# Environmental Practices and Household Green Purchasing Behavior among College Students

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## ABSTRACT

The purpose of this study was to determine which domain of environmental practices significantly influenced the household green purchasing behavior of college students at a higher education institution. In this study, a quantitative, non-experimental research design using descriptive-correlational techniques was used. The Simple Random Sampling was utilized, which involved the two hundred forty-five (245) students who were officially enrolled in the second semester of the 2024-2025 school year. The contextualized questionnaire was used for data collection, and the statistical tools employed for data analysis included the Mean, Standard Deviation, Pearson Product-Moment Correlation, and Linear Regression. The results showed that the level of environmental practices was high, which implied that it is often manifested and the household green purchasing behavior as high, which implied that it is often manifested by the students as well. Additionally, the study revealed a significant relationship between environmental practices and the green purchasing behavior of college students. Moreover, all the domains of environmental practices, awareness of environmental concepts, awareness of environmental issues, and practices on the need to solve environmental problems significantly influenced the household green purchasing behavior of college students. This only means that environmental practices are integral to the household green purchasing behavior of college students.

**Keywords:** Environmental Practices, Household Green Purchasing Behavior, College Students, Philippines.

## INTRODUCTION

The escalating demands on ecosystems, declining biodiversity, and climate change are significant environmental challenges, and individuals play a crucial role in mitigating these issues. Despite growing global concern, inadequate awareness often contributes to the unsustainable use of natural resources and subsequent environmental degradation. While many individuals possess positive attitudes toward sustainable consumerism, their actions frequently fail to align with these values, resulting in an intention-behavior gap caused by structural and psychological obstacles. Social norms, family influence, and the perception of high prices often deter green purchasing despite positive intentions. Examining this issue within a local context is vital, as the researchers did not encounter prior studies evaluating environmental practices and household green purchasing behavior in this specific setting. Theoretically, this study is grounded in Stern's Value-Belief-Norm Theory, which posits that drawing attention to pro-environmental issues can lead to action. It is further supported by Schwartz's Norm Activation Model and Ajzen's Theory of Planned Behavior, which explain how attitudes, subjective norms, and perceived behavioral control influence intentions and behaviors. Therefore, the main objective of this study was to determine which domain in environmental practices significantly influences household green purchasing behavior among college students. Specifically, it aimed to determine the levels of environmental practices (awareness of concepts, issues, and practices to solve problems) and green purchasing behavior (attitude, subjective norm, perceived behavioral control, and intention), as well as to establish their significant relationship and influence.

## METHODS

This study employed a quantitative, non-experimental research design utilizing descriptive-correlational

techniques to examine the relationship among the variables. The target population are the enrolled students from private higher education institution consisting 632 in the second semester of academic 2024- 2025 and applied Taro Yamane's formula to arrive an appropriate sample size of 245. This sampling technique was appropriate since the population of the respondents are known. Respondents were captured with the employment of simple random technique through survey. A digital random number generator was then utilized

to select 245 unique numbers within this range, ensuring that every student had an equal and independent chance of selection. The survey questionnaires were subsequently distributed exclusively to the students whose assigned numbers matched the generated random sequence until the target sample size was successfully reached.

The adapted two-part survey questionnaire was validated by 3 experts with masters and doctorate degree. After complying with the experts' comments the survey questionnaire was tested in another population for reliability test and passed its internal consistency of 0.70 Cronbach's alpha.

The collected data was processed with appropriate statistical treatment. Prior to the employment of statistical tool, assumptions were tested and passed the normality tests using Kolmogorov-Sminov and Shapiro Wilk test, no multicollineriaty where Variance Inflation Factor was below the computed tolerance, and no autocorrelation. Thus, data were processed for statistical treatment using Mean, Standard Deviation, Pearson Product Moment Correlation Coefficient, and Linear Regression, tested at a 0.05 level of significance.

## RESULTS AND DISCUSSION

The findings revealed that the overall level of environmental practices among the college students was high, with a mean score of 4.08, indicating that these practices are often manifested. Specifically, the indicator for practices on the need to solve environmental problems received the highest mean score of 4.22, interpreted as very high, while awareness of environmental concepts scored the lowest at 3.98, which is still considered high. These results align with previous studies indicating that environmental knowledge and awareness foster strong pro-environmental behavior and a deeper commitment to sustainability.

