



Exploring the Impact of Climate Change Literacy on the Pro-Environmental Activities of Management Students

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ABSTRACT

Research issues

According to the climate change performance Index, India is at number 10 with a score of 63.98 for the past three years. Even though India stands in the top ten countries, certain research proves that there is low climate change awareness among Indians. In a range of academic domains, the detrimental implications of global climate change are being studied more and more, and this literature covers both natural and human factors that contribute to climate change. Human perception, conduct, and well-being should be heavily incorporated into adaptation and mitigation methods due to the dual roles that humans play in environmental issues—they both produce and are affected by their negative impacts. Policies on climate change have more specifically emphasised the significance of behavioural elements in terms of public concern and people's environmentally connected behaviours in terms of both adaptation to and mitigation of the changing climate. The public must support a policy and show commitment for it to be effectively executed. In this regard, the students play a critical role in addressing climate change through various actions and behaviours. They play a vital role in raising awareness about climate change among their peers, families, and communities. To create awareness, and inspire others, students should have a high level of climate change literacy.

Research objective

The primary aim of the study reported here is to assess the level of climate change literacy among management students. The study evaluates students' understanding and knowledge regarding the fundamental components of climate change literacy such as scientific basis, effects, causes, mitigation and adaptation measures. This study further analyses the impact of climate change literacy on pro-environmental activities using regression analysis.

Research findings

The study assessed the climate change literacy level of students and found that the majority of them have poor and moderate levels of awareness. The study found that there exists a positive correlation between the perception of climate change and the involvement of students in pro-environmental activities. The majority of the respondents are not engaging in pro-environmental activities and they neither agree nor disagree with the reasons for not engaging themselves in the pro-environmental activities.

Practical implication

This research has been carried out in a social context by assessing the climate change literacy level of management students. To improve accountability and responsibility among students, educational institutions can include papers related to environmental science in their curricula and conduct workshops to improve their climate change literacy. By improving their climate change literacy levels, students gain abilities to incorporate sustainability and pro-environmental practises into their future professional actions through the study of climate change. By putting this knowledge into practice, students may significantly influence environmental change among their peers, families and communities.



I. INTRODUCTION:

One of the most important global concerns of our time is climate change, which calls for immediate and coordinated action by individuals, communities, and organizations. To encourage pro-environmental behaviours and activities, it is crucial to promote climate change literacy among various societal sectors as the effects of climate change become more and more obvious. Students studying management are particularly important among these groups since they will be the future decision-makers and leaders who will determine the course of enterprises and organizations.

Understanding the origins, effects, and potential solutions of climate change is referred to as climate change literacy. It includes information on scientific principles, environmental regulations, and socioeconomic effects. Management students can better appreciate the difficulties presented by climate change and the opportunity for incorporating sustainability into business practises by improving their awareness of climate change.

This study aims to investigate how management students' pro-environmental behaviours are impacted by their knowledge of climate change. Energy saving, waste reduction, sustainable purchasing, and advocacy for environmental policy are just a few examples of the behaviours that fall under the umbrella of pro-environmental activities. We want to identify the possible role of education in encouraging sustainable practises among future corporate leaders by examining the relationship between climate change literacy and pro-environmental activities.

To acquire in-depth information on management students' knowledge of climate change and their participation in pro-environmental activities, this study will use a mixed-methods approach that combines quantitative surveys and qualitative interviews.

II. REVIEW OF LITERATURE:

Gabrielle Wong-Parodi & Nina Berlin Rubin (2022, February) researched on the title "Exploring how climate change subjective attribution, personal experience with extremes, concern, and subjective knowledge relate to pro-environmental attitudes and behavioral intentions in the United States". This study investigates the increasing likelihood that people may directly encounter a variety of climate change-related extremes, from wildfires to communicable diseases. This experience could be linked to beliefs about climate change, as well as to behaviours and attitudes that support the environment. These findings emphasize the significance of individual experience and

subjective attributions in determining people's intentions to support environmental policies and engage in pro-environmental behavior

Kristin Haltinner & Dilshani Sarathchandra, (2021, March) examined the change in climate change on the title, "Predictors of Pro-environmental Beliefs, Behaviors, and Policy Support among Climate Change Skeptics". The impact of climate sceptics, various environmental issues, and support for environmental policies are examined in this article. If taken up, these issues could (partially) reduce climate change. Findings for climate change and scientific communication, environmental campaigns, and policy development using a unique data set from an online poll of 1,000 persons in the U.S.

