

A Green Future: Exploring College Students Engagement towards Environment Sustainability

Ms. Adrija Bhattacharyya

Research Scholar, Department of Psychology, Bethune College, Kolkata

Dr. Mohua Chatterjee

Associate Professor, Department of Psychology, Bethune College, Kolkata

Abstract

The present study aimed to assess conservation behaviour of a group of higher education students of West Bengal in respect of sex, level of education, and discipline studied, and to ascertain the relationship of conservation behaviour with environmental attitude. 273 students comprising 125 males and 148 females, 151 pursuing graduation and 122 doing postgraduation, 90, 94 and 89 studying social science, science and humanities respectively were selected from different colleges and universities of West Bengal, following purposive sampling technique. The Pro-nature Conservation Behaviour Scale (Barbett et al., 2020) and the Shortened version of the Environmental Attitude Scale (Milfont and Duckitt, 2010) were administered on the samples, along with a general information schedule. Pearson's product-moment correlation and Three-way Anova were applied. The findings indicated that sex made significant variation in respondents' pro-nature conservation behaviour and all its domains, namely, organized social engagement, individual engagement, wildlife except planting. Significant variation was found regarding level of education, in all domains of conservation behaviour, except planting. However, no significant variation was noted in conservation behaviour based on discipline. The interaction effect of sex and education level was significant in overall conservation behaviour, and individual engagement and wildlife domains. The interaction effect of sex and discipline was also found to be significant in the domain of organized and social engagement. The relationship between pro-nature conservation behaviour and environmental attitude was observed to be positive, but not significant.

Keywords: Pro-nature Conservation Behaviour, Environmental Attitude, Environment, SDG

Introduction

In the pursuit of modernization, we are gradually distancing ourselves from nature and biodiversity, and are overlooking a pressing concern - extinction of biodiversity, which poses a threat to human health and ecological functions (Ceballos et al., 2017, Cardinale et al., 2012; Rockström et al., 2009). Individual actions, such as choices in consumption (Koger and Winter, 2010), management of personal gardens (Gaston et al., 2005), and integration into social processes through participation in voting (Koger and Winter, 2010) influence biodiversity.

Actions involving individual behaviours to support and safeguard wildlife from local to international levels, and preservation of ecosystem, is known as pro-nature conservation behaviours (Barbett, 2020). Regular exposure to everyday nature during childhood (Giusti et al., 2014), time spent in natural settings, exposure to positive role models, and reading about nature foster a sense of connectedness with nature (Stevenson et al., 2014).

As stated by Barbett et al. (2020), pro-environmental behaviour encompasses the positive actions that not

only favour the environment conservation goals but also influence nature conservation. Masud and Kari (2015) observed that demographic variables like age, gender, education, occupation, income, environmental well-being, awareness, and social issues had positive and significant impacts on attitudes towards environmental conservation behaviour. Saulick et al. (2024) found that demographic parameters such as sex, education levels, and age group had an impact on conservation behaviour.

Researchers observed gender differences in environmental citizenship behaviours, with women displaying more consistent ecological attitude and behaviour than men (Siagian et al., 2023, Nepras et al., 2023; Raman, 2016; Medina and Bruno, 2016; Rahman, N. A., 2016; Muderrisoglu et al., 2010; Zelezny et al., 2000). However, Chen et al. (2017), and Sarvestani (2012) reported no differences in the pupils' environmental attitudes and actions in respect of their gender, and Moody-Marshall (2023) found males to possess statistically higher environmental attitude and practice scores than females. Kasapoğlu and Turan (2008) revealed that the undergraduate students had a highly positive environmental attitude but their responses to behaviours were found to be low. Natural Science students had statistically greater environmental attitude and environmental practice scores than Social Science students (Moody-Marshall, 2023). Levels of environmental awareness, concern and behaviour were higher among biological science students than those studying social science, humanities, physical science, and environmental science (Arshad et al., 2020). Additionally, researchers discussed the impact of environmental education on students' environmental views and actions. (Raman, 2016; Rahman, N. A., 2016).

Methodology

Hypotheses

Hypothesis 1: There is no significant variation in conservation behaviour of the respondents in respect of sex.

Hypothesis 1a: There is no significant variations in organized or social engagement dimension of conservation behaviour of the respondents in respect of sex.

Hypothesis 1b: There is no significant variation in individual engagement dimension of conservation behaviour of the respondents in respect of sex.

Hypothesis 1c: There is no significant variation in planting behaviour dimension of conservation behaviour of the respondents in respect of sex.

Hypothesis 1d: There is no significant variation in wildlife dimension of conservation behaviour of the respondents in respect of sex.

Hypothesis 2: There is no significant variation in conservation behaviour of the respondents in respect of level of education.

Hypothesis 2a: There is no significant variation in organized or social engagement dimension of conservation behaviour of the respondents in respect of level of education.

Hypothesis 2b: There is no significant variation in individual engagement dimension of conservation behaviour of the respondents in respect of level of education.

Hypothesis 2c: There is no significant variation in planting behaviour dimension of conservation behaviour of the respondents in respect of level of education.

Hypothesis 2d: There is no significant variation in wildlife dimension of conservation behaviour of the respondents in respect of level of education.

Hypothesis 3: There is no significant variation in conservation behaviour of the respondents in respect of discipline studied.

Hypothesis 3a: There is no significant variation in organized or social engagement dimension of conservation behaviour of the respondents in respect of discipline studied.

Hypothesis 3b: There is no significant variation in individual engagement dimension of conservation behaviour of the respondents in respect of discipline studied.

