

UC Berkeley

Research Publications, 2023-2024

Title

How Socio-Ecological Factors Contribute to Climate Anxiety in Young People

Permalink

<https://escholarship.org/uc/item/1c51b35p>

Authors

Barua, Snigdha
Lin, Melody Evonne
Pattar, Navreet Kaur
[et al.](#)

Publication Date

2024-10-01

How Socio-Ecological Factors Contribute to Climate Anxiety in Young People

Melody Evonne Lin

Navreet Kaur Pattar

Aileen Tam Ta

Lena Marra Stephenson

Clarissa Wong

Undergraduate Student Mentor: Snigdha Barua

Public Health and Health Sciences ULAB

University of California, Berkeley

Abstract

Several studies indicate the lack of a comprehensive understanding of climate change among the youth populations. However, perspectives regarding the socio-ecological factors influencing climate anxiety in young people have yet to be accomplished. We were able to report this in terms of a survey that collected data regarding participants' levels of climate anxiety, demographic information, and perceptions of various socio-ecological factors. Although the sample size was limited, with this method, we gathered insight and opinions regarding effective strategies to address and alleviate anxiety surrounding the global climate change issue, specifically regarding the students in the University of California, Berkeley from varying demographic backgrounds. Such exposure to a range of perspectives contributed to varying levels of concern and engagement with climate change issues. The importance of individual and collective action to address climate change and its psychological impacts were highlighted. Gauging that none of the participants have seen support for climate-related anxiety or distress indicates potential gaps in support systems for climate-related mental distress, leading individuals to internally manage their anxiety rather than seek external support.

Introduction

Through the past few decades, climate change has become one of the leading global issues. Climate change has caused the planet's temperature to rise by an average of .11 degrees F per decade since 1850. Nearly 3.6% of the world's population live in areas of high vulnerability to climate change impact such as droughts, floods, heat waves, extreme weather events, and sea-level rise. Aside from climate change, mental health has become another growing issue

around the world. According to a study by NIH, nearly half of Americans surveyed reported recent symptoms of an anxiety or depressive disorder. Rates of anxiety, depression, and substance use disorder have increased drastically throughout the past few decades. Though there have been correlations between the rising impacts of these two problems, the causation of this correlation is unknown. It is important to study this correlation in order to affirm those experiencing mental health struggle as a result of climate change, raise awareness of the adverse effects of climate change in addition to those impacting the environment, and initiate further actions to reduce the effects of climate change. This study further examines the correlation between these two leading issues, aims to review previous studies, and conducts surveys to further deduce the correlation between climate change and anxiety, as well as other mental health issues among young people in the US.

Methodology

A comprehensive understanding of climate change among teenagers appears to be lacking, as evidenced by Leiserowitz's (2011) study, which found that only 25% of teens passed a climate change knowledge test, compared to 30% of adults. This knowledge gap is concerning, especially considering the urgency of climate action. Thompson (2022) highlights an interesting dynamic wherein younger participants fail to grasp the eco-conscious behaviors of their parents or elders, indicating a potential generational divide in understanding climate issues. Crandon (2022) emphasizes the need for addressing climate anxiety through approaches that foster collective action and active engagement in combating climate change, suggesting that individual anxiety could be channeled into meaningful action. Hickman (2021) sheds light on the widespread climate anxiety among young people, with a survey of 10,000 individuals aged 16-25

across ten countries revealing high levels of negative emotions such as sadness, anxiety, and anger regarding climate issues. Moreover, dissatisfaction with government responses to climate change is evident, with over 45% of respondents reporting negative effects on daily life due to concerns about climate change and a perception of inadequate government action. These findings underscore the urgency of implementing effective strategies to address climate anxiety and promoting meaningful action at both individual and governmental levels.

