



Youthful Hope vs Seasoned Despair: A Study of Eco-Anxiety, Climate Grief, and Environmental Self-Efficacy

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Abstract: Through the recent years, concern about and evidence of climate change has been on a rise so much so that it has not only influenced the physical environment but also the psychological landscape of individuals. The research looked into the generational differences in perceived emotional stress from environmental threats, perceived grief caused by loss and degradation of the natural environment and, the role of self-efficacy to stressors brought upon by climate change. The researchers explored the delicate relationship between eco-anxiety, climate grief and, environmental self-efficacy using Climate Change Worry Scale (Stewart, 2021) (Clayton & Karazsia, 2020), Eco-Grief Scale (Gabrielle Loisel, 2022) and Environmental Self-Efficacy Scale (Moeller & Stahlmann, 2019). The data consisted of individuals from the Indian subcontinent. India is rich in biodiversity, varies in types of ecosystems and is vulnerable to a spectrum of climate catastrophes. The study acknowledged the diverse socio-cultural context, generational diversity, economic disparities, and unique environmental challenges by focusing on different age groups. The findings aimed to contribute not only to the academic discourse on climate psychology but also to raise awareness on perceived responsibility when dealing with climate change.

Keywords: *Climate Change, Generational Difference, Eco Anxiety, Eco Grief, Environmental Self-Efficacy*

1. Introduction

Discussions about climate change can be very overwhelming. One of the most probable reasons for this could be human activities are highly responsible for causing climate change and creating long term damaging effects in the environment. These effects have been at an increase since the last few years due to which the consequences can be seen on a wide scale. Individuals often end up feeling helpless since the magnitude of the effects is substantial. Some of the most common consequences that affect the planet are the increase in temperature, extreme changes in weather, rising sea levels, health impacts, loss of biodiversity and so much more. However, aside from these effects, there has also been a noticeable decline in the mental well-being of individuals, especially those who are more vulnerable to the exposure of the effects of climate change. Since natural disasters cause a lot of physical and social damage such as disruption of medical care, transportation, infrastructure, etc., individuals have a hard time adjusting to these drastic changes leading to anxiety, stress, and other mental health related concerns.

There are decades of research showing evidence for post-traumatic stress disorder (PTSD), anxiety, substance abuse, domestic violence as well as depression following any form of natural disaster brought upon by climate change (Morganstein & Ursano, 2020). Natural disaster survivors often face sudden financial crises. Individuals have to permanently move, start over their lives which not only causes extreme levels of distress but also leads to people acting out in ways they normally wouldn't. Climate change does not necessarily have to involve the sudden occurrence of a natural disaster, it also involves any slow and gradual occurrence of any sort of environmental change, for example, increase in heat is known to result in an increase in aggressive behaviour. Eco anxiety refers to the 'chronic fear of environmental doom' (Clayton et al., 2017). The term was first coined by Albrecht (2011). Eco anxiety is often accompanied with the feeling of climate grief or ecological grief which can be defined as a natural and legitimate response to ecological loss. This usually means loss in terms of physical environment, disruptions to the workings of ecological systems and anticipated future losses. Environmental self-efficacy can be defined as "a domain of self-efficacy that is assumed to be related to psychological barriers to pro-environmental behaviour." However, eco anxiety and climate grief is not just limited to people who are

experiencing climate change. Individuals of different age groups, particularly the youth are experiencing climate anxiety even if they are only aware of the different environmental changes. This is because they often feel neglected and disappointed by the adults for this extreme climate change which is why they are also more likely to express any sort of empathy for the environment. It is also known that young individuals demand moral clarity because of the constant feeling of frustration and anger.

In relation to the youth that is directly affected by climate changes or any natural disaster, they have much more stronger effects such as developing sleeping disorders, post-traumatic stress disorder, having panic attacks, etc. The main reason behind this is that they have a comparatively greater dependence on their family and friends but due to the natural disaster, the stability at home as well as their social network are completely disrupted (Bartlett, 2008). From the perspective of developing countries like India, it is much more difficult to be able to manage the consequences of climate change because of the burden of debts for recovery as there is a lack of proper resources to begin with. This can put the individuals of the nation in an extremely vulnerable position.

2. Review of Literature

The relationship between mental health and climate change is gaining rapid recognition. As extreme weather events take place, the stressors brought upon by the environment have been on an increase. Understanding and tending to the psychological impacts of such events on people is critical.

According to a study by the United Nations, much of the impacts caused by climate change have become irreversible. The study also suggests that more than 40% of the world's population is "highly vulnerable" to climate. It only makes sense to say that climate change is among the biggest health threats to humanity considering the pressures placed on mental health.

