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Contributions of Spiritual Education, Teacher Professionalism, and School Climate to Madrasah Quality in Banten, Indonesia

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Abstract

This study aims to analyze the influence of spiritual education, teacher professionalism, and school climate on the quality of education in madrasahs. The method used is a quantitative approach with a survey technique. The research sample consisted of 299 state and private madrasah teachers randomly selected in Banten Province, Indonesia. The measurement instrument for four variables used a Likert scale that had been tested for validity and reliability. Data were collected through an online questionnaire and analyzed using multiple linear regression analysis. Before conducting the regression analysis, assumption testing, including normality and multicollinearity, was carried out to ensure the feasibility of the model. The results showed that spiritual education, teacher professionalism, and school climate significantly influenced the quality of education in madrasahs, with a powerful regression model ($R^2 = 0.701$) and a low prediction error (8.133). These findings suggest the importance of combining variables to improve the quality of education in madrasahs by considering non-academic factors such as spiritual education and school climate. The implications of these results are the need for more inclusive and integrative education policies to improve the quality of madrasah education by strengthening these three factors and the need for further research with more diverse samples to gain a deeper understanding.

Keywords: Educational quality, Professionalism of teachers, School climate, Spiritual education.

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh pendidikan spiritual, profesionalisme guru, dan iklim sekolah terhadap kualitas pendidikan di madrasah. Metode yang digunakan adalah pendekatan kuantitatif dengan teknik survei. Sampel penelitian terdiri dari 299 guru madrasah negeri dan swasta yang dipilih secara acak di Provinsi Banten, Indonesia. Instrumen pengukuran empat variabel menggunakan skala Likert yang telah diuji validitas dan reliabilitasnya. Data dikumpulkan melalui kuesioner daring dan dianalisis menggunakan analisis regresi linier berganda. Sebelum melakukan analisis regresi, pengujian asumsi, termasuk normalitas dan multikolinearitas, dilakukan untuk memastikan kelayakan model. Hasil penelitian menunjukkan bahwa secara simultan, pendidikan spiritual, profesionalisme guru, dan iklim sekolah memiliki

pengaruh signifikan terhadap kualitas pendidikan di madrasah, dengan model regresi yang kuat ($R^2 = 0,701$) dan tingkat kesalahan prediksi yang rendah (8,133). Temuan ini menyarankan pentingnya penggabungan variabel dalam meningkatkan kualitas pendidikan di madrasah dengan memperhatikan faktor-faktor non-akademik seperti pendidikan spiritual dan iklim sekolah. Implikasi dari hasil ini adalah perlunya kebijakan pendidikan yang lebih inklusif dan integratif untuk meningkatkan kualitas pendidikan madrasah melalui penguatan tiga faktor tersebut, serta perlunya penelitian lebih lanjut dengan sampel yang lebih beragam untuk memperoleh pemahaman yang lebih mendalam.

Kata Kunci: Educational quality, Professionalism of teachers, School climate, Spiritual education

INTRODUCTION

Improving the quality of *madrasah* education has become an important issue in many developing countries (Asadullah & Chaudhury, 2016; Latief et al., 2021; Juhaeni et al., 2021; Ernadiati & Herlina, 2022; Sugiri & Ma'shum, 2022; A. Gunawan et al., 2022; Haddade et al., 2024; Zakariyah, 2024; Arsyad, 2024), including Indonesia (Subandi et al., 2021; Zakariyah, 2024; Mahmud & Mali, 2024; Haddade et al., 2024; Mahsusi et al., 2024), where *madrasahs* play a significant role in providing religious and general education (Aminullah et al., 2024; Badrun, 2024). In particular, Banten Province, with its strong Islamic education tradition (Hudaeri et al., 2020; Sahara et al., 2022; Mu'awanah et al., 2025), has witnessed significant efforts to improve the performance and outcomes of its *madrasah* institutions (Juhaeni et al., 2021; Rahmatullah, 2021; Mahsusi et al., 2024). However, despite various reforms, the quality of *madrasah* education in this province still shows no drastic changes (Rahmatullah, 2021). Therefore, understanding the main factors that contribute to *madrasah* quality—such as spiritual education, teacher professionalism, and school climate—is crucial. By '*madrasah* quality,' we refer to the holistic development of students, the effectiveness of teaching and learning processes, and the institution's overall performance.

Previous studies have extensively discussed individual aspects that influence school quality (Gibbons & Silva, 2011; Wenger et al., 2020). For example, several studies have highlighted the role of spiritual education in shaping student character and school ethos (A. Abdullah, 2018; Mulang & Putra, 2023; N. Abdullah, 2024). Others have examined teacher professionalism, emphasizing its impact on teaching quality and student learning outcomes (Antonioni & Kyriakides, 2013; Yang & Kaiser, 2022; Ventista & Brown, 2023). Similarly, the influence of a favorable school climate on student academic achievement and well-being has been widely documented (Kutsyuruba et al., 2015; Steinmayr et al., 2018; Lombardi et al., 2019). However, most previous studies have addressed these factors separately (partially) and have rarely been combined to assess *madrasah* quality, especially in *madrasahs* in Banten Province, Indonesia. Furthermore, research focusing on *madrasah* institutions rather than public schools is still limited. This gap indicates the need for a simultaneous investigation of the three factors affecting *madrasah* education quality.

In addition, in the last 5 years, research on spiritual education, teacher professionalism, school climate, and the quality of *madrasah* education can be mapped through bibliometric

visualization using VOSviewer (See Figure 1). This visualization provides a comprehensive overview of the research landscape, highlighting the key areas of focus and the relationships between different factors. Principal, teacher performance, school climate, and teacher education appear to have larger node sizes, indicating high frequency in the literature and a close relationship with the quality of *madrasah* education. The dense connection network between nodes reflects the close relationship between teacher professionalism, school climate, leadership supervision, and the quality of *madrasah* educational institutions. This visualization reinforces the importance of simultaneous research in analyzing *madrasah* quality by emphasizing that spirituality, teacher professionalism, and school climate cannot be separated in building superior Islamic educational institutions (*madrasas*).

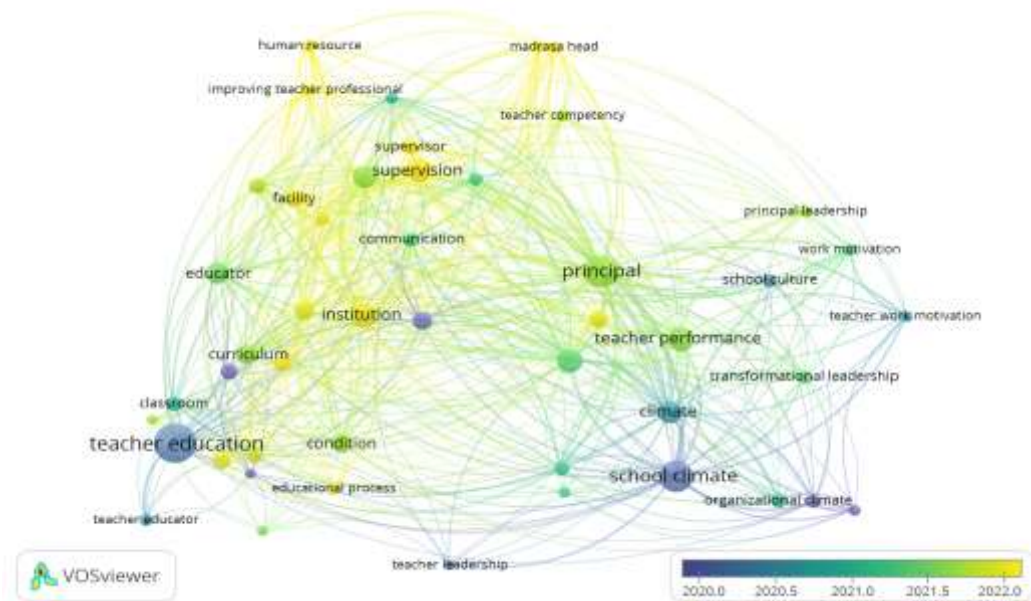


Figure 1. Bibliometric visualization using VOSviewer on spiritual education, teacher professionalism, school climate, and the quality of *madrasah* education (2020-2024)

Based on the mapping results, this study empirically tests the contribution of spiritual education, teacher professionalism, and school climate to the quality of *madrasas* in Banten. This analysis is expected to not only strengthen previous findings regarding the importance of teacher professionalism and school climate (DeAngelis & Presley, 2011; Nugraha & Dekawati, 2023) but also introduce the dimension of spirituality as an important factor that has so far received less attention in academic studies.

This study's central research question is how the empirical analysis of spiritual education, teacher professionalism, and school climate contribute to *madrasah* education quality. Although there are policy efforts to strengthen character education (A. Abdullah, 2018; Suherman et al., 2019; Subaidi, 2020; Setyosari & Kamdi, 2021; Istiyono et al., 2021), the measurable impact on educational outcomes is still ambiguous. In addition, although teacher professionalism and school climate have been repeatedly confirmed as strong determinants of school effectiveness (Hu et al., 2019; Redeş et al., 2023), spiritual education is often treated as a peripheral element (Walker & McLean, 2010; Mulang & Putra, 2023), and its synergy with other variables is rarely tested using robust quantitative methods.

Therefore, the main objective of this study is to examine the combined contribution of spiritual education, teacher professionalism, and school climate to the quality of *madrasah* education in Banten, Indonesia. Unlike previous studies that analyzed these factors separately (Halik et al., 2018; Mahmood et al., 2024), this study combines all three factors simultaneously to reveal their collective influence on the quality of *madrasah* education. Thus, this study aims to fill the gap in the literature and provide empirical evidence-based insights tailored to the unique characteristics of *madrasah* education in Indonesia.

Specifically, this paper tests the hypothesis that spiritual education, teacher professionalism, and school climate simultaneously contribute significantly and positively to the quality of *madrasahs*. Through this investigation, this study contributes theoretically to the discourse on the quality of Islamic education (*madrasah*) and practically to policy recommendations for improving the education system in *madrasahs*.

METHOD

Research Design

This study uses a quantitative approach with a survey method to examine the influence of spiritual education, teacher professionalism, and school climate on the quality of education. The quantitative design was chosen to allow statistical generalization of the findings and to test hypotheses of relationships between variables through multiple regression analysis.

Population and Sample

This study's target population consisted of state and private madrasah teachers at the elementary and secondary education levels in Banten, Indonesia. A stratified random sampling technique was used to ensure proportional representation based on education level. The sample size, determined using the Krejcie and Morgan (1970) formula, is a robust 299 respondents.

Variables

This study investigated four main variables. *First*, spiritual education (X_1) was measured using a Likert scale questionnaire developed independently. It adapted from Hay and Nye (2006), Tirri (2011), and Lovat et al. (2010), which includes the dimensions of (1) self-awareness, (2) transcendental connection, (3) moral and ethical values, and (4) compassion and social concern. *Second*, teacher professionalism (X_2) adapted and developed by Day and Sachs (2005), Hargreaves and Fullan (2015), and Stronge (2018) which includes the dimensions of (1) pedagogical competence, (2) continuing professional development, (3) professional ethics, and (4) commitment and collaboration.

Third, school climate (X_3), measured based on the framework by Thapa et al. (2013) and Wang and Degol (2016), include (1) physical and psychological safety, (2) positive interpersonal relationships, (3) supportive learning environment, and (4) leadership and institutional support. *Fourth*, educational quality (Y), adapted from Scheerens et al. (2011) and Slavin (2018), includes dimensions of (1) student learning outcomes, (2) instructional effectiveness, (3) stakeholder satisfaction, and (4) continuous innovation and evaluation. Each

item is rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree if the item is in a positive form and vice versa). The instrument has undergone expert validation and a pilot test involving 30 respondents to assess reliability and validity. Cronbach's alpha for each construct is above 0.70, indicating acceptable internal consistency.

Data Collection Procedure

Data collection was conducted through the distribution of online and printed questionnaires for one month. Respondents were informed about the purpose of the study, anonymity, and their voluntary participation in ethical research practices. Informed consent was obtained before they participated.

Data Analysis Techniques

The collected data were analyzed using multiple linear regression analysis with the help of SPSS. Before conducting the regression analysis, the data had gone through (1) descriptive statistics to describe the characteristics of respondents and the distribution of variables; (2) assumption testing, including normality and multicollinearity; and (3) inferential statistics to test the simultaneous effects of independent variables on dependent variables. The regression model was tested at a significance level of $\alpha = 0.05$. The standardized beta coefficient determined the strength and direction of the relationship, and the model fit was assessed through the adjusted R^2 value.

RESULTS AND DISCUSSION

Findings

Demographics of Respondent

This study was conducted on 299 *madrasah* teachers in Banten Province, Indonesia. The respondents were 124 male teachers and 175 female teachers, ranging from *Madrasah Diniyah* to *Madrasah Aliyah* levels. The demographics of the respondents are shown in Table 1 below.

Table 1. Demographics of Respondents

Demographics of respondents		Frequency	Percent
Gender	Male	124	41.5
	Female	175	58.5
Age	<25 years	48	16,1
	26-30 years	52	17,4
	31-35 years	36	12,0
	36-40 years	37	12,4
	41-45 years	41	13,7
	46-50 years	41	13,7
	51-55 years	24	8,0
	>55 years	20	6,7
Level of education	High School	30	10,0
	S1	230	76,6
	S2	36	12,0
	S3	3	1,0
Teaching Experience	< 5 years	90	30,1
	6-10 years	48	15,7
	11-15 years	45	15,1

Education Units	16-20 years	49	16,4
	21-25 years	35	11,7
	26-30 years	21	7,0
	>31 years	11	3,7
	Raudhatul Athfal	13	4,3
	Diniyah	27	9,0
	Ibtidaiyah	67	22,4
	Tsanawiyah	100	33,4
	Aliyah	92	30,8

Table 1 presents the demographic data of respondents consisting of 299 *madrasah* teachers in Banten Province, Indonesia. Based on gender, most respondents were female (58.5%), while males accounted for 41.5%. In terms of age range, the largest age group was 26–30 years (17.4%), followed by 41–45 years and 46–50 years, each at 13.7%. The respondents' education level was dominated by S1 graduates (76.6%), with the proportion of S2 graduates at 12.0%, S3 graduates at 1.0%, and high school graduates at 10.0%. In terms of teaching experience, most respondents had less than 5 years of experience (30.1%), followed by 16–20 years of experience (16.4%) and 6–10 years of experience (15.7%). The educational units where they teach are mainly at the *Madrasah Tsanawiyah* level (33.4%), followed by *Madrasah Aliyah* (30.8%) and *Madrasah Ibtidaiyah* (22.4%). These data provide an overview that the respondents in this study have sufficient diversity in demographic characteristics in terms of gender, age, education, teaching experience, and educational units.

Descriptive Statistics

Table 2 below shows descriptive statistics for the four research variables: spiritual education, teacher professionalism, school climate, and educational quality.

Table 2. Descriptive Statistics of Research Variables

		Spiritual Education	Teacher Professionalism	School Climate	Educational Quality
N	Valid	299	299	299	299
	Missing	0	0	0	0
Mean		124.03	121.27	120.76	117.32
Median		124.00	120.00	120.00	118.00
Mode		123	118	114	118 ^a
Std. Deviation		13.346	13.543	13.703	15.363
Variance		178.120	183.414	187.779	236.011
Minimum		86	87	86	84
Maximum		150	150	150	150

a. Multiple modes exist. The smallest value is shown

Based on Table 2 above, the highest mean score was found in the Spiritual Education variable ($M = 124.03$), followed by Teacher Professionalism ($M = 121.27$), School Climate ($M = 120.76$), and Educational Quality ($M = 117.32$). The median and mode values for each variable were close to the mean, indicating a relatively symmetrical data distribution, although there was more than one mode for some variables. The standard deviation ranged from 13.346 to 15.363, indicating moderate variation among respondents' scores. The range of

scores varied from a minimum of 84 to a maximum of 150 for the four variables. Thus, there was consistency in the participants' responses to the research instrument.

Assumption Testing

Before further regression analysis, it is necessary to ensure that the residual data meets the normality assumption because residual normality is an important requirement for producing valid model estimates. In this study, the normality test was carried out using the Kolmogorov-Smirnov Test. The residual data is said to be normally distributed if the Asymp. Sig. (2-tailed) value is greater than 0.05 (Ghozali, 2018). The complete results of this normality test are presented in Table 3.

Table 3. Kolmogorov-Smirnov Test

		Unstandardized Residual	Unstandardized Residual	Unstandardized Residual
N		299	299	299
Normal Parameters ^{a,b}	Mean	.0000000	.0000000	.0000000
	Std. Deviation	11.44335425	9.49542673	8.19089631
Most Extreme Differences	Absolute	0.036	.040	.045
	Positive	0.024	.028	.031
	Negative	-0.036	-.040	-.045
Test Statistic		.036	.040	.045
Asymp. Sig. (2-tailed)		.180 ^a	0.120 ^a	.090 ^a

a. Test distribution is Normal.

b. Calculated from data.

Table 3 above shows the Asymp. Sig. (2-tailed) value for the three variables above 0.05, namely 0.180, 0.120, and 0.090. This value indicates that the residual data for all variables (spiritual education, teacher professionalism, school climate, and educational quality) follows a normal distribution. Thus, the assumption of normality in this study has been met so that the data can continue to be analyzed using parametric statistical techniques.

The Tolerance and Variance Inflation Factor (VIF) values are used for testing to ensure that there is no multicollinearity issue amongst the independent variables in the regression model. The results of the multicollinearity test in this study are presented in Table 4 below.

Table 4. Multicollinearity Test Results

		Coefficients ^a					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients			Tolerance	VIF
		B	Std. Error	Beta	t	Sig.		
1	(Constant)	3.214	4.558		.705	.481		
	Spiritual Education	.027	.061	.025	.441	.660	.320	3.129
	Teacher Professionalism	.309	.070	.279	4.394	.000	.252	3.971
	School Climate	.614	.061	.574	10.027	.000	.310	3.228

a. Dependent Variable: Educational Quality

Based on Table 4 above, all independent variables in the model, namely spiritual education, teacher professionalism, and school climate, show a Tolerance value above 0.1 and

a Variance Inflation Factor (VIF) value below 10. In detail, the Tolerance value ranges from 0.252 to 0.320, while the VIF value ranges from 3.129 to 3.971. These values indicate no significant multicollinearity between independent variables in the regression model. Thus, it can be concluded that the three independent variables are suitable for regression analysis without worrying about bias due to the high correlation between variables.

Inferential Statistics

Table 5 summarizes the results of the linear regression model used to analyze the influence of school climate, spiritual education, and teacher professionalism on educational quality. This model measures the extent to which the independent variables can predict the dependent variable, namely the quality of education. The R-value and other coefficients associated with this model illustrate the strength of the relationship and the accuracy of the model's predictions.

Table 5. Summary of Linear Regression Model Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837 ^a	.701	.698	8.133

a. Predictors: (Constant), School Climate, Spiritual Education, Teacher Professionalism

b. Dependent Variable: Educational Quality

Based on the results in Table 5, the R-value of 0.837 indicates a powerful relationship between the independent variables and Educational Quality. The R Square value of 0.701 indicates that the variables school climate, spiritual education, and teacher professionalism can explain 70.1% of the variation in educational quality. The Adjusted R Square value of 0.698 indicates a more adjusted model and remains strong, even after considering the number of variables in the model—the Std. The error of the Estimate of 8.133 indicates a relatively low level of model prediction error, indicating good accuracy in estimating educational quality. Overall, this model is good in explaining the factors that influence the quality of education in *madrasahs*.

Table 6 below tests the significance of the regression model connecting school climate, spiritual education, and teacher professionalism with educational quality.

Table 6 ANOVA Test Results

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45688.427	3	15229.476	230.255	.000 ^b
	Residual	19511.821	295	66.142		
	Total	65200.247	298			

a. Dependent Variable: Educational Quality

b. Predictors: (Constant), School Climate, Spiritual Education, Teacher Professionalism

Based on the results presented in Table 7, the F value of 230.255 with a Sig. ValueThe of 0.000 indicates that the regression model connecting school climate, spiritual education, and teacher professionalism with educational quality is statistically significant ($p < 0.05$). In other words, this regression model successfully explains significant variations in

the quality of education. The Sum of Squares value for the regression of 45,688.427 indicates the contribution of the model in explaining variations. In contrast, the Sum of Squares for the residual of 19,511.821 indicates variations the model cannot explain. Overall, this ANOVA test supports the validity of the regression model in explaining the factors that influence the quality of education in *madrasahs*.

