



Climate Change Anxiety and Psychological Well-Being: Examining the Moderating Role of Resilience and the Mediating Role of Coping Strategies

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Abstract- Climate change is increasingly recognised not only as an environmental crisis but also as a psychological stressor with measurable consequences for mental health. This paper develops a conceptual and empirical framework for understanding the relationship between climate change anxiety (CCA) and psychological well-being, proposing a moderated-mediation model in which coping strategies mediate the relationship between climate change anxiety and well-being. At the same time, resilience moderates the strength of this association. Drawing on the transactional model of stress and coping and on eudaimonic models of well-being, the paper argues that climate anxiety exerts both direct and indirect effects on well-being: maladaptive coping strategies, such as avoidance and denial, are expected to predict poorer psychological outcomes, whereas adaptive, problem-focused and meaning-focused coping strategies are expected to predict more favourable outcomes. Resilience is proposed to buffer the negative effects of climate anxiety, such that individuals higher in resilience are expected to show a weaker association between climate anxiety and diminished well-being than individuals lower in resilience. A quantitative, cross-sectional methodology is proposed, using validated instruments including the Climate Anxiety Scale, the Connor-Davidson Resilience Scale, the Brief COPE, and Ryff's Scales of Psychological Well-Being, analysed through moderated-mediation regression modelling. Implications for climate-aware mental health interventions, resilience-building programs, and future longitudinal research are discussed.

Keywords- Climate change anxiety, eco-anxiety, psychological well-being, resilience, coping strategies, moderated mediation

I. Introduction

Climate change has moved beyond the domain of environmental science to become one of the defining public health challenges of the twenty-first century. Rising global temperatures, more frequent extreme weather events, and cascading disruptions to food security, housing, and livelihoods are now understood to carry direct and indirect consequences for human mental health (Mosca et al., 2025; Torales et al., 2026). Alongside the physical and economic toll of a changing climate, a growing body of research has documented a distinct psychological response to the unfolding climate crisis, commonly referred to as climate change anxiety or climate anxiety.

Climate change anxiety (CCA) refers to the chronic fear, worry, and distress that individuals experience in response to the perceived threat of climate change and its long-term consequences (Clayton & Karazsia, 2020). Unlike a discrete clinical



disorder, CCA is best understood as a rational and, in moderate degrees, potentially adaptive emotional response to a genuine and escalating global threat. However, when climate anxiety becomes chronic, intrusive, or overwhelming, it can meaningfully interfere with everyday functioning, sleep, concentration, and interpersonal relationships (Hickman et al., 2021; Hogg et al., 2021). Large-scale surveys of youth across multiple countries have found that a majority of young respondents report being worried or extremely worried about climate change, with many indicating that this worry affects their daily lives (Hickman et al., 2021).

Despite growing recognition of climate anxiety as a psychological phenomenon, questions remain about the mechanisms through which it translates into diminished psychological well-being, and about the individual differences that might protect some people from its negative effects while leaving others more vulnerable. Two constructs are particularly relevant to this question: coping strategies and resilience. Coping strategies, the cognitive and behavioral efforts individuals use to manage the demands of a stressor (Lazarus & Folkman, 1984), plausibly explain how climate anxiety comes to affect well-being, since different coping styles are known to produce markedly different psychological outcomes (Folkman & Moskowitz, 2004). Resilience, broadly defined as the capacity to adapt successfully in the face of adversity (Masten, 2001), plausibly explains for whom climate anxiety is more or less damaging, since individuals higher in resilience tend to maintain better functioning under stress than those lower in resilience (Bonanno, 2004; Connor & Davidson, 2003).

The purpose of this paper is to integrate these strands of research into a single, testable conceptual model in which coping strategies serve as a mediator and resilience serves as a moderator of the relationship between climate change anxiety and psychological well-being. The paper proceeds as follows. First, it reviews the literature on climate change anxiety, psychological well-being, resilience, and coping strategies. Second, it presents a theoretical framework and a set of directional hypotheses derived from that framework, including a moderated-mediation model. Third, it proposes a methodology, including sampling, measurement, and analytic strategy, for empirically testing the model. Finally, it discusses the theoretical and applied implications of the proposed model, along with its limitations and directions for future research.

