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Environmental Awareness as a Predictor of Sustainable Development Practices: A Correlational Study Among Tertiary Students

C. V. Bañes^{1*}, J. A. Florida¹, B. M. Faustino¹, E. S. Kong¹

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ABSTRACT

The correlational aspect of this study will try to explore the predictive value of environmental awareness on the sustainability practices done by tertiary level students. Specifically, this study aims to find out the relationship between the levels of environmental awareness of BEED students in one higher educational institution in Mindanao. This study is guided by the theories on Sustainable Development, Social Cognitive Theory, Moral Norm Activation Theory, and Value-Belief-Norm Theory. It will attempt to look into the relationship between the levels of environmental awareness and sustainability practices like waste management, energy conservation, climate change, pollution control, tree planting, and proper waste disposal. The researcher will adopt a descriptive-correlational research design where 153 respondents will be chosen via universal sampling. Data will be collected through survey questionnaires and statistical analysis such as mean and standard deviation will be used to analyze levels of awareness and practices while the predictor of behaviors will be tested through inferential statistics. In particular, the purpose of the study is to investigate the level of environmental awareness and sustainability behaviors among students, assess the importance of the connection between these constructs, and establish what specific factors of environmental awareness have the highest predictive power regarding sustainability behaviors. The expected outcome of the research will contribute significantly to the understanding of how environmental awareness can facilitate environmentally responsible behavior, as well as enhance environmental education and sustainability programs in academic institutions of higher learning.

INTRODUCTION

Many aspects of life, such as energy generation, economic development, life expectancy, and education, have been made possible by human advancements. However, these advancements have made sustainability very challenging. The global nature of environmental, social, and economic concerns is a result of globalization. Due to heightened awareness of issues such as poverty and the welfare of future generations, sustainability has become a necessity (Javanmardi *et al.*, 2023). Additionally, Getzler & Mathers (2022) state that sustainability is a complex issue; therefore, its evaluation involves considering ecological, economic, and social factors simultaneously in the short and long term.

While the study by Torroba-Diaz *et al.* (2023) explored the role of environmental intelligence, knowledge, attitudes, and behaviors among Spanish university students, it does have some limitations. It was conducted in a single cultural context (Spain), specifically with business and economics students, which limits generalizability to students outside those disciplines and to students in other countries. The use of cross-sectional methodology did not capture how environmental awareness and sustainable behaviors may evolve as students navigate their academic experiences. While the study acknowledged the relationship among knowledge, attitudes, and behaviors, it did not fully

explain how awareness is translated into behavior.

As a limitation of the study, reliance on self-reported data may have affected the results' accuracy in reflecting students' actual actions. As such, these gaps underscore the need for further empirical work in other contexts and with students across different academic disciplines, including those in the Philippines and other challenging environments. Therefore, this study aims to determine whether environmental awareness predicts sustainable development practices among tertiary students, based on the gaps identified by Torroba-Diaz *et al.* (2023), and to contribute new knowledge to the body of empirical research and to educational practice.

The urgency of this study was heightened by the significant risks posed by numerous environmental problems in the Philippines. Youth have never had a better chance to contribute to sustainable development. As the country's future educators and role models, BEED students' sustainable practices can influence not just their peers but also the young learners they will soon serve. As environmental issues continue to rise, more research is needed to equip future educators with the knowledge and skills to encourage future generations to take on environmental responsibility. It may be possible to overcome the awareness-practice conundrum and ensure that sustainability transcends the classroom and becomes

¹ College of Teacher Education, University of Mindanao, Matina, Davao City, 8000, Philippines

* Corresponding author's e-mail: charmaine_banes@umindanao.edu.ph

the norm by understanding the relationship between sustainable behavior and awareness.

This study aims to investigate the relationship between environmental awareness and sustainable development practices among BEED students at a higher education institution in Mindanao. Specifically, the objectives of the study are to assess the level of environmental awareness among BEED students in terms of environmental concern, environmental knowledge, and environmental values; to determine the level of sustainable development practices among BEED students in terms of tree pollution, climate change, waste management, tree planting activities, energy conservation, and proper waste disposal; to examine the significant relationship between environmental awareness and sustainable development practice among BEED students; and to identify which domain of environmental awareness influences the sustainable development practices among BEED students. It is hypothesized that environmental awareness has no significant predictive relationship with sustainable development practices among these students. This hypothesis will be tested at a 0.01 level of significance.

Additionally, this study addresses the urgent call to promote sustainable development practices by supporting the United Nations SDGs, particularly SDGs 11 and 12, which focus on Sustainable Cities and Communities and Responsible Consumption and Production, respectively. By examining how environmental awareness significantly affects sustainable development practices, this study provides insights that can guide educational institutions and policies in producing responsible, environmentally aware students. In terms of social significance, this study highlights the important role of environmental awareness in shaping students' environmental attitudes and behaviors towards sustainability. By gaining insights into the relationship between environmental awareness and sustainable development, various academic institutions, instructors, parents, and communities can adopt a positive attitude towards the environment and uphold sustainable development practices. The findings of this study can assist programs across communities in upholding eco-friendly initiatives, climate mitigation efforts, and responsible energy use, thereby fostering a more sustainable environment.