We created and distributed a Google form survey to collect data regarding participants' levels of climate anxiety, demographic information, and perceptions of various social-ecological factors. Our survey research consisted of both qualitative and quantitative questions to fully gauge our participants' view of climate anxiety and the social-ecological factors involved. Our population of interest was people from the age of 16-25 from students at the University of California, Berkeley. We also asked for other demographic information such as gender, ethnicity/race, education, and parental information such as income and highest level of education completed. We divided up the survey into six parts: Environmental Awareness and Concern, Personal Experience with Climate Anxiety, Social and Cultural Influences, Media and Technology, Future Concerns, and Coping Mechanisms. Some questions prompted participants to rate their knowledge of climate change or their feelings about it on a scale from 1 to 5, while others inquired about their everyday actions to mitigate climate change. Responses varied, encompassing yes and no answers, brief responses, and checkbox selections. This diverse approach aimed to collect data on participants' perspectives regarding the socio-ecological factors influencing climate anxiety in young people. Through this methodology, we sought to gather insights and opinions on the most effective strategies for addressing and alleviating

anxiety surrounding the global issue of climate change.

Environmental Awareness and Concern

Addressing climate change and its impacts on the environment is important for the well-being of our planet and the future. We asked about their concerns about climate change as one way to find out how aware and knowledgeable they are about climate change. Asking about how the local environment has changed as a result of climate change also serves to emphasize the concrete consequences of global warming on an individual basis. These observations—whether they be changes to habitats, increases in temperature, or shifts in weather patterns—serve as anecdotal evidence of the significant and adverse effects of climate change. Having insight into participants' awareness of the ongoing impacts of climate change allows us to collect additional data and potentially devise strategies for raising awareness among those who may be less informed. The level of concern expressed in this data collection process can also inform the establishment of advocacy groups aimed at enhancing climate change awareness and encouraging individuals to take proactive steps to mitigate its adverse effects.

Personal Experience with Climate Anxiety

The aim of this section is to understand the emotional stress people have of climate change. We hope to gain a better understanding of the extent of the emotional burden that people bear as a result of concerns about climate change. It is important to acknowledge and discern the psychological and emotional impact while exploring coping mechanisms that can provide effective strategies for managing climate anxiety and related emotions. This section serves to assess emotional responses regarding climate change and its consequences. Social and Cultural

Influences

Understanding people's knowledge, attitudes, and behaviors regarding climate change is important for addressing this problem effectively as knowledge, attitudes, and behaviors are often shaped around social and cultural influences. We want to ask about climate change education in schools to provide insights into the role of formal education in shaping environmental literacy and awareness. Gathering data about participation in environmentally friendly behaviors and the factors that impact them is intended to investigate individual actions and contributions to sustainability initiatives. Additionally, questioning perceptions of how communities or society acknowledge climate change sheds light on broader attitudes and societal responses to the critical issue, exploring advocacy and policy-making efforts that address climate change. The goal of this section is to find how much social and cultural influences have on people's perception of climate change on an individual, local, and societal level.

Media and Technology

Collecting information on individuals' exposure to news regarding climate change is essential for understanding their sources of information and the potential reach of such content. We aim to investigate the influence of social media on climate change awareness and concerns. Additionally, we seek to determine the frequency with which individuals engage with news media and their level of awareness regarding the impacts of climate change. Given the vast amount of online news content available, we are interested in identifying the primary news outlets from which individuals obtain information. This will enable us to effectively and efficiently disseminate our own information on platforms that have the greatest impact and

audience reach.

Future Concerns

Examining the future concerns expressed by participants will provide insight into the specific issues that worry them regarding the anticipated impacts of climate change. We aim to assess the level of hope and optimism individuals hold regarding mitigating climate change challenges. We are interested in gaining a deeper understanding of why certain climate change issues concern them and to what extent they are willing to advocate for improved solutions.

Coping mechanisms

In this segment, our goal is to identify the coping strategies individuals employ to deal with stress or anxiety stemming from climate change, assessing the efficacy of these approaches in managing their emotions. Ensuring individuals have access to adequate support to manage such stress is crucial, given the significant impact climate change can have on quality of life. By understanding how individuals cope with stress, we can integrate these coping mechanisms into future newsletters, offering readers practical ideas on how to effectively manage their emotions in response to climate change concerns.