Hypothesis 3c: There is no significant variation in planting behaviour dimension of conservation behaviour of the respondents in respect of discipline studied.

Hypothesis 3d: There is no significant variation in wildlife dimension of conservation behaviour of the respondents in respect of discipline studied.

Hypothesis 4: There is no significant variation in conservation behaviour of the respondents in respect of interaction between sex and level of education.

Hypothesis 4a: There is no significant variation in organized or social engagement dimension of conservation behaviour of the respondents in respect of interaction between sex and level of education.

Hypothesis 4b: There is no significant variation in individual engagement dimension of conservation behaviour of the respondents in respect of interaction between sex and level of education.

Hypothesis 4c: There is no significant variation in planting behaviour dimension of conservation behaviour of the respondents in respect of interaction between sex and level of education.

Hypothesis 4d: There is no significant variation in wildlife dimension of conservation behaviour of the respondents in respect of interaction between sex and level of education.

Hypothesis 5: There is no significant variation in conservation behaviour of the respondents in respect of interaction between sex and discipline studied.

Hypothesis 5a: There is no significant variation in organized or social engagement dimension of conservation behaviour of the respondents in respect of interaction between sex and discipline studied.

Hypothesis 5b: There is no significant variation in individual engagement dimension of conservation behaviour of the respondents in respect of interaction between sex and discipline studied.

Hypothesis 5c: There is no significant variation in planting behaviour dimension of conservation behaviour of the respondents in respect of interaction between sex and discipline studied.

Hypothesis 5d: There is no significant variation in wildlife dimension of conservation behaviour of the respondents in respect of interaction between sex and discipline studied.

Hypothesis 6: There is no significant variation in conservation behaviour of the respondents in respect of interaction between level of education and discipline studied.

Hypothesis 6a: There is no significant variation in organized or social engagement dimension of conservation behaviour of the respondents in respect of interaction between level of education and discipline studied.

Hypothesis 6b: There is no significant variation in individual engagement dimension of conservation behaviour of the respondents in respect of interaction between level of education and discipline studied.

Hypothesis 6c: There is no significant variation in planting behaviour dimension of conservation behaviour of the respondents in respect of interaction between level of education and discipline studied.

Hypothesis 6d: There is no significant variation in wildlife dimension of conservation behaviour of the respondents in respect of interaction between level of education and discipline studied.

Hypothesis 7: There is no significant variation in conservation behaviour of the respondents in respect of

interaction among sex, level of education and discipline studied.

Hypothesis 7a: There is no significant variation in organized or social engagement dimension of conservation behaviour of the respondents in respect of interaction among sex, level of education and discipline studied.

Hypothesis 7b: There is no significant variation in individual engagement dimension of conservation behaviour of the respondents in respect of interaction among sex, level of education and discipline studied.

Hypothesis 7c: There is no significant variation in planting behaviour dimension of conservation behaviour of the respondents in respect of interaction among sex, level of education and discipline studied.

Hypothesis 7d: There is no significant variation in wildlife dimension of conservation behaviour of the respondents in respect of interaction among sex, level of education and discipline studied.

Hypothesis 8: There is no significant relationship between environmental attitude and pro-nature conservation behaviour of the respondents.

Tools used

To verify the hypotheses the following tools were used:

General Information Schedule

The questionnaire developed by the present investigators contained items regarding demographic variables like age, sex, mother tongue, educational qualification, discipline studied, name and nature of the educational institution, address and locality of the residence, jurisdiction authority of the residence, and duration of stay at the present locality.

Pro Nature Conservation Behaviour Scale (ProCoBS)

The Pro Nature Conservation Behaviour Scale developed by Barbett et al. (2020) is a psychometrically validated questionnaire. It assesses proactive actions that specifically aid in biodiversity protection across 4 dimensions, namely, organized or social engagement, individual engagement, planting and wildlife.

The scale comprises a total number of 18 items, divided into four subscales, namely, organized or social engagement, individual engagement, planting and wildlife. Two subscales, "individual engagement" (item numbers 4,5,6,8, and 9) and "organized/social engagement" (item numbers 1, 2, 3, and 7) are used to evaluate the non-gardening component of "Civil Action" behaviours. The final two subscales, "planting" (items 10, 11, 15, and 16) and "wildlife" (items 12, 13, 14, 17, and 18), deal with the gardening component.

It is a 7-point scale with response categories ranging from 1 (strongly disagree) to 7 (strongly agree). High score obtained on the scale indicates the presence of pro-nature conservation behaviour.

The Coefficient Alpha reliability coefficients for the total ProCoBS, the two sub scales of civic action and gardening had been found to be 0.893, 0.858 and 0.872 respectively. The reliability coefficients of the four factors, namely, Individual Engagement, Social Engagement, Planting and Wildlife were found to be 0.864, 0.797, 0.876 and 0.781 respectively.

To evaluate the validity of the scale, Pearson's r was computed between related constructs and the ProCoBS scale, as well as independently for the civic action and gardening subscales. With r ranging from 0.260 to 0.651, all the scales showed a substantial ($p < 0.001$) positive correlation with all the evaluated components

Environmental Attitude Scale

The Environmental Attitude Scale (EAI-S) is a condensed form that was created by Milfont and Duckitt (2010) to measure people's attitudes towards the environment, how it is managed, and the variables that impact its quality along 12 different dimensions, namely, enjoyment of nature, support for interventionist conservation policies, environmental movement activism, conservation motivated by anthropocentric concern, confidence in science and technology, environmental fragility, altering nature, personal conservation behaviour, human dominance over nature, human utilization of nature, eco-centric concern, and support for population growth policies.