### Level of Environmental Practices

Presented in Table 1 is the level of environmental practices among college students, which yielded an overall mean score of 4.08 (SD = 0.55), descriptively interpreted as a high level. This overarching result demonstrates that environmental practices are frequently and consistently integrated into the respondents' daily routines.

| Indicator | SD | Mean | Descriptive Level |
|---|---|---|---|
| 1. Awareness of Environmental Concepts | 0.58 | 3.98 | High |
| 2. Awareness of Environmental Issues | 0.67 | 4.03 | High |
| 3. Practices on the Need to Solve Environmental Problems | 0.61 | 4.22 | Very High |
| **Overall** | **0.55** | **4.08** | **High** |

The indicators reveals that 'Practices on the Need to Solve Environmental Problems' obtained the highest evaluation, with a mean score of 4.22 (SD = 0.61), interpreted as a very high level. This indicates that proactive problem-solving behavior is an ongoing, deeply ingrained manifestation among the students, highlighting a strong sense of personal responsibility and agency toward environmental mitigation. The relatively narrow standard deviation further confirms a tight consensus among the respondents regarding their commitment to active problem-solving.

Conversely, 'Awareness of Environmental Concepts' registered the lowest evaluation with a mean score of 3.98 (SD = 0.58). While still descriptively high, this lower ranking reveals a critical cognitive-behavioral paradox within the findings: the students' practical drive to solve environmental crises outpaces their explicit mastery of core environmental concepts and underlying definitions. This implies that while the respondents are highly action-oriented and eager to implement solutions, their behaviors may be driven more by generalized

environmental concern or social conditioning rather than a deep, technical understanding of ecological frameworks. Consequently, targeted educational interventions focusing on conceptual foundations are necessary to fully align the students' practical enthusiasm with precise, knowledge-driven environmental strategies.

Moreover, the study by Jamaludin et al. (2023) supports this, emphasizing that college students are crucial agents of change whose engagement in environmental initiatives can create a ripple effect, extending eco-friendly practices from campuses to homes and broader communities. This highlights the significant role of educational institutions in fostering practical environmental behaviors among students. The findings also highlight the importance of awareness of environmental concepts in environmental practices, emphasizing the students' understanding of the environment's condition. Awareness of environmental 39 concepts is important in environmental practices because it guides responsible and sustainable actions.

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As Rogayan et al. (2019) noted, students have a strong awareness of environmental concepts and issues and frequently engage in actions to address environmental problems. The study suggests implementing information dissemination programs and ecological management plans to enhance students' dedication to environmental conservation. Furthermore, Makhtar et al. (2021) also found that university students generally possess high levels of environmental awareness and knowledge, which forms a strong basis for promoting sustainable practices.

However, they also noted that this awareness does not always translate directly into consistent pro environmental behaviors, suggesting a need for more targeted interventions that bridge the knowledge-action gap. Regarding awareness of environmental issues, Calculli et al. (2021) conducted a case study evaluating people's awareness of climate change and 40 environmental issues, finding that younger generations are not only knowledgeable but also proactive in adopting restoration efforts. This reinforces the idea that students' awareness of specific environmental problems is a crucial component of their overall environmental practices, motivating them to take action.

The results of the practices on the need to solve environmental problems under the variable of environmental practices of college students align with the findings of Portugal Silva et al. (2025), who emphasize that participatory engagement in real-world environmental problem-solving promotes both individual and collective agency, which in turn fosters environmental responsibility and sustainable behavior. Moreover, Sehar et al. (2025) found that environmental knowledge, consciousness, and social influence together significantly predict pro- environmental attitudes, demonstrating how participation in environmental practices within a supportive environment cultivates greater environmental responsibility.

