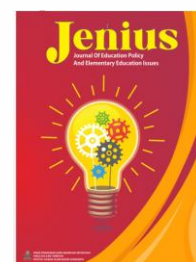




Jenius: Journal of Education Policy and Elementary Education Issues

<https://ejournal.uinsaid.ac.id/index.php/jenius>



Religiosity and Environmental Care Attitudes: A Correlational Study Among Islamic Elementary School Students in Bayat District

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INFO ARTIKEL

Riwayat Artikel

Received: 14 June 2026

Accepted: 29 June 2026

Published: 30 June 2026

DOI:

10.22515/jenius.v7.i1.15619

Keywords:

Environmental Care;
Religiosity; VBN Theory.

ABSTRACT

This study was motivated by the suboptimal level of environmental care among fifth-grade students in Islamic elementary schools (Madrasah Ibtidaiyah) across Bayat District. The study was grounded in the Value-Belief-Norm (VBN) Theory, which explains that individuals' values and beliefs influence their pro-environmental behavior. The objective of this study was to examine the relationship between religiosity and environmental care attitudes among fifth-grade students in Madrasah Ibtidaiyah throughout Bayat District. A quantitative approach with a correlational research design was employed. The population consisted of 108 students, from which a sample of 86 students was selected using the Slovin formula and proportional random sampling. Empirical validity testing indicated that 21 of the 22 religiosity questionnaire items and 26 of the 30 environmental care attitude questionnaire items were valid. Reliability testing yielded Cronbach's alpha coefficients of 0.807 for the religiosity scale and 0.847 for the environmental care attitude scale, indicating good internal consistency. The correlation analysis ($r = .767$, $p < .001$) revealed a strong, positive, and statistically significant relationship between religiosity and environmental care attitudes. Furthermore, the coefficient of determination ($R^2 = .588$) indicated that approximately 58.8% of the variance in students' environmental care attitudes was explained by religiosity, while other factors accounted for the remaining 41.2%. These findings highlight the importance of integrating environmental care into Islamic education and daily religious practices, enabling students not only to strengthen their religious commitment but also to develop greater responsibility toward environmental sustainability.

INTRODUCTION

The environment is fundamental to the survival of all living organisms on Earth, providing natural resources and maintaining ecosystem balance (Raj et al., 2019). However, increasing

population growth and rapid technological development have accelerated the exploitation of natural resources, resulting in significant environmental degradation ([Muhammad et al., 2021](#)). According to statistics released by the Indonesian Ministry of Environment in 2024, approximately 376,805 hectares of forest and land were affected by fires across Indonesia during 2024, highlighting the ongoing environmental challenges the country faces ([BPS-Statistics, 2025](#)). These environmental problems are driven not only by policy and industrial activities but also by the low level of individual environmental awareness and responsibility, highlighting the importance of fostering pro-environmental attitudes from an early age.

Developing environmental care attitudes is most effective during elementary school education ([Ar et al., 2023](#)). At this level, children are generally between 7 and 11 years of age, corresponding to Piaget's concrete operational stage of cognitive development. During this stage, children begin to understand cause-and-effect relationships through concrete experiences, making it an ideal period for fostering positive character values ([Ghazi & Ullah, 2015](#); [Lestari et al., 2023](#)). These values include helpfulness, religiosity, environmental responsibility, discipline, accountability, and other essential character traits that support holistic child development ([Ghazi & Ullah, 2015](#)).

Environmental care refers to an individual's awareness, concern, and commitment to protecting the environment while actively preventing environmental degradation ([Short, 2009](#)). This attitude can be observed through six key indicators: disposing of waste properly, maintaining environmental cleanliness, beautifying classrooms and school grounds with plants, participating in the maintenance of school gardens, engaging in school environmental cleanliness programs, and keeping school toilets clean ([Efriyani, 2022](#)). In *Madrasah Ibtidaiyah*, the development of environmental care carries a deeper dimension because it is closely integrated with Islamic values. As emphasized in Qur'an Surah Al-A'raf (7:56), protecting the Earth from destruction is considered an act of obedience to Allah SWT ([Aghniyah, 2025](#)).

However, preliminary observations conducted at MI Muhammadiyah Krakitan on October 1, 2025, indicated that fifth-grade students' attitudes toward environmental care had not yet reached the expected level. Litter was found in students' desk drawers, damaged flower pots were left unattended and unreplaced, and the boys' restroom was observed to be inadequately maintained. These preliminary observations served as an initial investigation to identify the general phenomenon explored in this study. Based on these findings, one internal factor that may influence students' attitudes toward environmental care is religiosity ([Khoirurrijal et al., 2025](#)). Religiosity reflects the extent to which individuals internalize and practice religious

values in their daily lives, including their responsibility toward the natural environment as part of God's creation (Mo et al., 2023).

