

Influence of Climate Change Awareness on Consumer Behavior of Teenagers

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Abstract

Climate change has become a critical global issue, challenging various facets of human existence. Among the youth, particularly teenagers, the awareness about climate change can significantly impact their behavior, shaping their choices regarding sustainability and environmental responsibility. This study investigates the level of climate change awareness among teenagers and its correlation with their consumer behavior. A sample of 85 teenagers from schools in Chandigarh, India, was surveyed using self-designed questionnaires assessing their awareness of climate change and associated pro-environmental behaviors. Descriptive statistics revealed that a majority of participants recognize climate change as a real and ongoing phenomenon, with human activities identified as the primary cause. Furthermore, a significant positive correlation was found between climate change awareness and pro-environmental consumer behaviors, such as purchasing eco-friendly products and reducing carbon footprints. This suggests that increased awareness of climate change can lead to more sustainable consumer choices among teenagers, underscoring the importance of fostering climate education among younger demographics.

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I. Introduction

In recent years, climate change has emerged as one of the most pressing global issues, drawing attention from scientists, policymakers, and the general public alike.

Climate change is identified on the basis of overall increase in temperature, irregular weather pattern and precipitation trends, retreating ice sheets and elevated sea levels which leads to frequent flooding (Abbass et al., 2022). Anthropogenic activities such as burning of fossil fuels, mechanization heavily based on fuel and transportation are regarded as leading causes of climate change (Mursheed et al., 2022).

Climate change has far reaching consequences that impact every aspect of human race. Increased temperature due to climate change leads to intense heat waves around the world which has severe effect on human health. According to WHO, climate change will be responsible for 2.5 lakh additional deaths between 2030-2050.

The weather patterns have already become erratic in most parts of the world. It is not only impacting the agriculture but also consumption of various resources. Coastal areas are worst hit by climate change as increased temperature are leading to melting of glaciers and increase in sea level. There are more incidents of flooding in coastal areas. Climate change is also affecting availability and distribution of freshwater resources.

The effects of climate change are already being felt around the world and are expected to worsen day by day. The climate changes induced by man are complex in nature and its effects are time delayed but its consequences have global dimension. So the importance of climate change awareness cannot be overstated.

Though in order to mitigate the effects of climate change efforts are required on all fronts, i.e., individual, communities, Government and though global agencies, but the individual efforts create multiplier effects. Personal actions when adopted by many can influence markets, policies and even inspire others to create social and cultural shift to adopt sustainable practices. Any such effort by an individual starts with the awareness of climate change.

Climate change awareness is defined as the extent to which an individual knows about the Climate change and its negative impacts and what he/she can do to avoid or minimize them. Such a person knows his responsibilities and makes efforts to mitigate the effects of Climate change. Asiamah et al (2024) found a positive association between Climate change awareness and pro-environmental choices taken by an individual.

Pro environmental behaviour is the conscious actions or choices made by individuals to avoid or mitigate the impact of climate change. For example, walking, avoiding meat based diets and making green purchases are pro environmental. But the prerequisite of such behaviour is the awareness about climate change.

Awareness and information dissemination about climate change and environmental issues have increased significantly over the past few decades especially among the youth, largely due to the efforts of advocacy groups, educational institutions, and media outlets. Whether this awareness actually leads to change in their behavior is still not researched enough.

The efforts designed to mitigate the effects of climate changes should be focused on younger generation, especially early adolescence as it is critical period of developing understanding of such important issues (Han P. et al, 2022).

Teenagers, as the next generation of consumers, play a pivotal role in shaping market trends and societal norms. Their attitudes and behaviors toward sustainability and environmental responsibility can have far-reaching implications for both current and future consumption patterns.

So there is a growing urgency to understand how awareness of climate change influences consumer behavior, particularly among younger demographics.

Consumer behavior among teenagers is influenced by various factors, including peer pressure, social media, and family values. Moreover, the rise of social media has transformed how information about climate change is shared and perceived. Social media platforms serve not only as sources of information but also shape the attitudes and behaviors of their young audiences.

The intersection of these factors with climate change awareness creates a unique landscape for understanding how young people make purchasing decisions.

II. Review of Previous Literature

Desabayla and Gueta(2023) assessed climate change awareness among 412 Grade 11 and 12 students from two high schools in Sorsogon Province, Philippines, during 2022-2023. Using a descriptive survey design and adapted questionnaires, the researchers found that students were neutral on climate change mitigation but agreed on its effects. The primary sources of information for students were the internet, television, school, and radio. The researchers recommended that students continue using these sources to enhance their understanding of climate change, which is crucial for taking action toward its mitigation. In conclusion, improving students' awareness through reliable information sources is essential to fostering proactive attitudes and behaviors toward climate change mitigation.