In a study with Australians, Searle and Gow (2010) explored the psychological impact of climate change within the population and investigated what situations can make an individual vulnerable to distress. The findings revealed the existence of a link between climate change concern and symptoms indicative of anxiety, stress, and depression. Individuals, particularly females under 35 with a pro-environmental viewpoint and increased future anxiety, were more likely to experience feelings of discomfort as a result of climate change.

Climate worry can also be seen in people who do not have direct contact with the catastrophic elements of climate change and other environmental problems. In a qualitative study with Swedish parents, it was found that parenthood affected the level of worry they had about climate change, with parents having significantly higher levels of concern as compared to non-parents. The study shows that parents' worries influence them to reduce their own climate footprint later on, many of them choosing a more sustainable lifestyle for the sake of future generations (Ekholm, 2020).

Clayton and Karazsia (2020) discovered significant associations between various mental health issues, such as general anxiety, depression and anxiety related to climate change. The findings indicate that anxiety caused by climate change is predominant, particularly among young adults and that it is critical to apprehend the distinction between worry about climate change and the actual impact it has on individuals' lives. The study also reveals that climate change anxiety is linked to emotional responses and not just with behavioural issues. In a survey conducted in Canada, it was found that a significant proportion of respondents (56%) reported experiencing feelings of fear, sadness, anxiety, and powerlessness in context to climate change. 78% of respondents stated that climate change has an impact on their overall mental health and 37% reported that their feelings about climate change have a negative effect on daily functioning. The findings also indicate that climate change contributes to negative perceptions about the future among young Canadians. For instance, 39% of respondents felt hesitant about having children because of climate change. 73% fear the future and 76% believe that people have failed to look after the planet. Respondents expressed negative feelings towards the government's actions in response to climate change and shared greater feelings of betrayal than of reassurance (Galway & Field, 2023).

Nambiar and Singh (2023) found that environmental locus of control, eco-grief and eco-guilt had a positive link to pro-environmental behaviour among adolescents. Furthermore, these dimensions were found to predict pro-environmental behaviour among adolescents. According to the Yale Program on Climate Communication findings (2018), a significant portion of Americans reported being concerned about global warming and climate change. 69% of Americans expressed being at least "somewhat worried" about climate change and about 29% reported that they were "very worried." Additionally, almost half of the respondents (49%)

believed that they would personally be affected by the adverse effects of global warming (Leiserowitz et al., 2018).

Negative perceptions about climate change can elicit intense feelings that can contribute to mental illness. Ellis and Albrecht (2017) explored the impact of local changes brought by climate change on Australian farmers. The findings revealed that farmers are becoming more distressed about the consequences of climate change on weather patterns, affecting their sense of self-identity along with long-term distress related to their specific geographic locations. As a result, they perceive an increased risk of experiencing depression and suicidal thoughts. These findings emphasize the strong connection between the health of the ecosystem and the mental wellbeing of farmers in regions affected by climate. The study also highlights the importance of farmers' attachments to their homelands and how it influences their overall mental well-being.

The psychological impacts of climate change are not limited to just younger populations. Seritan (2023) reported that older people are highly susceptible to climate change and as a result or in anticipation of can experience multiple psychiatric symptoms. A meta-analysis by Parker et al., (2016) reported that the older population were 1.73 more likely to experience adjustment disorder and 2.11 times more likely to develop symptoms of PTSD when exposed to natural disasters as compared to younger adults.

Together, these research studies provide a collective apprehension of the adverse effects climate change has on mental health of people, especially those who have high vulnerability. The studies highlight nuanced connections between climate change and its impact on psychological well-being in varying populations.

3. Methodology

3.1 Sample

The sample included 60 individuals from which 30 individuals were from the ages of 18-24 years (50%) and the rest of the 30 individuals were above the age of 35 years with seven individuals being from 35-44 (11.7%), 22 from 45-54 (36.7%) and one above the age of 65 years (1.7%). With respect to gender, the sample comprised of 17 males (28.3%) and 43 females (71.7%). The distribution of sample with respect to educational background was as follows: Bachelor's degree- 37 (61.7%); Master's degree- 17 (28.3%); High school- 6 (10%). In regards to the geographic location, the distribution consisted of 46 participants residing in urban areas (76.7%),

12 participants residing in suburban areas (20%) and two participants residing in rural areas (3.3%).

3.2 Measures

Climate Change Worry Scale

Climate Change Worry Scale (CCWS) is a ten-item self-report questionnaire designed to assess the extent to which people experience troubling and disturbing thoughts regarding climate change. Item responses on the scale range from 1 to 5 with 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Always. The internal consistency was found to be $\alpha = 0.95$ (Stewart AE, 2021).