Based on information from Table 4, the regression model to predict educational quality based on three independent variables, namely spiritual education, teacher professionalism, and school climate can be arranged as follows: Educational Quality = $\beta_0 + \beta_1(X_1) + \beta_2(X_2) + \beta_3(X_3)$, with intercept (β_0) = 3.214; coefficient for spiritual education (β_1) = 0.027; coefficient for teacher professionalism (β_2) = 0.309; coefficient for school climate (β_3) = 0.614; thus, the regression model is as follows:

$$Y = 3.214 + 0.027X_1 + 0.309X_2 + 0.614X_3$$

The value of 3.214 shows the value of educational quality when the three predictor variables (spiritual education, teacher professionalism, and school climate) are 0. Every one-unit increase in spiritual education will increase educational quality by 0.027, although this value is relatively small. Every one-unit increase in teacher professionalism will increase educational quality by 0.309, which shows a greater positive influence than spiritual education. Every one-unit increase in school climate will increase educational quality by 0.614, showing a powerful influence on educational quality in *Madrasah*. Thus, teacher professionalism and school climate contribute more significantly to improving educational quality in Madrasah than spiritual education.

Discussion

The linear regression analysis findings evidence a strong relationship between the three independent variables, spiritual education, teacher professionalism, school climate, and educational quality in madrasahs. The large R-value (0.837) is evidence that the joint effort of the three factors significantly affects the quality of madrasahs education. [Nasrollahi et al. \(2020\)](#) have demonstrated that spirituality in education is a fundamental aspect that, in turn, promotes the quality of teaching and learning, being influenced by personal, social, religious and cultural factors. Further, according to [Samad et al. \(2023\)](#), the moral and spiritual upbringing of the students is believed to influence the level of morale and academic performance. Extending from this, [Kotten et al. \(2025\)](#) have claimed that spiritual learning creates a meaning-drenched and dialogical educational environment conducive to tolerance, empathy and cooperation. This highlights the significance of the sociocultural environment that shapes the relationship among students, educators, and resources towards the optimal learning quality.

[Fraser-Pearce \(2022\)](#) has suggested that spiritual education can be an aspect of relational education, interested in the relationship with the transcendent dimension and conducive to the full developmental potentials of learners. Incorporation of the spiritual in education adds value to the learning process. It is the source of moral education for students; this model of moral education brings up an individual who is not only a high achiever in

academics but also a quality being. So, spirituality is crucial in promoting the improvement of education by creating a generation of learners who possess intellectual, emotional and spiritual balance and are ready to contribute positively to society.

According to a study by [Nugraha and Dekawati \(2023\)](#), school culture and teacher professionalism greatly influence the standard of instruction in private vocational schools in Indramayu. This highlights the significance of outside elements like professionalism and a positive learning environment. A deeper layer to education about spiritual values has been added by research by [I. Gunawan and Adha \(2021\)](#), which has demonstrated the significant impact of spiritual leadership on teacher effectiveness and student accomplishment in elementary schools. Non-structural elements like spiritual leadership and structural elements like school culture and teacher professionalism can work together. Spiritual leadership has the potential to increase teacher professionalism and school culture. Thus, both must be taken into account holistically in order to raise educational standards. Accordingly, enhancing educational results is greatly aided by professional development and innovative learning techniques ([Raina et al., 2013](#)). This emphasizes how crucial teacher quality is to determine a school's overall efficacy.

School climate has been identified as a factor that significantly influences the quality of learning and educational outcomes, as stated by [Kutsyuruba et al. \(2015\)](#), [Wang and Degol \(2016\)](#), and [Mahmood et al. \(2024\)](#). Research by [Daily et al. \(2019\)](#) found that all domains of school climate had significant effects on academic achievement, with academic support showing the most potent effects among middle and high school students. This suggests that aspects of school support, regarding facilities and interactions between teachers and students, can directly influence students' academic achievement. In line with this, [Shindler et al. \(2016\)](#) emphasized that the quality of school climate is a significant predictive factor in determining a school's capacity to achieve educational goals. In this regard, [Amsalu and Belay \(2024\)](#) emphasized the importance of creating a positive and supportive school climate, which facilitates effective learning and improves students' academic achievement. According to [Uline et al. \(2009\)](#), A favorable school climate fosters a sense of belonging, control, and competence among students, supporting academic learning. Thus, creating a conducive school climate is key to improving the overall quality of education.

Spiritual education, teacher professionalism, and school climate simultaneously create positive effects that improve the quality of education. Spiritual values embedded in teaching practices, combined with professional development and a supportive school environment, lead to improved student learning outcomes and overall school effectiveness ([Uline et al., 2009](#); [Samad et al., 2023](#); [McChesney & Cross, 2023](#); [Kotten et al., 2025](#)). This means that the combination of these three variables forms a reliable quality of education.

While our current model explains 70.1% of the variation in the quality of education, a significant 29.9% needs to be understood. This gap presents an opportunity for further research and improvement. The quality of education is influenced by various factors at the macro level, including curriculum policies, educational management, and the application of educational technology. [Boonk et al. \(2018\)](#) emphasized that school policies that encourage partnerships between schools and families have a significant contribution to improving student learning outcomes, which is one indicator of educational quality. In line with this,

[Donkoh et al. \(2023\)](#) found that effective educational management plays an important role in improving the quality of education in the school environment. In addition, [Akintayo et al. \(2024\)](#) showed that the use of educational technology can strengthen student engagement, increase knowledge retention, and develop high-level thinking skills, all of which contribute to improving the quality of learning. However, the effectiveness of the use of educational technology is greatly influenced by the type of technology used, the pedagogical approach applied, and the quality of its implementation in educational institutions ([Akintayo et al., 2024](#)).

In addition, the Adjusted R Square value of 0.698 indicates that the research model can explain the variability of education quality. Although there is a slight decrease in the R Square value, this is a reasonable adjustment to avoid overfitting and reflects a statistically good model ([Sarstedt et al., 2021](#)). This decrease indicates that although the internal factors tested make a significant contribution to education quality, there is a possibility that other external factors have an influence but have not been fully captured in the model. These external factors, such as government support, community involvement, and inclusive education policies, are important in supporting sustainable education quality development ([Ainscow, 2020](#)). Therefore, further exploration of these external variables is important to be carried out in future studies.

Furthermore, the low level of prediction error, as reflected in the Std. The error of the Estimate of 8.133 indicates that this model can be relied on to estimate education quality with a pretty good level of accuracy. This means that even though some factors have not been considered in the model, this model can still be a valuable tool for decision-makers in designing more effective education policies. This finding supports the argument that the success of education policies is highly dependent on the extent to which internal factors such as school leadership and teacher morale ([Yi & Shin, 2018](#); [Yi & Kim, 2019](#); [Samsuddin et al., 2023](#); [Zulkifly et al., 2023](#)), resource allocation ([Hanushek, 2009](#)), and school environment ([Carr-Hill, 2023](#)); as well as external factors such as external accountability ([Yi & Shin, 2018](#); [Yi & Kim, 2019](#)), economic and social ([Oluwashina & Oladipo, 2025](#)), and partnerships ([Baek, 2022](#)) can be managed well.

Based on these findings, it is important to consider other factors that can enrich the understanding of the quality of education in madrasahs. Further research can examine the role of factors such as national education policy, parental support, and the use of technology in supporting the teaching and learning process. Further research can also integrate other variables, such as student motivation and collaboration between various stakeholders in education, to better understand the dynamics that influence the quality of education. Broader research can also examine the interaction between the three main factors tested in this study (school climate, spiritual education, and teacher professionalism) and external factors such as education policy and assess their impact at different school or madrasah levels. Thus, further research can focus more on how these three factors can interact with each other to support the achievement of better education goals.

CONCLUSION

In conclusion, the influence of the variables school climate, spiritual education, and teacher professionalism on educational quality in madrasahs, with the most striking finding being the dominance of school climate and teacher professionalism in influencing the quality of education, although spiritual education also plays an important role. However, this study has limitations, including a sample limited to madrasah teachers in one province with a relatively small number of respondents, so these findings cannot be generalized to all madrasahs in Indonesia or other countries. In addition, only three variables were tested, so many other external factors may also influence the quality of education in madrasahs, such as education policies, parental support, and socio-economic factors, which were not accommodated in this study. Therefore, it is recommended that further research involve larger and more varied samples and consider broader external factors to provide a more comprehensive understanding of the quality of education in madrasahs. With more in-depth and comprehensive results, more appropriate and evidence-based education policies can be formulated to improve future education quality.

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Contributions of Spiritual Education, Teacher Professionalism, and School Climate to Madrasah Quality in Banten, Indonesia

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Abstract

This study aims to analyze the influence of spiritual education, teacher professionalism, and school climate on the quality of education in madrasahs. The method used is a quantitative approach with a survey technique. The research sample consisted of 299 state and private madrasah teachers randomly selected in Banten Province, Indonesia. The measurement instrument for four variables used a Likert scale that had been tested for validity and reliability. Data were collected through an online questionnaire and analyzed using multiple linear regression analysis. Before conducting the regression analysis, assumption testing, including normality and multicollinearity, was carried out to ensure the feasibility of the model. The results showed that spiritual education, teacher professionalism, and school climate significantly influenced the quality of education in madrasahs, with a powerful regression model ($R^2 = 0.701$) and a low prediction error (8.133). These findings suggest the importance of combining variables to improve the quality of education in madrasahs by considering non-academic factors such as spiritual education and school climate. The implications of these results are the need for more inclusive and integrative education policies to improve the quality of madrasah education by strengthening these three factors and the need for further research with more diverse samples to gain a deeper understanding.

Keywords: Educational quality, Professionalism of teachers, School climate, Spiritual education.

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh pendidikan spiritual, profesionalisme guru, dan iklim sekolah terhadap kualitas pendidikan di madrasah. Metode yang digunakan adalah pendekatan kuantitatif dengan teknik survei. Sampel penelitian terdiri dari 299 guru madrasah negeri dan swasta yang dipilih secara acak di Provinsi Banten, Indonesia. Instrumen pengukuran empat variabel menggunakan skala Likert yang telah diuji validitas dan reliabilitasnya. Data dikumpulkan melalui kuesioner daring dan dianalisis menggunakan analisis regresi linier berganda. Sebelum melakukan analisis regresi, pengujian asumsi, termasuk normalitas dan multikolinearitas, dilakukan untuk memastikan kelayakan model. Hasil penelitian menunjukkan bahwa secara simultan, pendidikan spiritual, profesionalisme guru, dan iklim sekolah memiliki

pengaruh signifikan terhadap kualitas pendidikan di madrasah, dengan model regresi yang kuat ($R^2 = 0,701$) dan tingkat kesalahan prediksi yang rendah (8,133). Temuan ini menyarankan pentingnya penggabungan variabel dalam meningkatkan kualitas pendidikan di madrasah dengan memperhatikan faktor-faktor non-akademik seperti pendidikan spiritual dan iklim sekolah. Implikasi dari hasil ini adalah perlunya kebijakan pendidikan yang lebih inklusif dan integratif untuk meningkatkan kualitas pendidikan madrasah melalui penguatan tiga faktor tersebut, serta perlunya penelitian lebih lanjut dengan sampel yang lebih beragam untuk memperoleh pemahaman yang lebih mendalam.

Kata Kunci: Educational quality, Professionalism of teachers, School climate, Spiritual education

INTRODUCTION

Improving the quality of *madrasah* education has become an important issue in many developing countries (Asadullah & Chaudhury, 2016; Latief et al., 2021; Juhaeni et al., 2021; Ernadiati & Herlina, 2022; Sugiri & Ma'shum, 2022; A. Gunawan et al., 2022; Haddade et al., 2024; Zakariyah, 2024; Arsyad, 2024), including Indonesia (Subandi et al., 2021; Zakariyah, 2024; Mahmud & Mali, 2024; Haddade et al., 2024; Mahsusi et al., 2024), where *madrasahs* play a significant role in providing religious and general education (Aminullah et al., 2024; Badrun, 2024). In particular, Banten Province, with its strong Islamic education tradition (Hudaeri et al., 2020; Sahara et al., 2022; Mu'awanah et al., 2025), has witnessed significant efforts to improve the performance and outcomes of its *madrasah* institutions (Juhaeni et al., 2021; Rahmatullah, 2021; Mahsusi et al., 2024). However, despite various reforms, the quality of *madrasah* education in this province still shows no drastic changes (Rahmatullah, 2021). Therefore, understanding the main factors that contribute to *madrasah* quality—such as spiritual education, teacher professionalism, and school climate—is crucial. By '*madrasah* quality,' we refer to the holistic development of students, the effectiveness of teaching and learning processes, and the institution's overall performance.

Previous studies have extensively discussed individual aspects that influence school quality (Gibbons & Silva, 2011; Wenger et al., 2020). For example, several studies have highlighted the role of spiritual education in shaping student character and school ethos (A. Abdullah, 2018; Mulang & Putra, 2023; N. Abdullah, 2024). Others have examined teacher professionalism, emphasizing its impact on teaching quality and student learning outcomes (Antoniou & Kyriakides, 2013; Yang & Kaiser, 2022; Ventista & Brown, 2023). Similarly, the influence of a favorable school climate on student academic achievement and well-being has been widely documented (Kutsyuruba et al., 2015; Steinmayr et al., 2018; Lombardi et al., 2019). However, most previous studies have addressed these factors separately (partially) and have rarely been combined to assess *madrasah* quality, especially in *madrasahs* in Banten Province, Indonesia. Furthermore, research focusing on *madrasah* institutions rather than public schools is still limited. This gap indicates the need for a simultaneous investigation of the three factors affecting *madrasah* education quality.

In addition, in the last 5 years, research on spiritual education, teacher professionalism, school climate, and the quality of *madrasah* education can be mapped through bibliometric

visualization using VOSviewer (See Figure 1). This visualization provides a comprehensive overview of the research landscape, highlighting the key areas of focus and the relationships between different factors. Principal, teacher performance, school climate, and teacher education appear to have larger node sizes, indicating high frequency in the literature and a close relationship with the quality of *madrasah* education. The dense connection network between nodes reflects the close relationship between teacher professionalism, school climate, leadership supervision, and the quality of *madrasah* educational institutions. This visualization reinforces the importance of simultaneous research in analyzing *madrasah* quality by emphasizing that spirituality, teacher professionalism, and school climate cannot be separated in building superior Islamic educational institutions (*madrasas*).

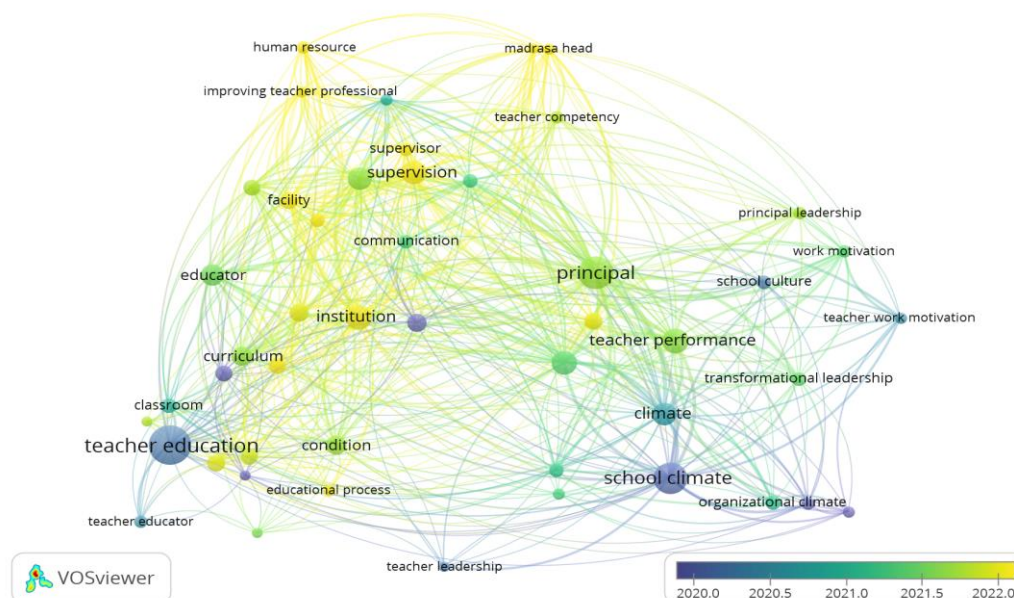


Figure 1. Bibliometric visualization using VOSviewer on spiritual education, teacher professionalism, school climate, and the quality of *madrasah* education (2020-2024)

Based on the mapping results, this study empirically tests the contribution of spiritual education, teacher professionalism, and school climate to the quality of *madrasas* in Banten. This analysis is expected to not only strengthen previous findings regarding the importance of teacher professionalism and school climate (DeAngelis & Presley, 2011; Nugraha & Dekawati, 2023) but also introduce the dimension of spirituality as an important factor that has so far received less attention in academic studies.

This study's central research question is how the empirical analysis of spiritual education, teacher professionalism, and school climate contribute to *madrasah* education quality. Although there are policy efforts to strengthen character education (A. Abdullah, 2018; Suherman et al., 2019; Subaidi, 2020; Setyosari & Kamdi, 2021; Istiyono et al., 2021), the measurable impact on educational outcomes is still ambiguous. In addition, although teacher professionalism and school climate have been repeatedly confirmed as strong determinants of school effectiveness (Hu et al., 2019; Redes et al., 2023), spiritual education is often treated as a peripheral element (Walker & McLean, 2010; Mulang & Putra, 2023), and its synergy with other variables is rarely tested using robust quantitative methods.

Therefore, the main objective of this study is to examine the combined contribution of spiritual education, teacher professionalism, and school climate to the quality of *madrasah* education in Banten, Indonesia. Unlike previous studies that analyzed these factors separately (Halik et al., 2018; Mahmood et al., 2024), this study combines all three factors simultaneously to reveal their collective influence on the quality of *madrasah* education. Thus, this study aims to fill the gap in the literature and provide empirical evidence-based insights tailored to the unique characteristics of *madrasah* education in Indonesia.

Specifically, this paper tests the hypothesis that spiritual education, teacher professionalism, and school climate simultaneously contribute significantly and positively to the quality of *madrasahs*. Through this investigation, this study contributes theoretically to the discourse on the quality of Islamic education (*madrasah*) and practically to policy recommendations for improving the education system in *madrasahs*.

METHOD

Research Design

This study uses a quantitative approach with a survey method to examine the influence of spiritual education, teacher professionalism, and school climate on the quality of education. The quantitative design was chosen to allow statistical generalization of the findings and to test hypotheses of relationships between variables through multiple regression analysis.

Population and Sample

This study's target population consisted of state and private *madrasah* teachers at the elementary and secondary education levels in Banten, Indonesia. A stratified random sampling technique was used to ensure proportional representation based on education level. The sample size, determined using the Krejcie and Morgan (1970) formula, is a robust 299 respondents.

Variables

This study investigated four main variables. *First*, spiritual education (X_1) was measured using a Likert scale questionnaire developed independently. It adapted from Hay and Nye (2006), Tirri (2011), and Lovat et al. (2010), which includes the dimensions of (1) self-awareness, (2) transcendental connection, (3) moral and ethical values, and (4) compassion and social concern. *Second*, teacher professionalism (X_2) adapted and developed by Day and Sachs (2005), Hargreaves and Fullan (2015), and Stronge (2018) which includes the dimensions of (1) pedagogical competence, (2) continuing professional development, (3) professional ethics, and (4) commitment and collaboration.

Third, school climate (X_3), measured based on the framework by Thapa et al. (2013) and Wang and Degol (2016), include (1) physical and psychological safety, (2) positive interpersonal relationships, (3) supportive learning environment, and (4) leadership and institutional support. *Fourth*, educational quality (Y), adapted from Scheerens et al. (2011) and Slavin (2018), includes dimensions of (1) student learning outcomes, (2) instructional effectiveness, (3) stakeholder satisfaction, and (4) continuous innovation and evaluation. Each

item is rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree if the item is in a positive form and vice versa). The instrument has undergone expert validation and a pilot test involving 30 respondents to assess reliability and validity. Cronbach's alpha for each construct is above 0.70, indicating acceptable internal consistency.

Data Collection Procedure

Data collection was conducted through the distribution of online and printed questionnaires for one month. Respondents were informed about the purpose of the study, anonymity, and their voluntary participation in ethical research practices. Informed consent was obtained before they participated.