II. Literature Review

Climate Change Anxiety

Climate change anxiety is generally conceptualised as a multidimensional construct encompassing cognitive-emotional impairment (intrusive thoughts, difficulty concentrating, and sleep disturbance related to climate change) and functional impairment (difficulty working, studying, or socialising because of climate-related worry) (Clayton & Karazsia, 2020). It is closely related to, but conceptually distinct from, the broader construct of eco-anxiety, which encompasses anxiety about ecological degradation more generally, including pollution, biodiversity loss, and deforestation, rather than climate change specifically (Hogg et al., 2021). Several validated instruments now exist to measure this construct, including the Climate Anxiety Scale (Clayton & Karazsia, 2020) and the Hogg Eco-Anxiety Scale (Hogg et al., 2021), both of which have demonstrated reasonable reliability across numerous



cultural contexts. However, psychometric performance has varied somewhat across countries and translations (Hogg et al., 2023).

Empirical research indicates that climate anxiety is widespread, particularly among younger populations. In a landmark ten-country survey of youth, most respondents reported feeling afraid, sad, anxious, or powerless about climate change, and a substantial proportion indicated that these feelings negatively affected their daily functioning (Hickman et al., 2021). More recent multinational survey research spanning dozens of countries has similarly found that functional disruption is among the strongest predictors of climate anxiety severity, and that climate anxiety tends to be elevated among women, gender-diverse individuals, and younger adults (Torales et al., 2026). Taken together, this literature suggests that climate anxiety is not a marginal phenomenon but a widespread and, for some individuals, functionally significant psychological experience.

Psychological Well-Being

Psychological well-being can be understood through both hedonic and eudaimonic traditions. The hedonic tradition emphasises subjective happiness and the balance of positive over negative affect. In contrast, the eudaimonic tradition, most closely associated with Ryff's (1989) multidimensional model, emphasises psychological flourishing across dimensions such as autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Keyes (2002) extended this eudaimonic perspective by proposing a mental health continuum ranging from languishing to flourishing, integrating emotional, psychological, and social well-being into a single framework. This paper adopts the eudaimonic tradition, and Ryff's model in particular, as the primary conceptualisation of psychological well-being, because it captures functioning and meaning rather than momentary affect alone, which is especially relevant to a stressor as pervasive and future-oriented as climate change.

A growing body of evidence links climate anxiety to diminished psychological well-being. Among university students studying environmental disciplines in the United Kingdom, higher climate anxiety has been associated with greater use of certain coping strategies and with concerns about future planning, including career and family decisions (Daeninck et al., 2023). Among young Australians, climate anxiety and hope have been shown to coexist, with coping strategies and social connectedness moderating the relationship between climate distress and mental health outcomes (Gunasiri et al., 2022). More broadly, recent reviews describe consistent associations between eco-anxiety and elevated depressive and anxious symptomatology, alongside evidence that these associations are not uniform across individuals, pointing to the likely role of moderating and mediating psychological processes (Mosca et al., 2025).

Resilience as a Moderator

Resilience refers to the capacity to adapt successfully, maintain relatively stable functioning, and recover effectively in the face of significant adversity, stress, or trauma (Bonanno, 2004; Masten, 2001). It is commonly operationalised using instruments such as the Connor-Davidson Resilience Scale (CD-RISC), which assesses dimensions including personal competence, tolerance of negative affect, positive acceptance of



change, control, and spiritual influences (Connor & Davidson, 2003). Within stress-and-coping frameworks, resilience is typically conceptualised not as the absence of distress but as a dynamic capacity that buffers the translation of stress into impairment (Bonanno, 2004).