**Level of Environmental Practices**

Presented in Table 2 is the level of Household Green Purchasing Behavior among college students at a private higher education institution. The data reveals an overall mean score of 4.15 (SD = .60), indicating a high level of engagement in environmental practices and demonstrating that students frequently manifest green purchasing behaviors within their households. A closer examination of the indicators reveals that 'Attitude' yielded the highest mean score of 4.23 (SD = .64), which translates to a very high descriptive level. This suggests a powerful, foundational cognitive alignment among the respondents, who strongly believe in the ecological importance of sustainable purchasing. Furthermore, the low standard deviations across all indicators reflect a high degree of consensus and homogeneity in the respondents' viewpoints.

Conversely, 'Perceived Behavioral Control' registered the lowest mean score at 4.11 (SD = .71), which remains high but highlights a critical nuance in the data. This slight drop, paired with a higher standard deviation, indicates greater variance in students' actual capacity to act on their positive attitudes. It signals that while environmental intent and social pressures ('Subjective Norm', M = 4.12; 'Intention', M = 4.13) are robust, students' execution is actively constrained by external systemic barriers, such as the premium pricing of eco-

friendly goods, limited student budgets, or a lack of local accessibility to sustainable products. Consequently, while the psychological disposition toward green purchasing is firmly established, operationalizing these habits remains subject to economic and market constraints.

**Table 2. Level of Environmental Practices**

| Indicator | SD | Mean | Descriptive Level |
|---|---|---|---|
| 1. Attitude | 0.64 | 4.23 | High |
| 2. Subjective Norm | 0.72 | 4.12 | High |
| 3. Perceived Behavioral Control | 0.71 | 4.11 | High |
| 4. Intention | 0.68 | 4.13 | High |
| **Overall** | **0.6** | **4.15** | **High** |

**Significant Relationship between the Levels of Environmental Practices and Household Green Purchasing Behavior**

Pearson Correlation test showed an overall score of 0.763 with a p-value of 0.000. This proves there is a strong, positive link between environmental habits and green buying habits, which rejects the null hypothesis. This means that students with better environmental awareness and habits are more likely to buy eco-friendly things for their homes. Explicitly, the indicators under environmental practices have the following highest and lowest R-values: Practices on the Need to Solve Environmental Problems has an R-value of 0.784, which is the highest, indicating a strong positive correlation with household green purchasing behavior.

Meanwhile, Awareness of Environmental Issues has the lowest R-value of 0.579, indicating a moderate positive correlation with household green purchasing behavior. Similarly, for the indicators under household green purchasing behavior, Intentions has the highest R-value of 0.682, indicating a strong positive correlation with environmental practices. On the other hand, Perceived Behavioral Control has the lowest R-value of 0.646, indicating a moderate positive correlation with environmental practices.

The overall result signifies a relationship between environmental practices and household green purchasing behavior, indicating that students who demonstrated higher levels of environmental awareness and sustainable practices were more likely to engage in eco-friendly purchasing decisions at home. Liu, Teng, and Han (2020) found that students with strong environmental knowledge develop pro-environmental attitudes, which in turn increase the likelihood of adopting sustainable behaviors. Nagarajan et al. (2022) also emphasize that peer influence, coupled with environmental knowledge, significantly increases consumers' intentions to purchase green products. Additionally, Wijekoon and Sabri (2021) further highlight that personal norms and perceived effectiveness significantly impact eco-friendly consumption habits, reinforcing the link between environmental practices and purchasing behavior.

This result affirms the proposition of Yang et al. (2023), where recent studies have identified a notable correlation between individuals' concern for the environment and their heightened responsiveness to ecological issues. This heightened awareness tends to foster a stronger tendency toward making green purchases without external prompting (Alghamdi & Agag, 2024). Moreover, Rogayan et al. (2019) highlighted that students demonstrate strong awareness of environmental concepts and are actively engaged in addressing environmental issues. The findings indicate a moderate link between their environmental awareness and corresponding actions, coupled with a high level of commitment to making a difference.