Furthermore, this study provides significant implications for teachers, parents, caregivers, and future researchers. Teachers will be informed of research-informed outcomes that can support the environmental education component of their classrooms, aligned with SDG 4 (Quality Education), as they prepare students to be active agents of change. Parents and caregivers may gain strategies to support their students in establishing eco-friendly practices at home, in conjunction with students' school practices, to build a culture of sustainability, thereby supporting SDG 11 (Sustainable Cities and Communities) by fostering responsible households. Additionally, this research can serve as a basis for future studies in environmental education and sustainability,

inspiring researchers to explore major variables in educating students about why people may act differently regarding the environment. In this way, the research helps build knowledge that is directly relevant to SDG 12 (Responsible Consumption and Production).

LITERATURE REVIEW

Education for sustainable development aims to equip students with the basic knowledge, skills, attitudes, and values to be responsible citizens and to make rational decisions that promote eco-friendly practices, social justice, and economic improvement. Promoting and taking actions on sustainable development will lead to a progressive future (Kopp & Tafese, 2025). A recent study conducted by Kumar (2024) highlighted this importance. For instance, young people must take the initiative and assume responsibility for sustainability; they must learn what constitutes a good life. Education is the only way to change people's views on sustainable activities. Current approaches to education must change to give students the right information, skills, and motivation to consume within sustainable pathways. Environmental education has opened the door to greater environmental awareness and deeper community ties, as it has successfully encouraged individuals, communities and businesses to comprehend the effects that our choices have on the environment (Masongsong, 2024). Additionally, Cañas & Zoleta (2024) stated that an appropriate method can be adopted to foster positive attitude, values, and behavior towards the environment and sustainable development, which involves adopting sustainable development programs in universities.

Furthermore, recognizing the relationship between human actions and the environment is environmental awareness, and it is necessary to promote a sustainable lifestyle and guide individuals towards sustainable practices. A person who is environmentally aware recognizes the consequences of actions on the natural environment. As a result, environmentally literate people make the environment sustainable by practicing the right behaviors (Yildirim *et al.*, 2025). A study conducted by Sargin & Dursun (2024) suggested that environmental awareness is an essential factor in shaping sustainable development practices, which are shaped by an individual's environmental values. Another study by Toledo and Lingon (2024) indicates that students with strong environmental awareness demonstrated this through their sustainable development practices.

Environmental awareness is regarded as an understanding of the environment influenced by emotions, experiences, symbolic representations, and societal groups. It is considered a vital factor shaping an individual's engagement in environmentally responsible behaviors. Climate change is perceived as a major global challenge that significantly affects ecosystems, economies, and communities due to shifting temperatures and weather patterns, posing serious problems (Nguyen *et al.*, 2025). A study by Shrestha *et al.* (2025) emphasizes a high

level of awareness among participants, and they mostly link it to evident unusual weather events such as flash floods, extreme heat and cold waves, and changes in rainfall trends. The research results demonstrated that education is a vital factor that enables people to develop sustainable practices and informed viewpoints. Torres *et al.* (2023) conducted a study on the environmental awareness, connection, and behaviors of college students, emphasizing the importance of environmental awareness in promoting pro-environmental behaviors and in achieving the Sustainable Development Goals (SDGs), the study also highlighted the relationship between the establishment of environmental behaviors and environmental awareness and the importance of the educational strategies in strengthening environmental concerns among university students.

Initially, reported that a person with higher environmental literacy, developed through knowledge and awareness of environmental issues, is more likely to exhibit pro-environmental behavior. They also indicated that understanding one's ecological footprint, or how human activities specifically affect the natural environment, significantly predicts environmentally responsible behavior (Yildirim *et al.*, 2025). According to the authors, both knowledge-based and awareness-based indicators are significant in driving actual environmental actions. They further noted that environmental concern is not limited to attitudes but is strongly connected to informed awareness and concrete behaviors. Thus, these findings provide empirical validation of environmental literacy and ecological footprint awareness as primary indicators of environmental concern.

Moreover, Fadly & Setyawan (2026) stated that being environmentally aware helps shape the attitudes and values concerning the environment and therefore plays an important role in education and sustainable development. An understanding of aspects of environmental awareness plays an integral role for each individual as part of the ecosystem, given the various global challenges, such as pollution and climate change. According to a study conducted by García-Salirrosas *et al.* (2023), the adoption of eco-friendly consumption can be greatly aided by environmental awareness. This means that people who are strongly concerned about the environment are more likely to purchase environmentally friendly products.

Finally, environmental values can be considered a key marker of the overall emotional and rational components of environmental awareness. These values reflect the strongest convictions about the environment, developed both emotionally and intellectually. They play a role in shaping a person's moral values. These values are factors that determine the cognitive and affective domains of individual departures from or closeness to environmental issues. Moreover, they serve as a bridge between knowledge and awareness by unifying a person's knowledge and feelings about the environment into a single perspective (Laheri *et al.*, 2023).

