

Association of Climate Change Anxiety with Mental Well-being: Towards Sustainability

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ABSTRACT

Climate Change Anxiety refers to the distress and worry individuals experience due to the perceived or actual impacts of climate change, such as extreme weather events, environmental degradation, or future uncertainties. This anxiety can manifest in various ways, affecting Mental Well-being by increasing stress levels, undermining feelings of security, and influencing overall emotional stability. The paper thus explores the relationship between Climate Change Anxiety and Mental Well-being. The sample for the present study consisted of 150 University students. Two psychological instruments, 'Climate Change Anxiety Scale' by Clayton and Karazsia, (2020), and 'The Warwick-Edinburgh Mental Well-being Scale' (WEMWBS) by Stewart-Brown and Janmohamed (2008) measured the variables taken up for the study. Regression analysis was applied to compute the data. The results indicate that there is a positive and significant correlation between Climate Change Anxiety and Mental Well-being $r = 0.284$ ($p < 0.01$). Moreover, Climate Change Anxiety had a significant contribution in the determination of Mental Well-being ($F = 12.955$, $p < 0.01$). Recognizing and addressing these psychological impacts, individuals can better navigate the challenges posed by climate change; consequently promoting Mental Well-being. The present study is in line with the Sustainable Development Goal-Climate Action and Mental Well-being (SDG-13), and Good Health and Well-being (SDG 3).

Keywords: Climate Change Anxiety, Mental Well-being

INTRODUCTION

Climate Change Anxiety, often referred to as eco-anxiety, is a growing phenomenon where individuals experience heightened levels of stress, worry, and fear about the current and future impacts of climate change. This form of anxiety stems from the awareness of the severe environmental changes occurring globally, including rising temperatures, melting ice caps, extreme weather events, and biodiversity loss. As the scientific consensus on climate change becomes increasingly irrefutable, more people are grappling with feelings of helplessness, guilt, and concern for future generations. Climate Change Anxiety affects individuals of all ages but is particularly pronounced among young people who are deeply concerned about inheriting a compromised planet. This emotional response to climate change not only impacts mental health but also influences social behavior, policy advocacy, and personal lifestyle choices as people seek ways to mitigate their anxiety and contribute to solutions. Understanding and addressing Climate Change Anxiety is crucial for fostering resilience and empowering communities to

take meaningful action against environmental degradation. A substantial amount of research has explored the mental health impacts of climate change, particularly focusing on weather-related disasters, which have been linked to higher rates of common psychiatric conditions such as Major Depressive Disorder (MDD) and Generalized Anxiety Disorder (GAD) (Goldmann & Galea, 2014; Hrabok et al., 2020). Additionally, an increasing number of studies indicate that rising temperatures can negatively affect mental health and elevate the risk of suicidal behavior (Burke et al., 2018; Cianconi et al., 2020; Heo et al., 2021).

In its 2018 Summary Report, the World Health Organization (WHO) described positive mental health as the "foundation for well-being and effective functioning for both the individual and the community." The report also described **Mental Well-being (MWB)** as "a condition that allows individuals to recognize their abilities, handle everyday stresses, work efficiently and effectively, and contribute to their community is an essential aspect of overall health that encompasses emotional, psychological, and social well-being. It impacts how people think, feel, and behave, affecting their capacity to manage stress, interact with others, and make decisions. Mental Well-being refers to a positive mental health with a realization of one's potential, work efficiency and stresses management towards the upliftment of themselves and their communities. Factors such as a supportive social network, balanced lifestyle, and positive coping strategies play a significant role in maintaining Mental Well-being In a world where stressors are increasingly prevalent, from personal challenges to global crises, prioritizing Mental Well-being is crucial for fostering resilience, enhancing quality of life, and promoting overall health and happiness. Understanding and nurturing Mental Well-being can lead to more fulfilling lives, healthier relationships, and stronger, more cohesive communities. The Sustainable Development Goal 13 (SDGs, 2015) is most closely related to both climate change anxiety and mental Well-being and Climate Action, while SDG goal 3 is related to Good Health and Well-being.