Rahman et al. (2023) worked to find a difference in climate change awareness among senior secondary school students with regard to their gender, stream, and locality. A sample of 200 senior secondary school students was taken from 10 schools of district Hamirpur Himachal Pradesh, on the basis of a random sampling technique. The investigator found that there is no significant difference in climate change awareness among senior secondary school students in relation to gender and stream, but a significant difference was found in locality.

Mebane et al. (2023) assessed the study aimed to increase climate change awareness and promote student empowerment by addressing emotional responses to climate change. Conducted in Italy from January to April 2022, it involved 25 high school students and was designed by environmental scientists and community psychologists. The program consisted of two modules: the first focused on sustainable development, the impact of climate change on health, and associated emotions, while the second engaged students in participatory activities to encourage environmental actions. Results indicated that the program effectively enhanced students' understanding and emotional awareness of climate change and fostered environmental citizenship. To conclude, due to the small sample size, further research on a larger scale is needed to validate these findings.

Gautam et al. (2021) assessed the awareness of the effect of climate change on human health among the secondary-level students of Biratnagar. The research concluded that among the respondents, some knew that climate change can be prevented, some perceived that climate change is an unbreakable process and that climate change will be the cause of new diseases. Some of them are even concerned about preventing the effects of climate change on human health. The study concluded that half of the secondary-level students have an inadequate level of awareness of the effects of climate change on human health. The paper recommends that awareness should be increased by involving them in the project work activities and reinforcing the curriculum component.

Barron et al. (2022) emphasized the importance of contextualizing current climate change discussions in twenty-first-century Eco composition classrooms. The article shows the importance of continued education about the environment and climate change, getting involved with sustainable practices, engaging with environmental awareness campaigns, and, when needed, lobbying for readjusting corporate business practices to include sustainability efforts.

Venghaus, Henseleit&Belka (2022) states that the increasing frequency of extreme weather events and heightened international debates on climate change have significantly raised public awareness of the issue. However, there is limited research on the behavioral impacts of this awareness. This study focuses on Germany to examine whether the rise in climate change awareness has mainly affected public perceptions of environmental issues or resulted in sustainable behavioral changes. It considers two potential pathways for impact: (a) direct behavioral changes toward more sustainable consumption and (b) indirect effects through pressure on the political process. In conclusion, understanding the relationship between climate change awareness and behavioral changes is essential for developing effective strategies to promote sustainability and drive political action on climate issues.

Khatibi, et al.(2021) emphasizes the critical role of public engagement in climate change adaptation for vulnerable communities. While effective government policies are important, they must be supported by informed and empowered citizens. A systematic review of the literature reveals gaps in understanding how public engagement impacts knowledge and its integration into adaptation strategies. It highlights a strong link between public knowledge and engagement, suggesting that behavioral economics can motivate community action. The paper also proposes strategies to enhance climate resilience and sustainability through improved public involvement.

Jürkenbeck, Spiller, & Schulze(2021) investigate climate change awareness among young Germans aged 15 to 29 and examine its impact on dietary choices. The sample of 1,479 participants revealed three distinct segments: half are highly aware of climate change, 13.9% deny its existence, and 29.4% recognize it but perceive its risks as low. This indicates significant variation in awareness levels within the generation. Notably, those aware of climate change are more likely to adopt climate-friendly diets, while the undecided group aligns more closely with climate deniers in both attitudes and dietary habits.

Tang et al.(2022) assess a new climate change education (CCE) course for first-year science students in China, addressing a significant evidence gap. Surveys showed notable shifts in beliefs about human-induced climate change and its unequal impacts, though students' attitudes remained largely unchanged. Recognition of local government roles improved, and while multimedia learning was effective, adding student-led community projects could enhance engagement. This research contributes to a regional CCE model for China and offers insights into similar contexts in developing countries. In conclusion, while beliefs changed, deeper attitudinal shifts require more practical, community-focused approaches integrating these elements could foster a stronger connection to climate action among students and better prepare them for future challenges.

RicartCasadevall et al. (2023) analyzed a portfolio of 435 articles collected from WoS and Scopus databases between 2010 and 2020 using bibliometrics from which they selected 108 articles for a more comprehensive and systematic review. They stated that increasing climate change awareness is often considered necessary in the first stages of the adaptation process to manage its impacts and reduce overall vulnerability. The paper aims to identify the current research trends and set the future research agenda on climate change awareness, perceived impacts, and adaptive capacity from farmers' experiences and behavior.

