

The Impact of Environmental Self-Efficacy on Pro-Environmental Behavior among Al-Islam Joresan Seventh-Grade Students

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ARTICLE INFO	ABSTRACT
Keywords: Environmental Self-Efficacy; Pro-Environmental Behavior; Islamic Education; Madrasah; Linear Regression	Environmental degradation is a global challenge that requires active participation from the younger generation. Although environmental education plays an important role in promoting environmental awareness, knowledge alone is often insufficient to encourage pro-environmental behavior without psychological factors such as environmental self-efficacy. This study aimed to examine the impact of environmental self-efficacy on the pro-environmental behavior of seventh-grade students at MTs Al-Islam Joresan. A quantitative approach employing simple linear regression analysis was used. Data were collected from 55 students selected through cluster sampling using a Likert-scale questionnaire. The results revealed that environmental self-efficacy had a positive and significant effect on pro-environmental behavior ($B = 0.630, p < 0.001$), explaining 37.5% of the variance in students' pro-environmental behavior ($R^2 = 0.375$). These findings extend the application of environmental self-efficacy theory within the context of Islamic education by providing empirical evidence from a madrasah setting, where such studies remain limited. Practically, the findings provide a foundation for designing environmental education programs that strengthen students' confidence in their ability to engage in environmentally responsible behaviors alongside cognitive and moral development.
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INTRODUCTION

Environmental degradation is a pressing global issue that requires immediate attention. In Indonesia, environmental challenges remain substantial. The National Waste Management Information System reported that the country generated approximately 69.9 million tons of waste in 2023, while only around 39% was properly managed. Furthermore, Indonesia's Environmental Quality Index (EQI) was recorded at 71.54 in 2023, indicating that considerable environmental challenges persist despite ongoing conservation efforts. These conditions suggest that environmentally responsible behavior has not yet become a common habit among the public, including students. Mitigation efforts require the active participation of the younger generation as agents of change; therefore, environmental education has become an important strategy for enhancing environmental awareness and promoting pro-environmental behavior.

Previous studies have shown that learning experiences and beliefs developed during adolescence have long-term effects on individuals' tendencies to engage in pro-environmental actions in the future.¹ In the educational context, schools function not only as institutions for knowledge transfer but also as social environments that shape students' character. Through various learning activities and school cultures, students are provided with opportunities to develop the belief that their actions can make positive contributions to environmental sustainability.

However, increased environmental knowledge and awareness do not always translate into consistent pro-environmental behavior. Several studies have demonstrated that individuals who understand the importance of environmental protection do not necessarily engage in pro-environmental actions if they lack confidence that their actions can make meaningful contributions to solving environmental problems.² Therefore, a deeper understanding of the psychological factors that encourage individuals to transform environmental awareness into concrete action is required, one of which is environmental

¹ Aida Guerra, Dan Jiang, and Xiangyun Du, "Student Agency for Sustainability in a Systemic PBL Environment," *Sustainability* 14, no. 21 (October 2022): 13728, <https://doi.org/10.3390/su142113728>; Yupan Zhao, Xuanchang Liu, and Xiao Han, "Enhancing Pro-Environmental Behavior through Nature-Contact Environmental Education: An Empirical Analysis Based on Randomized Controlled Experiment Design," *Frontiers in Environmental Science* 12 (December 2024): 1491780, <https://doi.org/10.3389/fenvs.2024.1491780>.

² Julia anis Handayani and Ari Widodo, "The Impact Of Student Participation In Environmental Education Programs On Pro-Environmental Behavior," *Jurnal Cakrawala Pendas* 10, no. 2 (April 2024): 215–23, <https://doi.org/10.31949/jcp.v10i2.8475>; Karen R. S. Hamann et al., "Believing That We Can Change Our World for the Better: A Triple-A (Agent-Action-Aim) Framework of Self-Efficacy Beliefs in the Context of Collective Social and Ecological Aims," *Personality and Social Psychology Review* 28, no. 1 (February 2024): 11–53, <https://doi.org/10.1177/10888683231178056>.

self-efficacy.

Environmental self-efficacy refers to an individual's belief in their ability to perform actions that positively affect the environment.³ A growing body of international research has highlighted self-efficacy as a significant predictor of pro-environmental behavior across various contexts, including households, schools, and wider communities.⁴ Environmental self-efficacy not only directly influences pro-environmental behavior but also serves as an important mediator between environmental values, social norms, and actual environmental actions.⁵ In other words, students who possess strong confidence in their ability to implement environmentally responsible behaviors are more likely to demonstrate commitment and consistency in engaging in pro-environmental actions.