Results

Demographics

At the end of the data collection, 18 respondents participated in this survey, averaging around the age of 19 years old (Figure 1). The respondents were predominantly females over males and belonged to two or more races, with some being Asian or white. 50% have the

ambition of pursuing a Bachelor’s degree, with their parents holding Bachelor’s degrees or high school diplomas. Parental income had quite a range from 50,000 to 74,000 and 100,000 to 149,999.

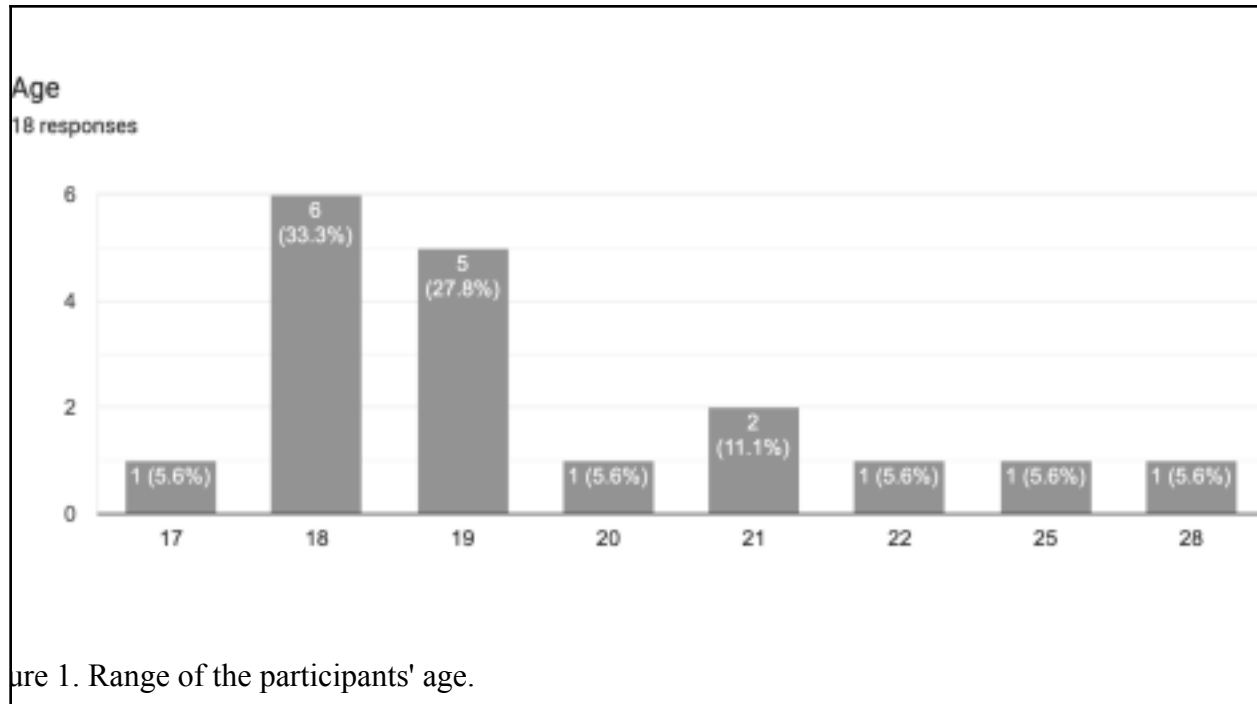
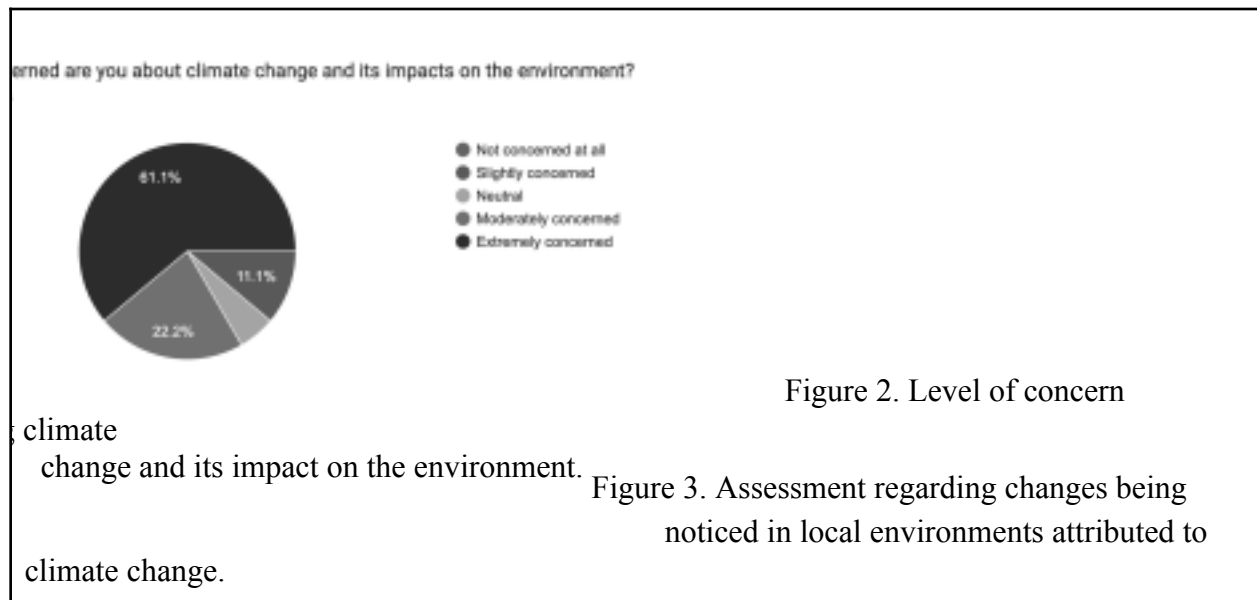