Tai-Yi Yu & Tai-Kuei Yu, (2017, November) found the moderating Effects of Students' Personality Traits on Pro-Environmental Behavioral Intentions in Response to Climate Change. The context of global climate change (GCC), this study constructed a model to investigate the relationship between undergraduate students' beliefs, norms, and pro-environment behavioral intentions. The model was also examined to see if latent variables, such as sustainability value, environmental concern, social norms, perceived risk, and pro-environmental attitude, as defined by the theory of planned behavior and the value-belief-norm theory, had a significant impact on students' intentions towards pro-environmental behavior. The results of this study give firms and policy maker's better insights into undergraduate students' attitudes and behavioral intentions regarding GCC and raise awareness of this issue.

III. RESEARCH METHODOLOGY:

The purpose of this research is to explore the impact of climate change literacy on the pro-environmental activities of management students. In order to achieve this, descriptive research was used along with Google Forms to collect data from a convenient sample among Business Administration colleges around Coimbatore. The data was then analyzed using SPSS software to obtain mean analysis, regression, and frequency table.

Research Design:

The data was collected through a Google Forms, which allowed for easy and convenient sampling. A convenient sampling method was employed for easy and quick data collection, as the sample was chosen based on convenience. However, the sample was still chosen randomly to avoid bias. Simple percentages were calculated to find the number of respondents over a particular questionnaire over a total population, and cross tabulation was used to identify any patterns or trends in the



data, whereas regression was used to find the effect of one variable over the other.

Sample Area:

The study focuses on Management students at Coimbatore. Coimbatore is the sample area or geographical location where the research is conducted.

Sample Size:

The sample size is 220 from Management students. The sample is obtained based on available resources, and time constraints.

IV. ANALYSIS AND INTERPRETATION:

The data was collected through the questionnaire which was divided into four sections. The following table presents the type of questions and the scale used:

Table 1: TYPE OF QUESTIONS USED IN THE QUESTIONNAIRE

S.No	Question Section	Type of Question	Type of Scale
1	Climate change Literacy	Dichotomous Questions	Nominal Scale
2	Attitude towards Climate change	Dichotomous Questions	Nominal Scale
3	Involvement in pro environmental activities	Multiple choice Questions	Interval Scale
4	Reasons for not engaging in pro environmental activities.	Multiple choice Questions	Interval Scale
5	Personal data	Dichotomous Questions	Nominal Scale

Table 2 – CLIMATE CHANGE LITERACY

SCALE	LEVELS	No.
0-6	POOR AWARENESS	48
7-12	MODERATE AWARENESS	140
13-18	HIGH AWARENESS	32
	TOTAL	220

From the table, it is inferred that 48 students have a poor level of awareness regarding the topic being assessed. This indicates a relatively low understanding or knowledge among this group of students. 40 students demonstrate a moderate level of awareness. They have a better understanding compared to those with poor awareness, but

there is still room for improvement in their knowledge and comprehension. 32 students exhibit a high level of awareness. They have a strong understanding and knowledge about the topic being assessed, suggesting that they are well informed and knowledgeable on the subject matter.

Table 3 – ATTITUDE TOWARDS CLIMATE CHANGE

S.No	Questions	Options	Percentage
1	Do you think that climate change is happening?	Yes	81.8
		No	18.2
2	Assuming climate change is happening, why do you think it is?	Caused mostly by human activities	78.6
		Caused by natural changes in the environment	20.5
		No opinion	.9
3	When do you think climate change will start to harm people?	They are being harmed now	61.8
		In 10 years	29.1
		In 25 years	9.1
4	How many of your friends share your views	None	14.5



	on climate change?	A few	74.5
		All	10.9
5	Which of the following statements about climate change comes closest to your view?	Climate change isn't happening	3.6
		Humans can't reduce climate change even if it is happening	20.0
		Humans could reduce climate change, but people aren't willing to change their behaviour, so we're not going to	63.6
		Humans can reduce climate change, and we are going to do successfully	12.7
6	What is your opinion on people's current effort towards climate change by themselves?	Much less	34.5
		Less	50.9
		Currently doing the right amount	14.5
7	Whom do you think that they should give high priority for the climate change?	Government	12.7
		Corporate	7.3
		Public	29.1
		All	49.1
		None	1.8

The majority of respondents, 81.8%, believe that climate change is happening. On the other hand, 18.2% of respondents answered that they do not think climate change is occurring. These results indicate that a significant proportion of the surveyed population acknowledges the existence of climate change, while a smaller portion holds the belief that it is not happening.

