



Exploring the Climate Anxiety and Pro-Environmental Social Behavior among Youth in District Layyah, Pakistan

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ABSTRACT

Climate change is undoubtedly one of the most critical problems of our time that not only impacts environmental systems, but also human psychological health and social conduct. One of its psychological impacts is the climate anxiety, which is becoming more prominent because of its effects on the emotions, perceptions and behavior of youth in relation to environmental issues. This study aimed to explore the effects of climate anxiety and its association with pro-ecological social actions among youth in District Layyah of Pakistan. A quantitative cross sectional research design was used; data was obtained from 151 respondents aged 14-24 with a structured five point Likert scale questionnaire. Collected data were analyzed by using descriptive and inferential statistics methods using SPSS. The results indicated that a significant number of the youth were environmentally anxious, worried about climate disasters and future living conditions. Moreover, the study showed that climate anxiety positively influenced pro-environmental social behaviors, suggesting that moderate levels of climate anxiety foster environmentally responsible social behaviors like resource conservation, waste reduction, environmental participation, and sustainable lifestyle. But, if unaccompanied by proper educational and community engagement programs, the high level of climate anxiety can have a negative impact on mental health. The study concludes that climate anxiety may be a mental hurdle or a driving force toward climate participation. Thus, enhancing youth engagement and climate awareness initiatives are critical to support sustainable development and youth's resilience to climate induced psychosocial stresses.



Introduction

Climate change is one of the most pressing issues of the 21st century that poses significant risks to the environment, economic growth and development, public health, and human wellbeing. Climate change is a multi-faceted social and psychological problem as a result of the rising global temperatures, loss of biodiversity, extreme weather events, floods, droughts and the rising

concentration of greenhouse gases. There is no doubt that climate-related threats are increasing due to human-caused environmental degradation, and individuals' emotional and behavioral reactions are affected by the uncertainty of the future. In addition to the physical impacts, climate change also has psychological implications (IPCC, 2023). There has been growing focus on climate anxiety, which is a longstanding emotional reaction with anxiety, fear, powerlessness and doubt about environmental decline and future climate scenarios. While not a clinical mental illness, climate anxiety has a significant impact on emotional health, decision making, and climate-related action, especially among younger generations, and is also increasingly a focus of research.

Youth are identified as one of the most vulnerable groups to be worried about climate change as they are expected to bear long-term impacts of climate change in their lifetime (UNEP, 2023). Climate information is being continuously disseminated within the educational system, via digital media, scientific publications and social networks, making people more aware of the environment, and concurrently deepening emotional awareness of the future security of the environment. As a result, many young people feel uncertain and this can either help them to be good in the world or bring distress. Pakistan is known as one of the most climate change vulnerable countries of the world because of the frequent floods, long heat waves, water scarcity, agricultural instability and worsening environmental conditions (UNDP, 2022). District Layyah in south Punjab is an extremely climate-sensitive area as a significant number of its inhabitants directly rely on agriculture and natural resources for their livelihood. The social, economic and psychological impact, however, of changes in the environment is significant to local communities, particularly youth.

In Pakistan, while there has been a significant literature building on the global phenomenon of climate anxiety, there is still a small body of empirical research in sociological studies related to youth. Most of the studies have focused on environmental vulnerability and comparatively few have focused on the understanding of climate anxiety and its effects on pro-environmental social behavior of Pakistani youth. Overcoming this knowledge gap is crucial to designing interventions that promote the psychological health and well-being of individuals and foster ecological sustainability. Hence, the present study aims to explore the relationship between climate anxiety and pro-environmental social behavior of youth in District Layyah, Pakistan. In particular, it explores the frequency and severity of climate anxiety, its psychological and social effects, and assesses the potential of climate-related concern to inspire environmentally responsible actions from young people. The results present relevant suggestions for policy makers, teachers and community groups striving for a sustainable future and advance the already extensive literature in environmental sociology and climate psychology.

Literature Review

Climate anxiety has become a major field of research for environmental sociology, psychology and climate change research. With growing global consciousness about environmental degradation, there has been a growing interest in the role of emotional reactions to climate change in shaping attitudes, mental health, and pro-environmental (PE) behaviors. Climate anxiety is usually defined as ongoing worry, concern or distress over the ongoing and expected environmental changes and their impacts on human societies and ecosystems.