Furthermore, self-efficacy has been shown to strengthen the effectiveness of environmental education in promoting behavioral change, suggesting that educational programs focusing solely on knowledge and attitudes may be insufficient without fostering students' confidence to act.⁶ Consequently, environmental education should be designed holistically by integrating direct experiences, project-based learning, and active student participation in environmental programs both within schools and in the broader community.⁷ Through such approaches, students not only understand the importance of environmental conservation but also develop the confidence and capacity to take meaningful action.⁸

The concept of environmental self-efficacy as an important psychological factor

³ Maria Grace Herlina, Karto Iskandar, and Dewi Dewi, "From Values to Climate Action: The Impact of Green Self-Efficacy on Pro-Environmental Behaviour in Greater Jakarta's Higher Education Zillennials (SDG 13 View)," *E3S Web of Conferences* 601 (2025): 00039, <https://doi.org/10.1051/e3sconf/202560100039>.

⁴ Wei-Ting Chen and Ming-Huei Hsieh, "Environmental Self-Identity, Self-Efficacy, and the Emergence of Green Opinion Leaders: An Exploratory Study," *Heliyon* 9, no. 6 (June 2023): e17351, <https://doi.org/10.1016/j.heliyon.2023.e17351>; Hamann et al., "Believing That We Can Change Our World for the Better."

⁵ Daniela Acquardo Maran, Matti Ullah Butt, and Tatiana Begotti, "Pro-Environment Behaviors, Efficacy Beliefs, Perceived Individual and Social Norms: A Questionnaire Survey in a Sample of Young Adults From Pakistan," *Sage Open* 13, no. 4 (October 2023), <https://doi.org/10.1177/21582440231207444>; Raffaele Pasquariello et al., "From Values to Action: The Roles of Green Self-Identity, Self-Efficacy, and Eco-Anxiety in Predicting Pro-Environmental Behaviours in the Italian Context," *Sustainability* 17, no. 15 (January 2025): 6838, <https://doi.org/10.3390/su17156838>.

⁶ Emine Kübra Pullu and Mehmet Nuri Gömleksiz, "The Self-Efficacy Perception for Environmental Education and Ecological Footprint Awareness of the Child Development Programme Students," *Discourse and Communication for Sustainable Education* 14, no. 2 (December 2023): 62–74, <https://doi.org/10.2478/dcse-2023-0018>.

⁷ Handayani and Widodo, "The Impact Of Student Participation In Environmental Education Programs On Pro-Environmental Behavior."

⁸ Velina Hristova et al., "Predicting Pro-Environmental Behavior: The Leading Influence of Environmental Attitudes," *Behavioral Sciences* 15, no. 3 (March 2025): 291, <https://doi.org/10.3390/bs15030291>; Zhongxi Yang, Lili He, and Tianjing Huang, "Powering Pro-Environment Behavior: The Impact of Unlocking Reward Strategy on Pro-Environmental Behavior," *Sustainability* 16, no. 21 (November 2024): 9561, <https://doi.org/10.3390/su16219561>.

influencing pro-environmental behavior has been widely investigated, particularly among junior and senior high school students.⁹ However, the context of Madrasah Tsanawiyah (MTs), an Islamic junior secondary school, has received relatively limited attention in this area of research. In fact, MTs possess unique characteristics that may influence the development of environmental self-efficacy, particularly through the integration of religious values with environmental education, which may create different behavioral and motivational dynamics compared to general public schools. Therefore, examining the role of environmental self-efficacy within the MTs context is important, considering its position as an integral part of Indonesia's national education system while simultaneously emphasizing religious character development.

Previous studies have shown that active participation in environmental conservation projects, field-based investigations, and the utilization of environmentally friendly technologies effectively enhance environmental self-efficacy and foster students' sense of responsibility toward environmental sustainability.¹⁰ More recent studies have also confirmed that environmental self-efficacy is an important predictor of pro-environmental behavior across different age groups and educational contexts.¹¹ Nevertheless, most of these studies have been conducted in public schools, universities, or general community settings, leaving limited empirical evidence regarding how environmental self-efficacy operates within Islamic educational institutions. In addition, the roles of religious values and madrasah social norms in strengthening the relationship between environmental self-efficacy and pro-environmental behavior remain relatively underexplored. This gap is particularly important because Islamic educational environments combine academic instruction with moral and spiritual development, which may influence students' behavior in unique ways.

