

## Psychological Anxiety Responses to Climate Change in Nangarhar University Students

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### ABSTRACT

Climate change is a global problem, and psychological anxiety responses are becoming recognized as a way in which climate change affects mental health. It is not merely detected in populations that suffer as direct effects of climate change. It can also be seen by people who are aware of climate change impacts. The aim of this study was to determine Nangarhar University students' views about psychological anxiety responses to climate change. Participants in this study included all students at Nangarhar University who were studying in 2023. Participants completed the validated Climate Change Anxiety Scale through an online Google Form, which was shared with 13 faculty student groups for two weeks. In a convenience sampling method Among them, 350 participants provided their answers that have been included in a quantitative analysis. The collected data were transferred to the SPSS 24 version for analysis through Cronbach's alpha, descriptive method (percentage, number, mean, and standard deviation). The result of this study shows that participants were highly concerned about drought and moderately concerned about hot weather floods and earthquakes. This study also indicates higher psychological anxiety responses in cognitive-emotional impairment and functional impairment due to climate change. This study reveals that participants were more psychologically anxious in both categories of cognitive-emotional impairment and functional impairment due to climate change, so it is suggested to include climate change anxiety in governmental policies and plans for reducing the psychological responses to climate change.

**Keywords:** Psychological Anxiety, Climate Change, Cognitive-Emotion, Impairment, Functional Impairment

### INTRODUCTION

The term 'psychological anxiety response is used to indicate the variety of thoughts and feelings that people have related to any events. It is defined as human negative emotions and states concerning a universal climate disaster and its threats (Clayton, 2020). The psychological anxiety response to climate change is divided into two subcategories: cognitive-emotional impairment and functional impairment. Cognitive-emotional impairment, reflecting difficulties in sleep, nightmares, concentrating, rumination, and functional impairment, reflecting difficulties in engaging work or academic responsibilities and relationships (Clayton & Karazsia, 2020). Psychological anxiety responses to climate change can be recognized from two perspectives, from one hand it has the range of potential threats that act as poor mental health outcome. On the other hand, it seems to be important to prepare a good future plan for climate change (Schwartz et al., 2023). Psychological anxiety responses connected with awareness about climate change, even among those who have not personally experienced any kind of direct impacts (Clayton, 2020). Climate change is a source of psychological anxiety around the world (Eric Reyes et al., 2021) specifically, when people face with an ambiguous future, feel hopeless and unsupported (Hickman et al., 2021). For example, Heat waves and increased temperature are connected to higher rates of psychological anxiety (Gao et al., 2019; Hansen et al., 2008). Flood and earth quakes are associated with higher rates of long-term psychological anxiety (Ahern et al., 2005).

Several terms are emerged to describe psychological anxiety responses related to climate change as ecological grief, climate change distress, ecological stress, eco-anxiety, environmental distress, climate change worry and climate anxiety (Coffey et al., 2021). Gaps in psychological anxiety responses to climate change research contain the lack of inclusive theoretical framework and it is necessary to further researched in various cultures (Pihkala, 2019). Mostly the researches has been conducted in developed cultures and it need to conduct in developing culture. Therefore, the aim of this study is to know Nangarhar University students' views about Psychological anxiety responses to climate change.

## MATERIALS AND METHODS

### Study Area

A cross-sectional online survey was conducted on 350 participants who are currently studying at Nangarhar University from December 1 to December 21, 2023. A non-probability-convenient sampling technique was used to select study participants. Data were collected using an online Google form that was shared with 13 faculties' student groups for three weeks with the help of Nangarhar University lecturers

### Samples Collection

The population of this study was all male students who were studying at Nangarhar University in 2023. Students who had access to the internet or an online Google Form from December 1 to December 21 were included in this study (350). Other students, such as females, graduated, and those who did not have access to the internet or an online Google form by the mentioned date were excluded from this study.

### statistical analysis

Data were analyzed using the SPSS Statistics software, version 24. Descriptive statistics were generated to describe mean, standard deviation and percentages. To measure the internal consistency of the translated questionnaires, Cronbach's alpha was calculated.

### Measurement tools

A standard Climate Change Anxiety Scale created by (Clayton & Karazsia, 2020) was used to measure psychological anxiety responses to climate change. This 13-item scale evaluates the cognitive-emotional impairment (8 items) and functional impairment (5 items) associated with perceptions of climate change. This scale was designed on a Likert scale, with response options ranging from 0 = never to 4 = always. higher scores on this scale, indicating high levels of psychological anxiety in response to climate change. Reliability in the current sample was good, as the total score was  $\alpha = .90$ , cognitive emotional impairment was  $\alpha = .89$ , and functional impairment was  $\alpha = .87$ .