Some prior studies indicate that climate anxiety does not always have adverse effects. But instead, its impact is based on people's perceptions, ways of coping, environmental values, and personal efficacy. Exposure to climate-related information wasn't enough to promote sustainable behavior, as Kapeller and Jager (2020) have argued. Rather, psychological factors like environmental identity, perceived responsibility, and emotional involvement with environmental issues impact behavioral reactions. The results suggest that climate anxiety can be a motivator when people believe they have a role to play in the solution to the climate crisis. In a similar fashion, Karasu et al. (2022) detected a positive connection between environmental activism and climate anxiety in each of the country contexts. The researchers found that those who were more concerned about the implications of climate change were more likely to engage in environmental activities and engage in environmentally responsible actions. Based on the findings of this study, the researchers found that an understanding of climate change and worry about ecological sustainability were able to augment environmental commitment, when paired with climate anxiety. This view is reinforced by research carried out by Leite, Lopes and Pereira (2023). Their results showed that one of the biggest predictors of pro-environment attitudes was climate anxiety. Those who felt more concerned about climate change were more likely to favour sustainability measures, enact environmentally friendly actions and behaviors designed to minimize environmental damage. The results indicate that climate anxiety can be used as a tool to drive environmental responsibility and sustainable lifestyle. Self-efficacy also plays a role as a climate anxiety-environmental behavior link. Cadeddu et al. (2023) found that climate anxiety stimulates pro-ecological behavior when people feel that they can make a difference in the real world. However, if feelings of concern are not coupled with a sense of efficacy, anxiety can result in frustration or disengagement. This is a good reminder of the need for empowerment; education and community involvement. Some research focus on the beneficial effects of climate anxiety, while others outline the psychological dangers associated with it. Ojala, (2012) discovered that the emotions frequently result in emotional distress and psychological burden when the anxiety is related to climate. From their study they concluded that concerns do not necessarily lead to a behavior change towards the environment. Rather, coping resources, social support, and self-efficacy for influencing environmental outcomes are crucial determinants of positive behavioral reactions. New research on the topic of young people brings new insights to the link between climate anxiety and environmental engagement. According to Clayton et al. (2020), there were more opportunities for adolescents to participate in climate-friendly behaviors when they felt more anxious about climate change than those with lower levels of anxiety. The results contradict the notion that feelings of climate anxiety automatically trigger feelings of helplessness, and indicate that moderate anxiety can inspire positive action. Additionally, Silveira et al. (2025) found that climate anxiety and pro-environmental behavior are reciprocally related. Their research showed how to double the benefits of an environmental action by also allowing the person to feel a sense of purpose, responsibility and optimism about the action and its impact on the environment. These kinds of results indicate that involvement in environmental activities could be a way to turn climate change concern into meaningful social action.

In summary, the current literature suggests that climate anxiety is a multifaceted construct that can have positive and negative effects. Although too much anxiety can lead to emotional problems, a certain amount of concern can foster awareness of the environment, sustainability and civic engagement. Empirical evidence in developing countries, especially in Pakistan is however limited. More studies are needed to investigate the impact of climate anxiety on pro-environmental social behaviors among youths in specific socio-cultural and environmental

contexts. To this end, the present study seeks to examine the climate anxiety and its association with pro-environmental social behaviour of children in District Layyah, Pakistan.

Methodology

The objective of this study was quantitative cross sectional research design that investigates the relationship between the climate anxiety and pro environmental social behaviour of youth in District Layyah, Pakistan. A quantitative approach was deemed appropriate, as it allows for numerical data to be collected and statistically analysed, thereby allowing patterns, relationships and trends to be identified among the variables under study. Cross sectional design enabled collecting data from the respondents at one point of time and hence their perceptions, experiences and environmental behaviors were captured in a snapshot fashion. The study was carried out in the district of Layyah, which is in the south of Punjab, Pakistan. The district heavily relies on agriculture and other climate-sensitive economic activity, thus being highly vulnerable to climate change and climatic events like floods, droughts, water scarcity etc. The environmental issues have a direct impact on the lives and livelihoods of the local community and District Layyah is an ideal locality to explore the climate anxiety and its impact on the behaviour of young people. It was decided that the targeted population would be youth aged 14-24 of District Layyah. This age group was chosen as it is one of the most vulnerable to the psychological effects of climate change, and young people are likely to feel the effects of climate change in the future. One hundred and fifty-one people answered the questions in the study, and they were from a wide range of educational and social backgrounds. Respondents were chosen using a convenience sampling method that enabled the selection of respondents who were readily available and willing to participate in the study. Non-probability sampling reduces the generalizability of findings, but it is very common in social science research, especially in cases where time and resources and geographical location make randomly selecting respondents difficult.