To further support this study, the Sustainable Development

Theory, developed by the World Commission on Environment and Development (1987), emphasizes meeting people's needs today without compromising future generations' ability to meet theirs. It focuses on using natural, social, and economic resources carefully and responsibly. The theory encourages protecting the environment, treating people fairly, and planning for the long term. In short, it teaches that human progress should go hand in hand with caring for the planet so that both present and future generations can live well.

In addition, the Social Cognitive Theory (SCT), as explained by Bandura (1986), elaborates on how individuals observe other people's behavior and the environment, which affect their health-related behaviors. This theory emphasizes the critical role of cognitive processing in comprehending and carrying out such behaviors (Zhai *et al.*, 2025). The relationship between environmental awareness and sustainable development practices can be framed within this theory by explaining that a person's knowledge and awareness of various environmental issues, as well as their social environment, influence their choices and actions to promote sustainability. Erfanian *et al.* (2024) conducted a study that supports this theory, revealing that both an individual's intentions and actions were explained by the model, which predicted 59% of participants' intentions/planned behavior and 27% of their actual environmentally responsible actions. In their study, an essential factor influencing an individual's intentions was societal influence, particularly how others behave.

Moreover, the Moral Norm Activation Theory framework, developed by Schwartz (1977), has shown limited utility for studying pro-environmental behavior. However, the theory remains applicable to this study, as it explains that people perform environmentally friendly actions because of their personal moral standards, which are activated when they recognize that environmental threats affect humans, wildlife, and the entire biosphere. Liao's (2025) research established that personal norms directly influence environmental actions, supporting the theoretical prediction that personal norms affect pro-environmental behavior. People develop personal norms through their sense of moral duty, which guides their actions. The research findings match previous studies by Werff (2013) and Ateş (2020), which demonstrated that personal norms influence multiple environmental behaviors.

Furthermore, Value-Belief-Norm theory (VBN), proposed by Stern (2000, cited in Hong *et al.*, 2024), combines value theory, the theory of norm activation, and the new ecological paradigm, developed by Schwartz & Howard (1981) and Dunlap & Liere (1978), respectively. The VBN theory connects values, beliefs, and personal norms to explain environmentally friendly behavior. In VBN theory, there is an outlined chain of causation beginning with values that affect beliefs such as the new ecological paradigm, awareness of consequences, and ascription of responsibility; these beliefs subsequently activate personal

norms, which, in turn, lead to behaviors. A study by Hong *et al.* (2024) found that various significant factors positively shape an individual's motivation to engage in sustainable practices. These factors include concern for the environment and others, ecological beliefs, awareness of consequences, ascription of responsibility, and an individual's moral norms. As a result, these intentions considerably enhanced the practical applications of pro-environmental behaviors.

MATERIALS AND METHODS

This section outlines the research design, participants, data collection procedures, and the statistical tools used to address the research objectives.

Respondents

This study was conducted at a higher institution, focusing on tertiary students currently enrolled in the Bachelor of Elementary Education (BEED) program. The target population consists of 153 BEED students from the first to third years at one of the higher education institutions in Mindanao. The study utilized the universal sampling method, defined by WisdomLib (2021) as sampling the entire population as respondents, rather than a subset. This method is beneficial when the target population is small and easily accessible, such as tertiary students in a particular institution or program. The benefit of universal sampling is that it helps to reduce sampling bias, include all voices, and enhance the validity and reliability of the findings. Because the entire population is included, the results will reflect a more accurate and complete understanding of the population. Therefore, this study is well-suited to use this sampling method.

In this study, the inclusion criteria would be all students currently enrolled in the BEED program at the first- to third-year level. Exclusion criteria will be fourth-year students, as it would be very difficult to facilitate their participation in this study due to their limited availability, and students currently enrolled in other programs (BSED, BPE, and BSNEd). Participation in this study was strictly voluntary, and participants were free to withdraw at any time without penalty or academic consequences. Data from those who would eventually withdraw, as well as partially completed responses, would not be valid for inclusion in the analysis.

Instruments

A standardized questionnaire developed by Si *et al.* (2024) was used in this study to assess BEED students' environmental awareness. The questionnaire comprises 12 items and is divided into three indicators: environmental concern (5 items), environmental knowledge (3 items), and environmental values (4 items). The purpose of each indicator is to precisely measure students' knowledge, attitudes, and practices about important environmental concerns created in the study. In the original study, the questionnaire was validated, demonstrating its reliability

for use in this study.

The research questionnaire used by Toledo & Lingon (2024) was also used in this study to assess the extent of sustainable development practices. This section of the survey mentioned a total of 48 items distributed equally in the same six indicators of climate change (8 items), waste management (8 items), pollution (8 items), tree planting activities (8 items), energy conservation (8 items), and proper waste disposal (8 items). The items were designed to measure the level to which students participate in sustainable development practices in their daily lives. This survey item was similarly referenced as validated in the original study, as was the environmental awareness survey, indicating that it is an appropriate and reliable measure for use in this study.