Rationale of the study

As the global climate continues to deteriorate rapidly, the need to address and mitigate the effects of climate change has become more urgent. Raising awareness about climate change is critical so individuals and communities can take appropriate action. While numerous programs by government and private agencies aim to educate the public, and social media is filled with climate change-related content, the researchers recognized the importance of studying teenagers' awareness levels. Additionally, the study explores whether this awareness influences their behavior and choices, particularly in terms of consumer behavior, such as selecting eco-friendly products and services.

Present study

In the present study a sample of 85 teenagers students from schools of Chandigarh in India were chosen as sample for the study. Two questionnaires were prepared. First was to assess their awareness level about climate change. The questionnaire included items such as, whether they feel climate changes in natural process or caused by anthropogenic activities. Do they feel that climate change is reality or some phenomenon which will take place in the future? Also it included items checking the awareness related to causes of climate change and negative consequences of it. Statements like, I think climate change will not affect me in any way or only future generation will feel consequences of climate change assess whether they are in a denial mode about

climate change. Items like, I intend to work towards reducing rate of climate change or I feel responsible for climate change, assess whether they feel individual responsibilities about climate change and intend to work to mitigate it personally.

The consumer behaviour of the sample was assessed on the basis whether they purchase eco friendly products and even gifts for their friends. Also whether they reuse their clothes and other products to reduce their carbon footprints. Their preferences of choosing less resource intensive food than meat centric diet can depict their pro environmental behaviour. Their readiness to pay more for sustainable or ecofriendly products and to shift to energy saving modes of transportation also depict their pro-environmental consumer behavior.

On the basis of responses of these questionnaires descriptive analysis of their awareness about climate change was done. Also the correlation between awareness and consumer behavior was found.

Objectives

The objectives of the present study are:

1. To study the awareness about climate change among teenagers.
2. To study the relationship between awareness about climate change and consumer behavior among teenagers.

Hypothesis

The objectives of the study were tested through the following hypothesis:

1. There is no significant correlation between awareness about climate change and consumer behavior among teenagers.

Sample

The population of the study was teenagers studying in various schools of Chandigarh. A sample of 85 teenagers was taken from the said population using Google forms.

Tools

The data were collected using the following scales:

1. Scale of Climate Change Awareness prepared by the investigators.
2. Scale of Consumer behaviour prepared by the investigators.

Procedure

The study was conducted using descriptive survey method on the teenagers studying in various schools of Chandigarh. Scales for Climate change awareness and Consumer behavior were constructed by the investigators themselves. Google forms were also prepared. The population was identified and Google forms were sent to the sample from the population. The raw data was collected and tabulated and subjected to descriptive and inferential statistics. The results and inferences were drawn out from the analysis of the data.

Statistical tools used

Descriptive and inferential statistics were used to analyze the raw data. Percentages were calculated to study the awareness among the sample. Mean, standard deviation and Pearson's coefficient of Correlation were calculated to study the correlation between the variables.

Analysis

The analysis of the raw data is done as per the objectives defined.

1. Objective 1: To study the awareness about climate change among teenagers.

Table 1: Climate Change Awareness

S.No.	Components	Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Accepting climate Change	I don't believe that climate change is real	4.7	4.7	2.4	36.5	51.8
2		I believe that the world climate is deteriorating.	51.8	36.5	7.1	3.5	1.2
3		I think a functional economy is more important than excessive climate protection.	5.9	17.6	34.1	30.6	11.8
4	Space & Time of Climate Change	Only future generations will feel the consequences of climate change.	25.9	15.3	23.5	24.7	10.6
5		I think climate change will not affect me in any way.	1.2	2.4	10.6	47.1	38.8

6		I think we are already facing the impacts of climate change.	36.5	55.3	7.1	1.2	0
7		I think climate change is not an issue in my city.	2.4	4.7	28.2	40	24.7
8		I think climate change is entirely a natural process.	3.5	7.1	30.6	47.1	11.8
9	Causes of climate change	I think pollution caused by human activities is the major cause of climate change.	42.4	51.8	3.5	1.2	1.2
10		I think climate change is largely caused by human activities.	38.8	45.9	15.3	0	0
11	Consequences	It is a matter of survival for humanity to stop climate change.	37.6	41.2	16.5	4.7	0
12		Climate change will have serious negative consequences for future generations.	62.4	31.8	2.4	1.2	2.4
13	Willingness to take action	Individual actions such as reusing and recycling are insufficient to combat climate change.	20	47.1	20	11.8	1.2
14		I feel I'm also responsible for climate change.	7.1	50.6	32.9	5.9	3.5
15		I intend to work towards reducing the rate of climate change.	17.6	62.4	14.1	3.5	2.4

The descriptive analysis of data collected regarding climate change awareness shows that teenagers are aware that world climate is deteriorating and it is a real process, (51.8 + 36.5%) agree to it. (11.8+30.6) % respondents rejected the view that functional economy is more important than excessive climate protection. This shows that respondents are largely aware about the climate change.