Eco-Grief Scale

Eco- Grief Scale is a twenty-item self-assessment tool designed to measure the ecological grief for adults and students. Responses on the items range from 1 to 5 with 1 representing “Strongly Disagree” and 5 being “Strongly Agree” (Gabirelle Loisel, 2022).

Environmental Self-Efficacy Scale

Environmental Self-Efficacy Scale is a brief 21-items tool for measuring one’s self-efficacy towards their environment. It consists of a 10-point scale ranging from 0 to 10 with 0 being ‘cannot do at all’ and 10 being ‘highly certain can do’. Higher scores indicated higher environmental self-efficacy. Cronbach’s alpha of the scale was found to be 0.88 (Moeller & Stahlmann, 2019).

3.3 Procedure

Individuals were approached for their participation and were briefed on the relevant ethical concerns. Everyone involved participated voluntarily and were previously informed that their answers would remain confidential and anonymous. Upon receiving the surveys, respondents were asked to rate their responses on the three scales that were used in this study. They were thanked for taking part in the research study after returning the questionnaires.

3.4 Statistical Analysis

Descriptive statistics for the three scales were calculated. The inter-relationships between the three variables was examined through the use of Pearson Product Moment Correlation.

4. Results and Discussion

The descriptive statistics for all three scales was calculated. Mean score for Climate Change Worry Scale (CCWS) was 30.16 and Standard deviation was 8.10. Mean score for Eco-grief Scale was found to be 66.31 and its Standard Deviation was 15.37. Lastly, the mean score of

Environmental Self-Efficacy was 147.06 with a Standard Deviation of 33.08. The correlation between Climate Change Worry Scale and Eco-grief Scale was found to be 0.7879, indicating a strong positive correlation. When calculated, the correlation between Climate Change Worry Scale and Environmental Self-Efficacy was found to be 0.0758, indicating that although technically a positive correlation, the relationship between the two variables is weak. Finally, a correlation of 0.0952 was found between Eco-grief Scale and Environmental Self-Efficacy, indicating that although technically a positive correlation, the relationship between these two variables is weak.

The results of the study did not yield any significant findings. Parametric t-test was used to find the relationship between the variables. For the Climate Change Worry Scale, the observed value was found to be -1.05961, which is not significant at $p < 0.05$. This indicates that there is no significant difference between the two age groups (18-24 and 35 above) for the above scale used. No statistically significant difference was found between the two age groups on Eco-Grief Scale. The observed value was 0.32225 which is not significant at $p < 0.05$. For the Environmental Self-Efficacy Scale, the t-value was 0.32225. The observed value is insignificant at $p < 0.05$ indicating that there is no such significant relationship between the age group 18-24 and the age group 35 above.

The overall findings of the study suggest that there are no significant generational differences in climate anxiety, climate grief, and environmental self-efficacy. Previous research has reported contradictory results on generational differences in climate concern. There is a need for further exploration on this with a larger and more diverse sample may be warranted.

Limitations and Further Research

While the findings of the study does provide additional insights it is however necessary to acknowledge the limitations present in this study. Firstly, with respect to the sample size, it was considerably small ($N=60$) and consisted of 30 individuals from Gen Z, those between the age range of 18-24 years and the other half consisted of few individuals from Baby Boomer generation and Gen X. Therefore, the results of the study have limited generalizability. Secondly, all the three questionnaires used in the study were self-reported which might have resulted in potential biases such as faulty responses and other social desirability factors (faking good faking bad). Furthermore, the study used three scales to measure climate anxiety, eco-grief, and environmental self-efficacy, possibly resulting in fatigue effect due to the number of questions. The population in the study were mainly from urban regions that may have affected the overall outcomes for

example, advancement in technology such as installation of solar panels can result in optimism bias. The feelings of anxiety, fear and hopelessness may also exist but there is a possibility of individuals coping with climate related issues by denying the existence of it or convincing themselves that it's not a very serious threat. Moreover, individuals might prioritize other concerns and issues such as poverty or healthcare since they do not perceive climate change as an issue that could be an immediate threat to their wellbeing.

Further research should include larger and more diverse populations belonging to various demographic backgrounds, cultural settings, and geographical locations. There is a definite need for awareness about climate change and its effects so that individuals are better equipped to manage their well-being when faced with new climate concerns. Increasing awareness by getting accurate information on social media and news as well as making climate literary courses available to help understand and get a better perspective on the effects and concerns regarding climate change can prove to be beneficial. There is also an urgent need for individuals to understand what can be done on a personal level to reduce global footprints, whether it involves individual actions or policy changes globally. While it is necessary to spread awareness and take actions accordingly, it is also important to instil feelings of hope along with being realistic about the actual threats present.

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