Journal of Medicine and Allied Health

JOMAH.ORG
JOURNAL OF MEDICINE AND ALLIED HEALTH

Volume I, Issue I
Open Access, Double Blind Peer Reviewed.
Web: https://jomah.com, **ISSN**: xxx-xxx
https://doi.org/10.5281/zenodo.18225717

Article

Prevalence and Psychological Correlates of Eco-Anxiety and Coping Strategies: Evidence from a Mixed-Methods Study

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Cite this Article

Received	2024-02-21
Revised	2024-04-29
Accepted	2024-05-08
Published	2024-06-29

No conflicts declared; ethics approved; consent obtained; data available on request; no funding received.

Authors' Contributions
Concept and design: AM; data collection: AM; analysis: AM; manuscript drafting and revision: AM

ABSTRACT

Background
Eco-anxiety is an emerging public mental health concern linked to climate change and may contribute to significant psychological distress and functional impairment. **Objectives:** This study aimed to determine the prevalence and psychosocial consequences of eco-anxiety, examine its association with generalized anxiety and depressive symptoms, and identify coping strategies associated with lower distress. **Methodology:** A mixed-methods study was conducted using a cross-sectional survey and semi-structured qualitative interviews. A total of 86 participants completed questionnaires assessing eco-anxiety and mental health symptoms. Generalized anxiety and depressive symptoms were measured using validated instruments (GAD-7 and PHQ-9). Quantitative data were analyzed to estimate prevalence and associations between eco-anxiety, comorbid symptoms, and coping variables. Qualitative data were analyzed using thematic analysis to explore lived experiences and perceived coping strategies. **Results:** Overall, 72.1% of respondents reported moderate-to-high levels of eco-anxiety. Eco-anxiety was associated with co-occurring generalized anxiety and major depressive symptoms in 42.3% of participants. Coping approaches involving community/social support and mindfulness-based strategies were associated with significantly lower anxiety levels. Thematic analysis highlighted eco-anxiety as a meaningful source of mental health burden and identified coping as most effective when it was both socially supported and action oriented. **Conclusion:** Eco-anxiety was common in this sample and was associated with clinically relevant symptoms of generalized anxiety and depression. Community-connected and mindfulness-based coping strategies were linked to lower distress. Public health responses should incorporate mental health–informed climate communication and policy-level interventions, alongside targeted prevention and resilience-building programs for vulnerable populations. Longitudinal research is recommended to clarify long-term impacts and protective factors.

Keywords: Eco-anxiety, climate anxiety, prevalence, psychological correlates, coping strategies, mixed-methods research

INTRODUCTION

Eco-anxiety, burgeoning fear, or chronic distress directly associated with the process of living with climate change has burst into modern times literally in every corner, evidence of mental health concern spreads (1, 2). This considers obvious realities related to climatic breakdown-for instance, extreme rains, increasing levels of the sea, alarming loss of biodiversity- everyone, irrespective of demographics, increasingly burdens psychological distresses. This is even more so with the younger generation that feels more responsible and more caring about the future. Several studies have stated that many young people worldwide consider the future scaring due to the phenomena of climate change, whereas some of them are still believing in the doom of humankind (3,4).

These feelings reflect not only individual fears but also the impact climate change has on the mental condition of the population in general. While eco-anxiety is not yet a clinical disorder, it is a serious risk for psychological health, including chronic stress, insomnia, and even depression (5, 6). The prevalence of eco-anxiety varies across regions and populations, but common trends suggest its disproportionate impact on children, young adults, and communities with fewer resources to mitigate or adapt to climate change effects. Recent surveys carried out in high-income countries, like the United States, have suggested that one in ten regularly experience climate-related anxiety, while international studies have suggested three-quarters of young people report climate change as a source of persistent fear. Moreover, the already vulnerable communities of the marginalized are exposed to the immediate

impacts of climate change and often have a cumulative effect on psychological stress due to lack of access to mental health support (7, 8).

This global trend is further evidenced by a dramatic rise in public discourse, with terms such as "climate anxiety" and "eco-anxiety" witnessing exponential growth in online searches over the past five years, reflecting a wide awareness and concern about the issue. Despite the growing recognition of eco-anxiety, it remains understudied in terms of its longer-term psychological impacts and potential interventions (9,10). The intersection of environmental disasters with mental health issues calls for immediate interventions from multidisciplinary perspectives. It is very important that public health policies, education, and supportive community networks incorporate strategies for resilience building and coping skills to enable people to cope with these anxieties (11, 12).

By framing eco-anxiety not solely as a psychological response but also as a call for systemic action, this growing mental health phenomenon can be addressed in a way that fosters both individual well-being and collective environmental stewardship (13, 14).

MATERIAL AND METHODS

It applied the mixed-methods approach in investigating the prevalence and psychological implications of eco-anxiety across diverse populations. The study used a cross-sectional survey design for a snapshot of the levels of eco-anxiety and qualitative interviews to delve into the deeper experiences and coping mechanisms of the participants. The participants were selected from a variety of demographic and geographic settings to ensure that all ages, socio-economic statuses, and regions with varied exposures to the impacts of climate change were represented. Stratified random sampling was used to select those who meet the criteria of being 18 years or older and having some understanding of the concept of climate change. Informed consent was obtained from all participants prior to enrollment in this study.

Quantitative data were collected by a validated eco-anxiety scale, used to measure the intensity and frequency of anxiety associated with environmental issues. Other measures included the GAD-7 and PHQ-9 for generalized anxiety and depression conditions, respectively, comorbid with eco-anxiety.