## RESULTS

**Table 1.** minimum, maximum, mean standard deviation and correlation of the study variables

variables	items	Min	Max	Mean	Std. Deviation	1	2	3
Total Climate change anxiety	13	0	40	21.4	9.59	1		
Cognitive-emotion impairment	8	0	27	12.08	6.15	.93**	1	
Functional impairment	7	0	19	9.4	4.30	.87**	.65**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

According to Table 1, The subparts (cognitive-emotional impairment and functional impairment) have a positive and significant correlation with climate change anxiety.

**Table 2.:** Participants' general characteristics of 350 sample

Characteristics	Categories	Number	Percent
Are you concerned about climate change?	yes	246	70.3
	No	104	29.7
Have you experienced serious climate change events?	yes	322	92.0
	No	28	8.0

Table 2 shows that participants were highly concerned about climate change (70.3%), and 92 percent of them stated that they experienced serious climate change events.

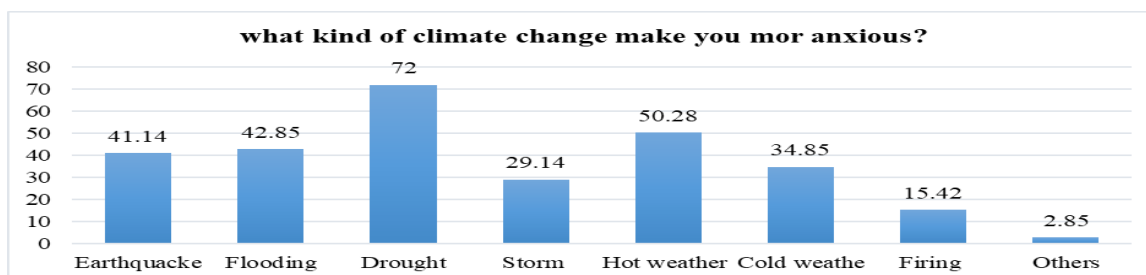


Figure 1. shows climate change events anxious percentages of participants.

According to Figure 1, Nangarhar University students were more concerned about drought (72%), moderately about hot weather (50.28), and less than half of them were anxious about flooding and earthquakes.

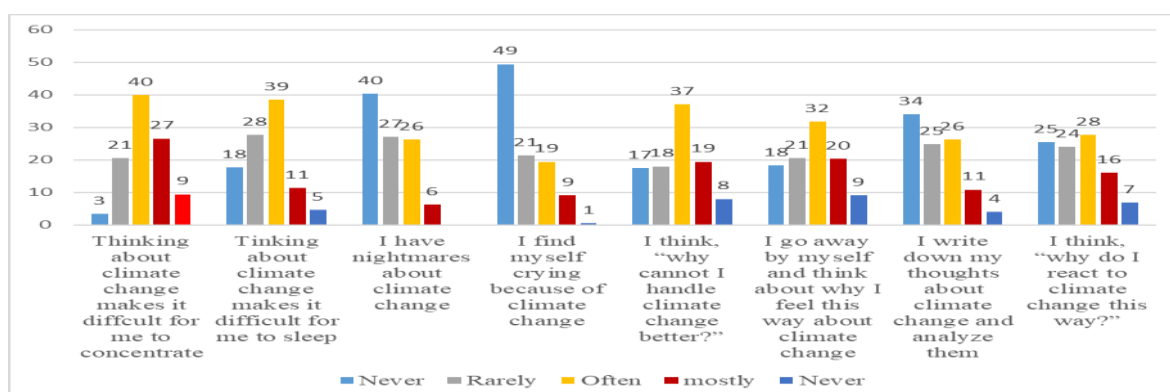


Figure 2. shows percentages of participant cognitive-emotional impairment responses to climate change.

According to figure 2, more than half of the participants (76%) with response options ranging from some time to often and always have concentrating difficulties; 64.6 percent had rumination difficulties; and 54.6 percent had sleep difficulties. Interestingly, 67.4% rarely or never have nightmares about climate change.