Responses on environmental awareness and sustainable practices were measured on a five-point Likert scale. The respondents will be asked to indicate the degree to which they agree with each statement by choosing the corresponding response from 5 (Strongly Agree) to 1 (Strongly Disagree). Each point on the scale represents a specific level of environmental awareness and engagement in sustainable practices.

In terms of data analysis, the researchers used a standardized interpretation of weighted mean scores for all variables, where a mean score of 4.21-5.00 (Very High) indicates that environmentally sustainable behaviors are regularly manifested, 3.41-4.20 (High) shows frequent manifestation, 2.61-3.40 (Moderate) indicates occasional or inconsistent manifestation, 1.81-2.60 (Low) shows seldom manifestation, and 1.00-1.80 (Very Low) suggests low environmental awareness and infrequent engagement in sustainable practices among the respondents.

The research questionnaires underwent an expert validation and a pilot testing involving 30 students to ensure their accuracy and reliability. The mean score was 4.71 (good), indicating that the questionnaires had undergone proper scrutiny and approval by the validators. To test the scales' internal consistency, a pilot test was conducted. The Cronbach's Alphas for the independent variable, environmental awareness, and the dependent variable, sustainable development practices, were 0.934 and 0.990, respectively. This indicates that the instruments have "excellent" reliability, as both values exceed the traditional criterion of 0.70.

In terms of correlation analysis, the relationship between the two variables was assessed using the standard interpretation of correlation coefficients. The correlation between ± 0.90 and ± 1.00 indicates a very strong relationship; ± 0.70 to ± 0.89 indicates a strong relationship; ± 0.40 to ± 0.69 indicates a moderate relationship; ± 0.10 to ± 0.39 indicates a weak relationship; and ± 0.00 to ± 0.09 indicates a very weak relationship. If both the variables are correlated in such a manner that an increase in one variable results in an increase in the other variable as well, it is a direct relationship (+); it is an indirect relationship (-).

Research Design and Procedure

This study utilized a descriptive-correlational quantitative research design, a non-experimental design that aims to describe a population, trends, and occurrences. These empirical studies help to identify relationships, patterns, categories, and attributes. A descriptive study employs various data collection methods, such as surveys using research questionnaires, to quantify and synthesize, or explain, a specific category or phenomenon (Mursa *et al.*, 2025). In this study, using a quantitative descriptive approach yields findings that relate directly to reality, provides a degree of generalizability (with an adequate sample), and provides baseline data to compare and build on in future research or interventions.

The credibility of the research study and its ethical attributes were established by obtaining approval from the Dean of the College of Teacher Education and the research adviser. Once approval was obtained, the questionnaires used in this study were previously validated. They included an informed consent paragraph at the beginning that stated the purpose of data collection, the voluntary nature of participation, and the confidentiality of responses. All approved questionnaires will be distributed to the sample of BEED students in the first semester of the Academic Year 2025-2026. After each questionnaire is collected, the researcher will ensure completeness and accuracy are maintained prior to encoding and organizing the data, and before statistically tabulating it for analysis.

Statistical treatments and analyses were utilized to achieve the research objectives. In this study, the mean and standard deviation will be used as cognitive descriptive statistics to analyze participants' responses. Mean is the simplest and most common measure of central tendency, and it is defined as the sum of observations divided by the number of observations. The standard deviation (SD) is defined as the positive square root of the mean of the squared deviations of the scores from the mean, indicating how much each score varies from the mean on average (Dar, 2023). Their utility is not only practical; their use also conforms to standard research principles, as many academic journals emphasize the importance of the mean and standard deviation as key measures for reporting results (Nombera-Aznaran *et al.*, 2024).

RESULTS AND DISCUSSION

This section presents the study's major findings and interprets the results in light of the research objectives and prior studies.

Environmental Awareness

Presented in Table 1 is the level of environmental awareness among BEED students across the three domains, namely environmental concern, environmental knowledge, and environmental values. The overall average level of environmental awareness had a very high mean of 4.31, with a standard deviation of 0.53, indicating that BEED students regularly exhibit very high levels of

environmental awareness. Among the three domains of environmental awareness, environmental values scored highest, with a very high mean of 4.44 and a standard deviation of 0.53. This is followed by environmental knowledge with a very high mean of 4.37 with a standard deviation of 0.62. Lastly, despite maintaining a high level, environmental concern got the lowest average among the three indicators, with a mean of 4.12 and a standard

Table 1: Level of Environmental Awareness

Indicators	Mean	SD
Environmental Concern	4.12	.82
Environmental Knowledge	4.37	.62
Environmental Values	4.44	.53
Overall	4.31	.53

deviation of 0.82.

The very high mean score of environmental awareness reflects that BEED students have a very high level of environmental awareness in their everyday lives. This implies that these students are well aware of the effects of pollution on human health, feel a sense of duty to preserve the environment, and stay informed about local issues such as campus noise and neighborhood littering. Of the three indicators, the very high mean of environmental values suggests that students believe that all people should participate in protecting the environment, experience emotional concern about the news of environmental destruction, firmly believe that neglecting the environment today will cause serious crises in the future, and feel deep discomfort about the possibility that the next generation will be living in a polluted environment.