A semi-structured self-administered questionnaire was used to collect primary data. The first section collected demographic data and the second section collected data related to climate anxiety and pro-environmental social behavior. The statements were evaluated by a 5-point Likert scale from Strongly Disagree (1) to Strongly Agree (5). A questionnaire was compiled based on the literature review of the relevant literature and items were selected that clearly matched the study objectives concerning climate anxiety and environmental behavior. Information was gathered by face-to-face interview with the informants based on the information given about the research. There was no compulsion for anyone to participate and respondents were told the information provided would only be used for academic research. The questionnaire was administered so that the respondents could answer it independently without being influenced by others. Data obtained were fed into the Statistical Package for the Social Sciences (SPSS) for analysis. Descriptive and Inferential statistical techniques were used. Demographic characteristics and responses were summarized using descriptive statistics such as frequencies, percentages, means and standard deviations. Inferential statistics such as Chi-square were used to analyse the relationship between demographic variables and CATA, and Pearson correlation analysis was used to analyse the relationship between CATA and pro-environmental social behaviour. A significance level of $p < .05$ was used.

The ethical principles were carefully followed in the research process. All respondents gave informed consent and told about the purpose of the study before the data collection. All were voluntary, personal information was kept confidential and anonymous, and that the information provided would be confidential and would only be used for academic research.

Results and Discussion

Respondents' Demographic Characteristics

Nineteen of the respondents were men and 81 were women. Demographic analysis revealed that the age group 18-21 years (52%) had the highest number of respondents, followed by 14-17 years (26%) and 22-24 years (22%). The study had balanced gender participation with equal number of males and females participating. Due to the educational profile of the youth included in the research, most respondents had achieved intermediate and high levels of education. There are reasons to believe that the sample was representative of the young population who are actively exposed to environmental information and issues related to the climate.

Climate Anxiety among Youth

These findings reveal that there is climate anxiety among youth in District Layyah. Many of the respondents were worried about climate change, environmental degradation, and lack of certainty about the future environment. A large portion of the participants mentioned feeling worried, fearful, and emotionally distressed about thinking about disasters and issues relating to the environment caused by climate change. These results suggest that the impact of climate change is viewed not only as an environmental, but also as a psychological problem among youth. It seems that the spread of information related to climate change in education, social media and the news has led to better awareness of the environment, but also better psychological concerns. This result is consistent with a larger body of evidence that indicates that heightened awareness of climate change tends to be followed by more emotional reactions to climate risks.

Climate Anxiety and pro-environmental social behavior

The study also found a positive relationship between people's perceptions of climate anxiety and pro-environmental social behaviors. The more concerned participants also indicated that they were more likely to carry out environmental actions such as saving water and electricity, decreasing household waste, planting trees, getting involved in environmental campaigns, and urging others to adopt environmentally friendly habits. The results indicate that moderate climate anxiety can foster positive environmental behaviors in lieu of fear or avoidance. The positive association suggests that greater emotional concerns about environmental degradation can be related to a greater sense of environmental responsibility. As climate change is seen as a real threat and as young people think that their own actions can help to protect the environment, they are more likely to engage in sustainable behaviours.