The novelty of this study lies in examining the impact of environmental self-efficacy on pro-environmental behavior within the context of Madrasah Tsanawiyah, where environmental education is integrated with Islamic values. Unlike previous studies that have primarily focused on public schools or higher education institutions, this study highlights

⁹ Ernialis Ernialis, "Partisipasi Siswa Dalam Melestarikan Lingkungan Sekitar Sekolah Melalui Pembelajaran PJBL Di SMPN 1 Rao Utara," *EduSpirit: Jurnal Pendidikan Kolaboratif* 1, no. 4 (November 2024): 202–8.

¹⁰ Ernialis.

¹¹ Martin Gameli Akakpo, Hayford Alufar Bokpin, and Sylvia Hagan, "Pro-Environmental Behavior: The Relationship with Information Literacy Self-Efficacy, Climate Knowledge and Climate Anxiety among Students in Ghana," *Oxford Open Climate Change* 4, no. 1 (January 2024): kgae015, <https://doi.org/10.1093/oxfclm/kgae015>; Lindsay B. Miller and Ronald E. Rice, "(Mis)Matched Direct and Moderating Relationships among pro-Environmental Attitudes, Environmental Efficacy, and pro-Environmental Behaviors across and within 11 Countries," *PLOS ONE* 19, no. 6 (June 2024): e0304945, <https://doi.org/10.1371/journal.pone.0304945>.

how the religious context, social norms of the madrasah, and the characteristics of Islamic education may create a supportive environment for the development of environmental self-efficacy and pro-environmental behavior among students. Therefore, this study is expected to expand the existing literature on environmental self-efficacy within the context of Islamic education, which remains relatively limited.

Based on the identified research gap, the research question addressed in this study is: “Does environmental self-efficacy have an impact on the pro-environmental behavior of Madrasah Tsanawiyah students?” Therefore, this study aims to examine the impact of environmental self-efficacy on the pro-environmental behavior of students at MTs Al-Islam Joresan. Theoretically, this study is expected to enrich the literature on environmental self-efficacy and pro-environmental behavior within the context of Islamic education. Practically, the findings may provide a basis for madrasahs and educational policymakers in designing environmental education programs that integrate cognitive, affective, social, and spiritual dimensions to strengthen students’ pro-environmental behavior in a sustainable manner.

RESEARCH METHOD

This study employed a quantitative approach using a simple linear regression design to examine the impact of environmental self-efficacy on students’ pro-environmental behavior. A quantitative approach was selected because it enables the objective measurement and statistical analysis of relationships between variables, thereby providing empirical evidence regarding the role of environmental self-efficacy in shaping pro-environmental behavior.¹² The study was conducted at MTs Al-Islam Joresan, Ponorogo Regency, East Java, Indonesia, in May 2025. The population consisted of all seventh-grade students enrolled at MTs Al-Islam Joresan. A total of 55 students were selected as research participants through a cluster sampling technique. Cluster sampling was employed because the population was naturally organized into intact classroom groups. Selecting one or more classes as clusters was more practical and minimized disruption to the school's teaching and learning activities while ensuring that every class had an equal opportunity to be selected.

Data were collected using a Likert-scale questionnaire designed to measure environmental self-efficacy and pro-environmental behavior. The questionnaire was administered directly to students after obtaining permission from the school administration.

¹² Marinu Waruwu, “Pendekatan Penelitian Pendidikan: Metode Penelitian Kualitatif, Metode Penelitian Kuantitatif Dan Metode Penelitian Kombinasi (Mixed Method),” *Jurnal Pendidikan Tambusai* 7, no. 1 (April 2023): 2896–910, <https://doi.org/10.31004/jptam.v7i1.6187>.

Prior to data collection, participants were informed about the purpose of the study and assured that all responses would remain confidential and be used solely for research purposes. The collected data were analyzed using IBM SPSS Statistics software. Before hypothesis testing, several prerequisite tests were conducted, including normality, linearity, and heteroscedasticity tests, to ensure that the data met the assumptions required for regression analysis. Subsequently, simple linear regression analysis was performed to examine the impact of environmental self-efficacy as the independent variable on pro-environmental behavior as the dependent variable. Statistical significance was determined at the 0.05 significance level.

