Research Paper

Impact of Climate Change Anxiety on Quality of Life among Young Adults

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ABSTRACT

The objective of this investigation was to evaluate the impact of climate change anxiety on quality of life among young adults. Data was collected by participants of age 18-30 years (n = 190) through convenience sampling method by filling a questionnaire which consists of 22 items of climate change anxiety scale by Clayton and Karazsia, measuring climate change anxiety and WHOQOL BREF (World Health Organization Quality of life- brief version) used for measuring quality of life. Pearson's correlation showed that although there was no significant relationship found between climate change anxiety and quality of life, but a positive significant relationship exists between behavioral engagement towards climate change with QOL-social relations (0.184) at p < .05. The current study fills an important research gap by providing insight upon how acting towards climate change by getting involved in communities helps people to decrease negative feelings like hopelessness towards climate change and improves our quality of life in aspects of social relations. This study also highlights areas for further investigation.

Keywords: Climate Change Anxiety, Quality of Life, Young Adults

Climate change anxiety has been an approaching concern along with growing impacts of climate change all around the world. 'Solastalgia', a term derived by an Australian philosopher Glenn Albrechtnot is defined as the psychological impact on a population, caused by the destruction occurred due to climate change. It is marked as the distress that is caused because of danger to our ecosystem (Vanbuskirk, 2023). More recently this term is used as eco-anxiety, which can occur to people who feel heavy guilt related to climate change or have experienced a sense of loss due to the same. A person experiencing eco-anxiety may show signs of sleeplessness, feeling hopelessness about the future, anxiety and stress in relation to their environment. Climate anxiety is just another name used for the term eco-anxiety and it does not affect everyone equally (Raypole, 2020). As defined by Clayton and Karazia (2020) climate anxiety is different from regular worry or concern about climate change as it is being measured through impairment in functional and cognitive-emotional aspects in our everyday life.

Individuals who are highly affected by climate change and experience anxiety, might have an impact on their quality of life. Quality of life can be defined as an individual's subjective

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evaluation of their life goals and aspirations as seen through the filter of their cultural and moral beliefs. With the increase in temperature due to climate change, our quality of life also gets affected. Availability and quality of food is aggravated, making our bodies prone to vector borne diseases (WHO, 2023). Around 58% of 375 infectious diseases are heighted by climate change (Joi, 2023).

The factors contributing to climate change anxiety include betrayal from their respective governments. Youth blaming government for any lack of action taken towards climate change. A study showed that 10,000 children (aged 16-25 years) from 10 different countries when asked questions upon their personal feeling and thoughts about climate change, showed that 45% of them feel negatively towards climate anxiety and it impacted their daily lives. These participants also felt deceived by their governments in accordance with climate change activism (Hickman, et.al., 2021). Being exposed to social media- where people are being fed false information in the name of awareness regarding climate change, this is elevating their anxiety towards climate change. There is high correlation between the media exposure on climate change to students between ages of 18-26 years and climate change anxiety (Maran and Beggoti, 2021). Misleading information on climate change can cause people to worry about facts that are not true. Knowledge about climate change also plays an important role in shooting up climate change anxiety along with the level of alertness people show. Pro-environmental behavior is also positively related to people who show high level of alertness and attention to climate change (Ognubode et.al., 2022) This shows that climate change anxiety can act as an advantage or a disadvantage for us as a society, depending upon how seriously we take it. Through optimal amount of awareness and level of anxiety, it can make us feel motivated towards achieving a po-environmental behavior instead of feeling hopeless and being excessively worried about the future that climate change holds ahead of us.

Direct or indirect impact of climate change anxiety on wellbeing
The direct influence on mental health manifests in extreme weather occurrences like storms, floods, droughts, and heatwaves, resulting in traumatic incidents leading to stress, anxiety, depression, and post-traumatic stress disorder. The lack of clarity regarding future circumstances and the possibility of more frequent and intense climate-related events contributing to persistent stress and anxiety can cause fear and have an indirect impact on our mental health (Cianconi et al., 2020). The economy- with presence of uncertain events related to climate change there is going to be downfall of many industries and loss of jobs as the resources become more limited. This stress of facing financial burden regarding the same can contribute to anxiety. (Cianconi et.al., 2020). Disconnection from nature- We have destroyed our environment to make our lives more convenient but all it has caused us is more stress. People need a vacation at some place which feels close to nature, as an escape from their busy city lives. Poor mental health is also highly associated with lack connectedness with nature. With disconnection from our environment, we are also disconnected with ourselves and others (Nurse et al., 2010). Physical health- there have been identification of vulnerable populations who might have severe health related issues due to either their proximity to disaster prone area for example coastal regions in Mumbai, along with people who live in poverty and won't have resources to fight against vector-borne diseases like malaria and such. This can also have a significant impact on their mental health (Rishi and Mudaliar, 2014). Malnutrition can be caused by climate change which might lead to various diseases specially to children. Health disorders like child stunting are expected to increase by 2050 due to climate change (world bank group, 2023). Climate change anxiety is not a pathological disorder or a mental illness but drastic changes in the weather and environmental conditions that we don't have control over, can add on to our stress and anxiety which might impact our

