



Eco-Anxiety and Pro-Environmental Intentions among Stakeholders of Pamantasan Ng Cabuyao

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Abstract

This study investigated the levels of eco-anxiety and pro-environmental intentions, and the mediating roles of Theory of Planned Behavior (TPB) and Value-Belief-Norm (VBN) constructs, among stakeholders of Pamantasan ng Cabuyao (PnC). Utilizing a descriptive-correlational design with stratified random sampling, data were gathered from 795 administrators, faculty, students, and student leaders. Findings revealed uniformly high levels of eco-anxiety, pro-environmental intentions, and mediating constructs across all groups. Statistical analysis (Pearson's r) showed significant positive correlations ($p < 0.01$) between eco-anxiety and pro-environmental intentions. The results indicate that eco-anxiety serves as a motivational driver rather than an inhibitor of pro-environmental action. This evidence supports enhancing PnC's environmental programs through an integrated eco-anxiety literacy and intervention scheme.

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1. Introduction

Climate change has become one of the defining crises of the twenty-first century, altering not only the world's ecosystems but also the psychological state of the people living in it. Clayton *et al.* (2017) ^[2] describe eco-anxiety as the chronic fear and distress over the deteriorating state of the planet, a phenomenon that can act as both a source of psychological impairment and a stimulus for positive environmental behavior (Hickman *et al.*, 2024) ^[4]. The Philippines is among the most disaster-prone nations in the world, with 74% of the population at risk from climate impacts (World Risk Report, 2024) ^[13], and Filipino children are reported to be among the most eco-anxious globally (UNICEF, 2023) ^[11]. This convergence of extreme climate vulnerability and documented eco-anxiety underscores the urgency of understanding how such distress shapes pro-environmental behavioral intentions.

This study is anchored on the Theory of Planned Behavior (TPB; Ajzen, 1991) ^[1], which explains pro-environmental intention through attitude, subjective norms, and perceived behavioral control, and the Value-Belief-Norm Theory (VBN; Stern, 2000) ^[10], which accounts for the moral-normative pathway from environmental values to personal norms. Sharma *et al.* (2024) ^[8] found that the integration of TPB and VBN provided the strongest explanation of pro-environmental behavior among college students, which supports placing eco-anxiety within this combined framework.

As a public state university situated within the industrializing and environmentally stressed City of Cabuyao, Pamantasan ng Cabuyao (PnC) provides a timely context for this inquiry. This study therefore examined the levels of eco-anxiety and pro-environmental intentions among PnC stakeholders (administrators, faculty, students, and student leaders), the relationship between these two variables, the roles of TPB and VBN constructs as mediating variables, and whether these levels differ significantly across demographic groupings. The findings are intended to inform an evidence-based enhancement of PnC's existing environmental programming.

2. Methodology

2.1. Research Design

This study employed a descriptive-correlational design with comparative analysis. The descriptive component established baseline levels of eco-anxiety and pro-environmental intentions among PnC stakeholders; the correlational component examined the relationship between these variables and the mediating TPB and VBN constructs without ethically sensitive manipulation; and the comparative component examined whether these levels differed significantly across stakeholder groups and demographic segments.

2.2. Research Locale

The study was conducted at Pamantasan ng Cabuyao (PnC), a local university owned and operated by the City Government of Cabuyao, Laguna, within the CALABARZON region. As the sole public tertiary institution in a highly industrialized and urbanizing city, PnC serves a broad, cross-sectional stakeholder community situated in an area facing ongoing industrial pollution, land conversion, and urban sprawl, conditions likely to heighten environmental awareness and eco-anxiety among its stakeholders.

2.3. Population and Sampling

The population consisted of 8,515 active PnC stakeholders for School Year 2025–2026: 7,718 students, 460 student leaders, 264 faculty members, and 73 administrators. A pilot test involving 200 stakeholders (94 students, 58 student leaders, 36 faculty, 12 administrators) was conducted to establish instrument reliability prior to main data collection; these individuals were excluded from the final analysis. Using the Raosoft sample size calculator at a 95% confidence level and a 5% margin of error, a final sample of 795 respondents was drawn through stratified random sampling to ensure proportional representation across stakeholder groups (Table 1).

Table 1: Population and Sample Size of Respondents

Stakeholders	Population	Sample
Administrators	73	62
Faculty	264	157
Students	7,718	366
Student Leaders	460	210
Total	8,515	795

2.4. Research Instrumentation

Data were gathered using a five-part self-administered questionnaire: a demographic profile form, the adapted Hogg Eco-Anxiety Scale (HEAS-13; Hogg *et al.*, 2021) ^[5], a researcher-made Pro-Environmental Intentions Questionnaire (20 items), and researcher-made TPB (15 items) and VBN (10 items) construct scales. All instruments were validated by a panel of experts in Psychology, statistics, and research, and underwent pilot testing to confirm psychometric integrity. As shown in Table 2, all 13 scale/sub-dimension scores yielded Cronbach's alpha values between 0.71 and 0.88, indicating acceptable to good internal consistency reliability for every construct measured.