**Table 3. Significant Relationship between Environmental Practices and Household Green Purchasing Behavior**

| | | **Green Purchasing Behavior** | | | | |
|---|---|---|---|---|---|---|
| Environmental Practices | | Attitude | Subjective Norm | Perceived Behavioral Control | Intention | Overall |
| Awareness of Environmental; Concepts | Pearson Correlation | .573** | .578** | .553** | .605** | .663** |
| | Sig. (2-tailed) | 0 | 0 | 0 | 0 | 0 |
| Awareness of Environmental Issues | Pearson Correlation | 483** | .506** | .479** | .545** | **.579**** |
| | Sig. (2-tailed) | 0 | 0 | 0 | 0 | 0 |
| Practices on the need to solve Environmental problems | Pearson Correlation | .692** | .692** | .683** | .658** | **.784**** |
| | Sig. (2-tailed) | 0 | 0 | 0 | 0 | 0 |
| Overall | Pearson Correlation | **.658***** | **.669**** | **.646**** | **.682**** | **.763**** |
| | Sig. (2-tailed) | 0 | 0 | 0 | 0 | 0 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | | | |
| *. Correlation is significant at the 0.05 level (2-tailed). | | | | | | |

This study is grounded in three key theoretical frameworks. Ajzen's Theory of Planned Behavior (1985) explains that attitudes, subjective norms, and perceived behavioral control influence consumer decisions. In this study, students' attitudes toward environmental sustainability, social pressures, and perceived ability to purchase green products collectively shape their household green purchasing behavior. Schwartz's Norm Activation Model (1977) further supports these findings by emphasizing that personal norms activated through awareness and perceived responsibility motivate environmentally friendly actions.

Finally, Stern's Value-Belief-Norm Theory (2000) suggests that students' values and beliefs about environmental conservation influence both their sustainability practices and purchasing decisions, demonstrating a broader link between environmental consciousness and consumer behavior. Considering the relationship between environmental practices and household green purchasing behavior, statistical results show that intention has the strongest correlation among purchasing behavior indicators, suggesting that students who intend to make green purchases are more likely to follow through with their actions. In contrast, perceived behavioral control exhibited a weaker correlation, indicating that financial constraints or product availability may limit students' ability to purchase sustainable products, even if they have strong environmental awareness.

The study implies that students who actively engage in environmental practices are more likely to translate their knowledge and awareness into meaningful household purchasing behaviors. However, while the findings support a strong correlation, they do not establish direct action. Future research should consider external factors such as family influence, economic barriers, and accessibility of green products. Additionally, educational initiatives should not only promote awareness but also focus on behavioral interventions that address real- world purchasing challenges. By doing so, institutions can foster a culture of sustainability that extends beyond the classroom into students' daily lives.A regression test showed that environmental habits explained 64.50 percent of the reasons behind green buying habits. All the observed environmental habits greatly affected buying choices, with the action of solving environmental problems being the biggest reason. Being exposed to eco-friendly habits and knowing more about them lead to these green buying choices.

**Significant Influence of Environmental Problems on Household Green Purchasing Behavior**

Presented in Table 4 is the output of the regression analysis, which aims to examine the influence of environmental practices on the household green purchasing behavior of college students. The results indicate that environmental practices significantly influence household green purchasing behavior, leading to the rejection of the null hypothesis.

Results revealed that the adjusted r2 = 0.6450 means that environmental practices contributed 64.50 percent of the variance explaining household green purchasing behavior. The remaining 34.50 percent are unaccounted practices outside of the scope of the study. The F=148.665.44, $p<0.05$, means that the combination of environmental practices significantly influences the household green purchasing behavior among respondents.

Moreover, all the practices observed significantly influence the household green purchasing behavior among respondents. This means that a unit increase of awareness of environmental concepts, awareness of environmental issues, and practices on the need to solve environmental problems can significantly increase household green purchasing behavior among respondents at 0.136, 0.122, and 0.600 units, respectively.