quality of life. This paper focuses on assessing the impact of climate change on quality of life among young adults. Younger generations are found to be more aware of matters related to climate change and might have more concerns and negative feelings related to what climate change might contribute to their future resources. Previous studies indicate a robust association between anxiety related to climate change and psychological disorders such as depression, generalized anxiety disorders (GAD) (Shwartz et al., 2022), along with feelings related to isolation and loneliness (Hajek and König, 2022). These challenges have a direct impact on overall well-being. The relationship between climate-related distress and psychological well-being has been examined, however, its influence on a more comprehensive construct such as overall quality of life has not received adequate research attention.

REVIEW OF LITERATURE

Nezlek and Cypryańska (2024) explored two possible reactions to climate change, one could develop in severe mental illness, or one might be affected at all. The findings indicated that there are two types of responses to climate change. Some people do not experience the signs of mental problems associated with climate change, whereas others do. Individuals who exhibit symptoms report higher levels of distress related to climate change, and the frequency of these symptoms is influenced by dispositional, generalized worry.

Gago, Sargisson, and Milfont (2024) an adverse emotional reaction to climate change is known as "climate anxiety," which can range from effective coping mechanisms to severe psychological impairment. To quantify this fear, the Climate Change fear Scale (CCAS) was created. However, mixed findings have cast doubt on its reliability and applicability in evaluating the effects of climate change on mental health. According to a meta-analysis, there is a moderately negative relationship between psychological wellbeing and CCAS scores; these relationships are stronger when mental illness and higher environmental identity are considered.

Cianconi et al., (2020) examined 163 publications to determine the relationship between extreme weather patterns brought on by climate change may serve as a gateway to psychological problems. According to the review, vulnerable groups are more likely to experience mental health issues related to climate change because they lack resources and protection from the harsh effects of the phenomenon. The association between mental diseases and climate change has also given rise to new terminology, such as ecoanxiety, Eco guilt, and ecological sadness.

METHODOLOGY

Objectives

- To investigate the relationship between climate change anxiety and quality of life among young adults.
- To investigate whether cognitive emotional impairment due to climate change affects psychological domain within quality of life.
- To investigate whether behavioral engagement towards climate change affects social relationships domain within quality of life.

Hypothesis

- H1: There will be a significant relationship between climate change anxiety and quality of life.

- H2: Young adults who score high on cognitive emotional impairment in the climate change anxiety scale will have a negative impact on their psychological aspects of quality of life.
- H3: Young adults who score high on behavioral engagement in climate change anxiety scale will also score higher on the social relationship domain of the quality of life scale.

Sample

The sample was collected from 190 Indian participants residing in Delhi NCR region belonging to the age group of 18-30 years. Convenience sampling method was used in distribution of the questionnaire through online and offline method among participants and to those who fall under the appropriate age bracket. The age bracket considered was chosen with the purpose of identifying whether young adults were prone to climate change anxiety as youth is more aware and informed about events related to climate change. Participants' age ranges from 18 years old being the minimum age and 28 years old as the maximum age in the sample.

Instruments

the responses were collected using the following instruments

1. **Climate change anxiety:** Climate change anxiety scale by Clayton and Karazsia, B. T. (2020) was used to measure climate change anxiety. The original version with 22-items includes four sub-scales measuring cognitive impairment, functional impairment, emotional impairment and personal experience of climate change and behavior engagement. The short version of the scale consists of 13 items, measuring only two sub-scales, cognitive-emotional impairment and functional impairment. The 22-item version was used in this study to find if personal experience and behavior engagement related to climate change impacts quality of life in some ways. The responses were measured on a five pointer Likert scale. The scale had a good internal consistency reliability score of above 0.80. Validity of the scale was measured through construct, concurrent and discriminant validity as a suggestion of capturing related and distinct concepts.