Data Analysis Techniques

The collected data were analyzed using multiple linear regression analysis with the help of SPSS. Before conducting the regression analysis, the data had gone through (1) descriptive statistics to describe the characteristics of respondents and the distribution of variables; (2) assumption testing, including normality and multicollinearity; and (3) inferential statistics to test the simultaneous effects of independent variables on dependent variables. The regression model was tested at a significance level of $\alpha = 0.05$. The standardized beta coefficient determined the strength and direction of the relationship, and the model fit was assessed through the adjusted R^2 value.

RESULTS AND DISCUSSION

Findings

Demographics of Respondent

This study was conducted on 299 *madrasah* teachers in Banten Province, Indonesia. The respondents were 124 male teachers and 175 female teachers, ranging from *Madrasah Diniyah* to *Madrasah Aliyah* levels. The demographics of the respondents are shown in Table 1 below.

Table 1. Demographics of Respondents

Demographics of respondents		Frequency	Percent
Gender	Male	124	41.5
	Female	175	58.5
Age	<25 years	48	16,1
	26-30 years	52	17,4
	31-35 years	36	12,0
	36-40 years	37	12,4
	41-45 years	41	13,7
	46-50 years	41	13,7
	51-55 years	24	8,0
	>55 years	20	6,7
Level of education	High School	30	10,0
	S1	230	76,6
	S2	36	12,0
	S3	3	1,0
Teaching Experience	< 5 years	90	30,1
	6-10 years	48	15,7
	11-15 years	45	15,1

Education Units	16-20 years	49	16,4
	21-25 years	35	11,7
	26-30 years	21	7,0
	>31 years	11	3,7
	Raudhatul Athfal	13	4,3
	Diniyah	27	9,0
	Ibtidaiyah	67	22,4
	Tsanawiyah	100	33,4
	Aliyah	92	30,8

Table 1 presents the demographic data of respondents consisting of 299 *madrasah* teachers in Banten Province, Indonesia. Based on gender, most respondents were female (58.5%), while males accounted for 41.5%. In terms of age range, the largest age group was 26–30 years (17.4%), followed by 41–45 years and 46–50 years, each at 13.7%. The respondents' education level was dominated by S1 graduates (76.6%), with the proportion of S2 graduates at 12.0%, S3 graduates at 1.0%, and high school graduates at 10.0%. In terms of teaching experience, most respondents had less than 5 years of experience (30.1%), followed by 16–20 years of experience (16.4%) and 6–10 years of experience (15.7%). The educational units where they teach are mainly at the *Madrasah Tsanawiyah* level (33.4%), followed by *Madrasah Aliyah* (30.8%) and *Madrasah Ibtidaiyah* (22.4%). These data provide an overview that the respondents in this study have sufficient diversity in demographic characteristics in terms of gender, age, education, teaching experience, and educational units.

Descriptive Statistics

Table 2 below shows descriptive statistics for the four research variables: spiritual education, teacher professionalism, school climate, and educational quality.

Table 2. Descriptive Statistics of Research Variables

		Spiritual Education	Teacher Professionalism	School Climate	Educational Quality
N	Valid	299	299	299	299
	Missing	0	0	0	0
Mean		124.03	121.27	120.76	117.32
Median		124.00	120.00	120.00	118.00
Mode		123	118	114	118 ^a
Std. Deviation		13.346	13.543	13.703	15.363
Variance		178.120	183.414	187.779	236.011
Minimum		86	87	86	84
Maximum		150	150	150	150

a. Multiple modes exist. The smallest value is shown

Based on Table 2 above, the highest mean score was found in the Spiritual Education variable ($M = 124.03$), followed by Teacher Professionalism ($M = 121.27$), School Climate ($M = 120.76$), and Educational Quality ($M = 117.32$). The median and mode values for each variable were close to the mean, indicating a relatively symmetrical data distribution, although there was more than one mode for some variables. The standard deviation ranged from 13.346 to 15.363, indicating moderate variation among respondents' scores. The range of

scores varied from a minimum of 84 to a maximum of 150 for the four variables. Thus, there was consistency in the participants' responses to the research instrument.

Assumption Testing

Before further regression analysis, it is necessary to ensure that the residual data meets the normality assumption because residual normality is an important requirement for producing valid model estimates. In this study, the normality test was carried out using the Kolmogorov-Smirnov Test. The residual data is said to be normally distributed if the Asymp. Sig. (2-tailed) value is greater than 0.05 (Ghozali, 2018). The complete results of this normality test are presented in Table 3.

Table 3. Kolmogorov-Smirnov Test

		Unstandardized Residual	Unstandardized Residual	Unstandardized Residual
N		299	299	299
Normal Parameters ^{a,b}	Mean	.0000000	.0000000	.0000000
	Std. Deviation	11.44335425	9.49542673	8.19089631
Most Extreme Differences	Absolute	.036	.040	.045
	Positive	.024	.028	.031
	Negative	-.036	-.040	-.045
Test Statistic		.036	.040	.045
Asymp. Sig. (2-tailed)		.180 ^a	.120 ^a	.090 ^a

a. Test distribution is Normal.

b. Calculated from data.

Table 3 above shows the Asymp. Sig. (2-tailed) value for the three variables above 0.05, namely 0.180, 0.120, and 0.090. This value indicates that the residual data for all variables (spiritual education, teacher professionalism, school climate, and educational quality) follows a normal distribution. Thus, the assumption of normality in this study has been met so that the data can continue to be analyzed using parametric statistical techniques.

The Tolerance and Variance Inflation Factor (VIF) values are used for testing to ensure that there is no multicollinearity issue amongst the independent variables in the regression model. The results of the multicollinearity test in this study are presented in Table 4 below.

Table 4. Multicollinearity Test Results

		Coefficients ^a				Collinearity Statistics	
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Tolerance VIF
1	(Constant)	3.214	4.558		.705	.481	
	Spiritual Education	.027	.061	.025	.441	.660	.320 3.129
	Teacher Professionalism	.309	.070	.279	4.394	.000	.252 3.971
	School Climate	.614	.061	.574	10.027	.000	.310 3.228

a. Dependent Variable: Educational Quality

Based on Table 4 above, all independent variables in the model, namely spiritual education, teacher professionalism, and school climate, show a Tolerance value above 0.1 and

a Variance Inflation Factor (VIF) value below 10. In detail, the Tolerance value ranges from 0.252 to 0.320, while the VIF value ranges from 3.129 to 3.971. These values indicate no significant multicollinearity between independent variables in the regression model. Thus, it can be concluded that the three independent variables are suitable for regression analysis without worrying about bias due to the high correlation between variables.

Inferential Statistics

Table 5 summarizes the results of the linear regression model used to analyze the influence of school climate, spiritual education, and teacher professionalism on educational quality. This model measures the extent to which the independent variables can predict the dependent variable, namely the quality of education. The R-value and other coefficients associated with this model illustrate the strength of the relationship and the accuracy of the model's predictions.

Table 5. Summary of Linear Regression Model Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837 ^a	.701	.698	8.133

a. Predictors: (Constant), School Climate, Spiritual Education, Teacher Professionalism

b. Dependent Variable: Educational Quality

Based on the results in Table 5, the R-value of 0.837 indicates a powerful relationship between the independent variables and Educational Quality. The R Square value of 0.701 indicates that the variables school climate, spiritual education, and teacher professionalism can explain 70.1% of the variation in educational quality. The Adjusted R Square value of 0.698 indicates a more adjusted model and remains strong, even after considering the number of variables in the model—the Std. The error of the Estimate of 8.133 indicates a relatively low level of model prediction error, indicating good accuracy in estimating educational quality. Overall, this model is good in explaining the factors that influence the quality of education in *madrasahs*.

Table 6 below tests the significance of the regression model connecting school climate, spiritual education, and teacher professionalism with educational quality.

Table 6 ANOVA Test Results

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45688.427	3	15229.476	230.255	.000 ^b
	Residual	19511.821	295	66.142		
	Total	65200.247	298			

a. Dependent Variable: Educational Quality

b. Predictors: (Constant), School Climate, Spiritual Education, Teacher Professionalism

Based on the results presented in Table 7, the F value of 230.255 with a Sig. ValueThe of 0.000 indicates that the regression model connecting school climate, spiritual education, and teacher professionalism with educational quality is statistically significant ($p < 0.05$). In other words, this regression model successfully explains significant variations in

the quality of education. The Sum of Squares value for the regression of 45,688.427 indicates the contribution of the model in explaining variations. In contrast, the Sum of Squares for the residual of 19,511.821 indicates variations the model cannot explain. Overall, this ANOVA test supports the validity of the regression model in explaining the factors that influence the quality of education in *madrasahs*.

Based on information from Table 4, the regression model to predict educational quality based on three independent variables, namely spiritual education, teacher professionalism, and school climate can be arranged as follows: Educational Quality = $\beta_0 + \beta_1(X_1) + \beta_2(X_2) + \beta_3(X_3)$, with intercept (β_0) = 3.214; coefficient for spiritual education (β_1) = 0.027; coefficient for teacher professionalism (β_2) = 0.309; coefficient for school climate (β_3) = 0.614; thus, the regression model is as follows:

$$Y = 3.214 + 0.027X_1 + 0.309X_2 + 0.614X_3$$

The value of 3.214 shows the value of educational quality when the three predictor variables (spiritual education, teacher professionalism, and school climate) are 0. Every one-unit increase in spiritual education will increase educational quality by 0.027, although this value is relatively small. Every one-unit increase in teacher professionalism will increase educational quality by 0.309, which shows a greater positive influence than spiritual education. Every one-unit increase in school climate will increase educational quality by 0.614, showing a powerful influence on educational quality in *Madrasah*. Thus, teacher professionalism and school climate contribute more significantly to improving educational quality in *Madrasah* than spiritual education.

Discussion

The linear regression analysis findings evidence a strong relationship between the three independent variables, spiritual education, teacher professionalism, school climate, and educational quality in *madrasas*. The large R-value (0.837) is evidence that the joint effort of the three factors significantly affects the quality of *madrasas* education. Nasrollahi et al. (2020) have demonstrated that spirituality in education is a fundamental aspect that, in turn, promotes the quality of teaching and learning, being influenced by personal, social, religious and cultural factors. Further, according to Samad et al. (2023), the moral and spiritual upbringing of the students is believed to influence the level of morale and academic performance. Extending from this, Kotten et al. (2025) have claimed that spiritual learning creates a meaning-drenched and dialogical educational environment conducive to tolerance, empathy and cooperation. This highlights the significance of the sociocultural environment that shapes the relationship among students, educators, and resources towards the optimal learning quality.

Fraser-Pearce (2022) has suggested that spiritual education can be an aspect of relational education, interested in the relationship with the transcendent dimension and conducive to the full developmental potentials of learners. Incorporation of the spiritual in education adds value to the learning process. It is the source of moral education for students; this model of moral education brings up an individual who is not only a high achiever in

academics but also a quality being. So, spirituality is crucial in promoting the improvement of education by creating a generation of learners who possess intellectual, emotional and spiritual balance and are ready to contribute positively to society.

According to a study by Nugraha and Dekawati (2023), school culture and teacher professionalism greatly influence the standard of instruction in private vocational schools in Indramayu. This highlights the significance of outside elements like professionalism and a positive learning environment. A deeper layer to education about spiritual values has been added by research by I. Gunawan and Adha (2021), which has demonstrated the significant impact of spiritual leadership on teacher effectiveness and student accomplishment in elementary schools. Non-structural elements like spiritual leadership and structural elements like school culture and teacher professionalism can work together. Spiritual leadership has the potential to increase teacher professionalism and school culture. Thus, both must be taken into account holistically in order to raise educational standards. Accordingly, enhancing educational results is greatly aided by professional development and innovative learning techniques (Raina et al., 2013). This emphasizes how crucial teacher quality is to determine a school's overall efficacy.

School climate has been identified as a factor that significantly influences the quality of learning and educational outcomes, as stated by Kutsyuruba et al. (2015), Wang and Degol (2016), and Mahmood et al. (2024). Research by Daily et al. (2019) found that all domains of school climate had significant effects on academic achievement, with academic support showing the most potent effects among middle and high school students. This suggests that aspects of school support, regarding facilities and interactions between teachers and students, can directly influence students' academic achievement. In line with this, Shindler et al. (2016) emphasized that the quality of school climate is a significant predictive factor in determining a school's capacity to achieve educational goals. In this regard, Amsalu and Belay (2024) emphasized the importance of creating a positive and supportive school climate, which facilitates effective learning and improves students' academic achievement. According to Uline et al. (2009), A favorable school climate fosters a sense of belonging, control, and competence among students, supporting academic learning. Thus, creating a conducive school climate is key to improving the overall quality of education.

Spiritual education, teacher professionalism, and school climate simultaneously create positive effects that improve the quality of education. Spiritual values embedded in teaching practices, combined with professional development and a supportive school environment, lead to improved student learning outcomes and overall school effectiveness (Uline et al., 2009; Samad et al., 2023; McChesney & Cross, 2023; Kotten et al., 2025). This means that the combination of these three variables forms a reliable quality of education.

While our current model explains 70.1% of the variation in the quality of education, a significant 29.9% needs to be understood. This gap presents an opportunity for further research and improvement. The quality of education is influenced by various factors at the macro level, including curriculum policies, educational management, and the application of educational technology. Boonk et al. (2018) emphasized that school policies that encourage partnerships between schools and families have a significant contribution to improving student learning outcomes, which is one indicator of educational quality. In line with this,

Donkoh et al. (2023) found that effective educational management plays an important role in improving the quality of education in the school environment. In addition, Akintayo et al. (2024) showed that the use of educational technology can strengthen student engagement, increase knowledge retention, and develop high-level thinking skills, all of which contribute to improving the quality of learning. However, the effectiveness of the use of educational technology is greatly influenced by the type of technology used, the pedagogical approach applied, and the quality of its implementation in educational institutions (Akintayo et al., 2024).

In addition, the Adjusted R Square value of 0.698 indicates that the research model can explain the variability of education quality. Although there is a slight decrease in the R Square value, this is a reasonable adjustment to avoid overfitting and reflects a statistically good model (Sarstedt et al., 2021). This decrease indicates that although the internal factors tested make a significant contribution to education quality, there is a possibility that other external factors have an influence but have not been fully captured in the model. These external factors, such as government support, community involvement, and inclusive education policies, are important in supporting sustainable education quality development (Ainscow, 2020). Therefore, further exploration of these external variables is important to be carried out in future studies.

Furthermore, the low level of prediction error, as reflected in the Std. The error of the Estimate of 8.133 indicates that this model can be relied on to estimate education quality with a pretty good level of accuracy. This means that even though some factors have not been considered in the model, this model can still be a valuable tool for decision-makers in designing more effective education policies. This finding supports the argument that the success of education policies is highly dependent on the extent to which internal factors such as school leadership and teacher morale (Yi & Shin, 2018; Yi & Kim, 2019; Samsuddin et al., 2023; Zulkifly et al., 2023), resource allocation (Hanushek, 2009), and school environment (Carr-Hill, 2023); as well as external factors such as external accountability (Yi & Shin, 2018; Yi & Kim, 2019), economic and social (Oluwashina & Oladipo, 2025), and partnerships (Baek, 2022) can be managed well.

Based on these findings, it is important to consider other factors that can enrich the understanding of the quality of education in madrasahs. Further research can examine the role of factors such as national education policy, parental support, and the use of technology in supporting the teaching and learning process. Further research can also integrate other variables, such as student motivation and collaboration between various stakeholders in education, to better understand the dynamics that influence the quality of education. Broader research can also examine the interaction between the three main factors tested in this study (school climate, spiritual education, and teacher professionalism) and external factors such as education policy and assess their impact at different school or madrasah levels. Thus, further research can focus more on how these three factors can interact with each other to support the achievement of better education goals.

CONCLUSION

In conclusion, the influence of the variables school climate, spiritual education, and teacher professionalism on educational quality in madrasahs, with the most striking finding being the dominance of school climate and teacher professionalism in influencing the quality of education, although spiritual education also plays an important role. However, this study has limitations, including a sample limited to madrasah teachers in one province with a relatively small number of respondents, so these findings cannot be generalized to all madrasahs in Indonesia or other countries. In addition, only three variables were tested, so many other external factors may also influence the quality of education in madrasahs, such as education policies, parental support, and socio-economic factors, which were not accommodated in this study. Therefore, it is recommended that further research involve larger and more varied samples and consider broader external factors to provide a more comprehensive understanding of the quality of education in madrasahs. With more in-depth and comprehensive results, more appropriate and evidence-based education policies can be formulated to improve future education quality.

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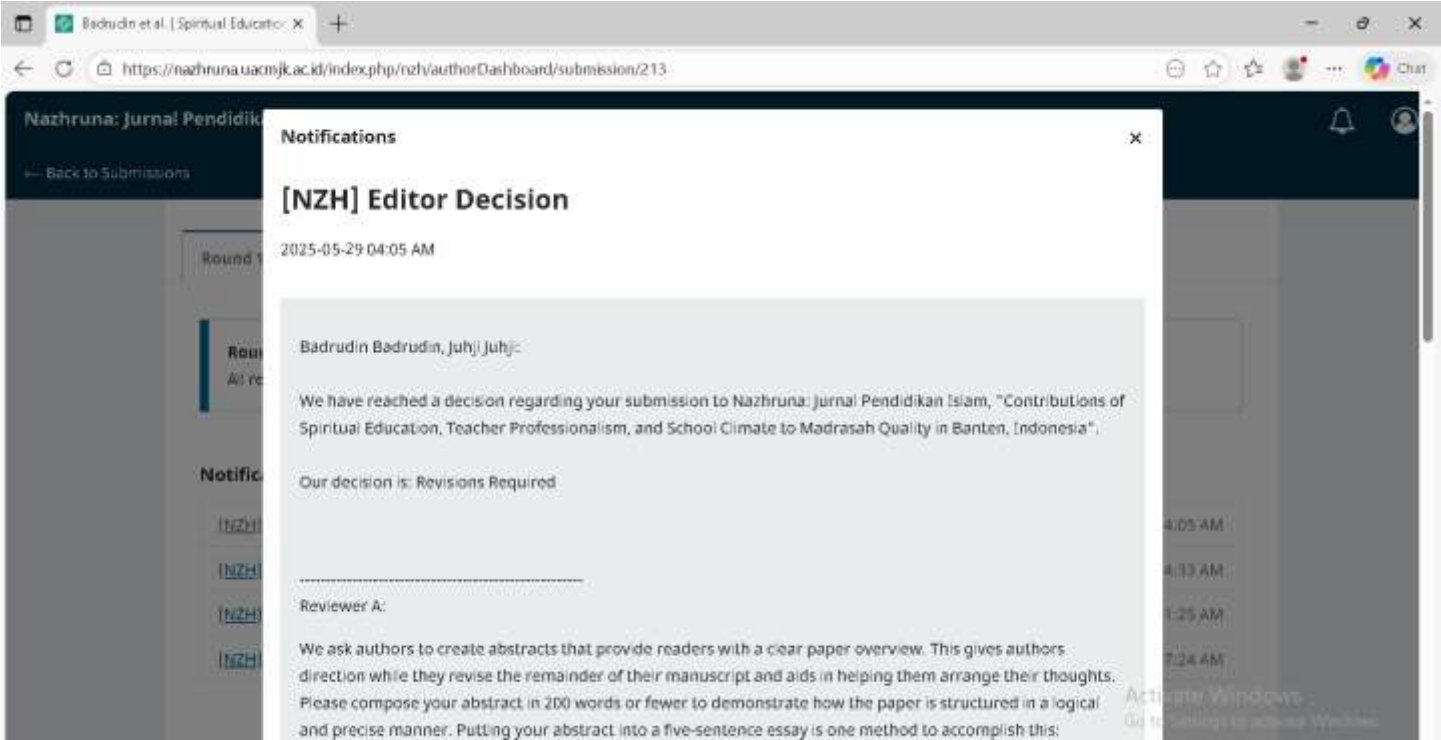
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Revision Round 1



Round 1

Round 2

All reviews

Notifications

[NZH]

[NZH]

[NZH]

[NZH]

Round 1

Round 2

All reviews

Notifications

[NZH]

[NZH]

[NZH]

[NZH]

You should describe the issue, the subject of your research, or the gap you hope to address in the first sentence. The research topic or hypothesis for your study will be discussed in the second sentence. You will discuss the subjects and methodology of your study in the third sentence. The fourth sentence should discuss the findings of your investigation. The key points of your discussion of the findings will be covered in the fifth sentence.

Your introduction follows these guidelines: Introduction (No more than 4 to 5 paragraphs)

(1) What is crucial about the ISU (phenomenon) that needs to be written about (needs to be published):

quantitative or qualitative (or both).