On the contrary, despite having the lowest average among the three domains, a high level of environmental concern highlights their active attention to the local and current ecological problems which means that the students are interested in the quality of the air and water in their school and community, in the noise in their surroundings, in the pollution of the soil by household garbage and rubbish, and in the greening of their neighborhood.

A study conducted by Eleccion *et al.* (2025) supports these results, stating that a high degree of environmental awareness encourages students to exhibit a deep-rooted value system and positive attitude towards environmental protection. This suggests that they would favor sustainable behavior, raise concerns about pollution and biodiversity loss, and promote environmentally sound policies. In addition, the low standard deviation indicates that the students' responses were homogeneous, reflecting their shared environmental responsibilities. These findings align with a study by Escatron *et al.* (2023), which states that environmental awareness and practices can play an essential role in reducing the effects of climate change and helping ensure that future generations inherit a

healthy, sustainable planet. By being aware, prepared, and acting responsibly towards their environment, individuals can contribute positively to efforts to promote environmental stewardship, climate change mitigation, sustainable development, biodiversity preservation, and natural resource conservation.

Sustainable Development Practices

Table 2 reveals an overall mean score of 4.37, indicating a very high level of sustainable development practices, and a standard deviation of 0.50, indicating that sustainable development behaviors are consistently manifested among the respondents. Among indicators of sustainable development practices, waste management scored highest, with a very high mean of 4.44 and a standard deviation of 0.53. Lastly, despite remaining very high, energy conservation had the lowest mean among the

Table 2: Level of Sustainable Development Practices

Indicators	Mean	SD
Climate Change	4.35	.52
Waste Management	4.44	.53
Pollution	4.41	.58
Tree Planting Activities	4.36	.59
Energy Conservation	4.23	.64
Proper Waste Disposal	4.41	.57
Overall	4.37	.50

indicators, at 4.23 with a standard deviation of 0.64.

The very high overall rating of sustainable development practices indicates that these behaviors are regularly manifested among the respondents through their engagement in activities related to climate change awareness, waste management, pollution prevention, tree planting, energy conservation, and waste disposal. From the results presented above, the respondents attained a very high level of waste management, indicating that they regularly engage in the waste management behaviors measured in the study. These behaviors include improving

waste management systems at home and in school, observing waste segregation and disposal standards, using separate bins for different types of waste, participating in waste management programs, and attending waste management seminars and symposiums. On the other hand, energy conservation obtained the lowest mean among the indicators but remained at a very high level. This indicates that the respondents regularly engage in energy conservation practices such as using LED lights, unplugging devices when not in use, and switching off electrical sources when necessary. However, these practices were less manifested compared to the other sustainable development practices measured in the study. As stated by Toledo and Lingon (2024), individuals with a high degree of environmental awareness consistently practice sustainability in their everyday actions, specifically by managing waste and pollution, engaging in environmental activities, and ensuring their awareness is put into action. It is also supported by Eleccion *et al.* (2025), who found that students demonstrate strong sustainability practices, including eco-friendliness, green consumption, and engagement in sustainability projects, thereby indicating their commitment to sustainable development. The research further revealed that students with high levels of environmental awareness are more likely to adopt sustainable practices and behaviors. In addition, this research has validated the current findings that BEED students consistently adopt sustainable practices. Consequently, the very high mean indicates that the students have been very environmentally responsible.

Correlation between Environmental Awareness and Sustainable Development Practices

Table 3 presents the relationship between environmental awareness and sustainable development practices, which reveals a statistically significant positive correlation between the two variables through the correlation analysis ($r = .746$, $p < .01$). Since the computed p-value is lower than the 0.01 level of significance, there is adequate statistical evidence for rejecting the null hypothesis. Hence, the results indicate a statistically significant relationship between environmental awareness and sustainable

Table 3: Significant Relationship between Environmental Awareness and Sustainable Development Practices.

Environmental Awareness	Sustainable Development Practices						
	Climate Change	Waste Management	Pollution	Tree Planting Activities	Energy Conservation	Proper Waste Disposal	Overall
Environmental Concern	.499**	.444**	.496**	.460**	.437**	.418**	.538**
Environmental Knowledge	.669**	.614**	.631**	.569**	.458**	.536**	.650**
Environmental Values	.672**	.651**	.686**	.643**	.597**	.601**	.731**
Overall	.706**	.670**	.700**	.641**	.590**	.593**	.746**

** $p < 0.01$

development practices among tertiary students.

The correlation coefficient indicates a strong positive association between the two variables, meaning that an increase in environmental awareness is followed by an increase in sustainable development practices among tertiary-level students. On the other hand, when environmental awareness was low, participation in sustainable behavior was also low. In this regard, the correlation is strong enough to suggest that environmental awareness is an influential factor in students' sustainable practices. This is because all dimensions of environmental awareness have been found to correlate positively with indicators of sustainable practice. Such findings show that encouraging students' participation in sustainable development requires a very high level of environmental literacy. Thus, the null hypothesis, suggesting that there is no significant correlation between environmental awareness and sustainable development practices, is rejected.