2. **Quality of life:** WHOQOL BREF (World Health Organization Quality of life- brief version 1996) made by WHO, was used to assess an individual's perceived quality of life. It is a short version of WHOQOL-100, consisting of 26 questions measuring quality of life on 4 domains- physical health (7 items) evaluating pain and energy levels required in daily activities, psychological health (6 items) evaluating self-esteem and positive and negative feelings, social relationships (3 items) evaluating personal and social relationships and environment (8 items) evaluating physical environment and safety. Five pointer Likert scale was used in each sub-scale to collect the raw scores. Internal consistency reliability was high withing each sub-domain with an overall score of 0.91. convergent validity indicated significant correlation between all domains at $\alpha < 0.01$.

Procedure

The procedure of this research project consisted of recruiting a sampling comprising of 190 participants resorting to a quantitative methodology, implementing convenience sampling technique for data collection. Data was collected by distribution of the questionnaire in both online (30%) and offline method (70%). Participants were asked to fill out the questionnaire on random basis of distribution of online or offline form, which consists of overall 48 items divided into two sections, Section A consisted of 22 items from climate change anxiety scale,

and section B consisted of 26 items from WHO QOL- brief (World Health Organization Quality of life- brief version). Instructions for filling in the form were provided within the form for easy understanding of the questionnaire. Before filling the questionnaire, it was made understood to the participants that there are wrong and right answers. Statistical package for social sciences (SPSS) was used to analyze the quantitative data through Pearson's correlation to examine the relationship between climate change anxiety and quality of life among young adults.

Research Design

Descriptive statistics explored the distribution of the data and any possibility of existing outliers before conducting correlation on the dataset. This study employed a correlational research design and examined the quantitative data which focused identifying the impact of scores of climate change anxiety on quality of life among young adults. The quantitative data was collected using the questionnaire method. Pearson correlation was used to identify the significance of the linear relationship which exists between climate change anxiety and quality of life of an individual.

Statistical technique

This study used descriptive statistics and correlation using SPSS software.

RESULTS

Table No. 1 Descriptive statistics scores of climate change anxiety and quality of life

Descriptives	Climate change anxiety	QOL-physical	QOL-psychological	QOL- social relationships	QOL-environmental
N	190	190	190	190	190
Mean	54.3	58.1	58.5	62.4	62.9
Median	53.0	56.0	63.0	69.0	63.0
Mode	51.0	56.0	69.0	69.0	75.0
Standard deviation	13.4	16.7	18.5	21.4	17.9

Table 1 shows the descriptive statistics used in the study for independent variable (climate change anxiety) and dependent variable (sub-domains of quality of life- physical, psychological, social relations and environmental). The total number of participants was 190 with no missing values found in the data. The mean score of climate change anxiety is ($M = 54.3$) meaning that the tested population showed average climate change anxiety. The mean values for the quality of life sub-domain consists of QOL-physical ($M = 58.1$), QOL-psychological ($M = 58.5$), QOL-social relations ($M = 62.4$), QOL-environmental ($M = 62.9$), hence environmental sub-domain having the highest mean value. Standard deviation shows how much the scores are scattered around the mean, climate change anxiety ($SD = 13.4$), QOL- physical ($SD = 16.7$), QOL-psychological ($SD = 18.5$), QOL-social relations ($SD = 21.4$), QOL-environment ($SD = 17.9$). QOL- social relations shows greater SD than others, this means that there is disparity in participants social relations from each other.

Table No. 2 Correlation matrix of climate change scores and quality of life domain scores

Domains of quality of life	climate change anxiety
QOL-physical	0.002
QOL-psychological	0.075
QOL-social relationships	0.124
QOL- environment	-0.022

*Note. * p < .05, ** p < .01, *** p < .001*

Table 2 shows the correlation matrix using Pearson correlation between climate change anxiety and sub-domains of quality of life. Climate change anxiety shows weak positive correlation with QOL-physical (0.002), QOL- psychological (0.075) and QOL- social relations (0.124) not showing any significance. Climate change anxiety shows a weak negative correlation with QOL- environment (-0.022) but is not significant.