Schwartz et al. (2023) found that both subscales of Climate Change Anxiety were strongly linked to symptoms of Generalized Anxiety Disorder. However, only the Functional Impairment subscale was connected to higher symptoms of Major Depressive Disorder. Additionally, participating in group activities, rather than individual efforts, significantly reduced the link between cognitive emotional impairment from Climate Change Anxiety and symptoms of Major Depressive Disorder. In a study by **Ogunbode et al. (2022)**, it was concluded that climate anxiety is positively related to the rate of exposure to information about climate change impacts, the amount of attention people give to climate change information, and their perceived social and emotional reactions to climate change. Notably, climate anxiety had a significant inverse relationship with Mental Well-being in 31 out of 32 countries. A significant relationship was observed between Climate Change Anxiety and mental health. Also, Climate Change Anxiety accounted for 13.5% of the overall variance in the Mental Health Index as found in a study by **Reyes et al. (2021)**. **Manning and Clayton (2018)** found that the human health impacts of climate change have become clearer as communities worldwide face rising seas, flooding, extreme storms, heat waves, wildfires, drought, and other climate-related disruptions. Such natural disasters threaten physical health, mental health and well-being. **Gifford and Gifford (2016)** found that climate change can cause not only posttraumatic stress disorder (PTSD) due to the trauma of displacement from extreme weather events like Hurricane Katrina but also "pre-traumatic" stress disorder, which is moderate to extreme anxiety about an impending crisis.

METHOD

AIM: To study the relationship between Climate Change Anxiety and Mental Well-being in university students.

OBJECTIVES

- To study the relationship of Climate Change Anxiety and Mental Well-being in university students.
- To study the relative contribution of Climate Change Anxiety and Mental Well-being in university students.

HYPOTHESES

- There would be a positive significant relationship between Climate Change Anxiety and Mental Well-being in university students.
- Climate Change Anxiety would have a significant contribution in the determination of Mental Well-being in university students.

OPERATIONAL DEFINITIONS OF TERMS USED

Climate change anxiety refers to the feelings of worry, fear, or distress associated with the perceived or actual impacts of climate change on the environment, society, and future generations.

Mental Well-being refers to a state in which an individual can effectively manage emotions, cope with stress, maintain positive relationships, and achieve personal goals. It involves a sense of balance, resilience, and the ability to adapt to life's challenges while experiencing overall satisfaction and fulfillment.

VARIABLES

- **Predictor Variable**
Climate Change Anxiety
- **Criterion Variable**
Mental Well-being

SAMPLE

The study was conducted on a sample of 150 students, both male and female university students from Agra, UP, India. The subjects were between 17 to 24 years of age. Convenient sampling technique was used.

TOOLS

- Climate Change Anxiety Scale which is a 22-item measure originally created by Clayton, S., and Karazsia, B. T. (2020) was used to measure Climate Change Anxiety.
- The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) is a 14-item self-report inventory designed to measure Mental Well-being by Stewart-Brown and Janmohamed (2008) was used to measure Mental Well-being.

PROCEDURE

150 undergraduate students (both boys and girls) belonging to an age range of 17 to 24 years were selec-

ted through convenient sampling technique from the one of the esteem university, Agra, India. After obtaining official permission from the concerned authorities; written consent from the respondents to take part in the research was obtained. The two psychological tools were administered to measure Climate Change Anxiety Scale and The Warwick-Edinburgh Mental Well-being Scale. Thereby, the raw data was statistically treated with the help of Multiple Regression to draw the inferences.

ETHICAL CONSIDERATION

After obtaining informed consent, respondents were confirmed confidentiality and trust about their responses; while the participants' Well-being was also ensured.

DATA ANALYSES AND DISCUSSION

Regression analysis was used for statistical analysis of the data for the current study.

Table-1: Descriptive Statistics

	Mean	Std. Deviation	N
Mental Well-being	49.726	11.765	150
Climate Change Anxiety	60.226	15.878	150

Table-1 shows the mean and standard deviation for Climate Change Anxiety as predictor of Mental Well-being.

The coefficients of correlation were computed to test the anticipated hypotheses. **Table-2** shows inter correlations between the proposed variables, viz., Climate Change Anxiety and Mental Well-being.