Moreover, a study by Tayco (2025) reveals that several significant relationships emerged from the statistical analysis, particularly between activities such as composting, planting trees, and garbage collection and issues such as pollution, global warming, and deforestation. The findings highlight the connection between increased environmental awareness and increased participation in sustainable development practices. According to the study's conclusion, enhancing students' environmental awareness and sustainable behavior requires integrating environmental education into their curriculum and enforcing environmental protection laws.

Regression between Environmental Awareness and Sustainable Development Practices

According to the regression results in Table 4, the sustainable development behavior of BEED students is strongly influenced by the environmental awareness variables. The regression model accounts for 61.1% of the variance in students' sustainable development behavior ($R^2 = .611$), indicating a strong influence of environmental awareness on their behavior. This is supported by the statistical significance of the results, where the F-value stands at 77.916 at ($df = 3, 149$) with a p-value of .000. Both the statistics are well below the predetermined value of .05. Consequently, the null hypothesis is rejected, showing that the respondents' behaviors are highly

significantly affected by environmental awareness.

Additionally, among the three indicators of environmental awareness analyzed in the study, environmental values emerged as the most influential factor ($\beta = .450$), implying that students' actions towards the environment are dictated by their attitudes and commitment to this issue. Second in importance is environmental knowledge, which is also highly significant ($\beta = .345$), indicating that students are more likely to engage in sustainable practices when they have deep knowledge of their environment. Finally, although environmental concern is also a significant measure, its influence on actions was the weakest ($\beta = .126$), suggesting that students may be concerned about their environment; however, concern alone has a weaker influence on sustainable practices than other domains.

The present finding, which suggests that environmental values play an important role in predicting sustainable development behaviors, is supported by Alas and Korutürk (2024), who found that environmental values acquired through education significantly influence pro-environmental and sustainability behaviors. This similarity demonstrates that the environmental values identified in the present study align with the findings reported by these authors. Similarly, Andalan *et al.* (2025) support the present finding, reporting that higher levels of environmental awareness, particularly when based on the internalization of environmental values, contribute to greater engagement in sustainable activities. The current study's finding that environmental awareness was a significant predictor of sustainable development practices among tertiary students is supported by these authors' findings. Additionally, another study conducted by Mued *et al.* (2025) highlights the role that environmentally aware youth can play in helping achieve the SDGs and fostering a culture of sustainability.

Environmental education plays a crucial role in shaping environmental values and promoting sustainable development practices. These learned values influence how individuals respond to environmental issues and encourage them to participate in sustainable practices such as conservation, waste reduction, and responsible resource use. Another study by Wardhana and Yogyakarta (2022) indicates that sustainable consumption and environmentally friendly behavior are significantly affected by environmental awareness. It was found that most students held favorable views of sustainable practices and had sufficient environmental awareness. In general, the research showed that fostering eco-friendly behavior, especially within schools, is significantly facilitated by environmental awareness. Additionally, Wang and Zhang (2021) present another study linking environmental education to environmentally friendly behavior. This study examines whether environmental knowledge affects learners' attitudes and behavior, in accordance with the KAP model. It states that if environmental knowledge is acquired from education, then it develops attitudes towards environmentally friendly practices.

Table 4: Regression Analysis between Environmental Awareness and Sustainable Development Practices

Indicators	B	SE B	β
Environmental Concern	.078	.037	.126
Environmental Knowledge	.282	.052	.345
Environmental Values	.426	.064	.450
R ²		.611 77.92	

****** $p < 0.01$

Furthermore, environmental education aligns with the goals of sustainable development by equipping individuals with the knowledge, skills, and values necessary to address global environmental challenges. As a result, students exposed to environmental education are more likely to develop strong environmental values, which, in turn, lead to consistent engagement in sustainable development practices (Velepini, 2025).

CONCLUSION

In conclusion, the level of environmental awareness among tertiary students is very high, as evidenced by measures of environmental values, knowledge, and concern. In these measures, it was evident that environmental values had the highest mean, suggesting that the students have good environmental values and beliefs. Similarly, sustainable development was rated very highly across all measures, with the waste management receiving the highest mean. The findings also suggested a strong positive correlation between environmental awareness and sustainable development activities. Furthermore, in the regression analysis, environmental awareness played a significant role in sustainable development activities, with environmental values emerging as the most important factor, followed by environmental concern as the second most important factor.

As observed above, the results clearly confirm the Value-Belief-Norm (VBN) theory, which posits that individuals' environmental values influence their behavior towards sustainability. According to the regression analysis results, environmental awareness explained more than half of the variance in sustainable development behaviors, and environmental values had the greatest effect. This shows that the internalization of environmental values and personal responsibility towards the environment has a significant impact on students' sustainable development behaviors.