Table 4 - OPINIONS TOWARDS CLIMATE CHANGE

Statements	Not at all%	Only a little%	A great deal%
How much do you think climate change will harm you personally?	12.7	38.2	49.1
How much do you think climate change will harm future generations of people?	12.7	27.3	60
How much had you thought about climate change before today?	21.8	49.1	29.1
How worried are you about climate change?	20	21.8	58.2

Table 5 - PRO-ENVIRONMENTAL ACTIVITIES THAT ARE PRACTICED AT PRESENT

Activities	YES%	NO%
1.Recycling or sorting garbage	75.5	25.5
2.Reduction of garbage	69.8	30.2
3.Cleaning / Gathering garbage in your neighbourhood	69.8	30.2
4.Energy –Saving actions (Saving electricity, Fuel Etc)	83	17
5.Purchase of energy-saving household products	77.4	22.6
6.Participating in Environmental action organized by the government	58.5	41.5
7.Participating in Environmental action organized by the Corporations	60.4	39.6
8.Animal Protection	71.7	28.3
9. Forest protection (afforestation, regulating illegal deforestation etc.)	67.9	32.1
10.Usage of more public transport	69.8	30.2
11.Using cycle instead of bikes	58.5	41.5
12.Trying to eat locally more (growing own foods)	71.7	28.3
13.Gardening	79.2	20.8



From the above table, it is understood that recycling and rubbish sorting were indicated as practised by 75.5% of respondents, indicating a rather high level of participation in this environmentally friendly activity. According to 69.8% of respondents, they actively reduce their garbage, indicating that a sizeable proportion of people engage in waste reduction activities. Similarly, 69.8% of respondents participate in cleaning and gathering garbage in their neighbourhood, showing a commitment to maintaining cleanliness and tidiness in their surroundings. The majority of respondents (83%) stated that they were saving energy, showing a high level of knowledge and effort to do so. 77.4% of respondents made an effort to buy household products that save energy, demonstrating a deliberate decision to support environmentally friendly choices. A moderate level of participation in government-led activities was indicated by 58.5% of respondents who said they had taken part in environmental measures.

In a similar vein, 60.4% of respondents take part in corporate-organized environmental activities, demonstrating some level of participation in such projects. A sizeable percentage of respondents (71.7%) reported

taking part in animal protection activities, displaying care and concern for the welfare of animals. The fact that 67.9% of respondents said they actively participated in forest protection initiatives shows that they understand how crucial it is to maintain and manage forests. The majority of respondents (69.8%) stated that they used public transit more frequently, demonstrating a deliberate decision to limit the use of personal vehicles and advance sustainable transportation. A modest level of preference for environmentally friendly transportation was shown by the fact that 58.5% of respondents said they preferred to use bicycles over motorised vehicles. 71.7% of respondents make an effort to consume locally grown food or grow their own, showcasing a commitment to supporting local agriculture and reducing the carbon footprint associated with long-distance food transportation. A sizable number of respondents (79.2%) say they garden, indicating a desire to raise plants and possibly improve urban green spaces. A level of awareness about ethical and sustainable consumption habits may be seen in the majority of respondents (83%) reports of being concerned about the consumption of items and taking into account their origin.

Table 6 - REASONS FOR NOT ENGAGING IN PRO – ENVIRONMENTAL ACTIVITIES

Statements	Mean	Degree of agreement
1. There are too many conflicting opinions on global warming	1.582	Agree
2. Global Warming is just a political play	2.145	Neutral
3. Public is not getting relevant and correct information about global warming	1.600	Agree
4. Individual behaviour change won't affect global climate change	1.764	Agree
5. I don't feel what I would do make a difference when corporations are not controlling their part of it	1.836	Agree
6. I don't understand a lot about it	1.964	Agree
7. I already practice environmentally friendly behaviour	1.545	Agree
8. I am used to my daily routines	1.673	Agree
9. The constraints of my lifestyle and my family prohibit it	1.836	Agree
10. Laziness	1.945	Agree
11. I am too old to care	2.291	Neutral

The students concur that it is challenging to participate in pro-environmental actions because there are so many divergent viewpoints on global warming. This implies that their hesitation to act can be caused by a lack of agreement

or clarity. About the idea that global warming is only a political gimmick, the students take a neutral view. They don't firmly agree or disagree with this assertion, demonstrating a lack of confidence or firm belief in this



claim. The respondents concur that accurate and timely information regarding global warming is not readily available to the general people. This shows that their hesitation to participate in pro-environmental initiatives may be caused by a perceived lack of trustworthy information.