EAI-S comprises a total number of 72 items, each subscale consisting of 6 items. It is a 7-point scale with response categories ranging from 1 (strongly disagree) to 7 (strongly agree). A high score obtained in the scale indicates a favourable attitude towards the environment.

The 12 EAI-S subscales' test-retest reliability coefficients have an average of 0.82 and range from 0.62 for the "conservation motivated by anthropocentric concern" scale to 0.90 for the "personal conservation behaviour" scale. The mean inter-item correlations ranged from 0.22 for the "conservation motivated by anthropocentric concern" scale to 0.67 for the "environmental movement activism", with an average of 0.47. These findings show that all of the EAI-S subscales have sufficient internal consistency and homogeneity.

Sample

The present sample consisted of male and female undergraduate and postgraduate students studying at different colleges and universities of West Bengal. Initially, a considerable number of higher education

institutions of West Bengal were selected. The representatives of the management of the selected institutes were personally met to get permission for collecting data from their students. Finally, a total number of 273 students (comprising 148 female and 125 male) were selected, using purposive sampling technique. Among the selected respondents 151 students were pursuing undergraduate courses, whereas 122 students were continuing with postgraduate courses. In respect of disciplines, 90 students were from social science stream, 94 were selected from science stream (including pure and bio science) and 89 were studying humanities.

Selection criteria

- i) Students within the age range from 18 to 23 years were considered.
- ii) The respondents must be currently enrolled in either undergraduate or postgraduate course.
- iii) Students from humanities, pure science, bio science and social science disciplines were considered.
- iv) The respondents must be Indian citizens.
- v) The respondents must be residents of West Bengal.
- vi) Only those residing in urban and sub urban areas of West Bengal were considered.
- vii) The higher education institutes situated in West Bengal were considered.
- viii) Institutes were considered irrespective of their nature (public or private).
- ix) The study only took into consideration individuals who agreed to participate.

Procedure

The questionnaires were administered following a pre-arranged programme schedule. Before proceeding with data collection, the respondents were given a brief introduction about the purpose of the research, and formal consents were obtained from them.

Statistical Analysis of Data

To depict a typical picture of the general characteristic feature of the participants, descriptive statistics like mode values and percentages were calculated for both male and female respondents. Apart from calculating means and standard deviations, three-way ANOVA was computed to assess the impacts of sex, level of education and discipline studied on the respondents' pro nature conservation behaviour, both in terms of individual dimension scores and total scores on the ProCoBS. To ascertain the relationship, Pearson's product moment correlation was also computed on conservation behaviour with environmental attitude based on the total scores on the tests.

Ethical Consideration of the Study

- The tests were administered following the standard methods of administration.
- Data were collected only after getting the respondents' informed consents.
- It was ensured by the present investigator that the responses given by the subjects remained confidential and used solely for academic purposes.

Results and Discussion

Table 1: General Characteristics of the respondents

General Characteristics of the respondents (N = 273)	Values
Age in years (Mode Value)	21
Sex (%)	
Female	54.212
Male	45.787
Mother Tongue (%)	
Bengali	90.91
Hindi	9.091
Educational Qualification (%)	
Under Graduate	55.311
Post Graduate	44.689
Discipline studied (%)	
Social Science	32.967
Science (Bio Science & Pure Science)	34.432
Humanities	32.601
Nature of Institution (%)	
Government	64.463
Government Aided	8.678
Private	26.860
Locality of residence (%)	
Urban	71.074
Sub Urban	28.926
Jurisdiction Authority of the Residential Area (%)	
Gram Panchayat	5.372
Municipal Corporation	94.628
Duration of Stay in the Present Residence in years (Mode Value)	20

Table-1 depicts the typical characteristic features of the present sample based on certain demographic variables.

Majority of the participants were the residents of urban areas of West Bengal. All the participants had been found staying at their respective locations mostly since birth. The respondents were aged around 21 years. The sample comprised 54.21% of females and 45.79% of males. More than half of the respondents were pursuing under graduation studies, in the Government institutions. Almost equal numbers of students from the disciplines of Social science, Science (comprising of bioscience and pure science), and Humanities participated in the study.

Table 2: Distribution of Means and Standard Deviations of Pro Nature Conservation Behaviour Scores of Male and Female Students

Pro Nature Conservation Behaviour Scale Dimensions	Female		Male	
	Mean	S.D.	Mean	S.D.
Organized or social engagement	17.838	6.703	20.928	6.638
Individual Engagement	13.264	5.740	15.696	5.567
Planting	18.304	5.495	19.000	4.876
Wildlife	19.831	7.748	23.616	6.762
Total	69.237	20.544	79.240	19.080

Note: High score indicates high level of conservation behaviour

Table 2 reveals that in all the domains of conservation behaviour, the male respondents have scored higher than the females, indicating greater inclination towards environment friendly behaviours and practices among the males. The finding aligns with the observations of Moody-Marshall (2023) and Levine and Strube (2012), that is, males have higher environmental knowledge, awareness and practice scores than females, but is in contradiction with a good number of research observations suggesting that females are more predisposed to conservation behaviors than males (Siagian et al., 2023; Nepras et al., 2023; Trelohan, 2022 Medina and Bruno, 2016; Raman, 2016; Rahman, N. A., 2016; and Muderrisoglu et al., 2010;). The discrepancy between the present and the previous observations may be ascribed to the cultural variations, and differing practices between Eastern and Western countries. More specifically, the dimension of organized social engagement highlighted stark contrasts in scores between females and males. This aligns with Trelohan's (2022) findings suggesting that women tend to adopt more pro-environmental behaviors than men in private spheres, but not necessarily in public spheres.