Students' religiosity can be reflected through four dimensions: religious belief, religious practice, religious experience, and the consequences of religious commitment in daily life. (Pong, 2018). The relationship between religiosity and environmental care can be explained using the Value–Belief–Norm (VBN) Theory proposed by Stern et al. (1999), which suggests that pro-environmental behavior develops through the interaction of three interconnected components: values, beliefs, and personal norms. Values represent the fundamental principles that guide individuals' perspectives and decision-making. These values shape beliefs regarding the importance of environmental protection and the consequences of human actions toward nature. In turn, these beliefs foster personal norms, a sense of moral obligation and responsibility that motivate individuals to engage in environmentally responsible behavior (Capiene et al., 2022).

In this study, religiosity is conceptualized as the value component within the Value–Belief–Norm (VBN) framework. These religious values are expected to shape students' beliefs that caring for the environment is an act of worship, which, in turn, fosters personal norms that encourage genuine environmental responsibility rather than mere compliance with school regulations. Furthermore, an interview with the principal of MI Muhammadiyah Krakitan conducted on October 8, 2026, revealed that although students regularly perform religious practices such as *Duha* prayer, Qur'anic recitation, and ablution before prayer, many have not yet internalized the idea that protecting the environment is also a form of worship. For example, students often water plants or participate in classroom cleaning duties primarily to comply with school rules rather than out of intrinsic religious motivation. This gap between religious knowledge and its practical application in environmental stewardship constitutes the central issue addressed in this study.

Previous studies have examined the relationship between religiosity and environmental care among Generation Z (Hanuna & Sulaiman, 2023; Pasqa & Iqbal, 2026) and university students (Rahmah, 2024). These studies consistently reported a positive association between religiosity and pro-environmental attitudes. However, empirical evidence involving elementary-aged students, particularly those aged 10–11 years in *Madrasah Ibtidaiyah*, remains limited. Moreover, few studies have explored this relationship within Islamic elementary schools that integrate religious habituation into daily educational activities.

Based on this gap, the present study aims to examine the relationship between religiosity

and environmental care attitudes among fifth-grade students in *Madrasah Ibtidaiyah* across Bayat District. The findings are expected to provide empirical evidence on the association between students' religiosity and environmental care attitudes, and to serve as a reference for teachers in designing learning activities that foster sustainable environmental responsibility by integrating Islamic values.

METHOD

Research Design

This study employed a quantitative approach using a simple linear correlational research design. The purpose of this study was to examine the relationship between one independent variable and one dependent variable ([Creswell, 2012](#)) namely religiosity (X) and environmental care attitude (Y). This approach was chosen because the data collected were quantitative and analyzed statistically to determine the strength of the relationship between the two variables, without administering any intervention or treatment to the research participants. The main study was conducted at three Muhammadiyah Islamic Elementary Schools (Madrasah Ibtidaiyah Muhammadiyah) in Bayat District. At the same time, MI Terpadu Al Husna was used as the site for the instrument pilot testing. The research was carried out from October 2025 to May 2026.

Population, Sample, and Sampling Technique

The target population of this study comprised all fifth-grade students enrolled in three Muhammadiyah Islamic Elementary Schools (Madrasah Ibtidaiyah, MI), totaling 108 students. MI Terpadu Al Husna, which had 38 fifth-grade students, was excluded from the main study population because it served as the site for the instrument pilot testing.

The sample size was determined using the Slovin formula with a 5% margin of error, resulting in a final sample of 86 students. A proportional random sampling technique was employed to ensure that participants were selected randomly in proportion to the number of students in each school ([Sugiyono, 2021](#)). Table 1 presents the sample size calculation and the distribution of participants across the participating schools.

Table 1. Distribution of the Sample Using Proportional Random Sampling

No	School	Population (N)	Sample Size Calculation	Final Sample (n)
1.	MI Muhammadiyah Krakitan	58	$\frac{58}{108} \times 86$	46
2.	MI Muhammadiyah Paseban	27	$\frac{27}{108} \times 86$	22
3.	MI Muhammadiyah Talang	23	$\frac{23}{108} \times 86$	18
Total				86

Research Procedure

The research was conducted in three sequential stages. The first stage involved preparing the research instruments, including content validation through expert judgment by two experts (university lecturers) specializing in Integrated Science (IPAS) and Islamic Studies. The second stage consisted of pilot testing the instruments with 38 fifth-grade students from MI Terpadu Al Husna to establish their empirical validity and reliability. The third stage involved the main data collection, during which the finalized instruments were administered to the 86 selected participants, followed by data processing and statistical analysis.