(2) Is the (existing) writing not enough? Explain what others have ALREADY written and what has NOT been written (hence the need for this paper). (Previous research) (Novelty).

(3) What is the (specific) purpose of the paper? (is it different from others? The purpose of this paper is to COMPLETE the shortcomings of the existing paper)-> focus of the paper.

(4) What do you want to test (prove) in this paper? (argument or hypothesis that you want to test)

The most important introduction is to show the position of your research by pointing to previous studies.

Bagian Gambar dan Vos Viewer di Buang saja

Jelaskan tanpa sub bab

Kami akan menerima jika menggunakan SEM dan PLS sebagai analisis datanya

Simple Conclusion:

1. Key Findings: The research found that [specific findings] had a greater impact than expected, challenging old assumptions and opening up new discussions.

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3. Limitations: This study is limited to a small sample and specific cases, making generalization difficult. Other factors, such as data variation, gender, and age, are also limited. Further research with larger samples is needed for a more comprehensive understanding.

Major revision

perlu di ganti dengan SEM atau PLS (diperbanyak populasi dan sampelnya)

Recommendation: Revisions Required

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Round 1

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Contributions of Spiritual Education, Teacher Professionalism, and School Climate to Madrasah Quality in Banten, Indonesia

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Abstract

This study aims to analyze the influence of spiritual education, teacher professionalism, and school climate on the quality of education in madrasahs. The method used is a quantitative approach with a survey technique. The research sample consisted of 299 state and private madrasah teachers randomly selected in Banten Province, Indonesia. The measurement instrument for four variables used a Likert scale that had been tested for validity and reliability. Data were collected through an online questionnaire and analyzed using multiple linear regression analysis. Before conducting the regression analysis, assumption testing, including normality and multicollinearity, was carried out to ensure the feasibility of the model. The results showed that spiritual education, teacher professionalism, and school climate significantly influenced the quality of education in madrasahs, with a powerful regression model ($R^2 = 0.701$) and a low prediction error (8.133). These findings suggest the importance of combining variables to improve the quality of education in madrasahs by considering non-academic factors such as spiritual education and school climate. The implications of these results are the need for more inclusive and integrative education policies to improve the quality of madrasah education by strengthening these three factors and the need for further research with more diverse samples to gain a deeper understanding.

Keywords: Educational quality, Professionalism of teachers, School climate, Spiritual education.

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh pendidikan spiritual, profesionalisme guru, dan iklim sekolah terhadap kualitas pendidikan di madrasah. Metode yang digunakan adalah pendekatan kuantitatif dengan teknik survei. Sampel penelitian terdiri dari 299 guru madrasah negeri dan swasta yang dipilih secara acak di Provinsi Banten, Indonesia. Instrumen pengukuran empat variabel menggunakan skala Likert yang telah diuji validitas dan reliabilitasnya. Data dikumpulkan melalui kuesioner daring dan dianalisis menggunakan analisis regresi linier berganda. Sebelum melakukan analisis regresi, pengujian asumsi, termasuk normalitas dan multikolinearitas, dilakukan untuk memastikan kelayakan model. Hasil penelitian menunjukkan bahwa secara simultan, pendidikan spiritual, profesionalisme guru, dan iklim sekolah memiliki

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pengaruh signifikan terhadap kualitas pendidikan di madrasah, dengan model regresi yang kuat ($R^2 = 0,701$) dan tingkat kesalahan prediksi yang rendah (8,133). Temuan ini menyarankan pentingnya penggabungan variabel dalam meningkatkan kualitas pendidikan di madrasah dengan memperhatikan faktor-faktor non-akademik seperti pendidikan spiritual dan iklim sekolah. Implikasi dari hasil ini adalah perlunya kebijakan pendidikan yang lebih inklusif dan integratif untuk meningkatkan kualitas pendidikan madrasah melalui penguatan tiga faktor tersebut, serta perlunya penelitian lebih lanjut dengan sampel yang lebih beragam untuk memperoleh pemahaman yang lebih mendalam.

Kata Kunci: Educational quality, Professionalism of teachers, School climate, Spiritual education

INTRODUCTION

Improving the quality of *madrasah* education has become an important issue in many developing countries (Asadullah & Chaudhury, 2016; Latief et al., 2021; Juhaeni et al., 2021; Ernadiati & Herlina, 2022; Sugiri & Ma'shum, 2022; A. Gunawan et al., 2022; Haddade et al., 2024; Zakariyah, 2024; Arsyad, 2024), including Indonesia (Subandi et al., 2021; Zakariyah, 2024; Mahmud & Mali, 2024; Haddade et al., 2024; Mahsusi et al., 2024), where *madrasahs* play a significant role in providing religious and general education (Aminullah et al., 2024; Badrun, 2024). In particular, Banten Province, with its strong Islamic education tradition (Hudaeri et al., 2020; Sahara et al., 2022; Mu'awanah et al., 2025), has witnessed significant efforts to improve the performance and outcomes of its *madrasah* institutions (Juhaeni et al., 2021; Rahmatullah, 2021; Mahsusi et al., 2024). However, despite various reforms, the quality of *madrasah* education in this province still shows no drastic changes (Rahmatullah, 2021). Therefore, understanding the main factors that contribute to *madrasah* quality—such as spiritual education, teacher professionalism, and school climate—is crucial. By '*madrasah* quality,' we refer to the holistic development of students, the effectiveness of teaching and learning processes, and the institution's overall performance.

Previous studies have extensively discussed individual aspects that influence school quality (Gibbons & Silva, 2011; Wenger et al., 2020). For example, several studies have highlighted the role of spiritual education in shaping student character and school ethos (A. Abdullah, 2018; Mulang & Putra, 2023; N. Abdullah, 2024). Others have examined teacher professionalism, emphasizing its impact on teaching quality and student learning outcomes (Antoniou & Kyriakides, 2013; Yang & Kaiser, 2022; Ventista & Brown, 2023). Similarly, the influence of a favorable school climate on student academic achievement and well-being has been widely documented (Kutsyuruba et al., 2015; Steinmayr et al., 2018; Lombardi et al., 2019). However, most previous studies have addressed these factors separately (partially) and have rarely been combined to assess *madrasah* quality, especially in *madrasahs* in Banten Province, Indonesia. Furthermore, research focusing on *madrasah* institutions rather than public schools is still limited. This gap indicates the need for a simultaneous investigation of the three factors affecting *madrasah* education quality.

In addition, in the last 5 years, research on spiritual education, teacher professionalism, school climate, and the quality of *madrasah* education can be mapped through bibliometric

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Introduction (No more than 4 to 5 paragraphs)

(1)What is crucial about the ISU (phenomenon) that needs to be written about (needs to be published): quantitative or qualitative (or both).

(2)Is the (existing) writing not enough? Explain what others have ALREADY written and what has NOT been written (hence the need for this paper). (**Previous research**) (Novelty).

(3)What is the (specific) purpose of the paper? (is it different from others? The purpose of this paper is to COMPLETE the shortcomings of the existing paper)=> focus of the paper.

(4) What do you want to test (prove) in this paper? (argument or hypothesis that you want to test)

The most important introduction is to show the position of your research by pointing to previous studies.

Bagian Gambar dan Vos Viewer di Buang saja

Therefore, the main objective of this study is to examine the combined contribution of spiritual education, teacher professionalism, and school climate to the quality of *madrasah* education in Banten, Indonesia. Unlike previous studies that analyzed these factors separately (Halik et al., 2018; Mahmood et al., 2024), this study combines all three factors simultaneously to reveal their collective influence on the quality of *madrasah* education. Thus, this study aims to fill the gap in the literature and provide empirical evidence-based insights tailored to the unique characteristics of *madrasah* education in Indonesia.

Specifically, this paper tests the hypothesis that spiritual education, teacher professionalism, and school climate simultaneously contribute significantly and positively to the quality of *madrasahs*. Through this investigation, this study contributes theoretically to the discourse on the quality of Islamic education (*madrasah*) and practically to policy recommendations for improving the education system in *madrasahs*.

METHOD

Research Design

This study uses a quantitative approach with a survey method to examine the influence of spiritual education, teacher professionalism, and school climate on the quality of education. The quantitative design was chosen to allow statistical generalization of the findings and to test hypotheses of relationships between variables through multiple regression analysis.

Population and Sample

This study's target population consisted of state and private *madrasah* teachers at the elementary and secondary education levels in Banten, Indonesia. A stratified random sampling technique was used to ensure proportional representation based on education level. The sample size, determined using the Krejcie and Morgan (1970) formula, is a robust 299 respondents.

Variables

This study investigated four main variables. *First*, spiritual education (X_1) was measured using a Likert scale questionnaire developed independently. It adapted from Hay and Nye (2006), Tirri (2011), and Lovat et al. (2010), which includes the dimensions of (1) self-awareness, (2) transcendental connection, (3) moral and ethical values, and (4) compassion and social concern. *Second*, teacher professionalism (X_2) adapted and developed by Day and Sachs (2005), Hargreaves and Fullan (2015), and Stronge (2018) which includes the dimensions of (1) pedagogical competence, (2) continuing professional development, (3) professional ethics, and (4) commitment and collaboration.

Third, school climate (X_3), measured based on the framework by Thapa et al. (2013) and Wang and Degol (2016), include (1) physical and psychological safety, (2) positive interpersonal relationships, (3) supportive learning environment, and (4) leadership and institutional support. *Fourth*, educational quality (Y), adapted from Scheerens et al. (2011) and Slavin (2018), includes dimensions of (1) student learning outcomes, (2) instructional effectiveness, (3) stakeholder satisfaction, and (4) continuous innovation and evaluation. Each

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item is rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree if the item is in a positive form and vice versa). The instrument has undergone expert validation and a pilot test involving 30 respondents to assess reliability and validity. Cronbach's alpha for each construct is above 0.70, indicating acceptable internal consistency.

Data Collection Procedure

Data collection was conducted through the distribution of online and printed questionnaires for one month. Respondents were informed about the purpose of the study, anonymity, and their voluntary participation in ethical research practices. Informed consent was obtained before they participated.

Data Analysis Techniques

The collected data were analyzed using multiple linear regression analysis with the help of SPSS. Before conducting the regression analysis, the data had gone through (1) descriptive statistics to describe the characteristics of respondents and the distribution of variables; (2) assumption testing, including normality and multicollinearity; and (3) inferential statistics to test the simultaneous effects of independent variables on dependent variables. The regression model was tested at a significance level of $\alpha = 0.05$. The standardized beta coefficient determined the strength and direction of the relationship, and the model fit was assessed through the adjusted R^2 value.

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RESULTS AND DISCUSSION

Findings

Demographics of Respondent

This study was conducted on 299 *madrasah* teachers in Banten Province, Indonesia. The respondents were 124 male teachers and 175 female teachers, ranging from *Madrasah Diniyah* to *Madrasah Aliyah* levels. The demographics of the respondents are shown in Table 1 below.

Demographics of respondents		Frequency	Percent
Gender	Male	124	41,5
	Female	175	58,5
Age	<25 years	48	16,1
	26-30 years	52	17,4
	31-35 years	36	12,0
	36-40 years	37	12,4
	41-45 years	41	13,7
	46-50 years	41	13,7
	51-55 years	24	8,0
	>55 years	20	6,7
Level of education	High School	30	10,0
	S1	230	76,6
	S2	36	12,0
	S3	3	1,0
Teaching Experience	< 5 years	90	30,1
	6-10 years	48	15,7
	11-15 years	45	15,1

Education Units	16-20 years	49	16,4
	21-25 years	35	11,7
	26-30 years	21	7,0
	>31 years	11	3,7
	Raudhatul Athfal	13	4,3
	Diniyah	27	9,0
	Ibtidaiyah	67	22,4
	Tsanawiyah	100	33,4
	Aliyah	92	30,8

Table 1 presents the demographic data of respondents consisting of 299 *madrasah* teachers in Banten Province, Indonesia. Based on gender, most respondents were female (58.5%), while males accounted for 41.5%. In terms of age range, the largest age group was 26–30 years (17.4%), followed by 41–45 years and 46–50 years, each at 13.7%. The respondents' education level was dominated by S1 graduates (76.6%), with the proportion of S2 graduates at 12.0%, S3 graduates at 1.0%, and high school graduates at 10.0%. In terms of teaching experience, most respondents had less than 5 years of experience (30.1%), followed by 16–20 years of experience (16.4%) and 6–10 years of experience (15.7%). The educational units where they teach are mainly at the *Madrasah Tsanawiyah* level (33.4%), followed by *Madrasah Aliyah* (30.8%) and *Madrasah Ibtidaiyah* (22.4%). These data provide an overview that the respondents in this study have sufficient diversity in demographic characteristics in terms of gender, age, education, teaching experience, and educational units.

Descriptive Statistics

Table 2 below shows descriptive statistics for the four research variables: spiritual education, teacher professionalism, school climate, and educational quality.

Table 2. Descriptive Statistics of Research Variables

		Spiritual Education	Teacher Professionalism	School Climate	Educational Quality
N	Valid	299	299	299	299
	Missing	0	0	0	0
Mean		124.03	121.27	120.76	117.32
Median		124.00	120.00	120.00	118.00
Mode		123	118	114	118 ^a
Std. Deviation		13.346	13.543	13.703	15.363
Variance		178.120	183.414	187.779	236.011
Minimum		86	87	86	84
Maximum		150	150	150	150

a. Multiple modes exist. The smallest value is shown

Based on Table 2 above, the highest mean score was found in the Spiritual Education variable ($M = 124.03$), followed by Teacher Professionalism ($M = 121.27$), School Climate ($M = 120.76$), and Educational Quality ($M = 117.32$). The median and mode values for each variable were close to the mean, indicating a relatively symmetrical data distribution, although there was more than one mode for some variables. The standard deviation ranged from 13.346 to 15.363, indicating moderate variation among respondents' scores. The range of

scores varied from a minimum of 84 to a maximum of 150 for the four variables. Thus, there was consistency in the participants' responses to the research instrument.

Assumption Testing

Before further regression analysis, it is necessary to ensure that the residual data meets the normality assumption because residual normality is an important requirement for producing valid model estimates. In this study, the normality test was carried out using the Kolmogorov-Smirnov Test. The residual data is said to be normally distributed if the Asymp. Sig. (2-tailed) value is greater than 0.05 (Ghozali, 2018). The complete results of this normality test are presented in Table 3.

Table 3. Kolmogorov-Smirnov Test

		Unstandardized Residual	Unstandardized Residual	Unstandardized Residual
N		299	299	299
Normal Parameters ^{a,b}	Mean	.0000000	.0000000	.0000000
	Std. Deviation	11.44335425	9.49542673	8.19089631
Most Extreme Differences	Absolute	0.036	.040	.045
	Positive	0.024	.028	.031
	Negative	-0.036	-.040	-.045
Test Statistic		.036	.040	.045
Asymp. Sig. (2-tailed)		.180 ^a	0.120 ^a	.090 ^a

a. Test distribution is Normal.

b. Calculated from data.

Table 3 above shows the Asymp. Sig. (2-tailed) value for the three variables above 0.05, namely 0.180, 0.120, and 0.090. This value indicates that the residual data for all variables (spiritual education, teacher professionalism, school climate, and educational quality) follows a normal distribution. Thus, the assumption of normality in this study has been met so that the data can continue to be analyzed using parametric statistical techniques.

The Tolerance and Variance Inflation Factor (VIF) values are used for testing to ensure that there is no multicollinearity issue amongst the independent variables in the regression model. The results of the multicollinearity test in this study are presented in Table 4 below.

Table 4. Multicollinearity Test Results

		Coefficients ^a						Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients					
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF	
1	(Constant)	3.214	4.558		.705	.481			
	Spiritual Education	.027	.061	.025	.441	.660	.320	3.129	
	Teacher Professionalism	.309	.070	.279	4.394	.000	.252	3.971	
	School Climate	.614	.061	.574	10.027	.000	.310	3.228	

a. Dependent Variable: Educational Quality

Based on Table 4 above, all independent variables in the model, namely spiritual education, teacher professionalism, and school climate, show a Tolerance value above 0.1 and

a Variance Inflation Factor (VIF) value below 10. In detail, the Tolerance value ranges from 0.252 to 0.320, while the VIF value ranges from 3.129 to 3.971. These values indicate no significant multicollinearity between independent variables in the regression model. Thus, it can be concluded that the three independent variables are suitable for regression analysis without worrying about bias due to the high correlation between variables.

Inferential Statistics

Table 5 summarizes the results of the linear regression model used to analyze the influence of school climate, spiritual education, and teacher professionalism on educational quality. This model measures the extent to which the independent variables can predict the dependent variable, namely the quality of education. The *R*-value and other coefficients associated with this model illustrate the strength of the relationship and the accuracy of the model's predictions.

Table 5. Summary of Linear Regression Model Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837 ^a	.701	.698	8.133

a. Predictors: (Constant), School Climate , Spiritual Education, Teacher Professionalism

b. Dependent Variable: Educational Quality

Based on the results in Table 5, the *R*-value of 0.837 indicates a powerful relationship between the independent variables and Educational Quality. The *R* Square value of 0.701 indicates that the variables school climate, spiritual education, and teacher professionalism can explain 70.1% of the variation in educational quality. The Adjusted *R* Square value of 0.698 indicates a more adjusted model and remains strong, even after considering the number of variables in the model—the Std. The error of the Estimate of 8.133 indicates a relatively low level of model prediction error, indicating good accuracy in estimating educational quality. Overall, this model is good in explaining the factors that influence the quality of education in *madrasahs*.

Table 6 below tests the significance of the regression model connecting school climate, spiritual education, and teacher professionalism with educational quality.

Table 6 ANOVA Test Results

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45688.427	3	15229.476	230.255	.000 ^b
	Residual	19511.821	295	66.142		
	Total	65200.247	298			

a. Dependent Variable: Educational Quality

b. Predictors: (Constant), School Climate , Spiritual Education, Teacher Professionalism

Based on the results presented in Table 7, the *F* value of 230.255 with a Sig. Value of 0.000 indicates that the regression model connecting school climate, spiritual education, and teacher professionalism with educational quality is statistically significant ($p < 0.05$). In other words, this regression model successfully explains significant variations in

the quality of education. The Sum of Squares value for the regression of 45,688.427 indicates the contribution of the model in explaining variations. In contrast, the Sum of Squares for the residual of 19,511.821 indicates variations the model cannot explain. Overall, this ANOVA test supports the validity of the regression model in explaining the factors that influence the quality of education in *madrasahs*.

Based on information from Table 4, the regression model to predict educational quality based on three independent variables, namely spiritual education, teacher professionalism, and school climate can be arranged as follows: Educational Quality = $\beta_0 + \beta_1(X_1) + \beta_2(X_2) + \beta_3(X_3)$, with intercept (β_0) = 3.214; coefficient for spiritual education (β_1) = 0.027; coefficient for teacher professionalism (β_2) = 0.309; coefficient for school climate (β_3) = 0.614; thus, the regression model is as follows:

$$Y = 3.214 + 0.027X_1 + 0.309X_2 + 0.614X_3$$

The value of 3.214 shows the value of educational quality when the three predictor variables (spiritual education, teacher professionalism, and school climate) are 0. Every one-unit increase in spiritual education will increase educational quality by 0.027, although this value is relatively small. Every one-unit increase in teacher professionalism will increase educational quality by 0.309, which shows a greater positive influence than spiritual education. Every one-unit increase in school climate will increase educational quality by 0.614, showing a powerful influence on educational quality in *Madrasah*. Thus, teacher professionalism and school climate contribute more significantly to improving educational quality in Madrasah than spiritual education.

Discussion

The linear regression analysis findings evidence a strong relationship between the three independent variables, spiritual education, teacher professionalism, school climate, and educational quality in madrasahs. The large R-value (0.837) is evidence that the joint effort of the three factors significantly affects the quality of madrasahs education. [Nasrollahi et al. \(2020\)](#) have demonstrated that spirituality in education is a fundamental aspect that, in turn, promotes the quality of teaching and learning, being influenced by personal, social, religious and cultural factors. Further, according to [Samad et al. \(2023\)](#), the moral and spiritual upbringing of the students is believed to influence the level of morale and academic performance. Extending from this, [Kotten et al. \(2025\)](#) have claimed that spiritual learning creates a meaning-drenched and dialogical educational environment conducive to tolerance, empathy and cooperation. This highlights the significance of the sociocultural environment that shapes the relationship among students, educators, and resources towards the optimal learning quality.