Table 2: Reliability Analysis (Cronbach's α)

Scale / Sub-dimension	α
Affective Symptoms	0.720
Rumination	0.720
Behavioral Symptoms	0.720
Anxiety About Personal Impact	0.720
Waste Reduction Intentions	0.713
Energy Conservation Intentions	0.750
Sustainable Consumption Intentions	0.759
Environmental Advocacy Intentions	0.754
Attitude Toward Pro-Env. Behavior	0.770
Subjective Norms	0.777
Perceived Behavioral Control	0.789
Environmental Values	0.880
Personal Norms	0.791

2.5. Data Gathering Procedure

Written permission was secured from the University President prior to data collection. Questionnaires were administered through Google Forms, distributed via in-person administration, group chats, department Facebook pages, and institutional email. Respondents were informed of the study's purpose, assured of confidentiality, and required to indicate informed (and, where applicable, parental) consent through a mandatory checkbox before proceeding. Responses were recorded automatically, tabulated, and analyzed once the target sample was reached.

2.6. Ethical Consideration

The study adhered to the principles of Respect for Persons, Beneficence, Justice, Confidentiality, and Anonymity, in compliance with the Data Privacy Act of 2012 (RA 10173). Participation was entirely voluntary, with no coercive measures used; participants could decline or withdraw at any time without penalty. Responses were coded numerically and reported only in aggregate form. AI tools (Perplexity AI, QuillBot) were used solely to assist in source verification and language refinement; all substantive content, analysis, and interpretation remain the sole responsibility of the researcher.

3. Results and Discussion

This section presents the findings on the profile of respondents, the levels of eco-anxiety and pro-environmental intentions, the mediating TPB and VBN constructs, the relationships among these variables, group differences, and the resulting proposed intervention scheme.

3.1. Profile of the Respondents

Table 3: Profile of the Respondents (N = 795)

Category	n (%)
Age, Mean	26 years
Female	435 (54.7%)
Male	354 (44.5%)
Prefer not to say	6 (0.8%)
Students	366 (47%)
Student Leaders	210 (29%)
Faculty	157 (18%)
Administrators	62 (6%)

The 795 respondents had a mean age of 26 and were predominantly female (54.7%), consistent with broader Philippine higher-education enrollment trends (Commission on Higher Education, 2022) [3]. Students formed the largest stakeholder group (47%), followed by student leaders (29%), faculty (18%), and administrators (6%). Second Year students (19%) and Master's degree holders (18%) were the most represented within their respective sub-levels, supporting meaningful cross-group comparison.

3.2. Level of Eco-Anxiety Among PNC Stakeholders

Table 4: Level of Eco-Anxiety Among PNC Stakeholders (Weighted Mean)

Dimension	Admin	Faculty	Student	S. Leader
Affective Symptoms	3.68	3.62	3.72	3.70
Rumination	3.74	3.52	3.61	3.56
Behavioral Symptoms	3.48	3.61	3.56	3.54
Anxiety – Personal Impact	3.66	3.59	3.56	3.60

All values fall within the High range (3.41–4.20) on a 5-point scale.

All four stakeholder groups reported High eco-anxiety across all sub-dimensions, with weighted means ranging from 3.48 to 3.74. Administrators scored highest in Rumination ($\bar{x}$ = 3.74) and Anxiety About Personal Impact ($\bar{x}$ = 3.66), while Students led in Affective Symptoms ($\bar{x}$ = 3.72). This uniformly elevated pattern is consistent with Hogg *et al.*

3.4. Level of the Mediating Variables (TPB and VBN)

Table 6: Level of TPB and VBN Constructs Among PNC Stakeholders (Weighted Mean)

Construct	Admin	Faculty	Student	S. Leader
Attitude (TPB)	4.13	4.20	4.19	4.14
Subjective Norms (TPB)	4.15	4.19	4.15	4.11
Perceived Behavioral Control	4.10	4.16	4.20	4.11
Environmental Values (VBN)	4.36	4.36	4.31	4.35
Personal Norms (VBN)	4.36	4.32	4.33	4.37

4.21–5.00 = Very High; 3.41–4.20 = High.

All five mediating constructs were rated High to Very High ($\bar{x}$ = 4.10–4.37). The TPB constructs (attitude, subjective norms, perceived behavioral control) were consistently High, while the VBN constructs — environmental values and personal norms — reached Very High ratings across all groups, representing the strongest endorsements in the entire study. This pattern aligns with Stern's (2000) [10] VBN framework, in which internalized biospheric values form the strongest and most stable motivational foundation for pro-environmental behavior.