In light of these results, it can be suggested that school organizations such as the Association of Generalist Teachers (AGENT) should include in their annual operational plan (AOP) environmental symposiums or seminars every semester to increase environmental concern among the students, raise their knowledge about the environmental problems in the present-day world, and practice responsible environmental behavior. Universities should also embark on energy conservation by organizing energy-saving programs across the entire institution, issuing reminders to switch off lights and electrical devices when not in use, and implementing programs to promote efficient use of energy sources. It is also advised that future research should include qualitative methods to gain deeper insight into environmental concerns and energy conservation among college students. Additionally, future studies could include a larger sample and involve students from other programs to broaden the scope of the findings.

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REFERENCES

- Alas, D. K., & Korutürk, K. (2024). Exploring the impact of values education on sustainable environmental awareness and behavior among eighth-grade students. *Multidisciplinary Digital Publishing Institute (MDPI)*, 16(21), Article 9302. <https://doi.org/10.3390/su16219302>
- Andalan, A. J., Prado, F. A. M., Ortiz, S. M. B., Daras, A. R. G., Pausal, F. L. G., Casan, K. E., & Decena, J. T., III. (2025). *Environmental awareness and sustainable development practices of accountancy, business, and management students in Tacurong National Highschool*. ResearchGate. <https://doi.org/10.13140/RG.2.2.35211.40488>
- Cañas, R. J. C., & Zoleta, J. M. R. (2024). Investigation of environmental attitudes: Implications to sustainable campus waste management. *American Journal of Environment and Climate*, 3(2), 25–33. <https://doi.org/10.54536/ajec.v3i2.2788>
- Dar, N. A., Tali, T. A., Ganie, B. A., Sofi, M. A., Sofi, S. R., Khan, N. A., Najmi, A. M., Fir, A., & Ahmad, S. N. (2023). Statistical methods used in medical research and cancer registries: A review. *Journal of Radiation and Cancer Research*, 14(3), 111–115 https://doi.org/10.4103/jrcr.jrcr_36_22
- Eleccion, M. J. M., Gallo, L. G. C., Nanud, M. N. D., & Baluyos, G. R. (2025). The mediating role of environmental awareness in the relationship between science literacy and sustainable practices. *International Journal of Research and Innovation in Social Science*, 9(9). <https://doi.org/10.47772/IJRISS.2025.909000324>
- Erfanian, S., Maleknia, R., & Khedrizeh, M. (2024). Application of social cognitive theory to determine