[Fraser-Pearce \(2022\)](#) has suggested that spiritual education can be an aspect of relational education, interested in the relationship with the transcendent dimension and conducive to the full developmental potentials of learners. Incorporation of the spiritual in education adds value to the learning process. It is the source of moral education for students; this model of moral education brings up an individual who is not only a high achiever in

academics but also a quality being. So, spirituality is crucial in promoting the improvement of education by creating a generation of learners who possess intellectual, emotional and spiritual balance and are ready to contribute positively to society.

According to a study by [Nugraha and Dekawati \(2023\)](#), school culture and teacher professionalism greatly influence the standard of instruction in private vocational schools in Indramayu. This highlights the significance of outside elements like professionalism and a positive learning environment. A deeper layer to education about spiritual values has been added by research by [I. Gunawan and Adha \(2021\)](#), which has demonstrated the significant impact of spiritual leadership on teacher effectiveness and student accomplishment in elementary schools. Non-structural elements like spiritual leadership and structural elements like school culture and teacher professionalism can work together. Spiritual leadership has the potential to increase teacher professionalism and school culture. Thus, both must be taken into account holistically in order to raise educational standards. Accordingly, enhancing educational results is greatly aided by professional development and innovative learning techniques ([Raina et al., 2013](#)). This emphasizes how crucial teacher quality is to determine a school's overall efficacy.

School climate has been identified as a factor that significantly influences the quality of learning and educational outcomes, as stated by [Kutsyuruba et al. \(2015\)](#), [Wang and Degol \(2016\)](#), and [Mahmood et al. \(2024\)](#). Research by [Daily et al. \(2019\)](#) found that all domains of school climate had significant effects on academic achievement, with academic support showing the most potent effects among middle and high school students. This suggests that aspects of school support, regarding facilities and interactions between teachers and students, can directly influence students' academic achievement. In line with this, [Shindler et al. \(2016\)](#) emphasized that the quality of school climate is a significant predictive factor in determining a school's capacity to achieve educational goals. In this regard, [Amsalu and Belay \(2024\)](#) emphasized the importance of creating a positive and supportive school climate, which facilitates effective learning and improves students' academic achievement. According to [Uline et al. \(2009\)](#), A favorable school climate fosters a sense of belonging, control, and competence among students, supporting academic learning. Thus, creating a conducive school climate is key to improving the overall quality of education.

Spiritual education, teacher professionalism, and school climate simultaneously create positive effects that improve the quality of education. Spiritual values embedded in teaching practices, combined with professional development and a supportive school environment, lead to improved student learning outcomes and overall school effectiveness ([Uline et al., 2009](#); [Samad et al., 2023](#); [McChesney & Cross, 2023](#); [Kotten et al., 2025](#)). This means that the combination of these three variables forms a reliable quality of education.

While our current model explains 70.1% of the variation in the quality of education, a significant 29.9% needs to be understood. This gap presents an opportunity for further research and improvement. The quality of education is influenced by various factors at the macro level, including curriculum policies, educational management, and the application of educational technology. [Boonk et al. \(2018\)](#) emphasized that school policies that encourage partnerships between schools and families have a significant contribution to improving student learning outcomes, which is one indicator of educational quality. In line with this,

Donkoh et al. (2023) found that effective educational management plays an important role in improving the quality of education in the school environment. In addition, Akintayo et al. (2024) showed that the use of educational technology can strengthen student engagement, increase knowledge retention, and develop high-level thinking skills, all of which contribute to improving the quality of learning. However, the effectiveness of the use of educational technology is greatly influenced by the type of technology used, the pedagogical approach applied, and the quality of its implementation in educational institutions (Akintayo et al., 2024).

In addition, the Adjusted R Square value of 0.698 indicates that the research model can explain the variability of education quality. Although there is a slight decrease in the R Square value, this is a reasonable adjustment to avoid overfitting and reflects a statistically good model (Sarstedt et al., 2021). This decrease indicates that although the internal factors tested make a significant contribution to education quality, there is a possibility that other external factors have an influence but have not been fully captured in the model. These external factors, such as government support, community involvement, and inclusive education policies, are important in supporting sustainable education quality development (Ainscow, 2020). Therefore, further exploration of these external variables is important to be carried out in future studies.

Furthermore, the low level of prediction error, as reflected in the Std. The error of the Estimate of 8.133 indicates that this model can be relied on to estimate education quality with a pretty good level of accuracy. This means that even though some factors have not been considered in the model, this model can still be a valuable tool for decision-makers in designing more effective education policies. This finding supports the argument that the success of education policies is highly dependent on the extent to which internal factors such as school leadership and teacher morale (Yi & Shin, 2018; Yi & Kim, 2019; Samsuddin et al., 2023; Zulkifly et al., 2023), resource allocation (Hanushek, 2009), and school environment (Carr-Hill, 2023); as well as external factors such as external accountability (Yi & Shin, 2018; Yi & Kim, 2019), economic and social (Oluwashina & Oladipo, 2025), and partnerships (Baek, 2022) can be managed well.

Based on these findings, it is important to consider other factors that can enrich the understanding of the quality of education in madrasahs. Further research can examine the role of factors such as national education policy, parental support, and the use of technology in supporting the teaching and learning process. Further research can also integrate other variables, such as student motivation and collaboration between various stakeholders in education, to better understand the dynamics that influence the quality of education. Broader research can also examine the interaction between the three main factors tested in this study (school climate, spiritual education, and teacher professionalism) and external factors such as education policy and assess their impact at different school or madrasah levels. Thus, further research can focus more on how these three factors can interact with each other to support the achievement of better education goals.

CONCLUSION

Commented [A5]: Simple Conclusion:

1. Key Findings: The research found that [specific findings] had a greater impact than expected, challenging old assumptions and opening up new discussions.
2. Scientific Contribution: The research strengthens previous findings, challenges the validity of certain findings, and introduces [new concept/variable/method] that enriches the scientific discussion in this field.
3. Limitations: This study is limited to a small sample and specific cases, making generalization difficult. Other factors, such as data variation, gender, and age, are also limited. Further research with larger samples is needed for a more comprehensive understanding.

In conclusion, the influence of the variables school climate, spiritual education, and teacher professionalism on educational quality in madrasahs, with the most striking finding being the dominance of school climate and teacher professionalism in influencing the quality of education, although spiritual education also plays an important role. However, this study has limitations, including a sample limited to madrasah teachers in one province with a relatively small number of respondents, so these findings cannot be generalized to all madrasahs in Indonesia or other countries. In addition, only three variables were tested, so many other external factors may also influence the quality of education in madrasahs, such as education policies, parental support, and socio-economic factors, which were not accommodated in this study. Therefore, it is recommended that further research involve larger and more varied samples and consider broader external factors to provide a more comprehensive understanding of the quality of education in madrasahs. With more in-depth and comprehensive results, more appropriate and evidence-based education policies can be formulated to improve future education quality.

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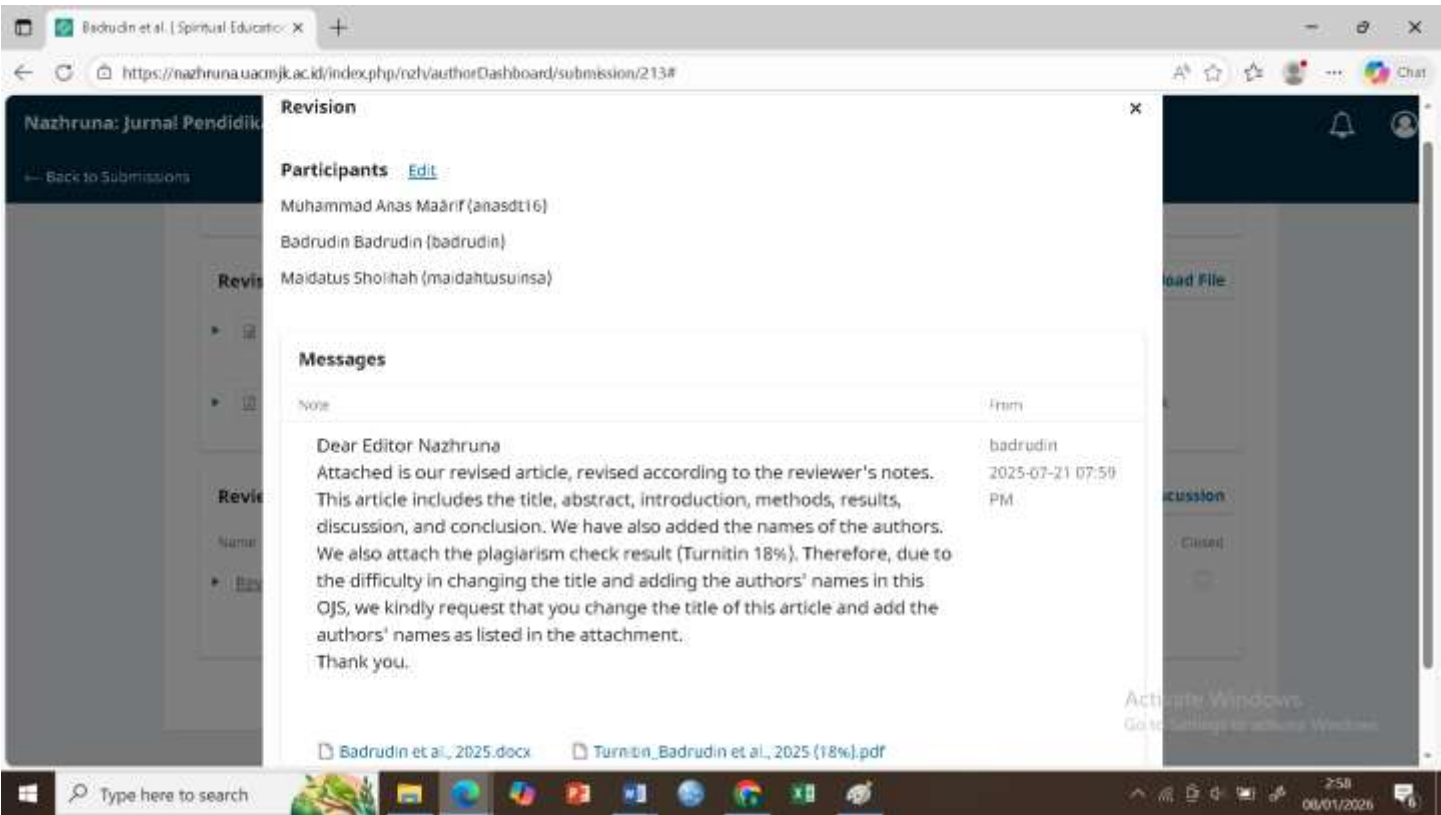
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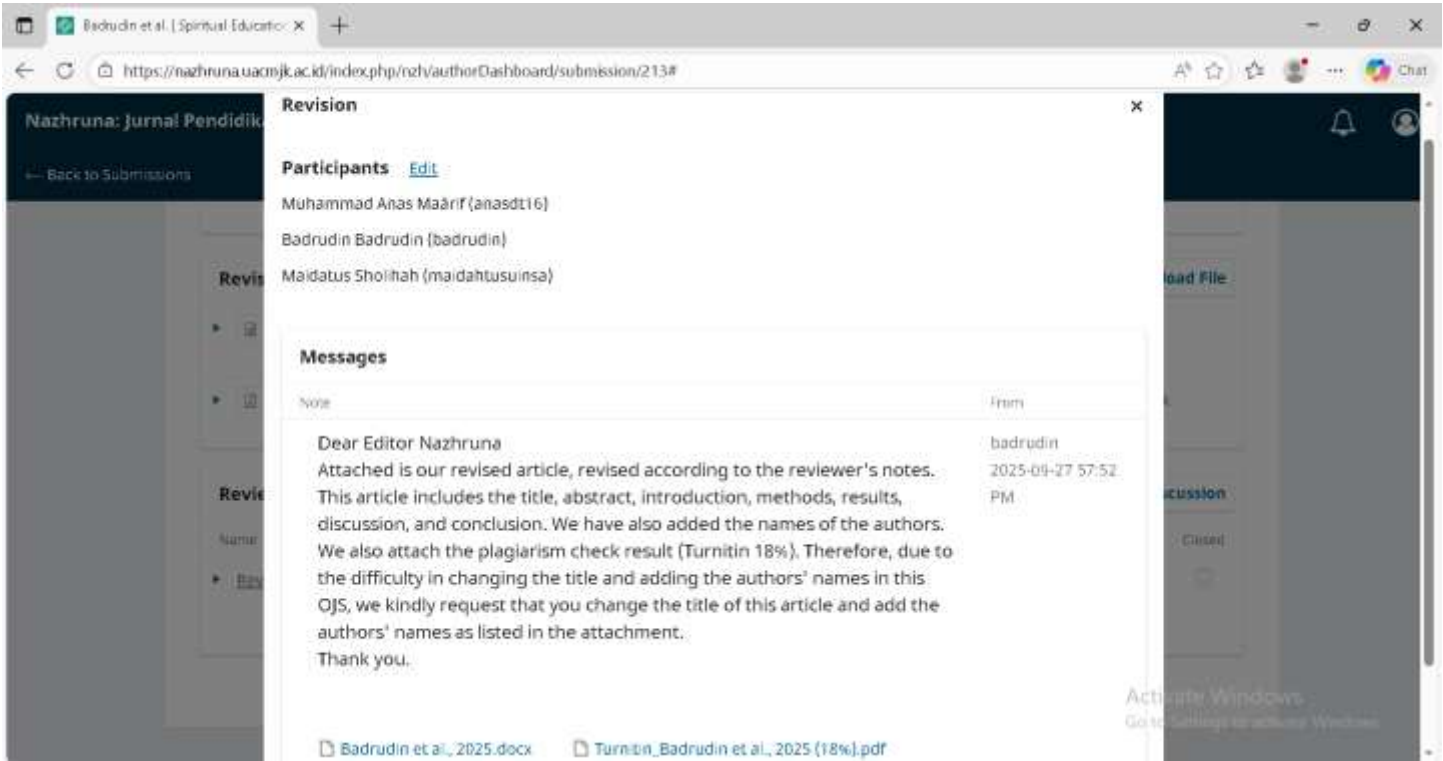
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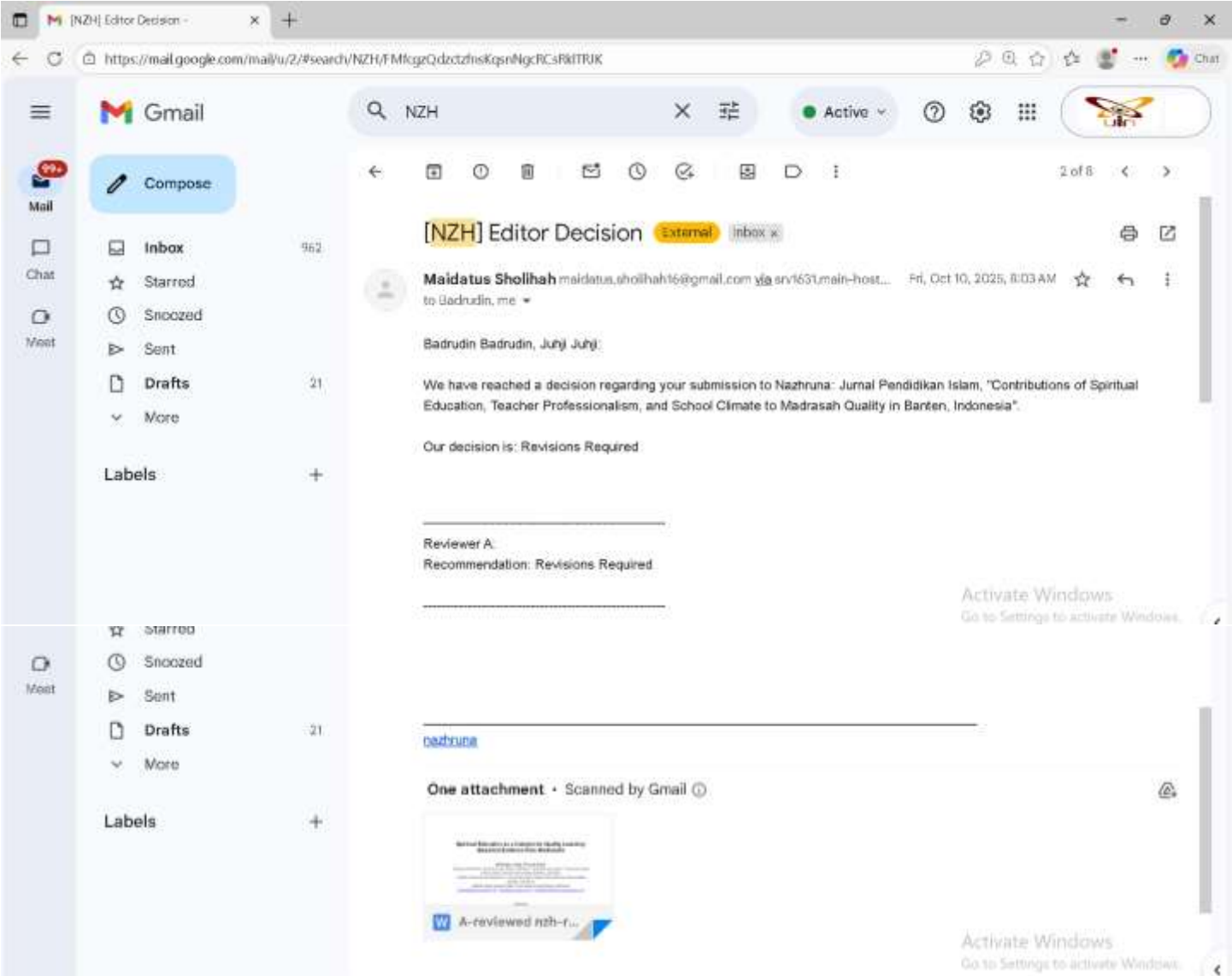
Revision Round 1