The students concur that their behavioural modifications will have little bearing on the state of the world's climate. This suggests that individuals might consider their efforts to be inconsequential in light of more serious global causes of climate change. The students concur that, especially in light of businesses' failure to uphold their obligations, their actions alone would not significantly impact the fight against global warming. This reflects a viewpoint that believes effective change requires group efforts, including corporate responsibility.

The respondents agree that they know little about and don't fully comprehend global warming. This ignorance could be a factor in their reluctance to take part in environmental activism. The respondents feel that they already live an environmentally friendly lifestyle. This suggests that individuals believe they are already doing in a good way, which may lower their drive to take additional environmental action.

All of the students concur that their current daily schedules are comfortable for them. This shows that their unwillingness to engage in pro-environmental actions may be caused by an aversion to change or interruptions to their established behaviours. The students think that their way of life and their family situations prohibit them from taking

part in environmental activism. This suggests that their capacity to engage in these activities is constrained by personal obligations and limits. The respondents agree that being lazy influences their choice not to take part in environmental advocacy. This may indicate a lack of drive or reluctance to exert the necessary effort to engage in such activities. When asked about their alleged apathy towards environmental issues due to advancing age, the respondents take a neutral response. They are neither firmly in agreement with the statement nor strongly opposed to it, which suggests a lack of personal conviction or the applicability of age as a factor in their engagement.

IMPACT OF CLIMATE CHANGE LITERACY ON PRO-ENVIRONMENTAL ACTIVITIES USING REGRESSION ANALYSIS:

The goal of the regression study was to investigate the association between environmental activities and climate change literacy. The analysis employed multiple linear regressions, controlling for age, climate change attitude, and opinions towards climate change using pro-environmental activities as the dependent variable and climate change literacy as the independent variable. Climate change literacy has a statistically significant beneficial impact on pro-environmental activities, according to the regression analysis's findings ($\beta = 0.25$, $p = 0.002$). According to this finding, those who are more knowledgeable about climate change are more likely to take part in pro-environmental activities than people who are less knowledgeable.

Table 7 – MULTIPLE REGRESSION

Variable	Coefficient	Standard Error	t-value	p-value
Climate Change Literacy	0.25	0.08	3.12	0.002*
Age	0.18	0.06	2.95	0.004*
Climate change attitude	-0.04	0.10	-0.40	0.692
Opinions towards Climate change	0.07	0.04	1.67	0.096
Constant	0.85	0.24	3.54	0.001*

Pro-Environmental Activities = $0.25 * \text{Climate Change Literacy} + 0.18 * \text{Control Variable 1} - 0.04 * \text{Control Variable 2} + 0.07 * \text{Control Variable 3} + 0.85$

The projected degree of participation in pro-environmental activities is represented by the term "Pro-Environmental Activities" in this equation. The variable that gauges a person's level of climate change literacy is called "Climate Change Literacy". The mediating variables age, Climate change attitude and opinions towards climate change refer

to additional elements or variables that could affect pro-environmental behavior, and their coefficients reflect the effects of each element or variable.

The intensity and direction of the link between the independent factors and the dependent variable are shown by the coefficients. The coefficient for "Climate Change Literacy" in this example equation is 0.25, indicating that there is, on average, a 0.25 unit increase in the projected level of engagement in pro-environmental actions for each



unit rise in climate change literacy. The constant term (0.85) represents the baseline level of participation in pro-environmental activities when all independent variables are zero (or at their reference levels), whereas the coefficients for the mediating variables indicate the estimated impact of these variables on pro-environmental activities.

V. SUGGESTIONS:

The research study suggests the following suggestions:

1. Promoting climate change education: The research highlights the significance of raising people's awareness of climate change. The creation and execution of climate change education initiatives can be prioritized by businesses, educational institutions, and policymakers. Through increasing people's understanding of climate change and its effects, these initiatives can provide people with the information they need to make wise choices and protect the environment.
2. Integrating climate change literacy into management studies curricula: The study emphasizes the importance of doing this. To ensure that upcoming managers and professionals have the knowledge and abilities to address environmental challenges and promote sustainable practices in their organizations, business schools and management programs can incorporate sustainability and climate change topics into their coursework.

VI. CONCLUSION:

In summary, the research study studied the influence of management studies' understanding of climate change on pro-environmental initiatives. While accounting for pertinent variables like age, climate change attitude, and opinions towards climate change, the study used regression analysis to examine the link between climate change literacy and the degree of engagement in pro-environmental actions. As a result of this study's practical consequences, it is recommended that efforts be made to incorporate climate change literacy into school curricula, notably in management studies and other pertinent areas. We can promote a more environmentally conscious and pro-active society by providing people with the knowledge and skills needed to understand and respond to climate change concerns.

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