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Sustaining Well-Being amid Eco-Anxiety: The Moderating Influence of Environmental Concerns among Adults in Urban Settings

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Abstract

The purpose of this study was to find out the impact of Eco-anxiety on the well-being of urban adults in the Multan district. It was also investigated if the concern about the environment moderates the affiliation between Eco-anxiety and well-being. The population was selected through a purposive sampling technique in order to target educated adults in urban settings who are familiar with environment-related terminology. Participants were adults from urban areas of the Multan District. The study was based on a correlational research design. After estimating the minimum sample size required, 114 participants were sampled for data collection. A survey method was used for collecting the data. The instruments used for data collection included the Hogg Eco Anxiety Scale (Hogg et al., 2021), Preisendörfer's nine-item Environmental Concern Scale (Preisendörfer 1998), and the 18-item Well-being Scale (Ryff & Keyes, 1995). The collected data were analyzed through the Statistical Package for Social Sciences (SPSS 26.0). Correlation, Regression, and moderation analyses were run to obtain the results of the study. The results showed that Eco anxiety is an increasing situation affecting adults and causing serious issues among them and their well-being. The results of the study have shown a significant correlation between Eco anxiety, well-being and environmental concerns. Results of this study suggest that Eco anxiety is a predictor of their well-being, and their concerns for the environment significantly moderates this relationship in strengthening the association between Eco-anxiety and well-being.

Keywords: Eco Anxiety, Environmental Concerns, Mental Health, Urban Adults, Well-being

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Introduction

The global environmental crisis is one of the most urgent public health challenges of the 21st century, with profound mental health implications (IPCC, 2018; WHO, 2018). The psychological impacts of environmental degradation include distress, grief, emotional instability, and behavioral impairments, which can manifest as eco-anxiety—a growing phenomenon characterized by anxiety, rumination, and functional disruptions related to environmental concerns (Clayton et al., 2017; Hickman, 2020; Pihkala, 2020).

Research suggests that eco-anxiety is a widespread experience among individuals across different regions—Europe (Haaland, 2019), North America (Leiserowitz et al., 2018), the Pacific Islands (Gibson et al., 2019), and China (Hao & Song, 2020)—reporting significant anxiety about environmental crises. In Australia, 79% of adults express concern over the destruction of native wildlife, while in New Zealand, one in three people worry about climate change, and half are deeply concerned about waste pollution (Ministry for the Environment, 2018).

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Existing measures of eco-anxiety and climate change anxiety primarily capture negative emotional responses, such as worry and distress (Helm et al., 2018; Hickman, 2020). However, emerging research highlights the multidimensional nature of eco-anxiety, encompassing cognitive-emotional impairments (e.g., rumination), functional impairments (e.g., interference with work/study), and behavioral responses (e.g., pro-environmental actions) (Clayton & Karazsia, 2020). Understanding and differentiating eco-anxiety from typical anxiety disorders and assessing its effects on psychological health as well as sustainable choices are essential for present environmental research.

The psychological impact of the ecological crisis has been widely studied through research and public discussion as well as media reports, according to Cunsolo et al. (2020). Although eco-anxiety has become widely recognized, many researchers still need to examine its facilities alongside environmental damage effects on mental health examinations. Research shows that mental health consequences from climate change and other ecological crises will have substantial effects (Berry et al., 2018; Bourque & Willox, 2014); thus, developing a better understanding of these phenomena and finding effective response methods is vital.

Discussions about anxiety related to environmental problems have intensified since 2007, with early academic contributions exploring climate change as a psychological stressor (Cossman, 2013; Maiteny, 2012). In the 2010s, climate change became the dominant focus within research on the psychological effects of ecological crises, leading to the development of climate psychology as a specialized field (Clayton et al., 2014; Doherty & Clayton, 2011). A 2017 report by the American Psychological Association (APA) and Eco America, Mental Health and Our Changing Climate (Clayton et al., 2017), provided a working definition of eco-anxiety, sparking further discussions. Prominent scholars, including Glenn Albrecht, have also played a key role in raising awareness about eco-anxiety and its societal implications (Albrecht, 2011, 2012, 2019).

Since 2017, and particularly after 2018, discussions around eco-anxiety and climate anxiety have gained significant media attention, partly due to the influence of climate activists such as Greta Thunberg, who has openly shared her experiences with climate anxiety (Thunberg et al., 2020). Research has increasingly focused on how climate anxiety affects youth and young adults engaged in climate activism (Burke et al., 2018; Clayton, 2020; Nairn, 2019; Thomas et al., 2019). Furthermore, self-help books and social action guides have emerged, offering strategies to mitigate eco-anxiety and climate anxiety (Grose, 2020; Hayes et al., 2018; Ray, 2020; Salamon, 2020). Perspectives on anxiety vary, with some defining it as a natural emotional reaction, while others view it through lenses of psychodynamic psychology, existential philosophy, or clinical anxiety disorders (Cox & Olatunji, 2019; Lertzman, 2015; Orange, 2017; Van Bruggen et al., 2015; Weintrobe, 2013).