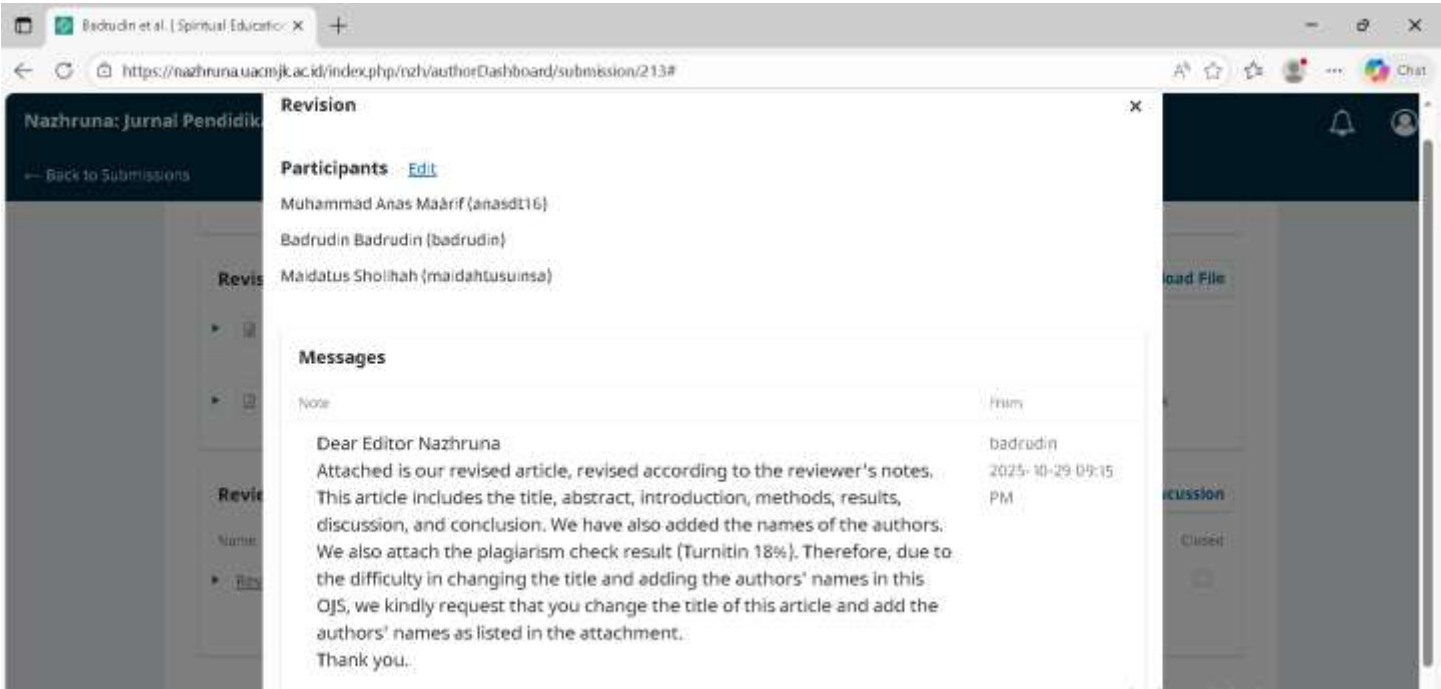


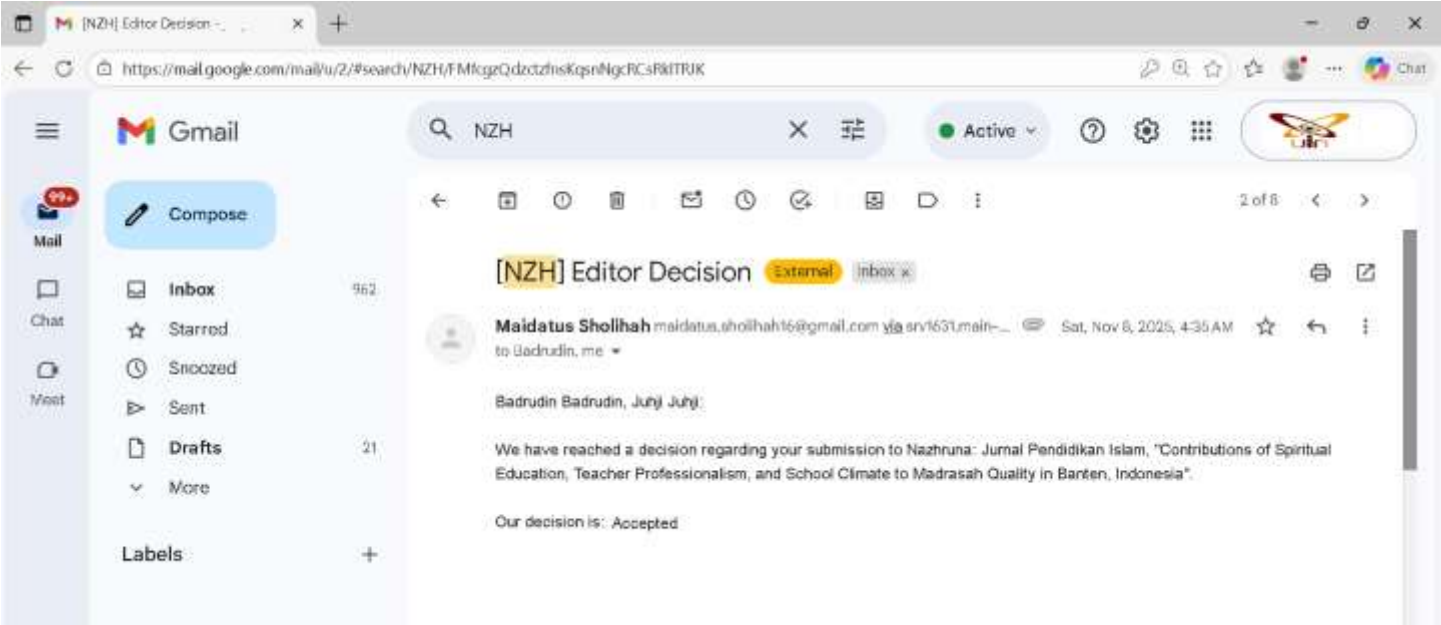
Revision Round 2

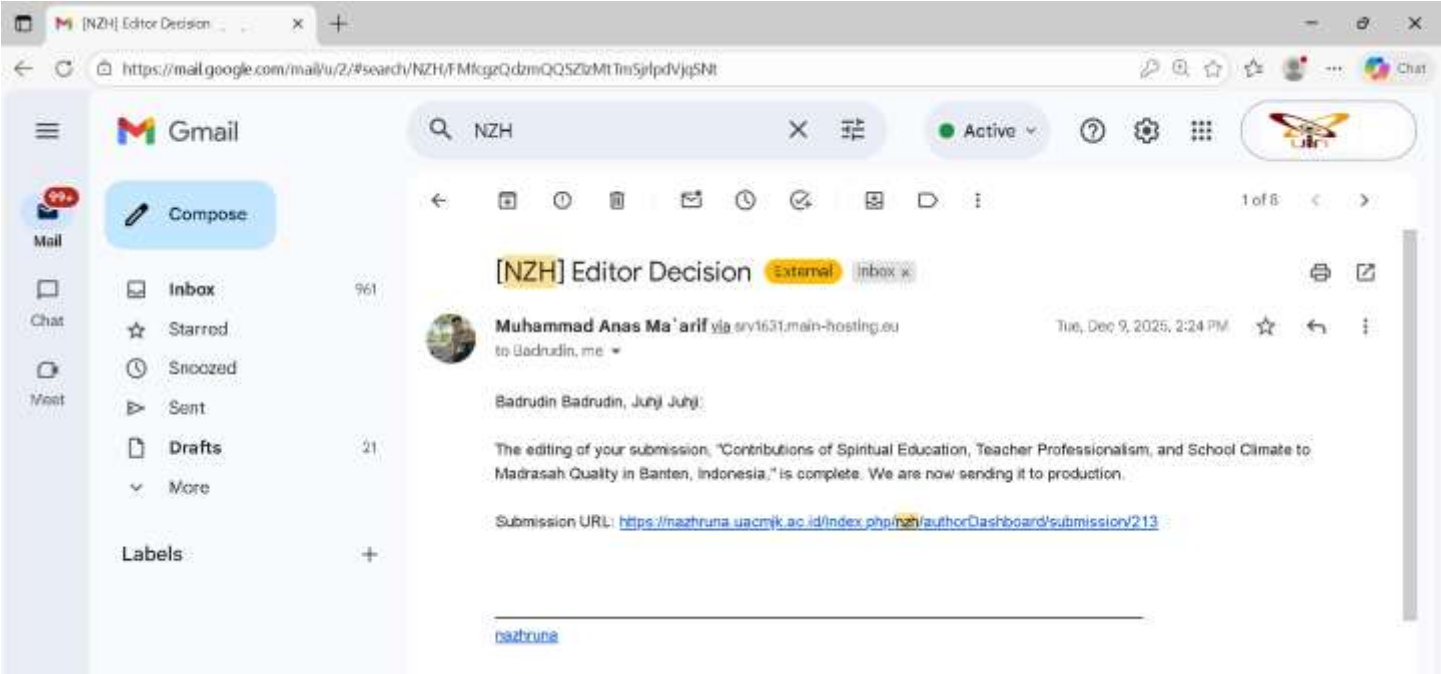
The screenshot displays a Gmail interface on a desktop. The left sidebar shows the 'Compose' button and a list of folders: 'Inbox' (962), 'Starred', 'Snorced', 'Sent', 'Drafts' (21), and 'More'. The main email view shows an email titled '[NZH] Editor Decision' from 'Muhammad Anas Ma'arif' (anasdr16@gmail.com) dated 'Aug 10, 2025, 8:47 AM'. The email content states: 'We have reached a decision regarding your submission to Nazhruna: Jurnal Pendidikan Islam, "Contributions of Spiritual Education, Teacher Professionalism, and School Climate to Madrasah Quality in Banten, Indonesia". Our decision is: Revisions Required'. Below this, it lists 'Reviewer A' and 'Reviewer B' recommendations, both stating 'Revisions Required'. The email is marked as 'External' and 'Inbox'. At the bottom, there are '2 Attachments' scanned by Gmail, including 'D-Nazhruna 2025...' and 'B-nzh-review-as...'. The Windows watermark 'Activate Windows' is visible in the bottom right corner.











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Archiving



Spiritual Education as a Catalyst for Quality Learning: Empirical Evidence from *Madrasahs*

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Abstract

Improving the quality of education in madrasahs (Islamic schools) remains a concern, as these institutions strive to balance the development of spiritual values and professional proficiency with supportive learning environments. This study addresses ongoing debates about the quantifiable effects of faith-based pedagogy by examining how spiritual education, teacher professionalism, and school atmosphere influence educational quality. A quantitative design was employed involving 312 purposively selected madrasah teachers, and data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 4. The findings show that while the impact of spiritual education ($\beta = 0.008$) is statistically insignificant, the school environment ($\beta = 0.568$) and teacher professionalism ($\beta = 0.318$) considerably improve educational quality. These results highlight the importance of promoting professional competence and a supportive institutional environment to enhance madrasah performance. Meanwhile, the limited impact of spiritual education suggests the need for a more pedagogically grounded, evidence-based integration of spiritual values into instructional practices.

Keywords: Educational quality enhancement, Faith-based pedagogy, School climate, Teacher professionalism.

Abstrak

Peningkatan kualitas pendidikan di madrasah (sekolah Islam) masih menjadi perhatian karena lembaga-lembaga ini berupaya untuk mencapai keseimbangan antara pengembangan nilai-nilai spiritual, kecakapan profesional, dan suasana belajar yang mendukung. Studi ini membahas diskusi berkelanjutan tentang efek terukur dari pedagogi berbasis agama dengan memeriksa cara-cara di mana pendidikan spiritual, profesionalisme guru, dan suasana sekolah semuanya mempengaruhi kualitas pendidikan. Sebuah desain kuantitatif digunakan dengan melibatkan 312 guru madrasah yang dipilih secara purposif, dan data dianalisis menggunakan Partial Least Squares Structural Equation Modelling (PLS-SEM) dengan SmartPLS 4. Hasil penelitian menunjukkan bahwa meskipun dampak pendidikan spiritual ($\beta = 0,008$) secara statistik tidak signifikan, lingkungan sekolah ($\beta = 0,568$) dan profesionalisme guru ($\beta = 0,318$) secara signifikan meningkatkan kualitas pendidikan. Hasil ini menyoroti betapa pentingnya mempromosikan kompetensi profesional dan lingkungan kelembagaan yang mendukung untuk meningkatkan kinerja madrasah. Sementara itu, terbatasnya pengaruh pendidikan spiritual menunjukkan perlunya integrasi nilai-nilai spiritual yang lebih berlandaskan pedagogis dan berbasis bukti dalam praktik pembelajaran.

Kata Kunci: Iklim sekolah, Pedagogi berbasis agama, Peningkatan kualitas pendidikan, Profesionalisme guru.

INTRODUCTION

Since the quality of education is now the primary concern for human resource development globally in the twenty-first century, a greater degree of intellectual, social, and moral competency is required (Ainscow, 2020; Subaidi, 2020; Carr-Hill, 2023; Bakar et al., 2023; Mariani et al., 2024; Riski et al., 2024). In Indonesia, raising the standard of education became a national issue, especially in *madrasahs*—Islamic schools that combine academic learning with religious and moral studies (Juhaeni et al., 2021; S. Salim et al., 2021; Abidin et al., 2024; Aminullah et al., 2024). Even with intense reforms, madrasahs continue to fight to balance spiritual development, professional training, and the best learning environment (Atstsaury et al., 2024; Isa et al., 2024; Musa et al., 2024; Qamariah & Hercz, 2025; A. Salim, 2015). Such tension highlights the importance of rethinking the manner in which *madrasahs* can increase overall quality without compromising the spiritual nature.

Previous studies have identified various determinants of educational quality, such as school climate (Thapa et al., 2013; Wang & Degol, 2016; Daily et al., 2019; McChesney & Cross, 2023; Amsalu & Belay, 2024; Mahmood et al., 2024), teacher professionalism (Gunawan & Adha, 2021; Silviani et al., 2022; Bahiyah & Juhji, 2023), and spiritual education (Abdullah, 2018; Karim et al., 2020; Nasrollahi et al., 2020; Fraser-Pearce, 2022; Mulang & Putra, 2023; Samad et al., 2023). A favorable school climate is known to create a safe, inclusive, and supportive learning environment for all school members (Thapa et al., 2013). Teacher professionalism is also a key element because teachers play a direct role in managing the learning process pedagogically and ethically (Hargreaves & Fullan, 2015). On the other hand, spiritual education plays an important role in shaping students' values and motivation to learn in *madrasahs*, although its influence on academic performance has not been fully proven quantitatively (Reave, 2005; Lovat & Toomey, 2009; Nasution et al., 2025; Falah et al., 2025; Rofiq et al., 2025).

However, most existing research only examines these dimensions (spiritual education, teacher professionalism, and school atmosphere) separately (Halik et al., 2018; Dewi & Khotimah, 2020; Nugraha & Dekawati, 2023; Nabilla, 2024). These isolated studies limit our understanding of how these factors collectively interrelate and influence educational quality, particularly in faith-based *madrasahs* (Islamic schools). Therefore, empirical studies are needed to integrate school climate, teacher professionalism, and spiritual education to explain variations in *madrasah* quality. It will allow for the development of a theoretically relevant framework for improving Islamic educational institutions. To bridge this gap, this study empirically examines the simultaneous influence of school climate, teacher professionalism, and spiritual education on the quality of *madrasah* education using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. Through the development of an integrated model, this study not only measures the relative contribution of each variable but also examines the dynamic relationship between the three in shaping institutional performance comprehensively. This study advances the theoretical discourse on faith-based education by positioning *madrasahs* as a distinctive lens through which the interplay between spiritual values, teacher competence, and institutional culture can be empirically examined. Unlike previous research that treats spirituality as an abstract or peripheral construct, this study operationalizes spiritual education as a measurable variable alongside established determinants of school

quality. This integrative perspective contributes a novel analytical framework that bridges empirical evidence and faith-based pedagogy, enriching global discussions on educational quality in religious schooling systems. Practically, the findings are expected to inform policymakers and educational leaders seeking to enhance *madrasah* performance through holistic, evidence-driven, and context-sensitive quality improvement strategies.

Thus, this study is expected to advance the theoretical discourse on *madrasahs* as a unique lens through which the interaction between spiritual values, teacher competence, and institutional culture can be empirically examined. Practically, this study is expected to inform policymakers and educational leaders seeking to improve *madrasah* performance through holistic quality improvement strategies encompassing spiritual education, teacher professionalism, and school climate.

METHOD

Research design

This study employed a quantitative explanatory design to examine causal relationships among spiritual education, teacher professionalism, school climate, and the outcome variable educational quality in *madrasahs*. The study was conducted among *madrasah* teachers in Banten Province, Indonesia. This location was chosen intentionally because it represents a heterogeneous mix of urban and rural madrasas, making it suitable for this study.

Ethical approval

Before data collection began, researchers obtained official permission from the participating *madrasahs*. All respondents provided written consent through a form submitted to the principal, teachers, and alums as a commitment to voluntary participation. To maintain confidentiality, all personal identification data was securely stored in encrypted storage accessible only to the research team and was not shared with any other party.

Population and sampling

The population comprised all active *madrasah* teachers in Banten Province. A purposive sampling technique was applied to select teachers who met three inclusion criteria: (a) currently active teaching at a *madrasah*, (b) minimum two years of teaching experience, and (c) willing to complete the questionnaire fully. Sampling was conducted purposively. The research team ensured that respondents had sufficient teaching experience to conduct the assessment. The final sample included 312 teachers. Sample adequacy for PLS-SEM was confirmed using the “10-times rule” and recommendations from Hair (2014); the sample exceeded required minimums for the model’s complexity and indicator count.

Instrument development

Data were collected using a structured, closed-ended questionnaire containing items for four latent constructs: (1) Spiritual education: self-awareness, transcendental connection, moral-ethical values, compassion/social concern. (2) Teacher professionalism: pedagogical competence, continuous professional development, professional ethics, commitment & collaboration. (3) School climate: physical and psychological safety, interpersonal relationships, learning environment, leadership, and institutional support. (4) Educational quality: student learning outcomes, instructional effectiveness, stakeholder satisfaction, innovation, and continuous evaluation. Items were developed from the literature and adapted

to local *madrasahs*. An item validation study was conducted to assess item clarity, response variability, and initial reliability. Based on the study results and expert feedback, minor wording revisions were made.

Content validity

Content validity was assessed through a panel of five subject-matter and methodology experts (educational measurement, Islamic education, and quantitative methods). Each item was rated for relevance and clarity; item-level content validity index (I-CVI) and scale-level CVI (S-CVI/Ave) were computed. Items with I-CVI < 0.78 were revised or removed. Expert suggestions also informed the response anchors and operational definitions.

Data collection and coding

Questionnaire responses used a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Coding conventions: responses were entered and coded numerically (1–5) in Microsoft Excel and then imported into SPSS v25 for cleaning and descriptive analysis. Reverse-coded items (if any) were recoded prior to analysis. Data cleaning steps include: (1) Handling of missing data. Cases with >20% missing responses were excluded from this study. For the remaining missing values (<5% overall), mean imputation at the item level was applied by the research team after we confirmed the data were missing at random (Little's MCAR test). (2) Outlier detection: Univariate outliers were inspected via z-scores ($|z| > 3.29$ flagged); multivariate outliers were assessed using Mahalanobis distance ($p < 0.001$ criterion). Flagged cases were reviewed and retained only if responses were plausible. (3) Descriptive statistics and normality checks: Skewness and kurtosis were inspected; normality is not a strict requirement for PLS-SEM, but reported for completeness. All data-cleaning and descriptive steps were conducted in SPSS v25 and Microsoft Excel.

Measurement model

Measurement evaluation followed established PLS-SEM practice (Hair, 2014) and included multiple complementary tests: (1) Indicator reliability: outer loadings were inspected; indicators with loadings < 0.70 were considered for removal if removing them improved construct reliability and content coverage (items with loadings between 0.40–0.70 were evaluated case-by-case). (2) Internal consistency reliability. Through Cronbach's alpha, Dijkstra-Henseler's ρ_A , and Composite Reliability (CR) are calculated. Our specified thresholds are: $\alpha \geq 0.70$, $\rho_A \geq 0.70$, and $CR \geq 0.70$. (3) Convergent validity. Average Variance Extracted (AVE) with a threshold of $AVE \geq 0.50$. (4) Discriminant validity: assessed via Fornell-Larcker criterion and Heterotrait–Monotrait ratio (HTMT); HTMT values < 0.90 (preferably < 0.85) indicated adequate discriminant validity. Bootstrapped confidence intervals for HTMT were inspected. (5) Common method bias: procedural remedies (anonymity, item wording) were applied; statistical checks included Harman's single-factor test (exploratory factor analysis) and full-collinearity VIF (Kock's method). A single factor explaining >50% or $VIF > 3.3$ would indicate potential bias and require corrective steps; none were found in this dataset.

Structural model

Structural modelling and hypothesis testing were performed in SmartPLS 4.0 with the following stepwise procedure: (1) Model specification: reflective measurement models were specified for all constructs. (2) Assessment of collinearity: inner VIF values were inspected ($VIF < 5$ recommended). (3) Bootstrapping: significance testing used nonparametric bootstrapping with 5,000 resamples, two-tailed tests, and $\alpha = 0.05$ to obtain t-statistics and p-values for path coefficients. (4) Evaluation of path coefficients: standardized β coefficients, t-values, and p-values reported for each hypothesized relationship. (5) Explained variance. R^2 values for endogenous constructs are reported and interpreted (Cohen's guidelines). (6) Effect size. F^2 effect size is calculated to assess the substantive contribution of each exogenous construct to the R^2 value (thresholds: small = 0.02; medium = 0.15; large = 0.35). (7) Predictive relevance. Q^2 values are estimated using the blindfolding method (omission distance = 7), where $Q^2 > 0$ indicates predictive relevance. (8) Model fit. Standardized root mean square residuals (SRMR) and other global fit indices are also reported; if they are in accordance with the provisions of $SRMR < 0.08$, then they are considered acceptable. All PLS-SEM procedures (outer/inner models) follow the recommendations of Hair (2014). Additional sensitivity analyses included alternative specifications (e.g., removing low-loading indicators) to test model robustness.

RESULTS AND DISCUSSION

Result

Outer loadings dari masing-masing indikator

To ensure that each indicator in this study truly represents the construct being measured, outer loadings were tested as part of the measurement model evaluation (outer model). Outer loadings describe the strength of the relationship between each indicator and the latent variable it represents. The ideal value for outer loadings is above 0.70, which indicates that the indicator has good convergent validity. Table 1 below presents the results of outer loadings for each indicator on the constructs of Educational Quality, School Climate, Spiritual Education, and Teacher Professionalism.