Research Instrument

Data were collected using a questionnaire based on a three-point Likert scale, with the response options always, sometimes, and never. The decision to use only three response categories (scored from 1 to 3) was made deliberately to accommodate the cognitive developmental stage of fifth-grade students aged 10–11 years. This simplified response format was intended to facilitate students' decision-making and to ensure that each response option conveyed a clear, easily distinguishable meaning to participants.

The religiosity instrument consisted of 22 items covering four dimensions: religious belief, religious practice, religious experience, and religious consequences. These dimensions were adapted from (Arofah et al., 2021). The indicators and distribution of the questionnaire items are presented in Table 2.

Table 2. Blueprint of the Religiosity Questionnaire

No	Dimension	Positive Items	Negative Items	Total Items
1.	Religious Belief	1,14	12, 15	4
2.	Religious Practice	5, 10, 13	8, 18, 21	5
3.	Religious Experience	3, 20, 22	4, 17, 19	6
4.	Religious Consequences and Experience	2, 7, 16	6, 9, 11	6
Total				22

(Arofah et al., 2021)

The environmental care attitude instrument consisted of 26 valid items encompassing six dimensions: disposing of waste in designated trash bins, maintaining environmental cleanliness, beautifying the classroom and school with plants, participating in the maintenance of the school garden, engaging in school environmental cleanliness activities, and cleaning the school toilets. These dimensions were adapted from [Efriyani \(2022\)](#). The indicators and distribution of the questionnaire items are presented in Table 3.

Table 3. Kisi-kisi Instrumen Kuesioner Sikap Peduli Lingkungan

No	Dimension	Positive Items	Negative Items	Total Items
1.	Proper Waste Disposal	3, 10	6, 19	4
2.	Maintaining Environmental Cleanliness	5, 8, 17	1, 22, 27	6
3.	Beautifying the Classroom and School with Plants	4, 20	12, 18	4
4.	Participating in School Garden Maintenance	9, 11, 13, 25	7, 23, 28, 29	8
5.	Participating in School Environmental Cleanliness Activities	15, 21	16, 24	4
6.	Cleaning School Toilets	14, 30	2, 26	4
			Total	30

([Efriyani, 2022](#))

Instrument validity was examined using the Pearson Product–Moment correlation coefficient at a 5% significance level, with a critical r -value of 0.212. The results indicated that, of the initial 22 religiosity questionnaire items, 21 met the validity criterion and were retained for the main study. Similarly, for the environmental care attitude questionnaire, 26 of the 30 items were found to be valid and were subsequently used in the research.

The valid items from both questionnaires were then subjected to reliability testing using Cronbach's alpha coefficient. The religiosity instrument yielded a Cronbach's alpha of 0.807, indicating good internal consistency, while the environmental care attitude instrument yielded a Cronbach's alpha of 0.847, indicating very good internal consistency.

Data Analysis

The data analysis was conducted in three stages. The first stage involved descriptive statistical analysis, including calculating the mean, median, mode, and standard deviation to provide an overall description of the distribution and characteristics of students' religiosity and environmental care attitudes.

Subsequently, the data were classified into three categories: high, moderate, and low, using a score categorization formula based on the mean and standard deviation. This categorization was intended to identify the number of students within each category and to examine the distribution of religiosity and environmental care attitudes among the participants. The score categorization criteria are presented in Table 4.

Table 4. Score Categorization Criteria

No	Interval	Category
1.	$X < (\text{Mean} - 1\text{SD})$	Low
2.	$(\text{Mean} - 1\text{SD}) \leq X \leq (\text{Mean} + 1\text{SD})$	Moderate
3.	$X > (\text{Mean} + 1\text{SD})$	High

(Azwar, 2022)

Subsequently, the data were subjected to prerequisite assumption tests, including tests of normality and linearity. After confirming that both assumptions were satisfied, the research hypothesis was tested using the Pearson Product–Moment correlation analysis in IBM SPSS Statistics version 26.0. The Pearson Product–Moment correlation was employed to determine the strength and direction of the linear relationship between the two variables and to assess whether the relationship was statistically significant

RESULTS AND DISCUSSION

Before presenting the results and discussion, prerequisite assumption tests were conducted, including tests of normality and linearity, to ensure that the data satisfied the assumptions required for parametric statistical analysis. Normality was assessed using the One-Sample Kolmogorov–Smirnov test. The data were considered to be normally distributed when the significance value (Asymp. Sig. [2-tailed]) exceeded 0.05 ($p > 0.05$).

