Green Practices of Students in Higher Education Institution

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ABSTRACT

Sustainable practices in Philippine higher education remain inconsistent despite CHED support for UN SDGs 12 and 13. This study explored green behaviors among 170 Bachelor of Science in Tourism Management students at a state university in Negros Occidental (AY 2023–2024). Using stratified random sampling, data were collected via a validated Likert questionnaire (Cronbach's $\alpha = 0.769$) and analyzed with t-tests and ANOVA across involvement, water and energy conservation, and waste management. Students frequently practiced green behaviors, excelling in energy and water conservation but showing minimal club participation. Differences by sex and age were not significant. Findings, grounded in the Theory of Planned Behavior, suggest a preference for individual action and highlight the need for structured clubs, curriculum integration, reporting systems, and faculty modeling to strengthen sustainability in HEIs.

Keywords: green practices, sustainability, higher education, water conservation, student involvement, waste management

INTRODUCTION

Universities worldwide face growing pressure to implement sustainable practices amid climate crisis, serving as primary incubators of environmentally responsible future leaders (United Nations, 2015). In the Philippines, CHED CMO 55 requires HEIs to integrate sustainability across all programs compelling state universities to embed green practices across curricula particularly within tourism management programs critical for sustainable hospitality development.

Despite robust policy frameworks, empirical evidence reveals persistent implementation gaps, especially among regional universities enrolling most Filipino college students (CHED, 2023). Urban-centric studies document institutional policy adoption (Perez & Sison, 2020; Alcantara, 2021) but neglect behavioral patterns among tourism students in regional contexts like Western Visayas, where socio-economic diversity shapes unique sustainability challenges.

Three critical research gaps persist: first, the absence of domain-specific data distinguishing student involvement from operational conservation practices; second, unexamined demographic moderators (sex, age) influencing green behavior adoption; and third, unclear behavioral preferences between individual versus institutional engagement mechanisms. Without granular evidence from resource-constrained settings, sustainability interventions risk misalignment with actual student capacities and motivations (Ceulemans et al., 2015).

Anchored in Ajzen's Theory of Planned Behavior (1991), this study maps green practice domains among Bachelor of Science in Tourism Management students at a Negros Occidental state university, identifying precise intervention targets. Findings inform curriculum reform, structured club development, and reporting infrastructure to strengthen sustainability education across Philippine HEIs.

METHODOLOGY

Research Design

Descriptive-comparative quantitative design assessed green practices extent and demographic differences using 4-point Likert scale (1=Never Practice, 4=Always Practice).

Participants

170 BSTM students (58 male, 112 female) from 305 population (Raosoft, 5% margin, 95% confidence). Stratified random sampling by sex/age: 18-20 (n=93), 21-23 (n=61), 24+ (n=16).

Instrument

Researcher-made questionnaire (4 parts: involvement, water, energy, waste) validated by doctoral panel, pilot-tested (Cronbach α=0.769).

Data Gathering

Google Forms with informed consent, distributed via Facebook Messenger per department approval, SPSS analysis. RA 10173 compliant.

Scale Interpretation

3.50-4.00=Always; 2.50-3.49=Often; 1.50-2.49=Rarely; 1.00-1.49=Never.

RESULTS AND DISCUSSION

Student Involvement

Overall M=2.77 (SD=0.688, Often Practice). Highest: environmental education (M=2.94); lowest: club membership (M=2.51). Students prefer institutional activities over voluntary commitments (Ceulemans et al., 2015; Nurkhin et al., 2025).

Table 1. Extent of Student's Green Practices: Student Involvement

SN	Categories	M	Interpretation	SD
1	Overall	2.77	Often Practice	0.688
2	Environmental Education	2.94	Often Practice	0.815
3	Waste Management Activities	2.90	Often Practice	0.826
4	Environmental Club	2.51	Often Practice	0.937
5	Green Spaces Utilization	2.85	Often Practice	0.792
6	Seminars and Training	2.54	Often Practice	0.878
7	Sanitation Program	2.85	Often Practice	0.840
8	Tree Planting	2.82	Often Practice	0.875

Note: 3.50-4.00=Always; 2.50-3.49=Often.

Water Conservation

M=3.12 (SD=0.603). Highest: water savings (M=3.35, Always); lowest: community initiatives (M=2.98). Individual habits exceed collective efforts (Dolnicar & Hurlimann, 2010).

Table 2. Extent of Student's Green Practices: Water Conservation

SN	Categories	M	Interpretation	SD
1	Overall	3.12	Often Practice	0.603
2	I educate myself and others about water conservation	3.21	Often Practice	0.761
3	Participation in community water conservation initiatives	2.98	Often Practice	0.842
4	I always practice water saving	3.35	Always Practice	0.717
5	Reporting water leakage to management	2.84	Often Practice	0.866
6	Closing faucets when water is not in use	3.30	Always Practice	0.776
7	Giving advice to friends regarding water wastage	3.07	Often Practice	0.789
8	Concern for water level and condition	3.22	Often Practice	0.744
9	Willingness to use harvested rainwater	3.07	Often Practice	0.774
10	Reducing water consumption through rainwater collection	3.12	Often Practice	0.791

Note: 3.50 - 4.00 (Always Practice); 2.50 - 3.49 (Often Practice); 1.50 - 2.49 (Rarely Practice); 1.00 - 1.49 (Never Practice)

Energy Conservation

M=3.27 (SD=0.719). Highest: turn off lights (M=3.22); lowest: campaigns (M=2.54). Low-effort behaviors dominate (Torroba Diaz et al., 2023).