RESULT AND DISCUSSION

Before hypothesis testing was conducted, the data were subjected to several prerequisite tests, including normality, linearity, and heteroscedasticity tests. These tests were performed to ensure that the data met the assumptions required for simple linear regression analysis, allowing the results to be interpreted appropriately and reliably.

Table 1. Normality Test

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
perilaku_ramah_lingkungan	.114	55	.070	.973	55	.261

a. Lilliefors Significance Correction

The results of the normality test indicated a significance value of 0.261, which was higher than the significance level of 0.05. This result suggests that the data were normally distributed and therefore met one of the essential assumptions for regression analysis. A normal data distribution indicates that the responses obtained from participants adequately represent the population and are suitable for further statistical analysis.

Table 2. Linearity Test

ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
perilaku_ramah_lingkungan * environmental_self_efficacy	Between Groups	159.529	10	15.953	3.471	.002
	Linearity	135.543	1	135.543	29.493	.000
	Deviation from Linearity	23.986	9	2.665	.580	.806

Within Groups	202.216	44	4.596		
Total	361.745	54			

Based on the linearity test, the deviation from linearity value was 0.806 (> 0.05). This result indicates that the relationship between environmental self-efficacy and pro-environmental behavior is linear. Therefore, increases in environmental self-efficacy tend to be accompanied by proportional increases in pro-environmental behavior. This linear relationship supports the assumption that environmental self-efficacy can be used as a predictor in the regression model developed in this study.

Table 3. Heteroscedasticity Test

Correlations			environmental _self_efficacy	perilaku_ramah_ lingkungan	Unstandardized Residual
Spearman's rho	Environmental _self_efficacy	Correlation Coefficient	1.000	.610**	.076
		Sig. (2-tailed)	.	.000	.579
		N	55	55	55
	perilaku_ramah_ _lingkungan	Correlation Coefficient	.610**	1.000	.802**
		Sig. (2-tailed)	.000	.	.000
		N	55	55	55
	Unstandardized Residual	Correlation Coefficient	.076	.802**	1.000
		Sig. (2-tailed)	.579	.000	.
		N	55	55	55

**. Correlation is significant at the 0.01 level (2-tailed).

The heteroscedasticity test using Spearman's rho correlation produced a significance value of 0.579 ($p > 0.05$), indicating that the regression model was free from heteroscedasticity. Since all regression assumptions were satisfied, simple linear regression analysis was subsequently conducted. The regression model was first evaluated using the Model Summary to determine the proportion of variance in pro-environmental behavior explained by environmental self-efficacy, followed by the regression coefficients to examine the direction and significance of the relationship.

Table 4. Model Summary

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.612 ^a	.375	.363	2.066	1.929

- a. Predictors: (Constant), environmental_self_efficacy
- b. Dependent Variable: perilaku_ramah_lingkungan

Table 4 presents the model summary of the simple linear regression analysis. The coefficient of determination (R^2) was 0.375, indicating that environmental self-efficacy explained 37.5% of the variance in students' pro-environmental behavior, while the remaining 62.5% was attributable to other factors not included in this study. This finding suggests that environmental self-efficacy makes a substantial contribution to pro-environmental behavior. To further examine the nature and statistical significance of this relationship, the regression coefficients are presented in Table 5.

Table 5. Simple Linear Regression Analysis

Model	Coefficients ^a		Standardized Coefficients Beta	t	Sig.
	Unstandardized Coefficients B	Std. Error			
1 (Constant)	7.600	2.096		3.626	.001
environmental_self_efficacy	.630	.112	.612	5.635	.000

a. Dependent Variable: perilaku_ramah_lingkungan

The results of the simple linear regression analysis produced the regression equation $Y = 7.600 + 0.630X$ with a significance value of 0.000 (< 0.05). The positive regression coefficient of 0.630 indicates that environmental self-efficacy has a positive and significant impact on students' pro-environmental behavior. In other words, an increase in environmental self-efficacy is associated with an increase in pro-environmental behavior.

These findings suggest that students' confidence in their ability to engage in actions that support environmental conservation plays an important role in shaping pro-environmental behavior. The stronger students' beliefs in their capacity to contribute to environmental protection, the more likely they are to consistently engage in environmentally responsible actions in their daily lives.