The results of the normality test are presented in Table 5.

Table 5. Results of the Normality Test

	Religiusitas	Environmental Care Attitude
N	86	86
Test Statistic	0,084	0,073
Asymp. Sig. (2 -tailed)	0,195	0,200

Subsequently, a linearity test was conducted to determine whether the relationship between the independent and dependent variables was linear. The assumption of linearity was

considered satisfied when the significance value for Linearity was less than 0.05 ($p < 0.05$), and the significance value for Deviation from Linearity was greater than 0.05 ($p > 0.05$). The results of the prerequisite assumption test are summarized in Table 6 below.

Table 6. Results of the Linearity Test

			dk	F	Sig.
Environmental Care Attitude × Religiosity	Between Groups	(Combined)	20	7,588	0,000
		Linearity	1	127,537	0,000
		Deviation from Linearity	19	1,275	0,231

Based on the prerequisite assumption tests presented in Tables 5 and 6, the data satisfied the assumptions required for parametric statistical analysis. The One-Sample Kolmogorov-Smirnov test yielded significance values of 0.195 for religiosity and 0.200 for environmental care attitude, both exceeding the significance threshold ($p > 0.05$). These results indicate that the data for both variables were normally distributed.

Furthermore, the linearity test produced a Deviation from Linearity significance value of 0.231 ($p > 0.05$), indicating no significant deviation from linearity. Therefore, the relationship between religiosity and environmental care attitude was treated as linear, confirming that the assumptions for the Pearson Product-Moment correlation analysis were fully satisfied.

Religiosity and environmental care attitude are two interrelated constructs that contribute to the development of individual character. The values embedded in religiosity provide an important foundation for fostering students' awareness of the need to maintain environmental cleanliness, preservation, and sustainability. To examine these constructs, the religiosity and environmental care attitude questionnaires were administered to the study participants. The descriptive statistics for the two variables are presented in Table 7 below .

Table 7. Descriptive Statistics of the Study Variables

Variabel	Mean	Modus	Median	Minimum	Maksimum	Standard Deviation
Religiosity	78,35	71,43	78,57	52,38	100,00	11,71
Environmental Care Attitude	71,58	63,46	71,15	42,31	100,00	13,64

Based on the descriptive statistical analysis presented in Table 7, the religiosity variable exhibited higher scores than the environmental care attitude variable across nearly all descriptive indicators. The mean score for religiosity was 78.35, exceeding that for environmental care attitude, which was 71.58.

The higher level of religiosity relative to environmental care attitude suggests that the internalization of religious values has not yet been fully translated into pro-environmental behavior. This finding indicates a gap between religious commitment (beliefs and values) and environmental action (actual practices) among students in Islamic elementary schools (madrasahs). In other words, although students demonstrate relatively high levels of religiosity, these religious values are not consistently reflected in their environmental attitudes and behaviors.

However, in terms of score dispersion, the environmental care attitude variable exhibited a larger standard deviation (13.64) than the religiosity variable (11.71). This finding indicates greater variability in students' environmental care attitudes, whereas religiosity scores were more homogeneous and consistently distributed across the participants.

Overall, these results suggest that the religiosity of students in Muhammadiyah Islamic elementary schools (Madrasah Ibtidaiyah) in Bayat District is relatively stronger than their attitudes toward environmental care. At the same time, the findings imply that religious values have not yet been fully translated into environmental responsibility. Therefore, greater emphasis should be placed on integrating religious values into environmental education to foster students' attitudes of environmental care through the teaching and learning process.

To further examine the distribution of students across different achievement levels, the scores for both variables were classified into three categories: low, moderate, and high. The results of this categorization are presented in Table 8.

Table 8. Categorization of Religiosity Levels

No	Category	Score Range	Frequency (<i>n</i>)	Percentage (%)
1.	Low	$X < 71,43$	19	22,1%
2.	Moderate	$71,43 \leq X \leq 88,10$	50	58,1%
3.	High	$X > 88,10$	17	19,8%

As shown in Table 8, of the 86 students who participated in the study, 19 (22.1%) were classified as having low religiosity, with scores below 71.43. The majority of the students, 50 (58.1%), fell into the moderate category, with scores ranging from 71.43 to 88.10, while the remaining 17 students (19.8%) were classified as having high religiosity, with scores exceeding 88.10.

These findings indicate that most students demonstrated a moderate level of religiosity, whereas relatively few exhibited either low or high levels. To provide a more comprehensive

understanding of students' religiosity, further analysis examined the mean scores for each religiosity dimension. The results of this indicator-level analysis are presented in the following table.