**Table 4. Significant Influence of Environmental Practices on Household Green Purchasing Behavior**

| Predictors | b | Beta | t | Sig |
|---|---|---|---|---|
| Constant | 0.58 | | 3.338 | 0.001 |
| Awareness of Environmental Concepts | 0.136 | 0.132 | 1.982 | 0.049 |
| Awareness of Environmental Issues | 0.122 | 0.137 | 2.379 | 0.018 |
| Practices on the Need to Solve Environmental Problems | 0.6 | 0.615 | 11.534 | 0 |
| Adjusted r2 | 64.50% | | | |
| F | 148.67 | | | |
| p | 0 | | | |

Thus the resulting regression equation is:

Household Green Purchasing Behavior = 0.580 (Constant) + 0.136 (Awareness of Environmental Concepts) + 0.122 (Awareness of Environmental Issues) + 0.600 (Practices on the Need to Solve Environmental Problems)

The study implies that among the indicators of environmental practices, the strongest predictor of household green purchasing behavior is the practice of actively addressing environmental problems. Additionally, awareness of environmental concepts and issues has a significant positive effect on students' green purchasing behavior at home.

In addition, the abovementioned findings are supported by Yang and Chai (2022), who found that when consumers are more informed about green products, habitual exposure to eco-friendly practices contributes to higher adoption rates of sustainable products. Similarly, He et al. (2024) highlight that subjective norms, attitudes, and personal norms significantly influence college students' intentions to purchase green food products, demonstrating how environmental values, especially those reinforced in households and through peer groups, drive eco-friendly purchasing decisions.

Another study by Yang and Chai (2022), supported the results of this investigation, where they found that when consumers are more informed about green products, habitual exposure to eco-friendly practices contributes to higher adoption rates of sustainable products. Similarly, He et al. (2024) highlight that subjective norms, attitudes, and personal norms significantly influence college students' intentions to purchase green food products, demonstrating how environmental values, especially those reinforced in households and through peer groups, drive eco-friendly purchasing decisions.

## CONCLUSION AND RECOMMENDATIONS

The study concludes that college students at a higher education institution demonstrate a high level of environmental practices and household green purchasing behavior. A significant positive relationship exists between these two variables, signifying that students who are actively engaged in environmental practices are more likely to adopt sustainable purchasing habits at home. Furthermore, all domains of environmental practices significantly influence household green purchasing behavior, with actions taken to solve environmental problems serving as the strongest predictor.

Based on these conclusions, it is recommended that Commission on Higher Education officials may issue memorandums to encourage the integration of sustainability-focused programs into educational curricula to build foundational habits. School administrators should implement practical initiatives, such as sustainability campaigns, waste reduction programs, and green innovation projects, to foster active student involvement and recognize eco-friendly actions. Local community partners and organizations are encouraged to collaborate with educational institutions by hosting workshops and clean-up drives to reinforce these green practices outside the school setting. Finally, students should continuously participate in environmental programs and take the initiative to make informed, eco-friendly choices to promote a sustainable environment within their households.

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# APPENDIX A.

**Part 1. Environmental Practices**

| Awareness of Environmental Concepts<br>*As a student, I am aware that…* | SD | Mean | Descriptive Level |
|---|---|---|---|
| 1. agenda 21 is a plan of the United Nations in which large developing countries promised to develop their industries with an eye toward protecting the environment. | 1.06 | 3.61 | Moderate |
| 2. rainforests are the world's most biologically diverse ecosystems. | 0.87 | 4.04 | High |
| 3. global warming is brought about by rising levels of heat-trapping gases, known as greenhouse gases, in the atmosphere | 0.8 | 4.19 | High |
| 4. the ozone layer of the atmosphere protects life on Earth by absorbing harmful ultraviolet radiation from the Sun. | 0.84 | 4.17 | High |
| 5. sustainable development means to improve living conditions without destroying the environment. | 0.81 | 4.23 | Very High |
| 6. desertification is the decline in the biological or economic productivity of the soil in dry and semi-dry areas resulting from various factors including human activities. | 0.8 | 3.97 | High |
| 7. acid rain is a form of air pollution in which airborne acids produced by electric utility plants and other sources fall to Earth in distant regions | 0.87 | 3.95 | High |
| 8. indigenous peoples are those who have inhabited and made their living directly off the same environment for hundreds or thousands of years. | 0.81 | 4.09 | High |
| 9. there is only one percent of all the water in the world that is available for drinking. | 1.05 | 3.58 | High |
| 10. according to the Philippine Constitution, the state's fundamental responsibility is to defend and enhance the people's right to a balanced and healthy environment in accordance with the rhythm and harmony of nature. | 0.88 | 3.93 | High |
| **Awareness of Environmental Issues**<br>*As a student, I am aware that…* | | | |
| 11. the environment is currently dealing with a large number of environmental difficulties and problems. | 0.8 | 4.25 | Very High |
| 12. Davao Region is heavily impacted by Super Typhoon Pablo is considered one of the most powerful typhoons in history. | 0.91 | 3.93 | High |