Table 3. Extent of Student's Green Practices: Energy Conservation

SN	Categories	M	Interpretation	SD
1	Overall	3.27	Often Practice	0.719
2	Energy conservation programs and campaigns	2.54	Often Practice	0.871
3	Turning off lights when not in use	3.22	Often Practice	0.887
4	Shutting down standby appliances	3.16	Often Practice	0.852
5	Using natural daylight (windows/curtains)	3.19	Often Practice	0.863
6	Preference for LED or energy-efficient bulbs	2.88	Often Practice	0.922
7	Hanging clothes outside (no dryer)	3.21	Often Practice	0.856
8	Buying energy-efficient gadgets	2.95	Often Practice	0.858
9	Using energy-saving technology	2.92	Often Practice	0.884
10	Patronizing electric or hybrid vehicles	2.74	Often Practice	0.939

11	Avoiding the use of gadgets while charging	2.67	Often Practice	0.848

Note: 3.50 - 4.00 (Always Practice); 2.50 - 3.49 (Often Practice); 1.50 - 2.49 (Rarely Practice); 1.00 - 1.49 (Never Practice)

Waste Management

M=3.10 (SD=0.633). Highest: environmental impact awareness (M=3.27); lowest: reporting issues (M=2.86). Infrastructure gaps evident (Hastuti et al., 2024).

Table 4. Extent of Student's Green Practices: Waste Management

SN	Categories	M	Interpretation	SD
1	Overall	3.10	Often Practice	0.633
2	Awareness of waste reduction goals and policies	3.25	Often Practice	0.738
3	Participation in clean-up drives	3.05	Often Practice	0.783
4	Reporting waste disposal issues	2.86	Often Practice	0.816
5	Practicing waste reduction and recycling	3.16	Often Practice	0.733
6	Supporting food waste reduction	3.14	Often Practice	0.764
7	Understanding the impact of improper waste disposal	3.27	Often Practice	0.728
8	Avoiding single-use plastics	3.02	Often Practice	0.784
9	Donating or selling items instead of discarding them	2.95	Often Practice	0.883
10	Bringing a refillable water bottle	3.09	Often Practice	0.834
11	Using unused school materials	3.25	Often Practice	0.738

Note: 3.50 - 4.00 (Always Practice); 2.50 - 3.49 (Often Practice); 1.50 - 2.49 (Rarely Practice); 1.00 - 1.49 (Never Practice)

Demographic Analysis

Sex: No differences (M=2.93 both groups). Females slightly higher in conservation domains. T-tests: all $p>0.05$.

Table 5. Green Practices by Sex

Domain	Male (n=58) M(SD)	Female (n=112) M(SD)
Overall	2.93(0.635)	2.93(0.552)
Involvement	2.77(0.762)	2.77(0.651)
Water	3.10(0.623)	3.14(0.595)
Energy	2.85(0.802)	2.99(0.670)

Waste	3.01(0.651)	3.12(0.627)

Age: 18-20 highest (M=3.01), 24+ lowest (M=2.90). ANOVA: all p>0.05.

Table 6. Green Practices by Age

Student Green Practices	18-20				21-23				24 Above			
	f	*M*	Interpretation	SD	*f*	*M*	Interpretation	SD	*f*	*M*	Interpretation	SD
As a whole	93	3.01	Often Practice	.565	61	2.95	Often Practice	.560	16	2.9	Often Practice	.617
1. Student involvement	93	2.83	Often Practice	0.679	61	2.68	Often Practice	0.660	16	2.76	Often Practice	.845
2. Water conservation	93	3.16	Often Practice	0.569	61	3.12	Often Practice	0.656	16	2.98	Often Practice	.608
3. Energy conservation	93	2.95	Often Practice	0.74	61	2.95	Often Practice	0.699	16	2.85	Often Practice	.705
4. Waste management	93	3.12	Often Practice	0.578	61	3.04	Often Practice	0.708	16	3.02	Often Practice	.691

Note: 3.50 - 4.00 (Always Practice); 2.50 - 3.49 (Often Practice); 1.50 - 2.49 (Rarely Practice); 1.00 - 1.49 (Never Practice)

Table 7. T-test Results by Sex

Variable	t	*p-value*
1. Student Involvement	.026	.979
2. Water Conservation	.422	.674
3. Energy Conservation	-1.170	.245
4. Waste Management	-.114	.267

All p>0.05: Involvement t=0.026(p=0.979), Water t=0.422(p=0.674), Energy t=-1.170(p=0.245), Waste t=-0.114(p=0.267).

Table 8. ANOVA Results by Age

Variable	*f*	*p-value*
1. Student Involvement	.867	.422
2. Water Conservation	.628	.535
3. Energy Conservation	.159	.853
4. Waste Management	.401	.670

All p>0.05: Involvement F=0.867(p=0.422), Water F=0.628(p=0.535), Energy F=0.159(p=0.853), Waste F=0.401(p=0.670).

CONCLUSION

BSTM students consistently engage in green practices (Often Practice range) with strongest performance in water (M=3.12) and energy conservation (M=3.27), preferring individual habits over institutional involvement. No significant sex/age differences confirm uniform sustainability consciousness. Theory of Planned Behavior and Value-Belief-Norm theory affirmed. Institutions must strengthen voluntary participation through clubs, curriculum integration, and reporting infrastructure to cultivate comprehensive environmental stewardship.

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