Table 3: Distribution of Means and Standard Deviations of Pro Nature Conservation Behaviour Scores of Undergraduate and Postgraduate Students

Pro Nature Conservation Behaviour Scale Dimensions	Under Graduate		Post Graduate	
	Mean	S.D.	Mean	S.D.
Organized or social engagement	18.146	6.835	20.623	6.615
Individual Engagement	13.483	6.034	15.484	5.265
Planting	18.543	5.405	18.721	5.010
Wildlife	20.212	8.079	23.238	6.464
Total	70.384	21.618	78.066	18.156

Note: High score indicates high level of conservation behaviour

Table 3 indicates that the Post Graduate students are keener for practicing pro-environmental behaviours than those studying at Under Graduate level. The PG students' higher age level (Saulick et.al., 2024; Kasapoğlu and Turan, 2008), more extensive knowledge about environmental issues and greater exposure to the conservation practices might have played a role here.

Table 4: Distribution of Means and Standard Deviations of Pro Nature Conservation Behaviour Scores of Students across Disciplines

Pro Nature Conservation Behaviour Scale Dimensions	Social science		Science		Humanities	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Organized or social engagement	19.344	7.491	19.021	6.399	19.405	6.662
Individual Engagement	14.468	6.119	13.979	5.704	14.708	5.542
Planting	18.168	5.339	18.702	5.172	19.000	5.183
Wildlife	20.289	7.996	21.564	6.794	22.854	7.678
Total	72.267	21.748	73.266	19.595	75.966	20.086

Note: High score indicates high level of conservation behaviour

Table 4 shows that in all the domains of pro conservation behaviour, the students from Humanities discipline have secured higher average scores than those studying Science and Social Science subjects, indicating greater inclination among the former group towards practicing

environment friendly behaviours than the latter. The classroom-bound education system in our country and the excessive load of the curriculum of the Science subjects might prevent the students from thinking beyond the boundaries and applying the theoretical knowledge in shaping ecological behaviour to make the earth a better place for living. Ahmad et al. (2015) observed that in spite of possessing a good knowledge of the environment, the students' level of knowledge and pro-environmental behaviour has a weak relationship. Liefländer et al. (2013) found that educational interventions in schools can enhance students' connectedness with nature, only in the short term. Individual motivation and willingness to adopt new behaviors are insufficient to drive change without conducive social and contextual conditions. This is also applicable in the present context.

In the non-gardening aspect, the Social Science students have better scores than the Science students, whereas in the gardening aspect, the opposite trend is observed. The Science students have a more enriched theoretical knowledge base regarding the impact of different species on the ecosystem, conservation of biodiversity and the strategies for preservation and protection of wildlife, more than their counterparts from Social Science background, owing to their curriculum. The finding is supported by observations of Al Balushi, and Ambusaidi (2023), Ling et al. (2023), Adrita, U. W., & Mohiuddin, M. F. (2020), and Vicente-Molina et.al. (2013), that is, environmental knowledge had a significant impact on environmental attitudes and behaviour.

Table 5: F ratios based on Pro Nature Conservation Behaviour Scores of Respondents

Sources of variance	Sum of square	Degrees of freedom	Variance	F-ratio
Sex	5871.592	1	5871.592	15.610***
Level of Education	3583.472	1	3583.472	9.527***
Discipline	413.905	2	206.952	0.550*
Interaction between Sex and Level of education	2193.438	1	2193.438	5.831**
Interaction between Sex and Discipline	1335.125	2	667.562	1.775*
Interaction between Level of education and Discipline	388.409	2	194.205	0.516*

Interaction among Sex, Level of Education and Discipline	238.616	2	119.308	0.317*
--	---------	---	---------	--------

Note: * Not significant, ** significant at 0.05 level, *** significant at 0.01 level

Table 5 shows that pro nature conservation behaviour of the respondents has varied significantly regarding their sex and level of education, while the variation is not significant in respect of discipline of study. Hence, Hypotheses 1 and 2 are rejected, and Hypothesis 3 is accepted. Previous researchers (Siagian et al., 2023; Moody-Marshall, 2023; Nepras et al., 2023; Medina and Bruno, 2016; Raman, 2016; Salehi, 2016 Rahman, N. A., 2016; Muderrisoglu et al., 2010; Trelohan, 2002) also reported about sex differences, and influence of level of education and age group in conservation behaviors (Saulick et al., 2024; Kasapoğlu and Turan, 2008). The finding concerning insignificant variation in conservation behaviour in respect of discipline of study contradicts those of Moody-Marshall (2023), Arshad et al. (2020), and Rahman, N. A. (2016), who observed that environmental studies as a discipline fostered pro conservation behaviour among those who attended such programme. The present sample of science group consisted of students of both Pure and Biological Sciences. It is conceivable that the attitudes and behaviors of students studying Botany and Zoology differ from those studying Physics, Chemistry, Mathematics and Statistics, thus obscuring clear differences in the obtained data due to limited sample size in each discipline.

Moreover, the effect of interaction between sex and level of education on conservation behaviour is found to be significant. Hence, Hypothesis 4 is rejected. This is in conformity with Saulick et al. (2024), who demonstrated that demographic factors, including gender, level of education, and age group influenced pro-environmental behaviour. The effects of sex and discipline, level of education and discipline, and sex, level of education and discipline have not been found to be significant. Therefore, Hypotheses 5, 6 and 7 are accepted.