Table-2: Correlation Matrix

	Climate Change Anxiety	Mental Well-being
Climate Change Anxiety	1	0.284**
Mental Well-being	0.284**	1

** Correlation is significant at the 0.01 level

The matrix of coefficient of correlation (Table-2) indicates there is a positive significant correlation between Climate Change Anxiety ($r = 0.284$, $p < 0.01$), with Mental Well-being. Hence, the first hypothesis that stated, "There would be a positive relationship between Climate Change Anxiety with Mental Well-being" is accepted. Further, the multiple regression analysis was done to examine the extent to which predictor variable Climate Change Anxiety, predict criterion variable Mental Well-being. For interpreting the results obtained from Multiple Regression Analysis, the variance caused by the combined effect of predictor variable is seen by obtained R square as shown in Table-3.

Table-3: Multiple Regression Analysis for Mental Well-being

Regression Statistics	
Multiple R	0.284
R Square	0.080
Adjusted R Square	0.074
Standard Error	11.320
Observations	150

The above **Table-3** shows that the calculated Multiple R value is 0.284 which indicates the direction of the relationship being positive. This also specifies that the larger the value; the stronger the relationship. Further, Table-3, shows that the obtained value for R square = 0.080, which means that about 8 % of contribution is accounted for by the predictor variable Climate Change Anxiety in causing variation in the criterion variable, i.e., Mental Well-being. The remaining variation of 92 % is due to other factors. The statistical test for the significance of R is an F ratio (Table-4).

Table-4: Showing the F-Value for Mental Well-being

	df	SS	MS	F	Significance
Regression	1	1660.192	1660.192	12.955	.000 ^b
Residual	148	18965.602	128.146		
Total	149	20625.793			

Table-4, depicts the value of F = 12.955, which is significant at $p < 0.01$ level of significance, indicating that there is a significant contribution of Climate Change Anxiety in determining Mental Well-being.

Table-5: Regression Coefficient of Predictor Variables for Mental Well-being

S. No	Variable	Regression Coefficient (b)	Standard Error of Coefficient	Correlation Coefficient	t-value	β	Coefficient of Determination
1	Climate change anxiety	0.210	0.058	0.284	3.599	0.284	0.080

$$Y = 0.210X_1 + 37.066$$

Table-5 reveals that the predictor Climate Change Anxiety has accounted for 8% of the contribution in determining the criterion variable i.e., Mental Well-being and the remaining 92% is accounted for by other variables. A careful study of the regression equation reveals that 1 unit variation in X_1 i.e. Climate Change Anxiety will bring about a variation of 0.080 units ($b = 0.210$) in the Mental Well-being. The second hypothesis which stated that, “There would be a positive and significant contribution of Climate Change Anxiety in the determination of Mental Well-being”, has been accepted.

Various studies have been conducted whose results are similar to the result of the present investigation. **Léger-Goodes et al. (2022)** study concludes that the awareness of climate change lead to generating emotional responses and eco-anxiety in children. The mental health effects include depression, anxiety, and intense emotions such as sadness, anger, and fear. Youth from vulnerable communities, such as indigenous communities or those with strong ties to the land, are often particularly affected emotionally by climate change. **Cunsolo et al. (2015)** discovered that climate change impacts mental health through alterations in land, ice, snow, weather, and sense of place; through physical health consequences; damage to infrastructure; and indirect effects via media, research, and policy. They suggest that climate change is a growing mental health issue for circumpolar indigenous populations and emphasize the need for research, policy, and mental health programs to address this. They concluded that by highlighting future research directions, policy recommendations, and the need for locally responsive and culturally relevant mental health resources. The intertwined nature of environmental and psychological health

highlights the necessity of holistic approaches, as embodied by SDG 13 and SDG 3. Mitigating climate change not only alleviates physical threats but also reduces the mental stress associated with environmental degradation and uncertainty. Integrating mental health support within climate strategies ensures comprehensive resilience, fostering both a stable environment and a healthy populace.

CONCLUSION

In conclusion, the research emphasizes the importance of addressing climate change as a critical factor in mental health research and policy formulation. Moving forward, interventions aimed at mitigating Climate Change Anxiety and promoting mental resilience are essential for fostering healthier communities amidst environmental challenges. Climate Change Anxiety and promoting mental well-being are integral components of sustainable development

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