This study examines how environmental concern moderates the relationship between eco-anxiety and well-being among adults in urban settings, where exposure to environmental stressors is heightened. By investigating the psychological dimensions of eco-anxiety. This study focuses on expanding knowledge about urban stress impacts on mental health and developing resilience strategies that sustain population engagement.

Method

Research Design

The research design used correlations to analyze the relations between eco-anxiety, environmental concern, and psychological well-being in urban adult populations. A research analysis studied how environmental concern modifies the relationship between eco-anxiety and

psychological well-being among urban adults.

Participants

The study included urban adults who resided in the Multan district as its target population. The research included a total of 114 participants throughout. A systematic selection of participants aimed to capture urban citizens who face environmental stress at their location.

Sampling

The sample was collected through purposive sampling. This method was chosen to ensure that participants met the inclusion criteria and were educated to understand the survey questionnaire. The purposive sampling facilitated targeted recruitment.

Measures

Hogg Eco-Anxiety Scale

The Hogg Eco-Anxiety Scale (HEAS) was developed by Hogg et al. (2021) to assess anxiety related to environmental concerns and personal environmental impact. The HEAS consists of 13 items, each rated on a Likert scale from 1 (strongly disagree) to 5 (strongly agree), measuring the intensity of eco-anxiety experienced by individuals. The HEAS has demonstrated strong psychometric properties, with a Cronbach's alpha of .87, indicating high internal consistency. It has been validated across multiple cultural contexts, showing reasonable factorial reliability and validity. The scale is divided into dimensions assessing different aspects of eco-anxiety. The minimum possible score is 13, and the maximum score is 65, with higher scores indicating greater levels of eco-anxiety. Due to its robust reliability and validity, the HEAS is an effective tool for measuring eco-anxiety across diverse populations.

Preisendörfer's Nine-Item Environmental Concern Scale

The Preisendörfer's Nine-Item Environmental Concern Scale was developed by Preisendörfer (1998) to assess individuals' environmental concerns across three psychological dimensions: cognitive (awareness of environmental threats), affective (emotional reactions such as fear and anger), and conative (behavioral intentions to address ecological issues).

The scale consists of nine items, rated on a Likert scale, and is scored as an additive index, where higher scores indicate stronger environmental concern. All statements were recoded to a 0–4 scale to standardize the index, resulting in an overall range of 0–20. The mean score of the index is 13.1, indicating a moderate level of environmental concern among respondents.

Research across many populations' shows that the scale effectively measures its intended constructs while displaying consistent reliability and validation because Cronbach's alpha reaches .72. The tool is a dependable approach for evaluating environmental attitudes and concerns.

Well-Being Scale

The Psychological Well-being Survey (18-Item) is a validated measure based on Carol Ryff's multidimensional model of psychological well-being. It assesses six core dimensions of well-being and serves as a concise tool for research and practical applications, including studies on mobility from poverty. This shortened 18-item version is designed to efficiently measure psychological well-being across diverse populations.

The survey consists of 18 items, each rated on a 6-point Likert scale from 1 (Strongly Disagree) to 6 (Strongly Agree). Responses are scored for each dimension, with composite scores reflecting overall well-being. The minimum possible score is 18, and the maximum is 108, with higher scores indicating greater psychological well-being.

The scale demonstrates strong psychometric properties, with Cronbach's alpha values typically exceeding .70, indicating high internal consistency (Ryff & Keyes, 1995).

Procedure

Before data collection, permissions were obtained from relevant authorities, including an authority letter from the

Institute's departmental review committee. Participants were approached and informed about the study's objectives. After obtaining informed consent, participants were provided with the questionnaires, completed in the researcher's presence, to ensure clarity and accuracy. On average, participants required 15 minutes to complete the measures. Data collection adhered to strict protocols to ensure confidentiality and reliability.

Results

Table 1

Mean, Standard Deviation, and Correlation in Psychological Well-being, Eco Anxiety and Environmental Concerns (N=114)

Variables	*M*	*SD*	1	2	3
Well being	83.63	10.64	-	-.33**	.10
Eco anxiety	14.8	7.94		-	.29**
Environmental Concerns	34.15	5.59			-

***p*<.01

The results show an inverse correlation between eco-anxiety and psychological well-being. As Eco anxiety increased, psychological well-being decreased. It clearly means that one is affecting the other. Also, Eco anxiety and environmental concern have a positive correlation. According to the outcomes of the study, the mental well-being of people is affected by environmental issues. Environmental concern was found to be moderating between Eco anxiety and well-being.