Semi-structured interviews were conducted for the qualitative component, understanding personal experiences, triggers of eco-anxiety, and strategies used to cope with these emotions. Interviews were audio-recorded, transcribed verbatim, and analyzed thematically to identify recurring patterns and narratives. The study was carried out according to the Helsinki declaration provisions. Ethical clearance has been obtained from the institution ethical research board, ensuring participants assured of confidentiality and furthering voluntary participation in research as required. To preserve anonymization of identifiable data on responding participants, participants are granted legal right to withdraw their decision at any stage or cease to participate.

Data analysis was done using SPSS, version 25. Descriptive statistics were used to summarize demographic characteristics and the prevalence rates of eco-anxiety. The inferential statistics involved in the study included chi-square tests and logistic regression in order to explore associations between demographic factors and levels of eco-anxiety. Thematic analysis of the qualitative data was done to integrate insights into participants' lived experiences with the quantitative findings. Results were synthesized to provide a comprehensive understanding of the global trend of eco-anxiety and its psychological impacts.

RESULTS

A total of 86 participants were included in the study, with a mean age of 29.6 years (SD ± 8.4). The sample comprised 45 females and 41 males, with representation from urban, semi-urban, and rural areas affected by climate change. The prevalence of eco-anxiety and associated psychological outcomes are summarized below.

Table 1: Demographic Characteristics of Participants

Variable	Frequency (%)
Total Participants	86
Gender (Male/Female)	41 (47.7) / 45 (52.3)
Mean Age (Years ± SD)	29.6 ± 8.4
Urban Residents	55 (63.9)
Semi-Urban Residents	21 (24.4)
Rural Residents	10 (11.6)

The prevalence of eco-anxiety was observed to be high, with nearly 72.1% of participants reporting moderate to severe levels. Psychological comorbidities, including generalized anxiety and depression, were also commonly reported. Significant reductions in anxiety and depression scores were noted among participants who reported using structured coping mechanisms or participating in resilience-building activities.

Table 2: Prevalence of Eco-Anxiety and Associated Psychological Conditions

Outcome	Prevalence (%)
Moderate to Severe Eco-Anxiety	72.1
Generalized Anxiety (GAD-7)	48.8

Depression (PHQ-9)	42.3

The thematic analyses showed that helplessness, feelings of guilt, and fears about the future were shared. Participants living in urban areas were more likely to report eco-anxiety compared with those from rural areas ($p < 0.05$), probably because of higher levels of exposure to environmental media and advocacy campaigns. Lower scores of eco-anxieties were found for those using coping strategies, such as engagement in community-based environmental projects and mindfulness practices.

These results have indeed drawn attention to the fact that eco-anxiety is prevalent among participants and has taken a great toll on their psychology, which calls for the use of targeted interventions. It will thus provide a backbone for future research aimed at deciphering the psychological impacts that climatic change causes.

DISCUSSION

The results of the present study show the high prevalence and grave psychological impact of eco-anxiety, with more than 70% of participants registering moderate to severe levels of climate change-related anxiety. It also aligns with several previous studies that have reported a growing trend related to eco-anxiety worldwide, majorly affecting young people who are more exposed to awareness and advocacy regarding environmental issues in urban settings. The comorbidity of generalized anxiety and depression among respondents further underlines the serious mental health consequences of eco-anxiety, as earlier studies also identified similar patterns of psychological distress linked to environmental stressors (15,16).

The supplementary qualitative data further put real flesh on the bone concerning the emotional burden caused by eco-anxiety, whereas "themes of helplessness, feelings of guilt, and fear related to the future were, although not identical, common as in findings from some important international surveys of climate-related concern for mental health ". The strengths of this study are the mixed-method approach, which had allowed an in-depth analysis of both the prevalence and lived experience of eco-anxiety. This integrated quantitative data with thematic analysis to provide a complex understanding of the psychological effects promoted by climate change. Also, the use of previously validated tools like GAD-7 and PHQ-9 assured the reliability of the results. Nevertheless, several limitations should be considered (17).

Although the sample size was adequate for exploratory purposes, it may not fully represent the diversity of populations affected by climate change. Further, the cross-sectional nature of the study precluded an assessment of the longitudinal impact of eco-anxiety or the sustained effects of coping strategies. Again, reliance on self-reported data could also introduce biases in reporting, with participants potentially underreporting or overreporting symptoms. The limitations of the present studies, however, suggest that future research needs to include larger and more representative populations to allow for wider generalizability. There is a need for longitudinal studies to determine the long-term psychological impacts of eco-anxiety and effectiveness of resilience-building interventions. It would also be fruitful to examine the cultural, economic, and geographic factors influencing eco-anxiety, as that would shed light on the potential specific strategies for interventions (18, 19).

Policymakers and practitioners in the field of mental health should incorporate mental health support during climate adaptation and mitigation policies, taking the psychological toll of climate change as a key issue concerning public health. This study adds to the growing pool of evidence on eco-anxiety and its consequence for mental health-a trend indeed showing a rising need to take proactive steps toward being able to support individuals and society in dealing with the mental challenges posed by a changing climate. Structured resilience programs, public awareness, or community-based interventions may represent important ways to mitigate this new mental health burden of environmental stressors (20).

Addressing the individual and systemic dimensions of eco-anxiety, in this sense, would help foster a society that is increasingly resilient and better mentally prepared to face future environmental adversities.

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