Figure 1. Range of the participants' age.

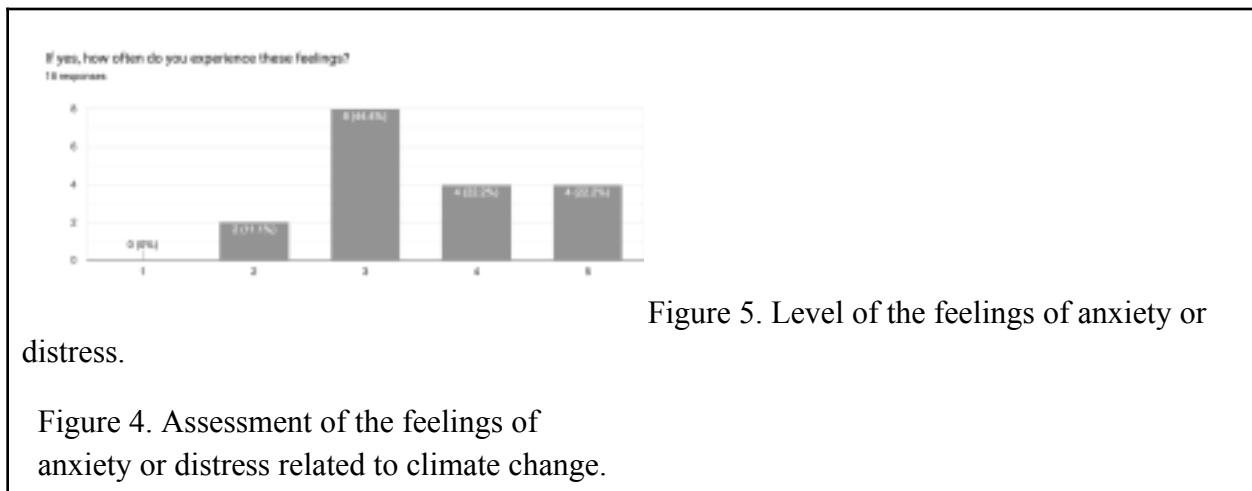
Environmental Awareness and Concern

The results show that for most participants (61.1% of total, Figure 2), there are concerns regarding the climate change impact on the environment, and from the 18 participants, 83.3% have noticed changes to their local environment in regards to climate change (Figure 3). Some particular changes noticed include heat intensity, wildfires, droughts, and increased extreme events such as rain or flooding.