Table 6: F ratios based on the dimensions of Pro nature conservation behaviour scores of respondents

Dimension-1 Organized or Social Engagement				
Sources of variance	Sum of square	Degrees of freedom	Variance	F-ratio
Sex	575.032	1	575.032	13.609***
Level of education	408.846	1	408.846	9.676***

Discipline	7.172	2	3.586	0.085*
Interaction between Sex and Level of education	90.397	1	90.397	2.139*
Interaction between Sex and Discipline	441.706	2	220.853	5.227***
Interaction between Level of education and Discipline	7.786	2	3.893	0.092*
Interaction among Sex, Level of Education and Discipline	34.723	2	17.361	0.411*

Dimension-2 Individual engagement

Sources of variance	Sum of square	Degrees of freedom	Variance	F-ratio
Sex	320.493	1	320.493	10.625***
Level of education	212.318	1	212.318	7.039***
Discipline	5.562	2	2.781	0.092*
Interaction between Sex and Level of education	287.297	1	287.297	9.525***
Interaction between Sex and Discipline	88.875	2	44.438	1.473*
Interaction between Level of education and Discipline	56.738	2	28.369	0.941*
Interaction among Sex, Level of Education and Discipline	63.061	2	31.530	1.045*

Dimension-3 Planting

Sources of variance	Sum of square	Degrees of freedom	Variance	F-ratio
Sex	19.671	1	19.671	0.708*

Level of education	.994	1	.994	0.036*
Discipline	39.897	2	19.949	0.718*
Interaction between Sex and Level of education	37.142	1	37.142	1.336*
Interaction between Sex and Discipline	11.021	2	5.511	0.198*
Interaction between Level of education and Discipline	48.523	2	24.261	0.873*
Interaction among Sex, Level of Education and Discipline	7.613	2	3.807	0.137*
Dimension-4 Wildlife				
Sources of variance	Sum of square	Degrees of freedom	Variance	F-ratio
Sex	918.637	1	918.637	18.211***
Level of education	579.557	1	579.557	11.489***
Discipline	246.159	2	123.079	2.440*
Interaction between Sex and Level of education	203.980	1	203.980	4.044**
Interaction between Sex and Discipline	69.930	2	34.965	0.693*
Interaction between Level of education and Discipline	36.532	2	18.266	0.362*
Interaction among Sex, Level of Education and Discipline	81.792	2	40.896	0.811*

Note: * Not significant, ** significant at 0.05 level, *** significant at 0.01 level

Table 6 depicts that organized or social engagement of the respondents has varied significantly in respect of sex and level of education, but not regarding discipline of

study. Hence, Hypotheses 1a and 2a are rejected, and Hypothesis 3a is accepted. The interaction effect of sex and discipline has been significant, leading to rejection of Hypothesis 5a. No significant variations have been noticed in so far as the interaction effects of sex and level of education, of discipline and level of education, and of sex, discipline and level of education are concerned. Therefore, Hypotheses 4a, 6a, and 7a, are accepted.

Individual engagement has varied significantly regarding the impacts of sex, level of education, and interaction between them. Hence, Hypotheses 1b, 2b, and 4b are rejected. No significant variation is observed in respect of discipline of study. Therefore, Hypothesis 3b is accepted. Moreover, the effects of interaction between sex and discipline, discipline and level of education, and among sex, discipline and level of education on the samples' individual engagement in conservation behaviour have not been significant. Hence, Hypotheses 5b, 6b, and 7b are accepted.

Table 6 further shows that none of sex, level of education, discipline of study, and the interactions thereof have yielded significant variations in the respondents' planting behaviour. Hence, Hypotheses 1c, 2c, 3c, 4c, 5c, 6c, and 7c are accepted.

The respondents' behavioural practices to offer habitats or home or resources for wild plants and animals (wildlife domain) are found to vary significantly in respect of sex, levels of education, and the combination of sex and educational level. Hence, Hypotheses 1d, 2d, and 4d are rejected. No significant variations are noted in the participants' wildlife conservation behaviour, in respect of discipline of study, interactions between sex and discipline, discipline and level of education, and among sex, discipline and level of education. Therefore, Hypotheses 3d, 5d, 6d, and 7d accepted.

Further analyses of scores indicate that males possess greater inclination towards environmental conservation, and indulge more in civil and gardening activities than females. Several factors may contribute to this trend. Social norms and expectations often assign men responsibilities related to outdoor activities and stewardship of natural resources. Additionally, males may have greater access to outdoor recreational activities, fostering a deeper appreciation for nature and a stronger desire to conserve it.

The Post Graduate students have expressed higher involvement in conservation behaviours than the Under Graduate ones, potentially due to the Post Graduates' greater experience, advanced education and specialization in fields such as environmental science, sustainability, or conservation biology, causing a deeper commitment to conservation behaviour. The findings

