows that self-experience has a significant effect on teacher competence.

Table 7. Hypothesis and Path Analysis on Direct Effects

Hypothesis	Path Analysis	β-values	T-statistics	P-values	Decision
		(+)/ (-)	(≥1.96)	(≤0.00)	
H-DIR$_1$	1. Principal Leadership → 3. Self-Experience	0.254	1.562	0.144	Rejected
H-DIR$_2$	1. Principal Leadership → 4. Teacher Competence	0.173	1.382	0.181	Rejected
H-DIR$_3$	2. Self-Development → 3. Self-Experience	0.440	2.643	0.009	Accepted
H-DIR$_4$	2. Self-Development → 4. Teacher Competence	0.229	1.757	0.074	Rejected
H-DIR$_5$	3. Self-Experience → 4. Teacher Competence	0.548	4.007	0.000	Accepted

Table 8 shows the results of indirect hypothesis testing. H-INDIR$_1$ (the effect of principal leadership through self-experience on teacher competence) has a β-$_{value}$ of 0.139, T-$_{statistics}$ of 1.641, and ρ-$_{values}$ of 0.101. With T-$_{statistics}$ below 1.96, this hypothesis is rejected. However, H-INDIR$_2$ (the effect of self-development through self-experience on teacher competence) has a β-$_{value}$ of 0.241, T-$_{statistics}$ of 2.024, and ρ-$_{values}$ of 0.043, which meets the threshold and is accepted, indicating full mediation by self-experience. In the direct effect test, H-DIR$_1$ was rejected because the T-$_{statistics}$ and ρ-$_{values}$ did not meet the significance requirements, while H-INDIR$_1$ was also rejected in the indirect test, indicating that self-experience did not significantly mediate the relationship (partial mediation). On the other hand, H-DIR$_4$ was rejected in the direct effect, but H-INDIR$_2$ was accepted in the indirect effect, indicating that self-experience successfully mediated the effect of self-development on teacher competence. This shows that self-experience has an important role as a mediator in improving teacher competence, especially through self-development.

Table 8. Hypothesis and Path Analysis on Indirect Effects

Hypothesis	Path Analysis	β-values	T-statistics	ρ-values	Decision	Mediating Role
		(+)/ (-)	(≥1.96)	(≤0.00)		
H-INDIR$_1$	1. Principal Leadership → 3. Self-Experience → 4. Teacher Competence	0.139	1.641	0.101	Rejected	Partial Mediation
H-INDIR$_2$	2. Self-Development → 3. Self-Experience → 4. Teacher Competence	0.241	2.024	0.043	Accepted	Full Mediation

3.4. Discussion

The positive influence found between principal leadership on teachers' self-experience in Madrasah Tsanawiyah indicates that the role of leadership does provide a good direction in improving teachers' personal experience, however, the insignificant results indicate that leadership alone is not enough to provide a substantial impact. Previous research by Galdames-Calderón (2023) emphasized the importance of leadership in improving teachers' performance and professional experience, but in this context, different results may be caused by other factors, such as school culture or lack of supportive self-development programs. This research suggests that formal leadership alone may not be enough to influence the development of professional experiences without more comprehensive support, such as interactions between colleagues or a conducive learning environment.

The findings showing a positive but insignificant influence between principal leadership on teacher competence illustrate that leadership has a good direction, but is not strong enough to directly influence teacher competence. This may be due to greater dependence on other factors such as professional training and intrinsic motivation of teachers (Chen, 2024; Gkonou & Miller, 2021). Comparison with the study of Ramírez-Montoya et al. (2021) which showed that school leadership can influence teacher competence through indirect channels, such as school culture or self-development, supports this result. This study emphasizes that although principal leadership is important, its direct influence on teacher competence may require more complex interventions.

Principal leadership plays a crucial role in developing teacher competency, but its influence is not always direct and significant. The principal's leadership style is a major factor influencing dynamics within the school and can have implications for teacher competency development. An authoritarian leadership style, for example, tends to limit teacher participation in decision-making, which can reduce their motivation and desire to develop. Conversely, a participatory leadership style can create an environment that supports collaboration and innovation, but if not implemented properly, the results can be insignificant. The leadership style applied by the principal can affect interactions with teachers and the overall work environment.