Personal Experience with Climate Anxiety

The results indicate that 72.2% of participants have experienced feelings of anxiety or distress in terms of climate change (Figure 4) with 22.2% feeling such ways often (Figure 5). Coping mechanisms highly emphasized diverting thoughts, with some specific quotes stating, “I try not to think about it” and “Consider the longevity of the issue and realize that I probably won’t see the worst impacts in my lifetime.” Another common coping mechanism was thinking of the positives, with one particular account standing out, “I learned to realize it’s something much bigger than me, and as long as I’m doing my part that’s all I can do for now.”

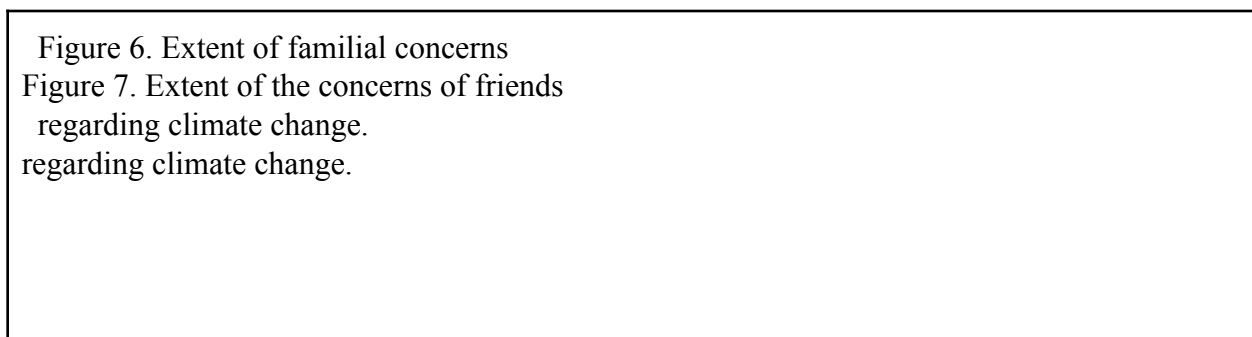


distress.

Figure 4. Assessment of the feelings of anxiety or distress related to climate change.

Social and Cultural Influences

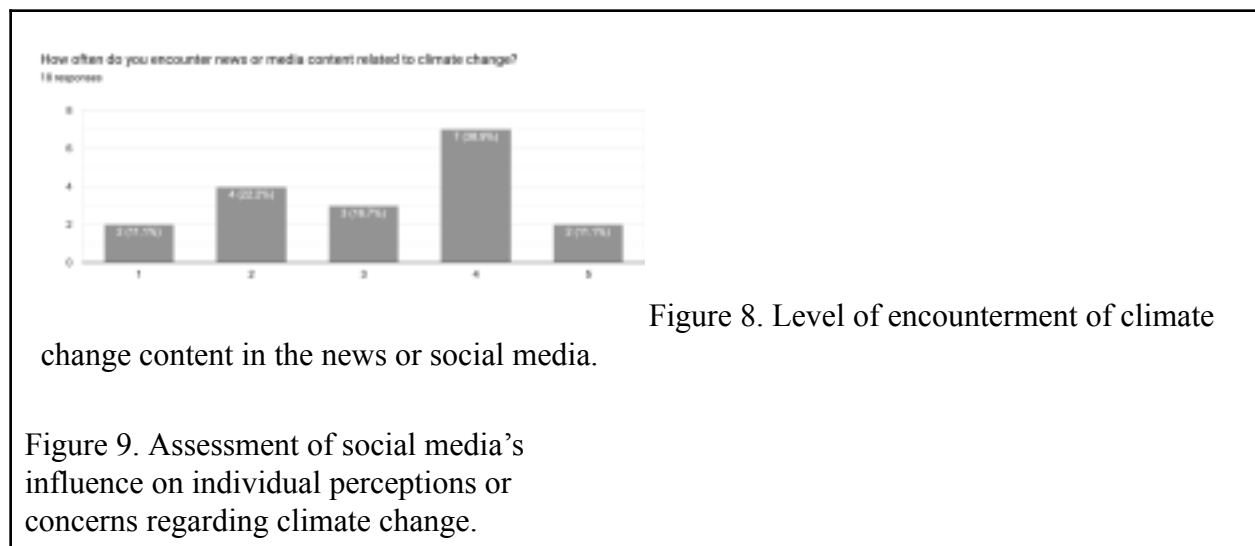
About half the participants (55.5%) felt at a level 3 out of 5 about climate change and its impacts. 66.7% of the participants received education about climate in school while 33.3% did not. Out of those who did receive education about climate change, 77.8% felt it was sufficient. Almost all (94.4%) of the participants engage in environmentally friendly behaviors with 66.7% believing their community is taking climate change seriously. Many attribute great credit to their family and friends regarding their concerns for climate change as well (Figures 6 and 7).