suggest that socialization, educational opportunities, career aspirations, access to resources, and mentorship may influence gender-based and educational-level-based differences in conservation behaviour, although individual’s motivation and behaviour remain highly variable and are influenced by a wide range of factors, such as, education and knowledge, personal identity, self-efficacy, personal values, moral norm, social influence, and so on. Through knowledge about the right environmental behaviours, students do show changes (Kurokawa et.al., 2023; Ling et al., 2023; Adrita, U. W., & Mohiuddin, M. F., 2020). Individual characteristics, such as, connectedness to nature, interpersonal altruism, motivation, and place attachment (Chan et al., 2023; Kuo et al., 2019), social identity, sense of location, creative behaviour, ecological activism, and perceived behaviour control (Wang et al., 2022) positively affect pro environmental behaviour. Response efficacy through self-efficacy has been found to indirectly influence pro-environmental behaviour (Shafiei and Maleksaeidi, 2020). The potential for restorative experiences in natural environment motivates people to behave ecologically, thereby protect the environment (Hartig et al., 2007). Through the influence of conservation ideas and personal standards, values shape pro environmental behaviour (Stern.et.al., 2000). Altruistic and biospheric values have been found to be positively linked to sustainable behaviours (Whitley et al., 2018; Liu et al., 2018; Gatersleben et al., 2014). Personal moral norm via pro-environmental intention determines pro-environmental behaviour (Bamberg and Möser, 2007). An individual feeling morally obligated to protect the environment, take up corresponding behaviour (Klockner, 2013). The leader’s pro environmental behaviour at the work organizations significantly creates a positive impact on worker’s intent to show pro environmental behaviour as well (Blok et al., 2015). Intrinsic motivation mediates the relationship between environmentally friendly behaviour and environmental identity (Lee and Jeong, 2018; Van der Werff et al., 2013).

Table 7: Relationship between Environmental Attitude and Pro nature conservation behaviour of respondents

Variables	Coefficient of correlation
Environmental Attitude and Pro nature conservation behaviour	0.059*

* Not significant

Table 7 displays that environmental attitude and pro-nature conservation behaviour share an insignificant and positive relationship. Hence, Hypothesis 8 is accepted.

The findings are consistent with those of Mullenbach and Green (2018), Salehi et al. (2016) Osman et al. (2014), Sarvestani (2012), Muderrisoglu et.al. (2010), and Thapa (1999) who revealed a weak but positive relationship between the said psychological constructs. Contradictory findings have been reported too. For instances, Sabzehei et al. (2016) and Vijayabanu and Amarnath (2013) found environmental attitude and pro-environmental behaviour to share a significant relationship.

The positive relationship between the constructs implies that an individual with a favourable attitude toward the environment practices sustainable behaviour. However, there may be exceptions. Not all people possessing pro-environmental attitudes display environment friendly behaviours. While environmental attitudes serve as crucial indicators of individuals' beliefs and values regarding nature conservation, they often fail to directly translate into corresponding behaviours. The discrepancy between attitudes and actions can be attributed to various factors, including external barriers, social pressures, lack of knowledge or awareness, psychological influences, convenience, and cultural norms. Despite harbouring positive attitudes towards the environment, individuals may encounter obstacles that impede their ability to engage in pro-environmental actions. Therefore, fostering environmental behaviour necessitates addressing these complex influences and creating supportive environments that facilitate sustainable actions, rather than solely relying on changes in attitudes.

Limitations of the Study

To enhance understanding of the issue of pro conservation behaviour and practices, the comparison based on various demographic factors, such as age, socioeconomic status, racial background, and field of study might have been beneficial. The participants were selected exclusively from urban and suburban regions of West Bengal. Inclusion of rural inhabitants could have broadened the scope of the findings. Additionally, encompassing students from diverse disciplines, including vocational courses, such as law, engineering, and others might have improved the generalizability of the results.

Concluding Remark

Upon devouring much into the study of environment conservation behaviour, it is clearly understood that the need for conserving the environment is undeniable, given its critical importance for human survival, biodiversity conservation, ecosystem services, climate stability, and public health. By embracing sustainable practices, protecting natural habitats, and advocating

for policies that prioritize environmental conservation, for the benefit of present and future generations, we can create a more robust and sustainable future. It is not just a matter of choice but a moral imperative to safeguard our planet for the well-being of all living beings. Clean air, free from pollutants emitted by industries and vehicles reduces the risk of respiratory diseases, and promotes better respiratory health. Freshwater bodies, unpolluted by chemicals and waste support aquatic life and provide clean water essential for human survival. Lush forests and vibrant ecosystems not only harbour diverse species of plants and animals but also play a vital role in controlling the temperature, curbing soil erosion, and enhancing air quality. Furthermore, a healthy environment provides countless recreational opportunities from hiking in pristine forests to swimming in unpolluted rivers, enhancing our physical and mental well-being. In essence, the benefits of a thriving environment are manifold and extend far beyond the realm of ecology.

To address these pressing environmental challenges, it is imperative that we embrace sustainable conservation actions that put the long-term wellbeing of the earth before personal benefit. This entails adopting practices that minimize waste, lower carbon emissions, protect natural resources, and encourage the preservation of biodiversity. From embracing renewable energy sources, like solar and wind power to minimizing the use of single-use plastics and adopting eco-friendly modes of transportation, there are myriad ways in which individuals, communities, businesses, and governments can contribute to sustainable conservation efforts. Furthermore, promoting a culture of environmental sustainability requires education and awareness since these enable people to make wise decisions and work together to save the environment. By promoting environmental literacy, encouraging responsible consumption habits, and actively supporting the laws and reforms that promote sustainability, we can create a more resilient and a harmonious relationship with the natural world. Future research may attempt to advocate practices that can be adopted to fulfil the gap between attitude behaviour, and design interventions to safeguard the environment through practice of pro conservational behaviour.

References

Adrita, U. W., & Mohiuddin, M. F. (2020). Impact of opportunity and ability to translate environmental attitude into ecologically conscious consumer behavior. *Journal of Marketing Theory and Practice*, 28(2), 173–186.