The findings of this study support the Social Cognitive Theory proposed by Bandura (1997).¹³ According to this theory, self-efficacy refers to an individual's belief in their capability to perform specific actions necessary to achieve desired outcomes. Individuals with high levels of self-efficacy tend to demonstrate stronger motivation, greater persistence, and better resilience when facing challenges. In the environmental context, students who believe

¹³ Albert Bandura, *Self-Efficacy: The Exercise of Control*, with Internet Archive (New York : W.H. Freeman, 1997), <http://archive.org/details/selfefficacyexer0000band>.

that their actions can positively contribute to environmental preservation are more likely to engage in pro-environmental behavior than those with lower levels of self-confidence.

From a theoretical perspective, the findings indicate that environmental self-efficacy functions not only as a belief in one's capabilities but also as a psychological mechanism that bridges environmental awareness and actual behavior. Many environmental education programs successfully increase students' knowledge of ecological issues; however, behavioral changes often fail to occur optimally. The findings suggest that this gap can be explained by the role of environmental self-efficacy. Students who understand the importance of environmental protection may still refrain from taking action if they do not believe that their actions can make a meaningful contribution to environmental improvement.¹⁴

This finding reinforces the view that behavioral change is determined not only by cognitive factors but also by psychological factors that influence individuals' readiness to act. Hamann et al. (2024) argued that belief in one's own capabilities is among the primary drivers encouraging individuals to engage in social and ecological actions.¹⁵ Therefore, environmental self-efficacy can be regarded as a critical element linking knowledge, awareness, and action within environmental education.¹⁶

The findings are also consistent with previous studies. Chen and Hsieh (2023) found that environmental self-efficacy plays a significant role in encouraging individuals' participation in environmental activities.¹⁷ Similarly, Li et al. (2023) reported that environmental self-efficacy serves as a psychological mechanism that translates environmental awareness into concrete environmental actions.¹⁸ Maran et al. (2023) likewise found that individuals with higher levels of self-efficacy are more likely to engage in pro-environmental behavior than those with lower levels of self-efficacy.¹⁹

More recent studies have reported similar findings. Pasquariello et al. (2025) found that green self-identity and environmental self-efficacy are important predictors of pro-environmental behavior among Italian citizens.²⁰ Likewise, Hristova et al. (2025)

¹⁴ Hongbo Li et al., "How Does Goal Framing Effect Influence Household Low-Carbon Behavior: The Roles of Environmental Self-Efficacy and Global-Local Identity," *Frontiers in Environmental Science* 10 (January 2023): 1035118, <https://doi.org/10.3389/fenvs.2022.1035118>.

¹⁵ Hamann et al., "Believing That We Can Change Our World for the Better."

¹⁶ Pasquariello et al., "From Values to Action."

¹⁷ Chen and Hsieh, "Environmental Self-Identity, Self-Efficacy, and the Emergence of Green Opinion Leaders."

¹⁸ Li et al., "How Does Goal Framing Effect Influence Household Low-Carbon Behavior?"

¹⁹ Maran, Butt, and Begotti, "Pro-Environment Behaviors, Efficacy Beliefs, Perceived Individual and Social Norms."

²⁰ Pasquariello et al., "From Values to Action."

demonstrated that self-efficacy consistently predicts sustainable behavior across different population groups.²¹ The consistency of findings across countries suggests that environmental self-efficacy is a psychological construct with cross-cultural relevance in explaining pro-environmental behavior.

The primary contribution of this study lies in its focus on madrasah students. Most previous studies on environmental self-efficacy have been conducted among university students, public-school students, or the general population. Research specifically examining the relationship between environmental self-efficacy and pro-environmental behavior among madrasah students remains limited. Therefore, this study provides new empirical evidence that environmental self-efficacy also has a significant impact within the context of Islamic education.