Indicator-level analysis of the religiosity variable was conducted to obtain a more comprehensive understanding of students' religiosity across its different dimensions. The percentage score for each indicator was calculated by dividing the total observed score (the sum of the actual scores from respondents' answers) by the total ideal score (the maximum possible score if all respondents selected the highest response option), then multiplying by 100%. The results of the indicator-level analysis of the religiosity variable are presented in Table 9 below.

Table 9. Indicator-Level Analysis of Religiosity

NO	Dimension	Percentage (%)
1.	Religious Belief	75,00%
2.	Religious Practice	80,35%
3.	Religious Experience	78,59%
4.	Religious Consequences and Experience	78,68%

As shown in Table 9, the highest score was obtained for the religious practice dimension, at 80.35%. This finding indicates that the students consistently engaged in daily religious practices, such as performing the *Dhuha* prayer, reciting the Qur'an (*tilawah*), and maintaining personal cleanliness through *wudu* (ablution).

This result is consistent with the preliminary observations conducted by the principal of MI Muhammadiyah Krakitan on October 8, 2025, which indicated that most fifth-grade students had developed regular habits of practicing their daily religious obligations. These practices are reinforced by the school's religious culture, including the routine implementation of *Dhuha* prayer, congregational (*jama'ah*) prayers, and the recitation of daily supplications (*du'a*). Such findings suggest that a supportive school environment plays an important role in fostering students' religious practices through consistent habituation.

This finding is consistent with the perspective of [Hidayah et al. \(2021\)](#), who argued that the religious practice dimension reflects the observable implementation of religious worship, thereby cultivating self-discipline. When students consciously engage in religious practices in their daily lives, other aspects of religiosity are more likely to develop as well. For example, students who understand that *wudu* (ablution) is an act of maintaining personal cleanliness may

also recognize that caring for the environment reflects the same Islamic principle of cleanliness, extending individual hygiene to environmental stewardship.

The relatively high score for the religious practice dimension may be attributed to the school's religious culture. According to [Khadavi \(2023\)](#), school-based religious activities, such as daily Qur'an recitation (*tilawah*), *Dhuha* prayer, and regular congregational (*jama'ah*) prayers, provide repeated opportunities for students to practice religious values. Through this process of habituation, religious values become progressively internalized, thereby strengthening students' religious practices.

In contrast, the religious belief dimension received the lowest score (75.00%), indicating that students' conviction that environmental conservation constitutes an act of worship and a responsibility entrusted by Allah has not yet been fully internalized. Although students demonstrated strong engagement in religious practices, they appeared to have a less developed understanding of the theological foundations linking environmental stewardship to Islamic beliefs and moral responsibility.

From an Islamic perspective, the religious belief dimension reflects the extent to which an individual's religious knowledge is internalized and transformed into a strong personal conviction ([Komariah & Nihayah, 2023](#)). When such conviction is insufficiently developed, students are less likely to demonstrate consistent pro-environmental behaviors because they may not perceive environmental stewardship as a religious obligation. This interpretation is supported by the preliminary interviews conducted on October 8, 2025, which revealed that many students engaged in religious practices primarily because they were part of the school's rules and culture, rather than as an expression of their intrinsic motivation or awareness of their responsibility toward the environment.

The relatively low score for the religious belief dimension among fifth-grade students in Muhammadiyah Islamic elementary schools in Bayat District may be explained by several factors. First, internal factors related to students' developmental stage play an important role. According to [Fosnacht & Broderick \(2020\)](#), personal factors influence the formation of values and beliefs, while children aged 10–11 years remain in the concrete operational stage of cognitive development ([Demir, 2025](#)). At this stage, students often have difficulty connecting abstract religious concepts with practical environmental responsibilities. Consequently, they may not yet fully appreciate that protecting the environment constitutes an act of worship with spiritual value and tangible benefits for society.

Second, family influences also contribute to the development of students' religious beliefs and environmental values. Limited parental guidance, supervision, and reinforcement of environmentally responsible behaviors at home may hinder the internalization of environmental stewardship as a religious responsibility (Addi-Racah et al., 2018; Afwanni et al., 2024).

Because religiosity is expected to shape students' environmental care attitudes, the overall categorization of environmental care attitudes among fifth-grade students in Muhammadiyah Islamic elementary schools in Bayat District is presented in Table 10.