- shaping factors of environmental intention and behaviors of ecotourists in forest areas. *Frontiers*, 7, Article 1489170. <https://doi.org/10.3389/fcgc.2024.1489170>
- Escatron, M. J. E., Adlaon, M. S., Flores, D. K. G., & Escatron, R. A. (2023). *Environmental awareness and practices of the selected public senior high school in Surigao city, Philippines: A case study*. *Cognizance Journal of Multidisciplinary Studies*. <https://doi.org/10.47760/cognizance.2023.v03i08.028>
- Fadly, D., & Setyawan, D. (2026). Mapping research on environmental awareness: A systematic literature review (2000–2025). *Journal of Scientific Research, Education, and Technology*, 5(1), 538–552. <https://doi.org/10.58526/jsret.v5i1.1040>
- García-Salirrosas, J. P., Acevedo-Duque, A., & Müller-Pérez, J. (2023). Influence of environmental awareness on the willingness to pay for green products in a developing country. *Frontiers*, 14, 1282383. <https://doi.org/10.3389/fpsyg.2023.1282383>
- Getzler, Y. D., & Mathers, R. T. (2022). Sustainable polymers: Our evolving understanding. *Accounts of Chemical Research Publications*, 55(14), 1869–1878. <https://pubs.acs.org/doi/10.1021/acs.accounts.2c00194>
- Hong, Y., Al Mamun, A., Masukujjaman, M., & Yang, Q. (2024). Significance of the environmental value-belief-norm model and its relationship to green consumption among Chinese youth. *ScienceDirect*, 146, 1–9. <https://doi.org/10.1016/j.apmr.2023.10.002>
- Javanmardi, E., Liu, S., & Xie, N. (2023). Exploring the challenges to sustainable development from the perspective of grey systems theory. *Multidisciplinary Digital Publishing Institute (MDPI)*, 11(2), 70. <https://doi.org/10.3390/systems11020070>
- Kopp, E., & Tafese, M. B. (2025). Education for sustainable development: analyzing research trends in higher education for sustainable development goals through bibliometric analysis. *Springer Nature Link*, 5(1), Article 711. <https://doi.org/10.1007/s43621-024-00711-7>
- Kumar, J. (2024). *An analysis of sustainable consumption practices among students*. ResearchGate. ISBN 978-81-951591-6-1
- Laheri, V. K., Lim, W. M., Arya, P. K., & Kumar, S. (2024). A multidimensional lens of environmental consciousness: Towards an environmentally conscious theory of planned behavior. *Journal of Consumer Marketing*, 41(3), 281–297. <https://doi.org/10.1108/JCM-03-2023-5875>
- Liao, C. H. (2025). The role of media in shaping pro-environmental behaviors: Integrating media system dependency theory and norm activation theory. *Frontiers*, 16, Article 1520537. <https://doi.org/10.3389/fpsyg.2025.1520537>
- Masongsong, J. R. (2024). Environmental awareness and participation among college students of Mindoro State University–Calapan City Campus. *American Journal of Environment and Climate*, 3(1), 25–29. <https://doi.org/10.54536/ajec.v3i1.2389>
- Mursa, R. A., Patterson, C., McErlean, G., & Halcomb, E. (2025). How many is enough? Justifying sample size in descriptive quantitative research. *Nurse Researcher*, 33(2), 35–40. <https://doi.org/10.7748/nr.2025.e1958>
- Muyed, G. M. M. D. D., Mallik, S. K., & Datta, D. (2025). Environmental awareness and youth engagement in achieving the Sustainable Development Goals. *American Journal of Environmental Economics*, 4(1), 185–191. <https://doi.org/10.54536/ajec.v4i1.5780>
- Nguyen, H.-A. T., Osman, Z., Serrano, J., Suhandoko, A. D. J., & Intaratat, K. (2025). Determinants of environmental awareness toward the green living behaviour of students: The role of family, university, and social environmental factors in Hanoi, Vietnam. *Paradigm reference-global.com*, 13(1), 1–14. <https://doi.org/10.2478/enviro-2025-0001>
- Nombera-Aznaran, N., Guevara-Lazo, D., Fernandez-Guzman, D., & Taype-Rondán, A. (2024). Statistical characteristics of analytical studies published in Peruvian medical journals from 2021 to 2022: A methodological study. *PLOS One*, 19(7), e0306334. <https://doi.org/10.1371/journal.pone.0306334>
- Sargin, S., & Dursun, Y. (2024). The effect of environmental ethics awareness, ecological intelligence and the love of nature on sustainable consumption behavior. *Gazi Journal of Economics & Business*, 10(2), 290–313. <https://doi.org/10.30855/gjeb.2024.10.2.007>
- Schwartz, S. (1977). Normative influences on altruism. *ScienceDirect*, 10, 221–279. [https://doi.org/10.1016/S0065-2601\(08\)60358-5](https://doi.org/10.1016/S0065-2601(08)60358-5)
- Si, W., Jiang, C., & Meng, L. (2022). The relationship between environmental awareness, habitat quality, and community residents' pro-environmental behavior—Mediated effects model analysis based on social capital. *Multidisciplinary Digital Publishing Institute (MDPI)*, 19, 13253. <https://doi.org/10.3390/ijerph192013253>
- Shrestha, R., Kadel, R., Shakya, S., Nyachhyon, N., & Mishra, B. K. (2025). Awareness and understanding of climate change for environmental sustainability using a mixed-method approach: A study in the Kathmandu Valley. *Multidisciplinary Digital Publishing Institute (MDPI)*, 17(7), 2819. <https://doi.org/10.3390/su17072819>
- Tayco, A. D. (2025). An analysis of the relationship between environmental awareness and sustainable development practices among senior high school students in Tablas Island, Romblon. *International Knowledge Sharing Platform*, 15(5). <https://doi.org/10.7176/JEES/15-5-01>
- Toledo, M. & Lingon, M. (2024). Environmental Awareness and Sustainable Development Practices of Senior High School Students. *International Journal of Advances in Education, Social Sciences and Innovation*, 3(1), 79–84. eISSN-3028-1156
- Torroba-Díaz, M., Bajo-Sanjuán, A., Callejón Gil, Á.

- M., Rosales-Pérez, A., & López Marfil, L. (2023). Environmental behavior of university students. *Emerald insight*, 24(7), 1489-1506. <https://doi.org/10.1108/IJSHE-07-2022-0226>
- Velepini, K. (2025). Assessing the role of environmental education practices towards the attainment of the 2030 Sustainable Development Goals. *Multidisciplinary Digital Publishing Institute (MDPI)*, 17(5), Article 2043. <https://doi.org/10.3390/su17052043>
- Wardhana, A., (2022). Environmental awareness, sustainable consumption and green behavior among undergraduate students. *Review of Integrative Business and Economics Research*, 11(1), 242–252. ISSN: 2304-1013
- Wang, K., & Zhang, L. (2021). The impact of ecological civilization theory on university students' pro-environmental behavior: An application of knowledge-attitude-practice theoretical model. *Frontiers*, 12, 681409. <https://doi.org/10.3389/fpsyg.2021.681409>
- WisdomLib. (2021). *Significance of universal sampling method*. Wisdom Library. <https://www.wisdomlib.org/concept/universal-sampling-method>.
- World Commission on Environment and Development. (1987). *Report of the World Commission on Environment and Development: Our common future*. Oxford University Press. ISBN: 978-0192820808
- Yildirim, M. S., Elkoca, A., Gökçay, G., Yilmaz, D. A., & Yıldız, M. (2025). The relationship between environmental literacy, ecological footprint awareness, and environmental behavior in adults. *Springer Nature Link*, 25(1), 551. <https://doi.org/10.1186/s12889-025-21340-3>
- Zhai, S. (2023). Analysis, evaluation, and reformulation of social cognitive theory. *Pediatric Nursing*, 49(5), 227–232. <https://doi.org/10.1016/j.pedn.2023.07.011>