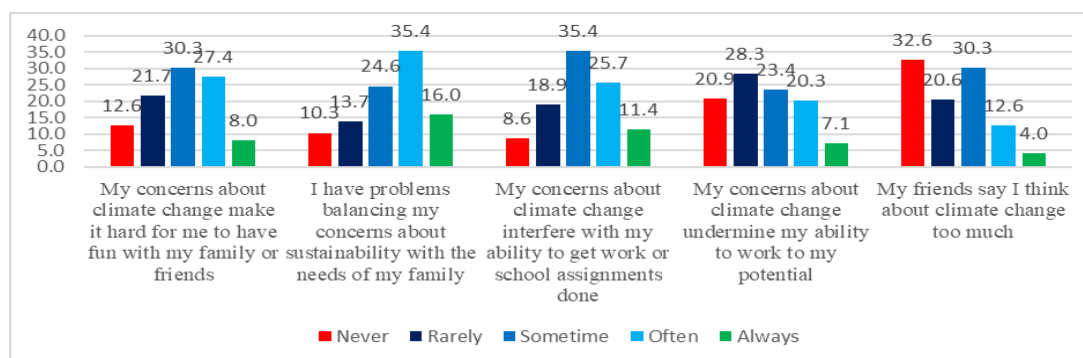


Fig .3. shows percentages of participant functional impairment responses to climate change.

According to Figure 3, more than half of the participants (61.1%) have difficulties engaging in work or academic responsibilities some time or often, and about 60 percent of the participants have difficulties in relationships with their family or friends due to climate change.

## DISCUSSION

The result of this study shows Nangarhar University students have higher negative psychological emotions about climate change. This finding is supported by the findings of researchers (Clayton, 2020; Eric Reyes et al., 2021; Hickman et al., 2021). It is stated that climate change is a source of psychological anxiety around the world. It is a real personal and financial threat to individuals and societies, so it is rational for individuals to have psychological anxiety, as it is connected with perceptions about climate change without direct impacts. In this regard, communication technologies are full of stories about climate change disasters,

which can be one of the main reasons that Nangarhar University students were highly psychologically anxious about climate change.

The participants of this study were highly concerned about drought, moderately with hot weather, floods and earthquakes. This result is supported by (Ahern et al., 2005; Gao et al., 2019; Hansen et al., 2008; Pourmotabbed et al., 2020; Vins et al., 2015). One of the main reasons students have higher concerns about drought may be poverty, as drought significantly disturbs agricultural production, water scarceness, and food confidence, which can increase the psychological anxiety of society members. The main reason participants are psychologically anxious about flooding and earthquakes might be a feeling of unsafety in their lives and their incomes. For example, many people were damaged in recent events of flooding and earthquakes in some parts of Afghanistan. As their houses were destroyed, it is difficult to buy building materials to construct their houses again, and it is even difficult to buy food and clothes. Warmth events and higher temperatures might suppress thyroid function, causing cognitive impairment, as well as lead to dehydration, which causes a decrease in cognitive function.

The outcome of this research discloses that participants were more psychologically anxious in both categories of cognitive-emotional impairment and functional impairment due to climate change. These findings are maintained with (Clayton & Karazsia, 2020). In fact, climate change alters the lifestyles of people, as they might lose their relatives and properties, as well as their concerns or have to migrate from an unsafe place to a safer one. Therefore, thinking about such cases makes life difficult and causes cognitive-emotional impairment because it is hard to sleep and concentrate. Likewise, concerns about the threatening and challenging parts of life for a long period of time can result in functional impairment. For example, when someone is psychologically worried about climate change, it interferes with his or her ability to engage in work or academic responsibilities, and he or she has difficulties in relationships with their family or friends due to climate change. There are several limitations to this study. First, this study was conducted only on Nangarhar University male students, so the reader must consider the female university students, school students, and even other university male students that might have different results. Second, it is only a quantitative study; the result of a qualitative study must be considered. Third, the participants in this study might not have been representative of the whole Afghan population. Thus, it would be helpful if other studies were conducted to fulfill the limitations of this study and compare the results for a better understanding of psychological anxiety about climate change.

## CONCLUSION

The aim of this study was to determine Nangarhar University students' views about psychological anxiety responses to climate change. The result of this study shows a higher level of psychological anxiety related to climate change. Particularly, students were more anxious about drought and moderately worried about hot weather, flooding, and earthquakes. The results of this research study reveal that participants were more psychologically anxious in both categories of cognitive-emotional impairment and functional impairment due to climate change. According to the result of this research, it is suggested to include climate change anxiety in governmental policies and plans for reducing psychological responses to climate change, including mental health psychological supports, to better prepare for and respond to climate change.

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**Authors Contributions:** HH: conceptualization, method, investigation, formal analysis, resources, original draft preparation, review and editing, visualization, BE: investigation, writing-review and editing. AM: investigation, review and editing. All authors are agreed with the entire final manuscript.

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