Table No. 3 Correlation matrix of climate change anxiety domain scores and quality of life domain scores

Domains of Quality of life	Cognitive emotional impairment	Functional impairment	Personal experience of climate change	Behavioral engagement
QOL 1- physical	-0.002	0.008	-0.078	0.074
QOL 2- psychological	0.071	0.101	-0.080	0.096
QOL 3- social relationships	0.089	0.064	0.028	0.184*
QOL 4 environmental	-0.055	-0.065	-0.109	0.127

*Note. * p < .05, ** p < .01, *** p < .001*

Table 3 shows correlation matrix between sub-domains of climate change anxiety and sub-domains of quality of life through Pearson correlation. Cognitive-emotional impairment due to climate change is negatively correlated with QOL-physical (r = -0.002) and QOL-environmental (r = -0.055) but is not significant and is positively correlated with QOL-psychological (r = 0.071) and QOL- social (r = 0.089) but are not significant. Functional impairment due to climate change is positively correlated with QOL-physical (r = 0.008), QOL-psychological (r = 0.101), QOL-social (r = 0.064) but is not significant and is negatively correlated with QOL-environment (r = -0.065) although not significant. Personal experience of climate change is negatively correlated with QOL-physical (r = -0.078), QOL-psychological (r = -0.080), QOL-environmental (r = -0.109) but is not significant and is positively correlated with QOL-social (r = 0.028) not significant. Behavioral engagement in climate change is positively correlated with QOL-physical (r = 0.074), QOL-psychological (r = 0.096), QOL-environmental (r = 0.127) not significant, although a weak positive correlation exists with QOL-social relations (r = 0.184) at p < .05.

DISCUSSION

The correlation depicts that there is no significant relationship between climate change anxiety and quality of life. Climate change anxiety shows weak positive correlation with QOL-physical (r = 0.002), QOL- psychological (r = 0.075) and QOL- social relations (r = 0.124) and a weak negative correlation with QOL- environment (r = -0.022) which is not significant. This rejects H1 which stated that there will be a significant relationship between

climate change anxiety and quality of life. Cognitive-emotional domain of climate change anxiety shows no significant relationship with QOL-psychological ($r = 0.071$) and rejects H2 which states that young adults who score high on cognitive emotional impairment in the climate change anxiety scale will have a negative impact on their psychological aspects of quality of life. A positive significant relationship ($r = 0.184$) at $p < .05$ exists between climate change anxiety sub-domain behavioral engagement and QOL- social relationships. Hence, H3 which states that young adults who score high on behavioral engagement in climate change anxiety scale will also score higher on the social relationship's domain of the quality of life scale is retained. This means that with an increase in behavioral engagement regarding climate change there can be improvement of our social relationships. The promotion of pro-environmental behavior and improvements in subjective well-being could lead to the development of an environmentally sustainable society characterized by a better quality of life (Kaida & Kaida, 2019). This study helps in understanding its impact and bring awareness on the topic of how we can manage our climate change anxiety by engaging in environmental related activities and how it also helps in increasing our social relationships as individuals collaborate with like-minded individuals striving towards mitigating climate change.

CONCLUSION

The study focused on identifying whether climate change anxiety has any impact on quality of life among young adults. It can be concluded that there is no significant relationship between climate change anxiety sub-domains and quality of life sub-domains except a positive significant relationship between behavioral engagement due to climate change and QOL-social relationships. It tells us that engaging in activities related to conservation of climate change might help in improving social aspects of one's quality of life. Acting towards climate change by getting involved in communities helps people to decrease negative feelings like hopelessness regarding the future. Connecting with people who share the same goals as you towards reducing climate change can not only reduce climate change anxiety but also helps improve one's quality of life by building strong social relations.

Limitation and suggestions for future research

- It can be concluded that this study fills a critical research gap in the literature by assessing the impact of climate change anxiety on quality of life among young adults.
- The results also may vary due to individual experiences related to climate change and the intensity of the events which would leave an impact.
- More age groups can be studied such as rural population, older age groups, population living around coastal regions etc.
- Climate change anxiety will be growing in the upcoming years so the impact might also change with time.
- The results of this study may not be generalized due to smaller sample size, and researchers are encouraged to identify other factors of quality of life that might be affected by climate change anxiety in the future.

Implications

The findings of this research report that although there is no significant impact of climate change anxiety on quality of life but increasing our behavioral engagement regarding climate change might improve our social relations and increase our quality of life. As supported by previous research that acting towards climate change helps reducing negative feelings and anxiety related to climate change, this study also supports that participating in common goals towards reducing climate change will improve social relationships in one's life. This study

also provides direction to future researchers to explore more factors when measuring the impact of climate change anxiety on quality of life and include a diverse and more vulnerable population in relation to climate change.

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