Table 10. Categorization of Environmental Care Attitudes

No	Category	Score Range	Frequency (<i>n</i>)	Percentage (%)
1.	Low	$Y < 57,94$	15	17,4%
2.	Moderate	$57,94 \leq Y \leq 85,22$	53	61,6%
3.	High	$Y > 85,22$	18	20,9%

The categorization results presented in Table 10 indicate that the environmental care attitudes of fifth-grade students in Muhammadiyah Islamic elementary schools in Bayat District were predominantly moderate, with 53 students (61.6%) falling into this category. This finding suggests that, in general, the students have developed a reasonable level of awareness regarding environmental responsibility and regularly engage in basic pro-environmental behaviors in their daily lives.

To gain a more comprehensive understanding of students' environmental care attitudes, an indicator-level analysis was subsequently conducted. The percentage score for each indicator was calculated by dividing the total observed score by the total ideal score, then multiplying by 100%. The results of the indicator-level analysis of environmental care attitudes are presented in Table 11 below.

Table 11. Analisis Indikator Sikap Peduli Lingkungan

NO	Dimension	Percentage (%)
1.	Proper Waste Disposal	85,75%
2.	Maintaining Environmental Cleanliness	81,10%
3.	Cleaning School Toilets	81,73%
4.	Participating in School Garden Maintenance	78,39%
5.	Beautifying the Classroom and School with Plants	77,32%
6.	Participating in School Environmental Cleanliness Activities	86,17%

As shown in Table 11, the highest score among the environmental care attitude dimensions was for participation in school environmental cleanliness activities, at 86.17%. This finding indicates that fifth-grade students in Muhammadiyah Islamic elementary schools in Bayat District have generally developed positive habits of maintaining the cleanliness of their school environment.

This result is consistent with the preliminary observations conducted on October 1, 2025, which revealed that school cleanliness was supported by the regular implementation of the Healthy and Clean Friday program, a school-wide initiative designed to promote environmental hygiene. In addition, the routine classroom cleaning roster (*class duty schedule*) has become an integral part of students' daily responsibilities. The consistent implementation of these school-based activities appears to have contributed to the relatively high score for this dimension compared with the other environmental care indicators.

The positive attitudes toward environmental care observed among the students may be attributed to the school's efforts to cultivate environmental responsibility through structured, school-based environmental programs (R. Febriani et al., 2020). One example is the regular Healthy and Clean Friday program, which encourages students to develop environmental awareness through simple, routine activities carried out within the school setting.

The continued implementation of such programs, supported by systematic supervision from the school principal and consistent reinforcement by teachers, can further strengthen students' empathy and sense of responsibility toward maintaining environmental cleanliness. Regular guidance and monitoring help make environmental care behaviors habitual, thereby encouraging students to apply these practices not only at school but also in their daily lives (R. Febriani et al., 2020).

In contrast, the lowest score was recorded for the dimension of beautifying the classroom and school with plants, which obtained a percentage of 77.32%. This finding indicates that students still require greater personal initiative and enthusiasm to participate actively in school greening activities. The result is consistent with the preliminary observations, which revealed that some students expressed reluctance during tree-planting and greening activities. Furthermore, several students were observed damaging plant pots while playing football, suggesting a lack of responsibility toward maintaining the school environment.

The relatively low score for this dimension may be attributed to students' limited willingness to participate in school greening programs (Boca & Saraçlı, 2019). Some students still perceive planting and gardening activities as unpleasant or dirty tasks. In addition, peer

influence may discourage active participation in environmental activities, thereby reducing students' engagement in school greening initiatives (Stevenson et al., 2019). These findings suggest that students' awareness of how to preserve and enhance the school environment has not yet fully developed.

Overall, the findings indicate that religious values that have not been fully internalized are less likely to be reflected in students' everyday pro-environmental attitudes and behaviors. To further examine this relationship, a Pearson Product–Moment correlation analysis was conducted to determine the association between religiosity and environmental care attitudes among fifth-grade students in Muhammadiyah Islamic elementary schools in Bayat District. The analysis also aimed to assess the strength of the relationship between the two variables. The results of the correlation analysis are presented in Table 12.

Table 12. Pearson Product–Moment Correlation Between Religiosity and Environmental Care Attitude

	Religiosity	Environmental Care Attitude
Religiosity	Correlation Coefficient	1
	Sig. (2-tailed)	0,000
	N	86
Environmental Care Attitude	Correlation Coefficient	0,767**
	Sig. (2-tailed)	0,000
	N	86

** Correlation is significant at the 0,01 level (2-tailed)

As presented in Table 12, the Pearson Product–Moment correlation analysis yielded a correlation coefficient of 0.767 with a significance value of < 0.001 . Therefore, the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_1) was accepted. These results indicate a strong, positive, and statistically significant relationship between religiosity and environmental care attitude among the participants. In other words, students with higher levels of religiosity tended to exhibit stronger attitudes toward environmental care.