Around 40% (25.9+15.3) % of the respondents believe that only future generations will feel the consequences of climate change but around 35% respondents disagree to it and 23% are not sure. Majority (47.1+38.8) % respondents disagree to the view that climate change will not affect them. Still more (36.5+55.3) % feel that they are already facing the impacts of climate change. 65% (40+24.7) % rejected this view that climate change is not an issue in their city.

Pondering upon the causes of the climate change, the respondents pointed in the following way. The respondents who think that climate change is only a natural phenomenon are in minority (only 3.5 +7.1) %. This result is consistent with (Engels.at.al 2013) which also found that climate change deniers are a minority in Germany. Baring few, almost all the respondents (42.4+51.8) % believe that pollution caused by human activities is the major cause of climate change. (38.8 + 45.9%) feel that human beings are responsible for climate change.

(62.4+31.8)% respondents believe that climate change has serious negative consequences for future generations and it has become a matter of survival for humanity, (37.6 + 41.2%) agrees to it.

(7.1 + 15.6)% feels that they are also responsible for the climate change but 32.9% have no opinion about it. 67% (20+47.1) % believe that individual actions such as reusing and recycling are insufficient to combat climate change. 80% (17.6+ 62.4)% respondents agreed that they intend to work towards reducing the rate of climate change

2. Objective 2: To study the relationship between awareness about climate change and consumer behavior among teenagers.

Table 2: Coefficient of correlation between climate change awareness and consumer behaviour

Variables	N	M	SD	R	p-value
Climate change awareness	85	56.85	5.395	.298	.006
Consumer behavior	85	29.35	4.267		

Table 2 shows the relationship between the variables climate change awareness and consumer behavior among teenagers. The mean and standard deviation values for climate change awareness and consumer behavior are 56.85 & 29.35 and 5.395 & 4.267 respectively. The coefficient of correlation value has been found to be .298 which is significant at .01 level of significance. Hence the hypothesis, 'there is no significant correlation between awareness about climate change and consumer behavior among teenagers' may not be accepted. The alternative hypothesis is, 'there is a significant direct correlation between awareness about climate change and consumer behavior among teenagers'.

III. Results and Discussion

The analysis clearly depicts that there is increased awareness of climate change among youth. This may be attributed to the efforts put in by governments, NGOs and even social media to highlight the negative impacts of climate change. Also the youth is witnessing the extreme weather events in recent years. There is more and more focus on awareness drives regarding the climate change.

The analysis of the data has brought the following points into focus:

- A majority of respondents acknowledge that climate change is real and that the world's climate is worsening day by day. This awareness is likely a result of various awareness campaigns conducted by governments, NGOs, and other organizations. Both print and social media also play a significant role in raising awareness by emphasizing climate change-related content.
- Climate change is not a distant or future event occurring in another place; rather, it is something we are already experiencing wherever we live. Teenagers are witnessing an increase in extreme weather events around them, making them aware that climate change is impacting both nearby and far-off locations.
- Most teenagers believe that pollution caused by human activities is the primary driver of climate change, and therefore, humans are responsible for it.
- The consequences of climate change are dire, with the survival of humanity itself at risk due to its impacts.
- Teenagers feel a personal responsibility to address climate change, showing a positive attitude and willingness to take action in efforts to mitigate its effects.

Similar results are found by Venghaus, Henseleit, & Belka (2022) which showed that there is strong positive attitude towards climate protection and high awareness about climate change. Also a report of study on American teens (Leiserowitz, Smith, & Marlon, 2011) found that American teens know same as American adults about the causes, consequences and solutions of climate change.

The awareness level of climate change was found to be strongly correlated to the consumer behaviour of the teenagers. Those who have greater awareness towards climate change and its consequences are found to take more eco friendly choices of products, transportation alternatives and even diets. They were found to be more willing to replace plastic with eco friendly materials and even shift away from meat centric diets to save the environment. They feel that they must work to reduce their carbon footprints and reduce climate change. Similar results were found by Han P. et al (2022), which showed that awareness about the climate change promote energy conservation habits among youth.

IV. Conclusion

The findings of this study emphasize the critical role of climate change awareness in shaping the consumer behavior of teenagers. The results suggest that when teenagers are well-informed about the causes and consequences of climate change, they are more likely to engage in pro-environmental behaviors, such as opting for sustainable products, adopting energy-saving practices, and reducing their carbon footprint. The significant correlation between awareness and consumer behavior underscores the potential for awareness campaigns and educational initiatives to drive positive environmental change. Policymakers and educators should focus on integrating climate change awareness into curricula and advocacy programs to empower the next generation of consumers to make informed, eco-friendly choices.

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