Media and Technology

38.9% of participants encounter news or social media content regarding climate change

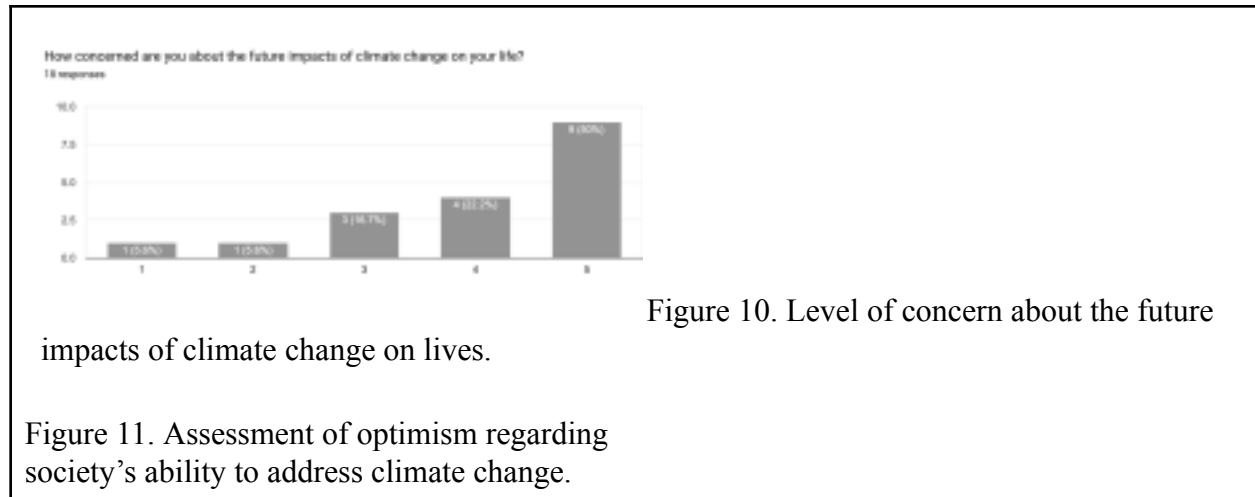
fairly often (Figure 8). However, 72.2% of the participants think that social media has influenced their perception of climate change (Figure 9). Some key accounts include, “Political commentary I watch, on the ground news and Instagram/Twitter posts show me the current state of climate change” and “I think that social media pushes people’s views on climate change closer to the extremes of each side, whether it be denial or advocacy.”