For example, principals who apply a participatory leadership style tend to create an atmosphere that supports collaboration and innovation. Conversely, an authoritarian leadership style can create dissatisfaction among teachers, which in turn hinders their motivation to develop. Research shows that principals who do not understand the needs and context of the school can reduce the effectiveness of leadership in improving learning

outcomes, so they need to adapt their leadership approach to the characteristics of the school and existing teachers. Research by Galdames-Calderón (2023) shows that although good leadership can provide direction, its influence on improving teacher competency is not always immediately visible. This shows that leadership style must be adapted to the specific context and needs of the school to contribute effectively to the development of teacher competencies.

In addition to leadership style, teacher involvement in the decision-making process and planning of self-development programs is very important to create a sense of ownership and responsibility. When teachers feel involved, they tend to commit to programs designed to improve their competence. However, if the principal does not actively involve teachers in this process, then efforts to improve competence can be hampered. Chen's (2024) research shows that teacher involvement in decision-making can increase their motivation and performance, but if this involvement is not optimized, then its impact on improving teacher competence becomes insignificant. Therefore, principals need to create effective communication channels and involve teachers in every step of self-development.

Another factor that is no less important is concern for teacher welfare. Concern for teacher welfare is also an important factor that influences the effectiveness of principal leadership. Principals who show concern for teacher welfare, both emotionally and professionally, can create a positive work environment. However, if this concern is not balanced with real actions, such as providing adequate resources for self-development, then the impact on improving teacher competence can be minimal. Research by Mukaromah et al. (2024) emphasized that although caring leadership can increase motivation, without concrete support, teachers may feel frustrated and unmotivated to improve their competence. Therefore, principals need to ensure that concern for teacher welfare is followed by actions that support their self-development to produce significant improvements in competence.

The results showing a positive and significant influence of self-development on teacher self-experience confirm that self-development is an important factor in enriching teachers' personal experiences. This is in line with the findings of the study by Legrain et al. (2019), who emphasized that continuous self-development is crucial in shaping teachers' self-experience. Self-development through training and continuing education strengthens their experience, which in turn can improve performance (Saikkonen & Kaarakainen, 2021; Seifert & Feliks, 2019). The novelty of this study is the recognition of the importance of self-development as a key element in enhancing teachers' experience, especially in the context of Madrasah Tsanawiyah which may have limited access to self-development resources.

The positive but insignificant influence of self-development on teacher competence in Madrasah Tsanawiyah shows that although self-development is important, it has not been enough to directly influence competence. This may be due to limitations in the implementation of self-development programs or a lack of support from the institution (Robson, 2018; Vrieling et al., 2018). A comparison with research by Palermo & Thomson (2018) which found that structured training and self-development can significantly improve teacher competence, shows that the Madrasah Tsanawiyah context requires a more organized approach. This study highlights that developing teacher self-development requires stronger institutional support to be able to improve teacher competence effectively (Palermo & Thomson, 2018; Vandenbroucke et al., 2018).

Continuing education and training are key factors in teacher self-development. Well-designed education programs can provide teachers with new knowledge and skills that are relevant to current developments in the field of education. However, the effectiveness of this education and training is not always directly proportional to the increase in teacher competence. This is due to several factors, including the relevance of the training material to real needs in the classroom and the teacher's ability to apply the new knowledge in daily practice. According to Legrain et al. (2019), training that is not integrated with the actual teaching context can result in teachers having difficulty applying what they have learned. Therefore, it is important for training programs to not only focus on theory but also provide opportunities for teachers to practice and get constructive feedback. Thus, although continuing education and training are important components of self-development, their success depends greatly on how the program is implemented.

Support from the work environment also plays an important role in teacher self-development. A positive and supportive work environment can encourage teachers to continue learning and developing. This includes support from colleagues, principals, and school policies that facilitate professional development. However, even though this support exists, it does not always guarantee an increase in teacher competence. According to Karakose et al. (2023), a supportive work environment can increase teacher motivation, but if it is not balanced with opportunities to apply new skills, the impact on teacher competence can be minimal. For example, if a teacher attends training but does not have the time or resources to apply new techniques in the classroom, then the self-development carried out will not contribute to increased competence. Therefore, schools need to create a collaborative culture that not only supports self-development but also provides opportunities for teachers to apply what they have learned in real contexts.