This finding is further supported by the consistent pattern observed across the indicator-level analyses. The highest-scoring dimension of religiosity, religious practice, corresponded with the highest-scoring dimension of environmental care attitude, participation in school environmental cleanliness activities. Likewise, the lowest-scoring dimensions of both variables, religious belief and beautifying the classroom and school with plants, respectively, also exhibited a similar pattern. Although these descriptive findings do not establish causal

relationships between individual dimensions, they provide additional evidence that higher levels of religiosity are associated with stronger environmental care attitudes.

To further examine the contribution of religiosity to environmental care attitude, the coefficient of determination (R^2) was calculated. This analysis estimates the proportion of variance in the dependent variable explained by the independent variable. The analysis produced an R^2 value of 0.588, as presented in Table 13.

Table 13. Coefficient of Determination (Model Summary)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,767 ^a	0,588	0,583	8,80125

a. Predictors: (Constant), Religiuitas

As shown in Table 13, the coefficient of determination (R^2) of 0.588 indicates that religiosity accounts for 58.8% of the variance in environmental care attitudes among fifth-grade students in Muhammadiyah Islamic elementary schools in Bayat District. This finding suggests that more than half of the variation in students' environmental care attitudes can be explained by the extent to which religious values have been internalized. In other words, students with higher levels of internalized religiosity tend to exhibit stronger attitudes toward environmental care. The remaining 41.2% of the variance is attributable to other factors beyond the scope of the present study. These may include family influences, peer interactions, school environmental policies, environmental education programs, community norms, and other psychological or contextual factors that were not examined in this research.

The present findings are also consistent with those reported by (Hanuna & Sulaiman, 2023), who identified a positive association between religiosity and gratitude toward nature among Generation Z, as well as by Rahmah (2024), who demonstrated a significant relationship between religiosity and Islamic pro-environmental behavior among university students at UIN Jakarta. Collectively, these studies reinforce the view that religiosity plays an important role in fostering individuals' concern for the environment.

However, unlike the studies conducted by Hanuna & Sulaiman (2023) and Rahmah (2024), which focused on university students with more advanced formal reasoning abilities, the present study provides empirical evidence that a strong positive relationship between religiosity and environmental care attitudes has already emerged during late childhood, specifically among students aged 10–11 years. At this developmental stage, children are

generally in the concrete operational stage of cognitive development ([Francis et al., 2022](#)). Learning is facilitated through direct experiences, observable examples, and repeated practice rather than abstract reasoning alone.

These findings suggest that abstract religious values can be successfully internalized by elementary school students when they are conveyed through regular religious practices and concrete experiences within the school environment. Such experiences appear to help students translate religious teachings into environmental values, thereby shaping the way they perceive and respond to environmental issues in their daily lives.

From a theoretical perspective, these findings can be explained by the Value–Belief–Norm (VBN) Theory proposed by [Stern et al. \(1999\)](#), which posits that individuals’ values shape their environmental beliefs, which in turn give rise to personal norms that motivate pro-environmental behavior. Within the context of this study, students’ religious values may foster the belief that protecting the environment is a trust (*amanah*) entrusted by Allah, which, in turn, encourages the development of personal norms that support consistent environmental responsibility in everyday life.

The empirical findings of the present study are consistent with this theoretical framework. Students who scored lower on the religious belief dimension tended to participate in environmental activities primarily because they were required by school regulations rather than out of intrinsic conviction. [Firmansyah \(2025\)](#) argued that religious teachings are more likely to transform behavior when their underlying values are deeply internalized rather than merely practiced as routine obligations. Accordingly, strengthening the religious belief dimension requires continuous habituation, positive role modeling by teachers and parents, and explicit instruction that connects religious teachings with environmental responsibility. ([A. Febriani et al., 2022](#)). Through these approaches, environmental care behaviors can gradually develop from externally motivated compliance into internally driven commitments grounded in religious values.

When interpreted more systematically through the three principal components of the Value–Belief–Norm (VBN) Theory values, beliefs, and personal norms the findings reveal a coherent pattern. With respect to the belief component, the indicator-level analysis in Table 9 showed that the religious belief dimension received the lowest score (75.00%) among the four religiosity dimensions. This finding is theoretically important because within the VBN framework, environmental beliefs serve as the cognitive foundation for the formation of personal norms. The relatively low score therefore suggests that students’ belief that

environmental stewardship constitutes an expression of religious devotion has not yet been fully established. Consequently, although students demonstrate relatively high levels of religious practice, their environmental actions may still be driven primarily by external expectations rather than by deeply internalized religious convictions.