3.6. Relationship Between Eco-Anxiety and Pro-Environmental Intentions

All 16 pairings between the four eco-anxiety sub-dimensions and four pro-environmental intention sub-dimensions yielded statistically significant, positive Pearson correlations (r = 0.23–0.33, p < .01), leading to rejection of Ho1. The strongest association was between Behavioral Symptoms and Sustainable Consumption Intentions (r = 0.33, p < .01), while Rumination correlated most strongly with Waste Reduction Intentions (r = 0.29, p < .01). These findings mirror the 2026 meta-analysis by Pinto *et al.* across 34,206 participants, which found a small-to-moderate positive eco-anxiety–behavior association (r = 0.24), and suggest that, in this institutional context, eco-anxiety operates as a motivational

(2021) [5], who conceptualized eco-anxiety as a multidimensional response, and reflects the broader Philippine finding that climate distress is deeply and widely felt (UNICEF, 2023) [11].

3.3. Level of Pro-Environmental Intentions Among PNC Stakeholders

Table 5: Level of Pro-Environmental Intentions Among PNC Stakeholders (Weighted Mean)

Dimension	Admin	Faculty	Student	S. Leader
Waste Reduction	3.69	3.62	3.68	3.67
Energy Conservation	3.69	3.69	3.67	3.69
Sustainable Consumption	3.66	3.59	3.65	3.67
Environmental Advocacy	3.67	3.59	3.70	3.66

All values fall within the High range (3.41–4.20) on a 5-point scale.

All stakeholder groups likewise reported High pro-environmental intentions across all behavioral domains ($\bar{x}$ = 3.59–3.70). Students recorded the highest single score in Environmental Advocacy ($\bar{x}$ = 3.70), while Faculty and Student Leaders jointly led in Energy Conservation ($\bar{x}$ = 3.69). This is consistent with Varni *et al.* (2024) [12], who found that sustainability-oriented campus exposure elevates behavioral intention across waste, energy, and advocacy domains alike.

driver rather than a paralyzing force (Kühner *et al.*, 2024) [6].

3.7. Relationship Between Eco-Anxiety and the Mediating Variables

Affective Symptoms correlated significantly and positively with Attitude (r = 0.12, p < .05) and Perceived Behavioral Control (r = 0.15, p < .01), leading to partial rejection of Ho2. Anxiety About Personal Impact showed a small but significant negative correlation with Environmental Values (r = -0.07, p < .05), suggesting that deeply held environmental values may buffer personal eco-anxiety. Environmental Values and Personal Norms were themselves strongly intercorrelated (r = 0.73, p < .01), as were the TPB constructs (r = 0.67–0.71, p < .01), confirming the theoretical coherence of both frameworks (Ajzen, 1991; Stern, 2000) [1, 10] within the PnC sample.

3.8. Differences Across Demographic Groups

No statistically significant differences in eco-anxiety were found across sex (p > .24), stakeholder role (p > .24), or educational attainment (p > .30), leading to acceptance of Ho3. Pro-environmental intentions likewise showed no significant differences across sex or role, with the sole exception of Energy Conservation Intentions across educational attainment (p = .02); Ho4 was otherwise

accepted. These results indicate that eco-anxiety and pro-environmental motivation are broadly and uniformly distributed across the PnC community, supporting universal rather than group-targeted institutional programming (Steele, 2025) ^[9].

Table 7: Proposed Intervention Scheme

Component	Key Enhancements
Enhanced PnC Kalikasan Activities	Structured Zero-Waste Clean-Up Program (segregation, composting, waste audits, mindfulness debriefs); Green Campus Reforestation Program (tree adoption, Environmental Advocacy Week, Green Campus Policy)
New Support Programs	Environmental Information & Dialogue Platform (bulletins, stakeholder forums, Eco-News team); Eco-Anxiety Literacy & Wellness Support Program (psychoeducation, Green Wellness Corner)

This framework treats eco-anxiety not merely as a psychological concern but as a variable that actively shapes the depth of pro-environmental intention, capitalizing on stakeholders' strong environmental values while sustaining their psychological wellbeing alongside their environmental action.

4. Discussion

PnC stakeholders demonstrated uniformly High eco-anxiety and pro-environmental intentions, underpinned by High to Very High psychological readiness across TPB and VBN constructs. The consistent, significant positive relationship between eco-anxiety and pro-environmental intentions confirms that eco-anxiety functions as a motivational driver rather than an inhibitor within this institutional context, while the absence of significant demographic differences supports universal, inclusive environmental programming. It is recommended that PnC institutionalize the proposed Environmental Mental Health and Action Program, that faculty integrate sustainability into teaching and service, and that future researchers explore mixed-methods approaches across broader Philippine higher-education contexts to further validate the eco-anxiety-to-intention pathway identified in this study.

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3.9. Proposed Intervention Scheme

Guided by these findings, a two-component intervention scheme is proposed to enhance PnC's existing PnC Kalikasan Program (Table 7).

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