Experience in research and innovation is also an important factor in teacher self-development. Through involvement in research, teachers can develop a deeper understanding of best practices and the latest trends in education. However, like other factors, this experience is not always directly proportional to increased competence. According to Gkonou & Miller (2021), although research can enrich teachers' professional experience, the results are highly dependent on how teachers apply the research findings in their practice. If teachers do not have the support or resources to implement innovations discovered through research, then the impact on their competence can be very limited. Therefore, it is important for educational institutions to not only encourage teachers to engage in research but also provide the necessary support to apply the results of such research in daily teaching. In this way, research experience can be an effective tool for self-development that ultimately contributes to improving teacher competence.

The finding that self-experience has a positive and significant influence on teacher competence in Madrasah Tsanawiyah shows that teachers' personal and professional experiences play an important role in developing their competence. This is consistent with research by Oliveira et al. (2021), which showed that teachers' experiences in teaching have a direct impact on their self-confidence and competence. The novelty of this study is the recognition that strengthening teachers' experiences in daily teaching can be key to improving competence without always having to rely on formal training or external policies (Calderón et al., 2021; Daumiller et al., 2021; Y. Wang et al., 2022).

The results of the study indicate that self-experience has a role as a mediator in the relationship between principal leadership and teacher competence, although the direct influence of principal leadership on competence is not significant. This confirms that teachers' personal experiences can bridge the impact of leadership on their competence (Galdames-Calderón, 2023; Mukaromah et al., 2024; So-oabeb & Plessis, 2023). A study by Sproule & Mombourquette (2020) and Yen & Lin (2022) revealed that the role of school leaders is more effective when facilitated by positive teacher experiences. The novelty of this finding is that self-experience mediation can be one of the important mechanisms that allows principal leadership to indirectly influence teacher competence.

This finding shows that the process of teacher self-development is not only sufficient in formal training and education but must also be accompanied by direct experience in teaching practice. This experience provides teachers with space to apply the knowledge gained from self-development so that they can transform theory into real competence that can be seen in their daily performance (Cañadas, 2023; Hanaysha et al., 2023; Tsegay et al., 2022). Baumgartner (2022) and Wang et al. (2023), emphasized that teachers who have practical experience are better able to internalize and implement the results of self-development because direct experience allows them to understand the complex teaching context more deeply. Other studies, such as those conducted by Demissie et al. (2022) and Knezek et al. (2023) also support this finding by showing that practical experience plays an important role in the process of teacher professional learning. The novelty of this study lies in the emphasis that self-experience has a crucial role in strengthening the effects of self-development, especially in Madrasah Tsanawiyah. In this context, practical experience not only complements self-development but also makes it more meaningful and relevant, which can ultimately improve teacher competence as a whole.

4. CONCLUSION

The conclusion of this study highlights that principal leadership, although it has an important role in developing teacher competency, is not always directly proportional to the improvement of that competency. This study found that factors such as leadership style, teacher involvement, and attention to teacher welfare contribute significantly to the dynamics of the relationship between leadership and teacher competency. Although principals who apply a participatory leadership style and care about teacher welfare can create a supportive environment, the results obtained indicate that without consistent implementation and adequate support, the positive influence can be insignificant. Therefore, principals need to understand the specific context of their schools and adjust their leadership approach to be more effective in improving professional teacher competency.

This study also found that self-experience has a significant mediating role between principal leadership and self-development on teacher competency in Madrasah Tsanawiyah. The strength of this study lies in its contribution to enriching the literature on the influence of self-experience as a mediating variable, which has not been studied specifically in the context of Islamic education. The PLS-SEM approach used successfully provides a detailed picture of the complex relationship between variables, opening up new questions about other factors that can influence teacher competency in an Islamic educational environment. The implications suggest that it is important for educational institutions to facilitate the enhancement of teachers' direct experience (self-experience) as a way to strengthen their competence. Recommendations for educational practice include the development of training programs that focus on practical experience and experiential learning.

However, this study also has limitations that need to be considered. The relatively small sample size of 58 teachers from two madrasahs may not be representative enough to describe the entire population of teachers in various educational contexts. In addition, contextual factors such as school culture, external support, and teachers' socio-economic conditions may also influence the results obtained. For future research, it is recommended to expand the sample size and involve more schools with different backgrounds to gain a more comprehensive understanding of the relationship between principal leadership and teacher competence. Further research can also explore other factors that may act as mediators or moderators in this relationship, to provide deeper and more applicable insights for the development of educational leadership.

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