Table 1. Outer Loadings Results for Each Indicator

	Outer loadings
EQ_1 <- Educational Quality	0.877
EQ_2 <- Educational Quality	0.908
EQ_3 <- Educational Quality	0.921
EQ_4 <- Educational Quality	0.901
SC_1 <- School Climate	0.919
SC_2 <- School Climate	0.895
SC_3 <- School Climate	0.836
SC_4 <- School Climate	0.880
SE_1 <- Spiritual Education	0.768
SE_2 <- Spiritual Education	0.836
SE_3 <- Spiritual Education	0.883
SE_4 <- Spiritual Education	0.787

TP_1 <- Teacher Professionalism	0.844
TP_2 <- Teacher Professionalism	0.922
TP_3 <- Teacher Professionalism	0.895
TP_4 <- Teacher Professionalism	0.880

For the Educational Quality construct, all indicators (EQ_1 to EQ_4) have high loading values (0.877–0.921), indicating that all indicators strongly and consistently measure educational quality. The School Climate construct also shows excellent indicator validity with values between 0.836 and 0.919, meaning that all four indicators are valid as measures of school climate. Meanwhile, in the Spiritual Education construct, although all loading values are above the minimum threshold of 0.7, the values of SE_1 (0.768) and SE_4 (0.787) are slightly lower than SE_2 and SE_3, but still show acceptable validity. Finally, the Teacher Professionalism construct has indicators with very high values, especially TP_2 (0.922), indicating that this indicator is the strongest in reflecting teacher professionalism. Thus, all indicators in this study meet the criteria for convergent validity, meaning they can be accurately used in the model to represent the constructs being measured. The high validity of the indicators strengthens the reliability of the model in measuring and testing the relationships between constructs in the study.

Measurement Model (Outer Model)

To assess the validity and reliability of the indicators used in this study, the Measurement Model (Outer Model) was tested on 312 *madrasah* teachers. The Spiritual Education (SE) variable includes four indicators: (1) self-awareness (SE_1), (2) transcendental connection (SE_2), (3) moral-ethical values (SE_3), and (4) compassion and social concern (SE_4). The Teacher Professionalism (TP) variable includes four indicators: (1) pedagogical competence (TP_1), (2) continuous professional development (TP_2), (3) professional ethics (TP_3), and (4) commitment and collaboration (TP_4). The School Climate (SC) variable includes four indicators: (1) physical and psychological safety (SC_1), (2) positive interpersonal relationships (SC_2), (3) supportive learning environment (SC_3), and (4) leadership and institutional support (SC_4). The Educational Quality (EQ) variable includes four indicators: (1) student learning outcomes (EQ_1), (2) instructional effectiveness (EQ_2), (3) stakeholder satisfaction (EQ_3), and (4) innovation and continuous evaluation (EQ_4). The test results can be seen in Table 2 below.

Table 2. Measurement Model Testing Results (Outer Model)

	VIF
EQ_1	2.756
EQ_2	3.285
EQ_3	3.795
EQ_4	3.152
SC_1	3.640
SC_2	3.157
SC_3	2.114
SC_4	2.623
SE_1	1.710

SE_2	2.023
SE_3	2.328
SE_4	1.714
TP_1	2.273
TP_2	3.706
TP_3	2.882
TP_4	2.677

The results of the Measurement Model (Outer Model) testing in this study were conducted to evaluate the validity and reliability of the construct indicators in the data collected from 312 *madrasah* teachers. Each latent variable, namely Spiritual Education (SE), Teacher Professionalism (TP), School Climate (SC), and Educational Quality (EQ), was measured using four indicators that were established based on relevant theoretical concepts. The validity of the indicators was tested, among other things, through the Variance Inflation Factor (VIF) value, which was used to detect potential multicollinearity between indicators in each construct. In general, all VIF values were below the recommended maximum limit (i.e., <5), indicating that there were no significant multicollinearity issues among the indicators.

The highest VIF values were found in the TP_2 (continuous professional development) indicator at 3.706 and EQ_3 (stakeholder satisfaction) at 3.795, which are still within reasonable and acceptable limits. Meanwhile, indicators SE_1 and SE_4 had the lowest VIF values, 1.710 and 1.714, respectively, indicating a clean contribution from multicollinearity. These findings reinforce that each indicator provides a unique contribution to its construct and can be relied upon to proceed to structural model testing (inner model). Thus, the results of the outer model indicate that the indicators in this study are valid and reliable in representing the constructs being measured, and support the feasibility of the model for further testing in explaining the relationships between latent variables.

Structural Model Testing (Inner Model)

This test was conducted to evaluate the relationship between latent variables through path coefficients, coefficients of determination (R^2), and statistical significance. The results are shown in Table 3 below.

Table 3. Structural Model Testing Results (Inner Model)

	VIF
School Climate -> Educational Quality	2.695
Spiritual Education -> Educational Quality	2.837
Teacher Professionalism -> Educational Quality	3.646

Table 3 presents the results of structural model testing (inner model) aimed at assessing the potential for multicollinearity among predictor variables in explaining the Educational Quality construct. This analysis uses the Variance Inflation Factor (VIF) value, where a VIF value less than 5 indicates that there are no serious multicollinearity issues among the independent variables in the model. The three independent variables—School Climate, Spiritual Education, and Teacher Professionalism—show VIF values of 2.695, 2.837, and

3.646, respectively. These values are within an acceptable range, indicating that the three variables do not distort each other's influence on the dependent variable, Educational Quality. Thus, the model is free from multicollinearity issues, and the three constructs can be analyzed simultaneously in the structural model to test the extent of each variable's contribution to improving educational quality. These results support the model's suitability for further analysis using path analysis and significance tests.

Table 4 below shows the path coefficient results, which inform the magnitude of each independent variable's direct influence on the dependent variable, Educational Quality, in the structural model. The path coefficient value reflects the strength and direction of the relationship between latent constructs.

Table 4. Path Coefficient Results (Path Coefficient)

	Path coefficients
School Climate -> Educational Quality	0.568
Spiritual Education -> Educational Quality	0.008
Teacher Professionalism -> Educational Quality	0.318

Based on Table 4, the School Climate variable contributes most strongly to Educational Quality with a coefficient of 0.568, which means that a conducive school climate significantly improves educational quality. Furthermore, Teacher Professionalism also shows a relatively significant positive influence, with a coefficient value of 0.318, indicating that improving teacher professionalism also contributes to the quality of education in a real way. Meanwhile, the Spiritual Education variable only has a path coefficient of 0.008, which indicates a very weak influence and can practically be insignificant to Educational Quality. These results indicate that spiritual education, in this model, does not directly influence educational quality, or its influence may occur indirectly through other mediating variables. Thus, this model confirms that school climate and teacher professional competence play important roles in improving the quality of *madrasah* education.

Table 5. R-square

	R-square	R-square adjusted
Educational Quality	0.717	0.714

Table 5 shows the R-square and adjusted R-square values for the Educational Quality construct, which indicate how much the independent variables in the model can explain the variation in the dependent variable. An R-square value of 0.717 indicates that 71.7% of the variability in educational quality can be explained by three predictor variables, namely School Climate, Teacher Professionalism, and Spiritual Education. Meanwhile, the adjusted R-square value of 0.714 reflects adjustments for the number of predictors and sample size, yet still indicates a high predictive strength. Thus, these results suggest that the structural model constructed has high predictive power and that educational quality in *madrasahs* is substantially influenced by school climate and teacher professionalism. However, the direct contribution of spiritual education is relatively weak.

The Figure 1 is a visualization of the structural model from the Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis that tests the influence of three independent variables, namely Spiritual Education, Teacher Professionalism, and School Climate, on the dependent variable Educational Quality. Each construct is measured by four indicators, all of which have a loading factor above 0.7, indicating that these indicators are valid in representing their respective constructs. For example, the SE_3 indicator (0.883) has the highest correlation with Spiritual Education, while TP_2 (0.922) best represents Teacher Professionalism, and SC_1 (0.919) most strongly reflects School Climate. On the other hand, the EQ_3 indicator (0.921) shows the most significant contribution in measuring Educational Quality.

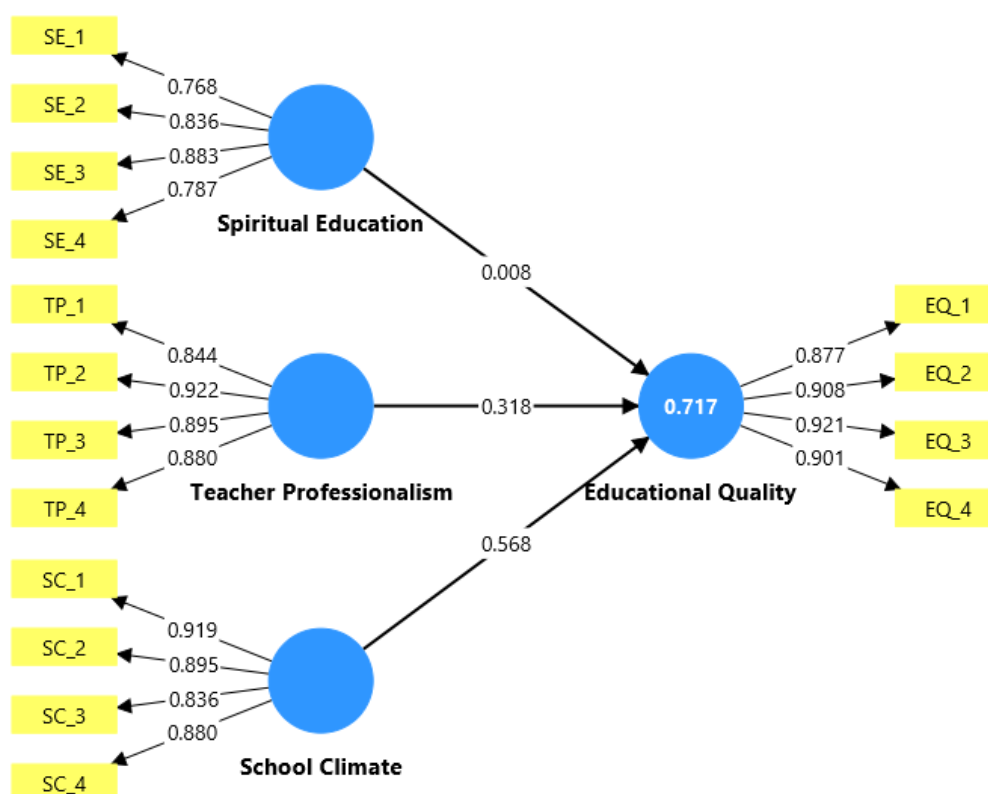


Figure 1. Visualization of the PLS-SEM Model Visualization of the Partial Least Squares Structural Equation Modeling (PLS-SEM) Model of Spiritual Education, Teacher Professionalism, School Climate, and Education Quality

In terms of the relationship between variables, it was found that school climate has the most dominant influence on educational quality, with a path coefficient of 0.568, which indicates a substantial and practically significant contribution. Furthermore, Teacher Professionalism also has a positive influence with a coefficient value of 0.318, indicating that teacher professionalism has an important role in improving the quality of education. Meanwhile, spiritual education only has a very weak influence with a coefficient of 0.008, so the direct influence of spiritual education on the quality of education tends to be insignificant.

This model has an R^2 value of 0.717 for the Educational Quality variable, meaning that approximately 71.7% of the variation in educational quality can be explained by the three independent constructs in this model. This figure indicates the model's good predictive power. Thus, this study emphasizes the importance of creating a conducive school climate and improving teacher professionalism as key factors in boosting educational quality. The spiritual approach requires further study of its influencing mechanisms, both directly and through mediating variables.

Discussion

The structural model in the figure shows that Educational Quality can be explained by three primary constructs—Spiritual Education, Teacher Professionalism, and School Climate—with an R^2 value of 0.717. According to Hair (2014), this value is included in the substantial category, indicating strong predictive ability. All indicators of the four constructs have outer loading values above 0.7, indicating excellent convergent validity. Thus, this model measurement is declared statistically valid and able to describe the theoretical concepts well in madrasahs.

The School Climate variable has the most decisive influence on Educational Quality with a path coefficient of 0.568. This finding supports previous literature, as stated by Thapa et al. (2013), that a healthy school climate—which includes positive relationships, safety, and structural support—plays a crucial role in promoting academic achievement and student well-being. It confirms that a favorable school climate strengthens motivation, teacher efficiency, and constructive student behavior (Katsantonis, 2019; Finch et al., 2023; Luo & Derakhshan, 2024). For *madrasah* education, this finding underscores that a physically, psychologically, and spiritually supportive environment can improve the quality of learning, which ultimately impacts the quality of education.

Teacher Professionalism also showed a significant positive influence on Educational Quality with a path coefficient of 0.318. It confirms that teacher professionalism—which encompasses pedagogical competence, commitment, and continuous development—is a crucial element in improving educational quality. Darling-Hammond et al. (2017) emphasized that professional teachers consistently create effective and outcome-oriented learning environments. In madrasahs, teacher professionalism must also reflect Islamic values, creating learning that is not only high-quality but also morally and spiritually meaningful. It is reinforced by the findings of Juhji et al., (2023) that satisfied teachers who continue to develop their competencies contribute positively to the learning process, especially during the pandemic, reinforcing teachers' role in creating adaptive, effective, and outcome-oriented learning environments.

One interesting finding is that Spiritual Education only has a very weak direct effect on Educational Quality (path coefficient = 0.008). It indicates that the spiritual dimension has not been successfully integrated functionally into educational practices that directly impact quality. It supports the findings of Nurjayanti et al. (2024) that students' Spiritual Quotient (SQ) does not have a significant influence on students' academic achievement. However, it is linked through learning effort factors. Strengthening this, Zhou et al. (2024) found that despite finding a positive correlation between spiritual intelligence (SQ) and learning

achievement, the effect was much weaker than that of emotional intelligence (EQ). It indicates that spiritual education has an indirect impact, or through a mediator, rather than as a primary influence on educational quality. In line with this, Lovat and Toomey (2009) stated that spiritual values tend to have a long-term influence through internalization of values, rather than through directly measurable outputs such as learning outcomes or stakeholder satisfaction. Therefore, the implementation of spiritual education needs to be more strategic and connected to instructional mechanisms.

The weak direct effect of Spiritual Education raises the hypothesis that its influence is indirect through mediating variables such as Teacher Professionalism or School Climate. Egel and Fry (2017) state that spiritual values influence work behavior and commitment through personal transformation and organizational culture. This finding is supported by Reave (2005), who found that spiritual values-based leadership significantly improves professional ethics and interpersonal relationships, two elements highly relevant to other constructs in this model.

These findings have important implications for policy development in *madrasah* environments. An integrative approach is needed to instill spirituality into the work culture, learning, and evaluation of education. Nasution (2017) emphasized that transformative Islamic education connects the values of monotheism, morality, and social charity with concrete and measurable educational practices. This means that spirituality in education is not sufficient merely as a normative doctrine; it must be translated into methods, teacher-student interactions, and the development of transformative teacher competencies.

Based on these findings, further studies are recommended to explore mediation models and test the indirect path between Spiritual Education and Educational Quality. Furthermore, testing a longitudinal model can help uncover the long-term influence of spiritual values in education. As suggested by Hargreaves and Fullan (2012), the integration of moral values and professional development can create moral purpose in educational practice, ultimately contributing to sustainable quality. Therefore, strengthening the collaborations between structural, professional, and spiritual aspects is key to building a holistic and meaningful education.

CONCLUSION

In conclusion, this study provides empirical evidence that school climate and teacher professionalism are the most influential factors in improving the quality of education in *madrasahs*, while spiritual education, taken separately, does not demonstrate a significant direct effect. These findings expand previous theoretical understandings that place spiritual education as a primary factor in determining the quality of education in Islamic institutions. To have a real impact, spiritual values need to be implemented through professional teaching practices and supported by a conducive and collaborative institutional climate. Thus, this study makes an important contribution to the development of Islamic education theory by integrating the dimensions of spirituality, professionalism, and the institutional environment into a comprehensive causal model.

Practically, the results of this study emphasize the importance for education policymakers, *madrasah* leaders, and teacher training institutions to prioritize the development of a positive *madrasah* climate and the improvement of teacher professionalism as key

strategies in strengthening the quality of *madrasah* education. Spiritual education as a program should not stand alone but rather be systematically integrated into the pedagogical practices and culture of the institution. Therefore, policies are needed that strengthen supportive leadership, participatory management, and psychological safety within the *madrasah* environment to maintain a conducive climate. Future research is recommended to use a mixed-methods approach with a broader and more diverse sample size to deepen understanding of the dynamics of the interaction between spiritual values, professionalism, and school climate in shaping the quality of *madrasah* education.

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Reassessing the Role of Spiritual Education in Enhancing Educational Quality: Evidence from Islamic-Based *Madrasahs*

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Abstract

Improving the quality of education in Islamic-based *madrasahs* remains a significant challenge, particularly in balancing spiritual values with professional competence and creating a conducive institutional environment. Many *madrasahs* aim to integrate religious teachings into their educational practices; however, the effectiveness of such integration in improving measurable educational outcomes is still under debate. This study examines the impact of three key factors—spiritual education, teacher professionalism, and school climate—on the overall educational quality in *madrasahs*. A quantitative approach was employed, involving 312 purposively selected *madrasah* teachers with active instructional experience. The data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) via SmartPLS 4 software. The analysis revealed that school climate ($\beta = 0.568$) and teacher professionalism ($\beta = 0.318$) have a significant and positive Influence on educational quality. In contrast, spiritual education ($\beta = 0.008$) does not have a statistically significant effect. The model explains 71.7% of the variance in educational quality, indicating a substantial collective impact of the independent variables. These findings emphasise the central role of a favourable school climate and professional teaching practices in improving *madrasah* quality, while also suggesting that the integration of spiritual values needs to be more pedagogically grounded and systematically applied to contribute meaningfully to academic outcomes.

Keywords: educational quality, spiritual Education, teacher professionalism, school climate, *madrasah*, PLS-SEM.

Abstrak

Meningkatkan kualitas Pendidikan di madrasah masih menjadi tantangan yang signifikan, terutama dalam menyeimbangkan nilai-nilai spiritual dengan kompetensi profesional dan lingkungan kelembagaan yang kondusif. Banyak madrasah bertujuan untuk mengintegrasikan ajaran agama ke dalam praktik pendidikan mereka; namun, efektivitas integrasi tersebut dalam meningkatkan hasil pendidikan yang terukur masih dalam perdebatan. Studi ini mengkaji dampak dari tiga faktor kunci—Pendidikan spiritual, profesionalisme guru, dan iklim sekolah—terhadap kualitas pendidikan secara keseluruhan di madrasah. Pendekatan kuantitatif digunakan, yang melibatkan 312 guru madrasah yang dipilih secara sengaja dengan pengalaman mengajar aktif. Data dianalisis menggunakan Partial Least Squares Structural Equation Modelling (PLS-SEM) melalui perangkat lunak SmartPLS 4. Analisis mengungkapkan bahwa iklim sekolah ($\beta = 0,568$)

dan profesionalisme guru ($\beta = 0,318$) memiliki Pengaruh yang signifikan dan positif terhadap kualitas pendidikan. Sebaliknya, Pendidikan spiritual ($\beta = 0,008$) tidak memiliki efek yang signifikan secara statistik. Model ini menjelaskan 71,7% varians kualitas pendidikan, yang menunjukkan dampak kolektif yang substansial dari variabel-variabel independen. Temuan ini menekankan peran sentral iklim sekolah yang kondusif dan praktik pengajaran profesional dalam meningkatkan kualitas madrasah, sekaligus menunjukkan bahwa integrasi nilai-nilai spiritual perlu lebih berlandaskan pedagogis dan diterapkan secara sistematis agar dapat berkontribusi secara bermakna terhadap capaian akademik.

Kata Kunci: educational quality, spiritual education, teacher professionalism, school climate, madrasah, PLS-SEM

INTRODUCTION

The quality of education is a key issue in human resource development, especially in the era of globalization, which demands 21st-century competencies (Ainscow, 2020; Subaidi, 2020; Carr-Hill, 2023; Zakariyah, 2024). In Indonesia, improving the quality of education is a national priority, including in *madrasahs* as educational institutions with Islamic characteristics (Juhaeni et al., 2021; S. Salim et al., 2021; Zakariyah, 2024; Abidin et al., 2024; Aminullah et al., 2024). *Madrasahs* face unique challenges as they must balance academic achievement with the development of strong religious character (A. Salim, 2015). Therefore, it is important to thoroughly examine the strategic factors that influence the overall quality of education, particularly in the context of *madrasahs*.