The madrasah context is particularly interesting because it emphasizes not only academic achievement but also character development and moral values. Learning environments that integrate intellectual, social, and spiritual dimensions may create conditions that support students' confidence in engaging in positive actions, including environmental conservation. This finding is consistent with Rohman et al. (2024), who emphasized the importance of integrating environmental education with religious values to strengthen students' ecological awareness.²²

Furthermore, Islamic education promotes the concept of humans as *khalifah* (stewards) on Earth who are responsible for maintaining environmental balance and sustainability. Therefore, the findings of this study offer a new perspective that strengthening environmental self-efficacy may serve as an effective approach to supporting environmental education within faith-based educational institutions.²³

These findings are important because madrasahs possess characteristics that distinguish them from general educational institutions. In addition to providing academic instruction, madrasahs cultivate religious values that serve as the foundation for students' character development. In this context, the development of environmental self-efficacy is not only associated with enhancing environmental knowledge and skills but may also be

²¹ Hristova et al., "Predicting Pro-Environmental Behavior."

²² Abdul Rohman et al., "Religious Education For The Environment: Integrating Eco-Theology In The Curriculum of Islamic Religious And Character Education To Enhance Environmental Education In Indonesia," *Nadwa: Jurnal Pendidikan Islam* 18, no. 2 (December 2024): 201–26, <https://doi.org/10.21580/nw.2024.18.2.21094>.

²³ Wulidatul Habibah et al., "Integrasi Nilai-Nilai Al-Qur'an Dan Hadits Dalam Pendidikan Untuk Membangun Tanggung Jawab Konservasi Alam Di Madrasah Ibtidaiyah Ihyaul Islam Pakuniran," *Jurnal Budi Pekerti Agama Islam* 3, no. 1 (2025): 36–52, <https://doi.org/10.61132/jbpai.v3i1.854>.

reinforced through the moral values embedded in Islamic education. Consequently, this study extends the literature on environmental self-efficacy by demonstrating that the relationship between self-efficacy and pro-environmental behavior is also evident within religious educational settings.

The findings have practical implications for environmental education in madrasahs. Environmental education programs should not merely focus on increasing students' knowledge about environmental issues but should also aim to strengthen students' confidence in their ability to contribute to environmental protection. Environmental self-efficacy can be enhanced through learning strategies that actively involve students in environmental activities, such as tree-planting projects, waste management programs, resource conservation initiatives, and community-based environmental projects.

Moreover, the findings highlight the importance of creating learning environments that support the development of students' self-confidence. Teachers play a crucial role by providing encouragement, constructive feedback, and learning experiences that enable students to experience success in carrying out environmentally responsible actions. Such mastery experiences are considered one of the most influential sources of self-efficacy according to Social Cognitive Theory.

Despite demonstrating the positive impact of environmental self-efficacy on pro-environmental behavior, this study has several limitations. First, the study was conducted in only one madrasah with a relatively small sample size, limiting the generalizability of the findings. Second, data were collected using self-reported questionnaires, which may introduce subjective bias. Third, the study examined only one predictor variable, whereas pro-environmental behavior may also be influenced by other factors such as environmental knowledge, environmental attitudes, social norms, and religious values.

The findings also have important implications for future environmental education initiatives. Environmental education programs should be designed not only to enhance environmental knowledge but also to strengthen students' beliefs in their ability to contribute to environmental problem-solving. Active participation in environmental activities can serve as an effective means of developing environmental self-efficacy. Activities such as school greening programs, waste management initiatives, water conservation efforts, and community-based environmental projects can provide students with successful experiences that reinforce their confidence.

In addition, teachers play an important role in providing support and positive

feedback, helping students recognize that their actions are meaningful and capable of producing real environmental impacts. Therefore, environmental education in madrasahs should be developed in a more participatory manner to encourage sustainable behavioral change. Future studies are recommended to involve larger samples, include various types of madrasahs and public schools, and incorporate additional variables that may influence pro-environmental behavior. Mixed-methods approaches may also provide a more comprehensive understanding of how pro-environmental behavior is developed among students.

CONCLUSION

This study highlights the importance of environmental self-efficacy in fostering pro-environmental behavior among madrasah students. The findings suggest that environmental education should focus not only on increasing students' environmental knowledge but also on strengthening their confidence in their ability to contribute to environmental protection. In addition to enriching the literature on environmental self-efficacy, this study provides empirical evidence supporting the relevance of this concept within the context of Islamic education.

Nevertheless, this study has several limitations, including its focus on a single madrasah, a relatively small sample size, and the use of questionnaire-based data collection. Therefore, future research is recommended to involve larger and more diverse samples and to consider additional factors that may influence pro-environmental behavior, such as environmental literacy, social norms, and religious values. Such efforts may contribute to a more comprehensive understanding of the factors shaping students' pro-environmental behavior across different educational contexts.

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