Table 2

Regression Model Showing the Impact of Eco-Anxiety on Environmental Concerns (N=114)

Predictors	B	SE	B
Constant	.36	4.48	
Environmental Concern	.42	.12	.22
R^2	.11		
F	13.48		

**p* < .05; ***p* < .01

The standard regression analysis examined the influence of Eco-Anxiety on Environmental Concerns. The model showed a significant constant value of 0.36 (*p*=.000), indicating a meaningful baseline level of Environmental Concern even without considering Eco-Anxiety. Eco-Anxiety significantly predicted Environmental Concern (B=.42, β=0.22, t=3.26), suggesting a positive relationship. It indicates that as Eco-Anxiety increases, Environmental Concern also rises. Overall, the findings highlight a significant and positive impact of Eco-Anxiety on Environmental Concerns.

Table 3

Regression Model showing the Impact of Eco Anxiety on Psychological Well-being (N=114)

Predictors	**B**	**SE**	**B**
Constant	89.95	1.93	
Enviromental Concern	-.44	.12	-.33
R^2	.11		
F	13.48		

*$p < .05$; **$p < .01$

The results show the significant impact of Eco-Anxiety on Psychological well-being. The r value of .332 revealed that the predictor variable explained a .11% variance in the outcome variable with F= 13.48. Findings suggest that eco-anxiety has a significant effect on well-being.

Table 4

Regression Analysis of Eco Anxiety and Environmental Concern (N=114)

Predictor	**B**	**SE**	**Beta**	**t**	**LLCI**	**ULCI**
Constant	77.39	5.76		13.41	66.09	88.71
EA*EC	.-52	.12	-.368	-4.26	-0.77	-.27
R^2	.15					
Adjusted R	.13					
F	9.66					

Note: LLCI = Lower Limit Confidence Interval, ULCI = Upper Limit Confidence Interval,

F= 9.66, $p<0.01$

Table 4 shows Environmental Concern as a significant Moderating variable between Eco-Anxiety and Psychological Well-Being. The r value of 0.15 revealed that the predictor variable explained 0.15% variance in outcome variable F=9.66. The finding suggests that environmental concern is moderating between eco-anxiety and well-being.

Table 5

Gender Comparison for Psychological Well-Being, Eco-Anxiety, and Environmental Concern Scales (N=114)

	Female ***N*= 25**		**Male** ***N*= 89**				
Variables	***M***	***SD***	***M***	***SD***	***t***	***p***	**Cohen's d**
Psychological Well-Being	87.84	9.82	82.44	10.61	2.27	.02	.17
Eco-Anxiety	13.38	8.88	14.28	7.71	-.49	.62	-4.54
Environmental Concern	35.56	3.59	33.76	6.00	1.43	.15	.69

The independent samples t-test was conducted to compare gender differences in Psychological Well-Being, Eco-Anxiety, and Environmental Concern. For Psychological Well-Being, males scored significantly higher than females (t = 2.27, p = .02), with a small effect size (Cohen's d = .17). In contrast, no significant difference was found for Eco-Anxiety (t = -.49, p = .62) or Environmental Concern (t = 1.43, p = .15).

Discussion

The first hypothesis of this study proposed that eco-anxiety impacts the psychological well-being of adults. This hypothesis is strongly supported by the significant results indicating a negative correlation between eco-anxiety and psychological well-being. The findings reveal that as eco-anxiety increases, the psychological well-being of adults decreases, corroborating prior research on the mental health impacts of environmental crises. According to Clayton et al. (2017), the current planetary environmental crisis is one of the major public health challenges of the 21st century, requiring immediate attention and solutions. The effects of these crises on mental health are multifaceted, manifesting as grief, distress, behavioral and emotional issues, and even psychopathology. Eco-anxiety, defined as a persistent concern stemming from environmental problems (Hickman, 2020; Pihkala, 2020), includes worries about climate change, global warming, rising sea levels, natural disasters, and other undesirable consequences of human activity (Clayton, 2020; Clayton & Karazsia, 2020).

Young adults, in particular, seem disproportionately affected by eco-anxiety, a finding echoed in this study. A majority of participants reported experiencing very high levels of eco-anxiety. It aligns with global trends showing heightened eco-anxiety in younger populations, as they are acutely aware of the planet's social and environmental threats (Heeren et al., 2022). The distress associated with eco-anxiety often translates into difficulty focusing, disruptions in daily functioning, and an increased sense of helplessness, all of which contribute to declining psychological well-being (Manning et al., 2021).