Ahmad, J., Noor, S. M., & Ismail, N. (2015). Investigating students' environmental knowledge, attitude, practice and communication. *Asian Social Science*, 11(16), 284.

Al Balushi, H. M., & Ambusaidi, A. K. (2023). The influence of environmental education on Omani students self-reported environmental attitudes and behaviours. *International Research in Geographical and Environmental Education*, 32(2), 90–106.

Arshad, H. M., Saleem, K., Shafi, S., Ahmad, T., Kanwal, S. (2021). Environmental Awareness, Concern, Attitude and Behavior of University Students: A Comparison Across Academic Disciplines. *Polish Journal of Environmental Studies*, 30(1), 561-570.

Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psychosocial determinants of pro-environmental behaviour. *Journal of environmental psychology*, 27(1), 14-25.

Barbett, L., Stupple, E. J., Sweet, M., Schofield, M. B., & Richardson, M. (2020). Measuring actions for nature—development and validation of a pro-nature conservation behaviour scale. *Sustainability*, 12(12), 4885.

Blok, V., Wesselink, R., Studynka, O., & Kemp, R. (2015). Encouraging sustainability in the workplace: A survey on the pro-environmental behaviour of university employees. *Journal of cleaner production*, 106, 55-67.

Cardinale, B., Duffy, J., Gonzalez, A. *et al.* (2012) Biodiversity loss and its impact on humanity. *Nature* 486, 59–67.

Ceballos, G., Ehrlich, P. R., & Dirzo, R. (2017). Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines. *Proceedings of the national academy of sciences*, 114(30), E6089-E6096.

Chan, S. H. M., Qiu, L., & Xie, T. (2023). Understanding experiences in metaverse: how virtual nature impacts affect, pro-environmental attitudes, and intention to engage with physical nature. *Computers in Human Behavior*, 149, 107926.

Chen, F., Chen, H., Guo, D., & Long, R. (2017). Analysis of undesired environmental behavior among Chinese undergraduates. *Journal of Cleaner Production*, 162, 1239-1251.

Gaston, K.J., Warren, P.H., Thompson, K. *et al.* (2005) Urban Domestic Gardens (IV): The Extent of the Resource and its Associated Features. *Biodivers Conserv* 14, 3327–3349.

Gatersleben, B., Murtagh, N., & Abrahamse, W. (2014). Values, identity and pro-environmental behaviour. *Contemporary Social Science*, 9(4), 374-392.

Giusti, M., Barthel, S., & Marcus, L. (2014). Nature Routines and Affinity with the Biosphere: A Case Study of Preschool Children in Stockholm. *Children, Youth and Environments* 24(3), 16-42.

Hartig, T., Kaiser, F. G., & Strumse, E. (2007). Psychological restoration in nature as a source of motivation for ecological behaviour. *Environmental conservation*, 34(4), 291–299.

Kasapoğlu, A., & Turan, F. (2008). Attitude-behaviour relationship in environmental education: a case study from Turkey. *International Journal of Environmental Studies*, 65(2), 219-231.

Koger, S. (2010). Coping with the Deepwater horizon disaster: an Ecopsychology interview with Deborah Du Nann winter. *Ecopsychology*, 2(4), 205-209.