The relatively weak belief component is closely related to the development of personal norms within the VBN framework. According to the theory, personal norms ideally emerge from an internalized sense of moral responsibility rather than from compliance with externally imposed rules. However, the preliminary interviews conducted in this study revealed the opposite tendency. Many students reported participating in environmental activities primarily because they were required by school regulations rather than because they felt a personal obligation to protect the environment. This pattern suggests that, for some students, environmental responsibility is still largely guided by social or institutional norms rather than by deeply internalized religious beliefs, consistent with the relatively low score on the religious belief dimension.

This pattern is also reflected in the categorization of students' environmental care attitudes presented in Table 10, where the majority of students (61.6%) were classified in the moderate rather than the high category. Although the correlation between religiosity and environmental care attitude was strong ($r = 0.767$), the coefficient of determination ($R^2 = 0.588$) indicates that religiosity explained 58.8% of the variance in environmental care attitude. In comparison, the remaining 41.2% was attributable to factors beyond the scope of the present study. These factors may include habitual behaviors, teacher supervision, peer influence, and other contextual variables ([Essiz & Mandrik, 2022](#)).

Taken together, these findings suggest that the pro-environmental attitudes observed among fifth-grade students in Muhammadiyah Islamic elementary schools in Bayat District are likely shaped by an interaction between partially internalized religious beliefs and external normative influences. From the perspective of the VBN Theory, students appear to be developing personal environmental norms. Their environmental behaviors are therefore not yet fully driven by internalized religious convictions but remain influenced by external reinforcement provided through the school environment and social interactions.

Several methodological limitations of the present study should be considered when interpreting the findings and designing future research. First, the study involved a relatively small sample of 86 students, which may limit the generalizability of the findings to broader

populations. Consequently, caution should be exercised when extending the results beyond the study context.

Second, the geographical scope of the study was limited to Muhammadiyah Islamic elementary schools (Madrasah Ibtidaiyah) within a single district, namely Bayat District. As a result, the findings may not adequately capture variations in students' religiosity and environmental care attitudes across different geographical regions, educational settings, or sociocultural contexts.

In addition, data collection relied exclusively on self-report questionnaires completed by the students. Although this approach is widely used in educational research, it is inherently susceptible to social desirability bias, particularly among elementary school students, who may be inclined to select responses that they perceive as socially acceptable rather than those that accurately reflect their actual attitudes and behaviors. Consequently, the questionnaire responses may not fully represent students' real-world environmental practices.

Finally, this study focused primarily on religiosity as the independent variable. However, environmental care attitudes are influenced by multiple factors beyond religiosity, including parental involvement, peer influence, environmental literacy, school environmental policies, and broader sociocultural influences. Future studies are therefore encouraged to incorporate these variables into more comprehensive analytical models to provide a deeper understanding of the factors shaping students' environmental care attitudes.

CONCLUSION

The findings of this study demonstrate a strong, positive relationship between religiosity and environmental care attitudes among fifth-grade students in Muhammadiyah Islamic elementary schools in Bayat District ($r = 0.767, p < 0.001$). This relationship is further supported by the coefficient of determination ($R^2 = 0.588$), indicating that religiosity explains 58.8% of the variance in students' environmental care attitudes. These findings suggest that the internalization of religious values is closely associated with the development of students' environmental responsibility.

Both religiosity and environmental care attitudes were predominantly classified within the moderate category, with their indicator-level analyses exhibiting consistent patterns. Students who regularly engaged in religious practices tended to demonstrate stronger environmental care attitudes, particularly in maintaining the cleanliness of the school environment. Conversely, students who had not fully internalized the belief that environmental stewardship

constitutes an act of worship were generally less likely to take the initiative in environmental activities requiring personal commitment.

These findings have important implications for educational practice. Teachers are encouraged to integrate Qur'anic teachings and *hadith* related to environmental stewardship into contextualized science instruction (*Ilmu Pengetahuan Alam dan Sosial*; IPAS). The use of active learning approaches, such as Project-Based Learning (PjBL) and Inquiry-Based Learning, may further promote students' environmental care by linking scientific concepts with religious values and encouraging meaningful learning experiences. In addition, schools should continue to strengthen environmentally oriented programs, such as the Healthy and Clean Friday initiative, by explicitly incorporating Islamic values so that students perceive environmental conservation not merely as compliance with school regulations but also as an act of worship and moral responsibility.

Parents also play an essential role in reinforcing these values at home. By connecting everyday environmental practices, such as maintaining cleanliness and caring for the surrounding environment, with the religious values introduced at school, parents can help students develop a more deeply internalized and sustainable commitment to environmental stewardship.

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