| | | | |
|---|---|---|---|
| 13. Davao is greatly affected by a strong earthquake which caused colossal destruction in the province's old-age churches and other structures. | 0.87 | 3.95 | High |
| 14. Davao de Oro was hit by one of the most devastating landslides in history, killing nearly hundreds of people. | 0.97 | 3.9 | High |
| 15. climate change is highly visible in every corner of the world, such as extreme heat experienced by Australia and excessive coldness in Canada. | 0.85 | 4.1 | High |
| **Practices on the Need to Solve Environmental Problems**<br>*As a student, I…* | | | |
| 16. turn off the lights and unplug appliances when not in use to save electricity. | 0.81 | 4.34 | Very High |
| 17. harness solar energy, a radiation produced by nuclear fusion reactions deep in the Sun's core. | 0.88 | 3.97 | High |
| 18. plant endemic trees in the vacant areas in the community to prevent soil erosion and get more oxygen to breathe. | 0.86 | 4.09 | High |
| 19. avoid the use of plastic and Styrofoam which cause harm not only to the environment but also to human health. | 0.85 | 4.28 | Very High |
| 20. avoid throwing garbage anywhere and learn the science of segregation of solid wastes. | 0.77 | 4.39 | Very High |
| 21. keep a good food ethics and avoid eating with left-overs and wasting drinking water | 0.81 | 4.28 | Very High |
| 22. lessen the use of detergents for they tend to create foam in gutters and in sewage-disposal plants and even appeared in naturally occurring ground and surface waters. | 0.86 | 4.1 | High |
| 23. practice the science of composting which produces partially decomposed organic material used in gardening to improve soil and enhance plant growth. | 0.79 | 4.14 | High |
| 24. recycle and reuse non-biodegradable materials to lessen solid wastes. | 0.77 | 4.33 | Very High |

**Part II. Household Green Purchasing Behavior**

| **Attitude**<br>*In our household, I…* | **SD** | **Mean** | **Descriptive Level** |
|---|---|---|---|
| 26. purchase sustainable products that contributes to environmental protection | 0.74 | 4.18 | High |
| 27. specifically buying environmentally friendly products, and believe that it is a good way to lower pollution | 0.74 | 4.2 | Very High |
| 28. believe climate change must be addressed immediately. | 0.75 | 4.31 | Very High |
| **Subjective Norms**<br>*In our household…* | | | |
| 29. most of my family members believe that we should utilize sustainable products. | 0.86 | 4.14 | High |
| 30. we feel a personal obligation to buy sustainable products. | 0.83 | 4.14 | High |
| 31. we prefer buying products that are produced in a sustainable way. | 0.81 | 4.13 | High |
| 32. we prefer to purchase "green" household products. | 0.85 | 4.08 | High |
| **Perceived Behavioral Control**<br>*In our household…* | | | |
| 33. if we wanted to, we could easily buy an environmentally friendly household. | 0.79 | 4.08 | High |
| 34. if we choose to, we can afford to buy sustainable products. | 0.82 | 4.12 | High |

| | | | |
|---|---|---|---|
| 35. we feel that sustainable products are available to us. | 0.83 | 4.13 | High |
| **Intentions** | | | |
| *In our household…* | | | |
| 36. we intend to purchase environmentally friendly products. | 0.82 | 4.12 | High |
| 37. we intend to buy products that are produced in a sustainable way. | 0.76 | 4.13 | High |
| 38. we intend to buy "green" products whenever possible. | 0.77 | 4.11 | High |
| 39. we are willing to put more effort into purchasing environmentally friendly products. | 0.83 | 4.17 | High |