Discussion

The results of this study are in line with previously international studies that have shown that climate anxiety can trigger environmentally responsible behavior. In line with Karasu et al. (2022), Leite et al. (2023), and berry et al. (2010), the current study suggests that psychological withdrawal is not the only motive for being concerned about climate change, but also the desire

to engage positively in the environment. The results showed that the level of climate anxiety among young people was positively related to their commitment to sustainable practices and environmental responsibility. The findings indicated that there was a positive correlation between climate anxiety and commitment to sustainable practices and environmental responsibility among young people. This finding also aligns with the findings of Cadeddu et al. (2023) who suggested that when people feel they are able to make a difference in addressing climate change; climate anxiety can be a positive motivational factor. The respondents who were concerned about environmental degradation in the present study were more willing to conserve the natural resources, reduce waste and participate in environmental awareness activities. The study also suggests, however, that over-sensitising to climate change can have negative psychological effects. When contemplating future environmental conditions, some respondents noted that they feel stress, helplessness and emotional exhaustion. This study aligns with previous studies that indicated moderate climate anxiety is pro-environmental, while high levels can have a negative impact on well-being if there is no support and appropriate coping mechanisms in place. In general, the findings indicate that climate anxiety among youth in District Layyah acts as a psychological reaction to environmental insecurity and motivates them to adopt social actions for environmental protection. Therefore, it is necessary to incorporate environmental education, community participation and mental health support into climate adaptation measures, to shift the focus of climate-related concerns into positive environmental action.

Conclusion

Climate change has become a global environmental, social and psychological problem for the youth. The present study focused on climate anxiety and pro-environmental social behaviour among youth of District Layyah (Pakistan). The results identified that climate anxiety is a widespread emotional reaction among youth, mainly due to worries about environmental deterioration, environmental disasters, and uncertainty about the living conditions for future generations.

The study also confirmed that there is a positive correlation between climate anxiety and pro-environmental social behavior. Climate anxiety was more associated with those who reported moderate levels of climate anxiety, with moderate levels of climate anxiety reported to be associated with more environmentally responsible behaviors such as conserving natural resources, reducing waste, involvement in environmental campaigns, and encouraging sustainable living in their community. The results indicate that climate anxiety is not necessarily a negative psychological reaction, but can be accompanied by awareness of the environment and personal responsibility that can spur positive environmental behavior.

The research also suggests that over-reacting to climate change can be harmful to mental health, as highlighted by higher rates of stress, emotional fatigue, and powerlessness. Educational institutions, policy makers and community groups should create interventions that enhance environmental knowledge, climate resilience and youth engagement in climate action. The shift from climate anxiety to positive environmental action will help bring about sustainable development and mental health benefits to young people.

Practical Implications

This study has significant implications for environmental policy, schools and community groups. Climate change education should be incorporated into the school and university context to foster the awareness of the environment, as well as to provide healthy psychological coping mechanisms. Youth should be encouraged to take part in environmental programs at community level, including tree planting, recycling, and awareness creation on climate change, by government bodies and NGOs. Moreover, mental health practitioners should acknowledge the issue of climate anxiety as a new psychosocial problem and create counseling and awareness programs to address the issue among the young.

Limitation of the study

The research was limited because of the following factors: The study has a number of drawbacks, though. First, the study has been carried out in district Layyah so the results are not applicable to other districts of Pakistan. Second, a convenience sampling was used and this can restrict the representativeness of the sample. Third, self-reported questionnaires were used to gather data, which led to a subjectivity in responses. Third, the cross-sectional design did not allow for capturing of changes in perceptions over time, and so climate anxiety was only assessed at one time. This study's results directly support United Nations Sustainable Development goal 13: Climate Action by emphasizing the need for increased environmental awareness and driving climate-responsive behavior among youth. The study also contributes to SDG 3 (Good Health and Well-being) by highlighting the psychological aspect of climate change and the importance of educating and providing mental health support to help mitigate climate-related anxiety. Additionally, the promotion of sustainable environmental practices supports SDG 4 (Quality Education) through fostering environmental awareness and promoting responsible citizenship in the next generation.

Future Research

Future research should have larger and more diverse samples from various geographical provinces of Pakistan to improve generalizability of the results. The researchers are also encouraged to adopt the longitudinal and mixed-method research design to look into how climate anxiety changes over time and affects behavioral changes. Other factors like environmental knowledge, resilience, self-efficacy, media exposure, and psychological well-being can be added to better understand the causes of climate anxiety and pro-environments behavior in youth.

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Conflict of Interest

The authors have no conflict of interest to declare with regard to the publication of this research.

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Data Availability Statement

All data required for analysis of the results of this study are available from the corresponding author upon reasonable request and will be used for academic and research reasons only.

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