Future Concerns

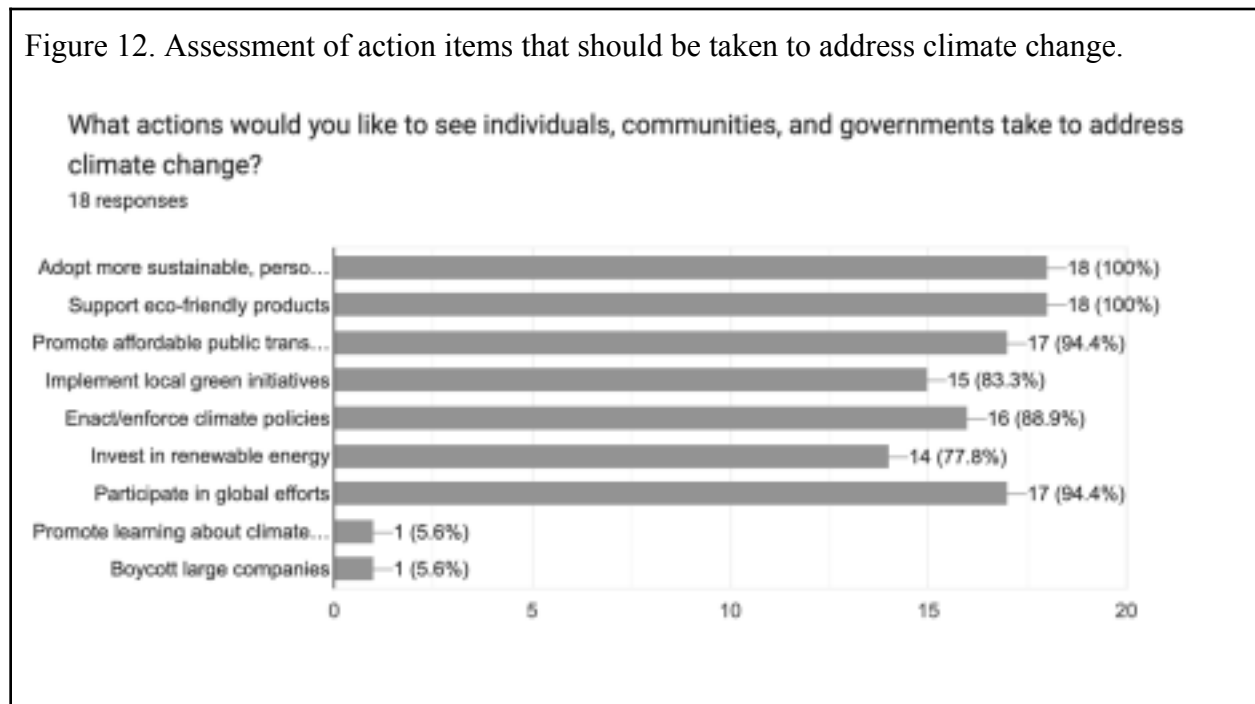
Half the participants are concerned about the future impact of climate change on their lives (Figure 10), with 55.6% of participants feeling optimistic about the abilities of society to address climate change and 16.7% do not (Figure 11). One specific account remains optimistic in terms of society shifting to being economically friendly, “I know it can be hard to believe that our society won't change in the late-stage capitalist hellhole we’re in right now but we always have to have hope for the future and everyone can help at a community level to make small impacts across the country. Economically there is an incentive to switch to an eco-friendly economy because new jobs are created and the economy becomes sustainable; however,

corporate lobbying is a huge issue that stands in the way of progress.” On the other hand, this account is far from optimistic and analyzes the society as a whole, “The United States is too far into an individualistic mindset that everyone now believes working together is not a solution.”



Coping Mechanisms

Out of the 18 participants, none have sought out support or help for climate-related anxiety, may it be from friends, family, or mental health professionals. Many specified the actions that individuals, communities, and governments should take to address climate change and unanimously, all participants voted for “Adopt more sustainable, personal lifestyles” and “Support eco-friendly products” (Figure 12). Though some participants voiced that climate anxiety among the youth can be alleviated through, “Taking action,” but more specifically, “Working with local activist groups, canvassing, and lobbying to local or state politicians. I’ve lobbied one time to multiple politicians, both Democrat and Republican, about educational issues and they were open to discussion. Voting and knowing environmentally progressive candidates is very important too.”