The second hypothesis explored whether environmental concern moderates the relationship between eco-anxiety and psychological well-being. The results support this hypothesis, demonstrating that environmental concern plays a significant role in shaping this association. Environmental concern refers to an individual's awareness of environmental problems and their willingness to take

action to prevent further damage. This personality trait influences environmental behavior and contributes to better coping mechanisms when facing eco-anxiety (van Liere et al., 1980). The moderating effect observed in this study suggests that individuals with deeper environmental concerns may channel their eco-anxiety into proactive behavior, thus mitigating its adverse effects on psychological well-being (Preisendörfer, 2017).

Moreover, the role of environmental concern as a moderating factor highlights the importance of education and awareness. Research indicates that individuals more informed about environmental issues exhibit greater environmental concern, positively influencing their attitudes, intentions, and actions (Hogg,2021). It aligns with findings from Preisendörfer's Environmental Concern Scale, which measures cognitive, affective, and cognitive components of environmental concern, emphasizing its role in shaping adaptive environmental behaviors.

Eco-anxiety, while often perceived as detrimental, can also have adaptive components. Pihkala (2020) suggests that eco-anxiety may motivate individuals to engage in pro-environmental behaviors, such as activism or sustainable practices. However, when left unmanaged, it can lead to paralyzing feelings of helplessness, as seen in a subset of participants. The examined study determined that young adults experienced the most significant eco-anxiety because they possess insufficient coping mechanisms that render them highly susceptible to its negative impacts (Clayton et al., 2020).

The findings emphasize the intricate interplay between eco-anxiety, environmental concern, and psychological well-being. People who experience negative effects from eco-anxiety discover protective measures through their environmental concerns that help them constructively deal with their anxieties. Research demonstrates the necessity of creating environmental awareness programs with appropriate anxiety coping mechanisms for young adults. Future research should focus on developing and testing strategies that leverage environmental concerns to promote resilience and adaptive coping mechanisms in the face of ecological challenges.

Conclusion

Eco-anxiety is known as climate change-triggered mental health that spreads worldwide, particularly through adult populations who experience significant distress, which negatively affects their health. A large percentage of adults say they have symptoms of eco-anxiety to levels that are now considerably alarming, and this has caused observable effects on how they live, with whom they interact, or how they feel about themselves. A new survey has pointed out a strong relationship between the rate of eco-anxiety, subjective well-being, and the level of environmental concern. As in the current study, the findings show that eco-anxiety is a robust construct that predicts an individual's well-being, and one's level of concern for the environment amplifies the general effect of eco-anxiety on well-being. It means that those who care are at a higher risk of developing anxiety, which is a consequence of a deteriorating environment.

On the other hand, those who care less about the environment can be less susceptible to eco-anxiety. However, they do not have much incentive to engage in the right behaviors for the environment. These findings can serve the interests of mental well-being practitioners, policymakers, and those who wish to prevent the destructive consequences of eco-anxiety and protect the environment.

Limitations and Recommendations

These limitations in this study provide direction for further research. First, the research was done on the adult population only, without considering the impact of eco-anxiety on kids and teenagers. The people across generations are more vulnerable to environmental impacts and awareness of the issues affecting the

environment through media than the adults. Something important is that the absence of comparison of these groups also generates a significant gap in how eco-anxiety manifests across the age sets. Further research should also describe how often, how severely, and how children and adolescents experience eco-anxiety to address this knowledge gap.

Also, the results of this study are not generalized because of the use of a small sample size. Studies that include representative and bigger sample sizes and across different cultures and ages would increase the overall credibility of the study. In addition, this study was conducted quantitatively only, and this approach can help one a lot from the statistical analysis point of view. However, it does not offer the insight one can get from a simple interview or focus group talking to the other participants. Additionally, this research was conducted under a purely positivistic paradigm, which limited the study's design to quantitative data collection and analysis; this presentation did not allow for the exploration of profound contextual data, as would have been the case if interviews or focus groups discussions had been used. Future work should include a variety of methodological approaches so that the participants' perceptions of eco-anxiety and other related environmental issues can be analyzed in terms of personal feelings and behavioral responses. These improvements could expand the degrees and plausibility of further examination in this area.

Ethics Statement

All the ethical standards of APA were met. Informed consent was taken in written form from all the respondents to participate in this study.

Contribution of Authors

Arhum Noor: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft

Saadia Zia: Methodology, Writing - Reviewing & Editing, Supervision

Maham Imtiaz: Conceptualization, Methodology, Writing - Reviewing & Editing

Conflict of Interest

There is no conflict of interest declared by the authors.

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Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [S.Z.] upon the reasonable request.

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