- Klößner, C. A. (2013). "How Powerful are Moral Motivations in Environmental Protection? An Integrated Model Framework". In *Handbook of Moral Motivation*. Leiden, The Netherlands
- Kuo, M., Barnes, M., & Jordan, C. (2019). Do experiences with nature promote learning? Converging evidence of a cause-and-effect relationship. *Frontiers in psychology, 10*, 423551.
- Kurokawa, H., Igei, K., Kitsuki, A., Kurita, K., Managi, S., Nakamuro, M., & Sakano, A. (2023). Improvement impact of nudges incorporated in environmental education on students' environmental knowledge, attitudes, and behaviors. *Journal of Environmental Management, 325*, 116612.
- Lee, W., & Jeong, C. (2018). Effects of pro-environmental destination image and leisure sports mania on motivation and pro-environmental behavior of visitors to Korea's national parks. *Journal of destination marketing & management, 10*, 25-35.
- Levine, D. S., & Strube, M. J. (2012). Environmental Attitudes, Knowledge, Intentions and Behaviors Among College Students. *The Journal of Social Psychology, 152*(3), 308–326.
- Liefländer, A. K., Fröhlich, G., Bogner, F. X., & Schultz, P. W. (2013). Promoting connectedness with nature through environmental education. *Environmental Education Research, 19*(3), 370–384.
- Ling, P. S., Chin, C. H., Yi, J., & Wong, W. P. M. (2023). Green consumption behaviour among generation Z college students in China: the moderating role of government support. *Young Consumers*.
- Liu, X., Zou, Y., & Wu, J. (2018). Factors influencing public-sphere pro-environmental behavior among Mongolian college students: A test of value–belief–norm theory. *Sustainability, 10*(5), 1384.
- Masud, M. M., Akhtar, R., Afroz, R., Al-Amin, A. Q., & Kari, F. B. (2015). Pro-environmental behavior and public understanding of climate change. *Mitigation and Adaptation Strategies for Global Change, 20*, 591-600.
- Medina, M.A.P., & Toledo Bruno, A.G. (2016). Ecological footprint of university students: does gender matter? *Global journal of environmental science and management, 2*(4), 339-344.
- Milfont, T. L., Duckitt, J., & Wagner, C. (2010). A cross-cultural test of the value–attitude–behavior hierarchy. *Journal of Applied Social Psychology, 40*(11), 2791-2813.
- Moody-Marshall, R. (2023). An investigation of environmental awareness and practice among a sample of undergraduate students in Belize. *Environmental Education Research, 29*(7), 911–928.
- Müderisoglu, H., & Altanlar, A. (2011). Attitudes and behaviors of undergraduate students toward environmental issues. *International Journal of Environmental Science & Technology, 8*, 159-168.
- Muderrisoglu, H., Oğuz, D., & Şensoy, N. (2010). An evaluation of green areas from the point of user satisfaction in Ankara, Turkey: Gap analyses method. *Afr J Agric Res, 5*(10), 1036-1042.
- Mullenbach, L. E., & Green, G. T. (2018). Can environmental education increase student-athletes' environmental behaviors? *Environmental Education Research, 24*(3), 427-444.
- Nepras, K., Strejckova, T., Kroufek, R., & Kubiátko, M. (2023). Climate Change Attitudes, Relationship to Nature and Pro-Environmental Behaviour of Students from Three European Countries. *Journal of Baltic Science Education, 22*(2), 309-322.
- Osman, A., Jusoh, M. S., Amlus, M. H., & Khotob, N. (2014). Exploring the relationship between environmental knowledge and environmental attitude towards pro-environmental behaviour: undergraduate business students' perspective. *American-Eurasian Journal of Sustainable Agriculture*.
- Rahman, N. A. (2016). Knowledge, Internal, and Environmental Factors on Environmental Care Behaviour among Aboriginal Students in Malaysia. *International Journal of Environmental and Science Education, 11*(12), 5349-5366.
- Raman, R. A. (2016). Attitudes and Behavior of Ajman University of Science and Technology Students towards the Environment. *IAFOR Journal of Education, 4*(1), 69-88.
- Rockström, J., Steffen, W., Noone, K., et al. (2009). Planetary Boundaries: Exploring the Safe Operating Space for Humanity. *Ecology and Society, 14*(2).
- Sabzehei, M. T., Gholipour, S., & Adinevand, M. (2016). A Survey of the Relationship Between Environmental Awareness, Attitude and Pro-environmental Behavior of Female Students at Qom University. *Environmental Education and Sustainable Development, 4*(4), 16-5.
- Salehi, S., Nejad, Z. P., Mahmoudi, H., & Burkart, S. (2016). Knowledge of global climate change: view of Iranian university students. *International Research in Geographical and Environmental Education, 25*(3), 226-243.
- Sarvestani, A. A. (2012). Environmental attitude and behavior of students of Gorgan University of Agricultural Sciences and Natural Resources. *Iranian agricultural extension and education journal, 7*(2), 77-92.
- Saulick, P., Bekaroo, G., Bokhoree, C., & Beeharry, Y. D. (2024). Investigating pro-environmental behaviour among students: towards an integrated framework based on the transtheoretical model of behaviour change. *Environment, Development and Sustainability, 26*(3), 6751-6780.
- Shafiei, A., & Maleksaeidi, H. (2020). Pro-environmental behavior of university students: Application of protection motivation theory. *Global Ecology and Conservation, 22*, e00908.
- Siagian, N., Ridayani, Andrias, Kamsinah, Maryanti, E., Fatmawati, E., ... Fajri, I. (2023). The effect of environmental citizenship and spiritual norms as mediators on students' environmental behaviour. *International Journal of Adolescence and Youth, 28*(1).
- Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of social issues, 56*(3), 407-424.

- Stevenson, K. T., Peterson, M. N., Carrier, S. J., Strnad, R. L., Bondell, H. D., Kirby-Hathaway, T., & Moore, S. E. (2014). Role of Significant Life Experiences in Building Environmental Knowledge and Behavior Among Middle School Students. *The Journal of Environmental Education*, 45(3), 163–177.
- Thapa, B. (1999). Environmentalism: The Relation of Environmental Attitudes and Environmentally Responsible Behaviors Among Undergraduate Students. *Bulletin of Science, Technology & Society*, 19(5), 426–438.
- Trelohan, M. (2022). Do women engage in pro-environmental behaviours in the public sphere due to social expectations? The effects of social norm-based persuasive messages. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 33(1), 134-148.
- Van der Werff, E., Steg, L., & Keizer, K. (2013). The value of environmental self-identity: The relationship between biospheric values, environmental self-identity and environmental preferences, intentions and behaviour. *Journal of Environmental Psychology*, 34, 55-63.
- Vicente-Molina, M. A., Fernández-Sáinz, A., & Izagirre-Olaizola, J. (2013). Environmental knowledge and other variables affecting pro-environmental behaviour: comparison of university students from emerging and advanced countries. *Journal of Cleaner Production*, 61, 130-138.
- Vijayabanu, U., & Amarnath, N. S. (2013). A study on environmental attitude and ecological behaviour. *Indian Journal of Health and Wellbeing*, 4(4), 868.
- Wang, Q. J., Wang, H. J., & Chang, C. P. (2022). Environmental performance, green finance and green innovation: what's the long-run relationships among variables? *Energy Economics*, 110, 106004.
- Whitley, C. T., Takahashi, B., Zwickle, A., Besley, J. C., & Lertpratchya, A. P. (2018). Sustainability behaviors among college students: An application of the VBN theory. *Environmental education research*, 24(2), 245-262.
- Zelezny, L. C., Chua, P. P., & Aldrich, C. (2000). New ways of thinking about environmentalism: Elaborating on gender differences in environmentalism. *Journal of Social issues*, 56(3), 443-457.