Discussion

Interpretation

The majority expressed concern about climate change's impacts on the environment which indicates a high level of environmental consciousness. This high level of environmental consciousness can mean a shift in prioritizing sustainability and eco-friendly practices, creating a sense of responsibility and purpose in mitigating the adverse effects of climate change. 83.3% have noticed changes in their local environment attributed to climate change, suggesting a strong awareness of climate-related changes in their surroundings. Many are able to recognize and understand the immediate impacts of climate change. Exposure to a variety of perspectives contribute to differing levels of concern and engagement with climate change issues. The impact of media and technology on the respondents' perceptions of climate change is obvious, with the majority coming across climate-related content. The perceived influence

of social media on shaping views towards climate change reflects broader debates about the growing role of digital communication in shaping public opinion and discussion on environmental issues. In terms of coping mechanisms, our survey suggests that many individuals attempt to manage their anxiety internally rather than seeking external support. This could possibly point to a potential gap in support systems for addressing climate-related psychological and mental health. With the increase in climate anxiety in youths, it is important that we develop and implement comprehensive mental health resources that can address and navigate feelings of climate anxiety. Nonetheless, the methods for alleviating climate anxiety highlight the importance of individual and collective action in addressing climate change and its psychological impacts.

Limitations

Our survey had 18 respondents; however, our ideal sample size was at least 50 people. With a small sample size, it does not fully represent the population as it may not accurately reflect the diversity of perspectives. This undermines the quality of our research which can make it difficult to draw conclusions and connections. There is also a possibility of response bias that may lead to inaccuracies in our data. As we are reliant on self-reported data, respondents may respond in a more socially acceptable way that doesn't reflect their actual behaviors, decisions, and thoughts; we can only assume that their response was honest. Addressing these limitations and implementing changes can improve the quality, validity, and applicability of our research findings.

Future research

Future studies on how climate change affects the environment will use a multidisciplinary approach. Examining the long-term effects of climate change on ecosystems—from forests to polar regions—with an emphasis on changes in ecosystem services and biodiversity is one facet of the study. Examining the frequency, intensity, and effects of extreme weather events—like storms and droughts—on ecosystems, infrastructure, and public health is another topic of interest. Significant research areas include coastal vulnerability and sea level rise, with studies concentrating on erosion, floods, and adaptation tactics in coastal communities. Recognizing how climate change affects agriculture and food security is also crucial. This includes knowing how factors like crop yields, food availability, and agricultural systems' resilience are affected. Another crucial field is water resource management, which deals with how climatic variability affects water availability, quality, and management techniques. More research is needed on the effects of the urban heat island effect on human health and urban infrastructure, as well as on feedback processes and possible tipping points in the Earth system. Furthermore, effective adaptation and mitigation strategies depend on an understanding of how climate change interacts with other environmental stressors and affects vulnerable groups on a social, economic, and cultural level. Finally, the creation of frameworks for scenario analysis and integrated assessment models can support decision-making at different levels and direct efforts toward sustainable development and climate resilience.

References

Crandon, T. J., et al. (2022). A social–ecological perspective on climate anxiety in children and adolescents. *Nature Climate Change*, 12(2), 123-131.

<https://www.nature.com/articles/s41558-021-01251-y#Sec23>

Hickman, C., et al. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: A global survey. *The Lancet, Planetary Health*, 5(2).

[https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(21\)00278-3/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(21)00278-3/fulltext).

Leiserowitz, A., Smith, N., & Marlon, J. R. (2011). *American Teens' Knowledge of Climate Change*. Yale University. New Haven, CT: Yale Project on Climate Change Communication.

<http://environment.yale.edu/uploads/american-teens-knowledge-of-climate-change.pdf>.

Thompson, L. G. (2010). Climate Change: The Evidence and Our Options. *The Behavior Analyst*, 33(2), 153–170. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2995507/>.