Previous studies have identified various determinants of educational quality, such as school climate (Thapa et al., 2013; Wang & Degol, 2016; Daily et al., 2019; McChesney & Cross, 2023; Amsalu & Belay, 2024; Mahmood et al., 2024), teacher professionalism (Gunawan & Adha, 2021), and spiritual education (Abdullah, 2018; Karim et al., 2020; Nasrollahi et al., 2020; Fraser-Pearce, 2022; Mulang & Putra, 2023; Samad et al., 2023). A favorable school climate is known to create a safe, inclusive, and supportive learning environment for all school members (Thapa et al., 2013). Teacher professionalism is also a key element because teachers play a direct role in managing the learning process pedagogically and ethically (Hargreaves & Fullan, 2015). On the other hand, spiritual education plays an important role in shaping students' values and motivation to learn in *madrasahs*, although its influence on academic performance has not been fully proven quantitatively (Reave, 2005; Lovat & Toomey, 2009).

The literature gap arises because most studies still examine the influence of these factors (school climate, teacher professionalism, spiritual education) partially (Halik et al., 2018; Dewi & Khotimah, 2020; Maullidina et al., 2023; Nugraha & Dekawati, 2023; Nabilla, 2024). Research that simultaneously examines the roles of school climate, teacher professionalism, and spiritual education within a single structural model framework, particularly in the context of Indonesian *madrasahs*, remains very limited. However, understanding the interactions among these three variables could provide new insights for developing contextual and relevant strategies to enhance educational quality in the current context.

Therefore, this study aims to analyze the simultaneous and empirical effects of school climate, teacher professionalism, and spiritual education on the quality of *madrasah* education. Using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method, this study provides a new construct for the quality of *madrasah* education. The findings of this study are expected to contribute theoretically to the development of Islamic value-based education studies and offer practical recommendations for policymakers and education stakeholders, particularly in *madrasahs*. Specifically, this study also shows that strengthening the quality of *madrasah* education is not sufficient by merely improving academic aspects but also requires support from teacher professionalism, a conducive school climate, and the effective integration of spiritual values into classroom learning practices.

METHOD

This study uses a quantitative approach with an explanatory research design aimed at explaining the causal relationship between independent variables, namely spiritual education, teacher professionalism, and school climate, and the dependent variable of educational quality in *madrasahs*. To test this relationship, the Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis technique was used. The population in this study was all *madrasah* teachers in Banten Province. The sample consisted of 312 teachers selected purposively based on three inclusion criteria: active teachers, with at least two years of teaching experience, and willing to complete the questionnaire in full. The sample size met the minimum criteria recommended in PLS-SEM, which is ten times the number of indicators in the construct with the most paths (Hair, 2014), making it statistically valid for analysis.

The research instrument was a closed questionnaire designed to measure four primary latent constructs. The spiritual education construct included indicators of self-awareness, transcendental connection, moral-ethical values, and compassion and social concern. The teacher professionalism construct included pedagogical competence, continuous professional development, professional ethics, and commitment and collaboration. The school climate construct is measured through indicators of physical and psychological safety, interpersonal relationships, learning environment, and institutional leadership and support. Meanwhile, the educational quality construct includes student learning outcomes, instructional effectiveness, stakeholder satisfaction, innovation, and continuous evaluation. All indicators are measured using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), and the content validity of the instrument has been verified through expert judgment by education and research methodology experts.

Data analysis was conducted in two stages, namely testing the measurement model (outer model) and testing the structural model (inner model) with the help of SmartPLS 4.0 software. The outer model was analyzed through outer loading values, composite reliability, and average variance extracted (AVE) to test the validity and reliability of the construct. In addition, multicollinearity was detected by examining the Variance Inflation Factor (VIF) values. In the inner model stage, the relationships between constructs were tested using path coefficients and R-square values, and their significance was tested using the bootstrapping technique.

The model evaluation criteria refer to the guidelines developed by Hair et al. (2021), namely an outer loading value ≥ 0.70 to ensure indicator validity, a composite reliability value ≥ 0.70 for internal reliability, and an AVE value ≥ 0.50 for convergent validity. A VIF value < 5.0 is used to ensure that there is no multicollinearity between indicators. Meanwhile, the testing of relationships between constructs in the structural model is based on path coefficient values and t-statistics obtained from bootstrapping results.

RESULTS AND DISCUSSION

Result

Outer loadings dari masing-masing indikator

To ensure that each indicator in this study truly represents the construct being measured, outer loadings were tested as part of the measurement model evaluation (outer model). Outer loadings describe the strength of the relationship between each indicator and the latent variable it represents. The ideal value for outer loadings is above 0.70, which indicates that the indicator has good convergent validity. Table 1 below presents the results of outer loadings for each indicator on the constructs of Educational Quality, School Climate, Spiritual Education, and Teacher Professionalism.

Table 1. Outer Loadings Results for Each Indicator

	Outer loadings
EQ_1 <- Educational Quality	0.877
EQ_2 <- Educational Quality	0.908
EQ_3 <- Educational Quality	0.921
EQ_4 <- Educational Quality	0.901
SC_1 <- School Climate	0.919
SC_2 <- School Climate	0.895
SC_3 <- School Climate	0.836
SC_4 <- School Climate	0.880
SE_1 <- Spiritual Education	0.768
SE_2 <- Spiritual Education	0.836
SE_3 <- Spiritual Education	0.883
SE_4 <- Spiritual Education	0.787
TP_1 <- Teacher Professionalism	0.844
TP_2 <- Teacher Professionalism	0.922
TP_3 <- Teacher Professionalism	0.895
TP_4 <- Teacher Professionalism	0.880

For the Educational Quality construct, all indicators (EQ_1 to EQ_4) have high loading values (0.877–0.921), indicating that all indicators strongly and consistently measure educational quality. The School Climate construct also shows excellent indicator validity with values between 0.836 and 0.919, meaning that all four indicators are valid as measures of school climate. Meanwhile, in the Spiritual Education construct, although all loading values are above the minimum threshold of 0.7, the values of SE_1 (0.768) and SE_4 (0.787) are slightly lower than SE_2 and SE_3, but still show acceptable validity. Finally, the Teacher Professionalism construct has indicators with very high values, especially TP_2 (0.922),

indicating that this indicator is the strongest in reflecting teacher professionalism. Thus, all indicators in this study meet the criteria for convergent validity, meaning they can be accurately used in the model to represent the constructs being measured. The high validity of the indicators strengthens the reliability of the model in measuring and testing the relationships between constructs in the study.

Measurement Model (Outer Model)

To assess the validity and reliability of the indicators used in this study, the Measurement Model (Outer Model) was tested on 312 *madrasah* teachers. The Spiritual Education (SE) variable includes four indicators: (1) self-awareness (SE_1), (2) transcendental connection (SE_2), (3) moral-ethical values (SE_3), and (4) compassion and social concern (SE_4). The Teacher Professionalism (TP) variable includes four indicators: (1) pedagogical competence (TP_1), (2) continuous professional development (TP_2), (3) professional ethics (TP_3), and (4) commitment and collaboration (TP_4). The School Climate (SC) variable includes four indicators: (1) physical and psychological safety (SC_1), (2) positive interpersonal relationships (SC_2), (3) supportive learning environment (SC_3), and (4) leadership and institutional support (SC_4). The Educational Quality (EQ) variable includes four indicators: (1) student learning outcomes (EQ_1), (2) instructional effectiveness (EQ_2), (3) stakeholder satisfaction (EQ_3), and (4) innovation and continuous evaluation (EQ_4). The test results can be seen in Table 2 below.

Table 2. Measurement Model Testing Results (Outer Model)

	VIF
EQ_1	2.756
EQ_2	3.285
EQ_3	3.795
EQ_4	3.152
SC_1	3.640
SC_2	3.157
SC_3	2.114
SC_4	2.623
SE_1	1.710
SE_2	2.023
SE_3	2.328
SE_4	1.714
TP_1	2.273
TP_2	3.706
TP_3	2.882
TP_4	2.677

The results of the Measurement Model (Outer Model) testing in this study were conducted to evaluate the validity and reliability of the construct indicators in the data collected from 312 *madrasah* teachers. Each latent variable, namely Spiritual Education (SE), Teacher Professionalism (TP), School Climate (SC), and Educational Quality (EQ), was measured using four indicators that were established based on relevant theoretical concepts.

The validity of the indicators was tested, among other things, through the Variance Inflation Factor (VIF) value, which was used to detect potential multicollinearity between indicators in each construct. In general, all VIF values were below the recommended maximum limit (i.e., <5), indicating that there were no significant multicollinearity issues among the indicators.

The highest VIF values were found in the TP_2 (continuous professional development) indicator at 3.706 and EQ_3 (stakeholder satisfaction) at 3.795, which are still within reasonable and acceptable limits. Meanwhile, indicators SE_1 and SE_4 had the lowest VIF values, 1.710 and 1.714, respectively, indicating a clean contribution from multicollinearity. These findings reinforce that each indicator provides a unique contribution to its construct and can be relied upon to proceed to structural model testing (inner model). Thus, the results of the outer model indicate that the indicators in this study are valid and reliable in representing the constructs being measured, and support the feasibility of the model for further testing in explaining the relationships between latent variables.

Structural Model Testing (Inner Model)

This test was conducted to evaluate the relationship between latent variables through path coefficients, coefficients of determination (R^2), and statistical significance. The results are shown in Table 3 below.

Table 3. Structural Model Testing Results (Inner Model)

	VIF
School Climate -> Educational Quality	2.695
Spiritual Education -> Educational Quality	2.837
Teacher Professionalism -> Educational Quality	3.646

Table 3 presents the results of structural model testing (inner model) aimed at assessing the potential for multicollinearity among predictor variables in explaining the Educational Quality construct. This analysis uses the Variance Inflation Factor (VIF) value, where a VIF value less than 5 indicates that there are no serious multicollinearity issues among the independent variables in the model. The three independent variables—School Climate, Spiritual Education, and Teacher Professionalism—show VIF values of 2.695, 2.837, and 3.646, respectively. These values are within an acceptable range, indicating that the three variables do not distort each other's influence on the dependent variable, Educational Quality. Thus, the model is free from multicollinearity issues, and the three constructs can be analyzed simultaneously in the structural model to test the extent of each variable's contribution to improving educational quality. These results support the model's suitability for further analysis using path analysis and significance tests.

Table 4 below shows the path coefficient results, which inform the magnitude of each independent variable's direct influence on the dependent variable, Educational Quality, in the structural model. The path coefficient value reflects the strength and direction of the relationship between latent constructs.

Table 4. Path Coefficient Results (Path Coefficient)

	Path coefficients
School Climate -> Educational Quality	0.568
Spiritual Education -> Educational Quality	0.008
Teacher Professionalism -> Educational Quality	0.318

Based on Table 4, the School Climate variable contributes most strongly to Educational Quality with a coefficient of 0.568, which means that a conducive school climate significantly improves educational quality. Furthermore, Teacher Professionalism also shows a relatively significant positive influence, with a coefficient value of 0.318, indicating that improving teacher professionalism also contributes to the quality of education in a real way. Meanwhile, the Spiritual Education variable only has a path coefficient of 0.008, which indicates a very weak influence and can practically be insignificant to Educational Quality. These results indicate that spiritual education, in this model, does not directly influence educational quality, or its influence may occur indirectly through other mediating variables. Thus, this model confirms that school climate and teacher professional competence play important roles in improving the quality of *madrasah* education.

Table 5. R-square

	R-square	R-square adjusted
Educational Quality	0.717	0.714

Table 5 shows the R-square and adjusted R-square values for the Educational Quality construct, which indicate how much the independent variables in the model can explain the variation in the dependent variable. An R-square value of 0.717 indicates that 71.7% of the variability in educational quality can be explained by three predictor variables, namely School Climate, Teacher Professionalism, and Spiritual Education. Meanwhile, the adjusted R-square value of 0.714 reflects adjustments for the number of predictors and sample size, yet still indicates a high predictive strength. Thus, these results suggest that the structural model constructed has high predictive power and that educational quality in *madrasahs* is substantially influenced by school climate and teacher professionalism. However, the direct contribution of spiritual education is relatively weak.

The Figure 1 is a visualization of the structural model from the Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis that tests the influence of three independent variables, namely Spiritual Education, Teacher Professionalism, and School Climate, on the dependent variable Educational Quality. Each construct is measured by four indicators, all of which have a loading factor above 0.7, indicating that these indicators are valid in representing their respective constructs. For example, the SE_3 indicator (0.883) has the highest correlation with Spiritual Education, while TP_2 (0.922) best represents Teacher Professionalism, and SC_1 (0.919) most strongly reflects School Climate. On the other hand, the EQ_3 indicator (0.921) shows the most significant contribution in measuring Educational Quality.

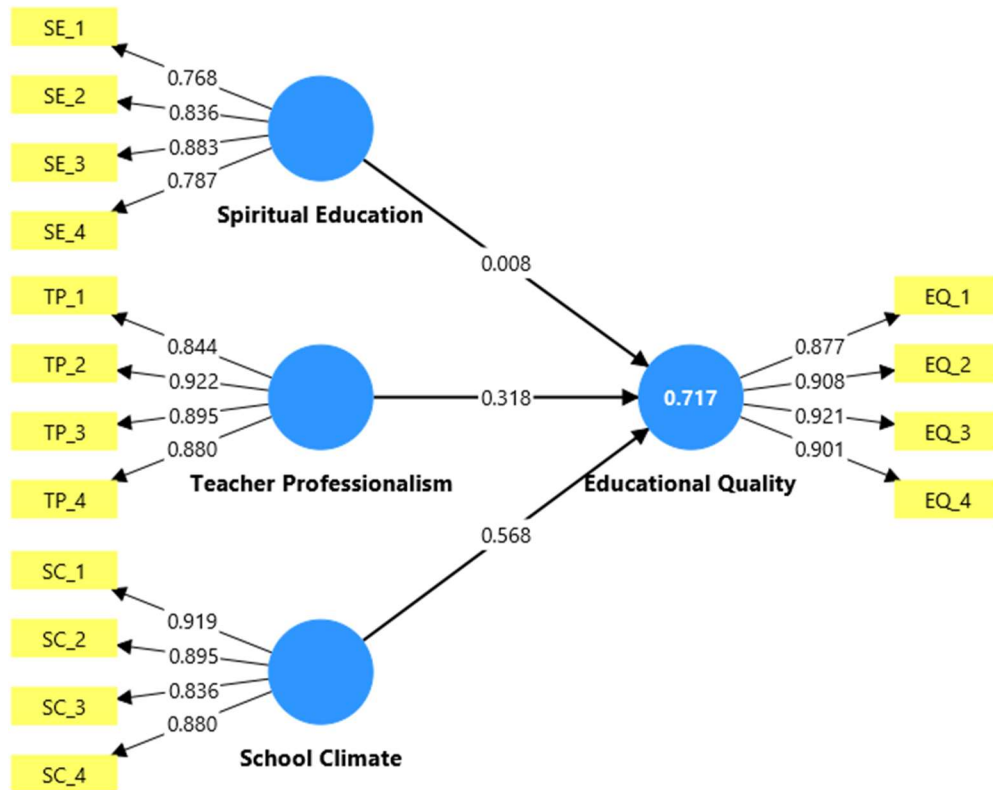


Figure 1. Visualization of the PLS-SEM Model Visualization of the Partial Least Squares Structural Equation Modeling (PLS-SEM) Model of Spiritual Education, Teacher Professionalism, School Climate, and Education Quality

In terms of the relationship between variables, it was found that school climate has the most dominant influence on educational quality, with a path coefficient of 0.568, which indicates a substantial and practically significant contribution. Furthermore, Teacher Professionalism also has a positive influence with a coefficient value of 0.318, indicating that teacher professionalism has an important role in improving the quality of education. Meanwhile, spiritual education only has a very weak influence with a coefficient of 0.008, so the direct influence of spiritual education on the quality of education tends to be insignificant.

This model has an R^2 value of 0.717 for the Educational Quality variable, meaning that approximately 71.7% of the variation in educational quality can be explained by the three independent constructs in this model. This figure indicates the model's good predictive power. Thus, this study emphasizes the importance of creating a conducive school climate and improving teacher professionalism as key factors in boosting educational quality. The spiritual approach requires further study of its influencing mechanisms, both directly and through mediating variables.

Discussion

The structural model in the figure shows that Educational Quality can be explained by three primary constructs—Spiritual Education, Teacher Professionalism, and School Climate—with an R^2 value of 0.717. According to Hair (2014), this value is included in the

substantial category, indicating strong predictive ability. All indicators of the four constructs have outer loading values above 0.7, indicating excellent convergent validity. Thus, this model measurement is declared statistically valid and able to describe the theoretical concepts well in madrasas.

The School Climate variable has the most decisive influence on Educational Quality with a path coefficient of 0.568. This finding supports previous literature, as stated by Thapa et al. (2013), that a healthy school climate—which includes positive relationships, safety, and structural support—plays a crucial role in promoting academic achievement and student well-being. It confirms that a favorable school climate strengthens motivation, teacher efficiency, and constructive student behavior (Katsantonis, 2019; Finch et al., 2023; Luo & Derakhshan, 2024). For *madrasah* education, this finding underscores that a physically, psychologically, and spiritually supportive environment can improve the quality of learning, which ultimately impacts the quality of education.

Teacher Professionalism also showed a significant positive influence on Educational Quality with a path coefficient of 0.318. It confirms that teacher professionalism—which encompasses pedagogical competence, commitment, and continuous development—is a crucial element in improving educational quality. Darling-Hammond et al. (2017) emphasized that professional teachers consistently create effective and outcome-oriented learning environments. In madrasas, teacher professionalism must also reflect Islamic values, creating learning that is not only high-quality but also morally and spiritually meaningful. It is reinforced by the findings of Juhji et al., (2023) that satisfied teachers who continue to develop their competencies contribute positively to the learning process, especially during the pandemic, reinforcing teachers' role in creating adaptive, effective, and outcome-oriented learning environments.

One interesting finding is that Spiritual Education only has a very weak direct effect on Educational Quality (path coefficient = 0.008). It indicates that the spiritual dimension has not been successfully integrated functionally into educational practices that directly impact quality. It supports the findings of Nurjayanti et al. (2024) that students' Spiritual Quotient (SQ) does not have a significant influence on students' academic achievement. However, it is linked through learning effort factors. Strengthening this, Zhou et al. (2024) found that despite finding a positive correlation between spiritual intelligence (SQ) and learning achievement, the effect was much weaker than that of emotional intelligence (EQ). It indicates that spiritual education has an indirect impact, or through a mediator, rather than as a primary influence on educational quality. In line with this, Lovat and Toomey (2009) stated that spiritual values tend to have a long-term influence through internalization of values, rather than through directly measurable outputs such as learning outcomes or stakeholder satisfaction. Therefore, the implementation of spiritual education needs to be more strategic and connected to instructional mechanisms.

The weak direct effect of Spiritual Education raises the hypothesis that its influence is indirect through mediating variables such as Teacher Professionalism or School Climate. Egel and Fry (2017) state that spiritual values influence work behavior and commitment through personal transformation and organizational culture. This finding is supported by Reave (2005),

who found that spiritual values-based leadership significantly improves professional ethics and interpersonal relationships, two elements highly relevant to other constructs in this model.

These findings have important implications for policy development in *madrasah* environments. An integrative approach is needed to instill spirituality into the work culture, learning, and evaluation of education. Nasution (2017) emphasized that transformative Islamic education connects the values of monotheism, morality, and social charity with concrete and measurable educational practices. This means that spirituality in education is not sufficient merely as a normative doctrine; it must be translated into methods, teacher-student interactions, and the development of transformative teacher competencies.

Based on these findings, further studies are recommended to explore mediation models and test the indirect path between Spiritual Education and Educational Quality. Furthermore, testing a longitudinal model can help uncover the long-term influence of spiritual values in education. As suggested by Hargreaves and Fullan (2012), the integration of moral values and professional development can create moral purpose in educational practice, ultimately contributing to sustainable quality. Therefore, strengthening the collaborations between structural, professional, and spiritual aspects is key to building a holistic and meaningful education.

CONCLUSION

School climate and teacher professionalism significantly influence educational quality in madrasas, with school climate being the most dominant factor, while spiritual education showed no significant influence. These findings challenge long-held assumptions that place spiritual education as the primary determinant of educational quality in madrasas and open up new discussions about the need for more contextual and applicable integration of spiritual values into learning practices. Scientifically, this study reinforces previous findings regarding the importance of school climate and teacher professionalism, while also offering a PLS-SEM-based analytical approach that provides a methodological contribution to understanding the structure of influence between variables in the context of Islamic education. However, limitations of this study lie in the limited sample size and the failure to consider demographic variations such as age, gender, and other institutional factors that may influence the results. Therefore, further research with a broader sample size and a more exploratory approach is needed to obtain a more comprehensive and generalizable understanding.

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