Applied to the climate context, resilience is theorised to function as a moderator: individuals with higher resilience are expected to experience a weaker relationship between climate anxiety and reduced well-being than individuals with lower resilience, even when their objective level of climate concern is comparable. This buffering hypothesis is consistent with resilience research in other domains of chronic and diffuse stress, where resilient individuals show smaller declines in functioning under equivalent stress exposure (Bonanno, 2004). If confirmed in the climate domain, this would suggest that resilience-building interventions could be a viable strategy for protecting well-being even when the underlying stressor, climate change itself, cannot be resolved by the individual.

Coping Strategies as a Mediator

Coping refers to the cognitive and behavioural efforts individuals use to manage the internal and external demands of a stressful situation (Lazarus & Folkman, 1984). Coping strategies are commonly classified along several dimensions, including problem-focused coping (efforts directed at changing the stressor itself), emotion-focused coping (efforts directed at regulating one's emotional response), avoidant coping (efforts to disengage from or ignore the stressor), and meaning-focused coping (efforts to find significance, purpose, or growth in the experience) (Folkman & Moskowitz, 2004). These styles are frequently measured using instruments such as the COPE (Carver, 1997).

In the climate context, coping strategies plausibly explain part of the pathway from climate anxiety to psychological well-being. Problem-focused strategies, such as engaging in pro-environmental behaviour or collective action, and meaning-focused strategies, such as reframing climate anxiety as evidence of care for the planet, have been associated with more favourable psychological outcomes among climate-concerned individuals (Daeninck et al., 2023; Gunasiri et al., 2022). Conversely, avoidant coping strategies, such as denial, distraction, or emotional suppression, tend to be associated with poorer long-term outcomes, since they leave the underlying source of distress unaddressed while providing only short-term relief (Folkman & Moskowitz, 2004). This pattern suggests that coping strategies do not merely correlate with well-being but may actively transmit, or mediate, the effect of climate anxiety on well-being, with the direction and magnitude of that effect depending on which coping strategies an individual predominantly uses.

Theoretical Framework and Proposed Model

This paper integrates the transactional model of stress and coping (Lazarus & Folkman, 1984) with resilience theory (Bonanno, 2004; Masten, 2001) and eudaimonic models of well-being (Keyes, 2002; Ryff, 1989) to propose a moderated-mediation model of the relationship between climate change anxiety and psychological well-being. In this model, climate change anxiety is the independent variable, psychological well-being is



the dependent variable, coping strategies serve as the mediating variable, and resilience serves as the moderating variable.

Consistent with the transactional model, climate change anxiety is expected to prompt a coping response, which in turn shapes psychological outcomes; coping is therefore positioned as the mechanism, or indirect pathway, linking climate anxiety to well-being. Consistent with resilience theory, individual differences in resilience are expected to condition the strength of the overall relationship between climate anxiety and well-being, functioning as a protective factor that dampens the negative direct and indirect effects of climate anxiety. The resulting model is a first-stage and direct-effect moderated mediation model, in which resilience is hypothesised to moderate both the direct path from climate anxiety to well-being and the path from climate anxiety to adaptive coping.

Hypotheses

H1: Climate change anxiety will be significantly and negatively associated with psychological well-being.

H2: Climate change anxiety will be significantly associated with coping strategies, such that higher climate anxiety predicts greater use of both adaptive (problem-focused, meaning-focused) and avoidant coping strategies.

H3: Coping strategies will mediate the relationship between climate change anxiety and psychological well-being, such that adaptive coping strategies will attenuate the negative effect of climate anxiety on well-being, while avoidant coping strategies will strengthen it.

H4: Resilience will moderate the relationship between climate change anxiety and psychological well-being, such that the negative association between climate anxiety and well-being will be weaker among individuals with higher resilience than among individuals with lower resilience.

H5: Resilience will moderate the first stage of the mediation model, such that the association between climate change anxiety and adaptive coping strategies will be stronger among individuals with higher resilience, consistent with a moderated-mediation (conditional indirect effect) model.

III. Method

Research Design

A quantitative, cross-sectional survey design is proposed to test the hypothesised moderated-mediation model. A cross-sectional design is appropriate as an initial test of the proposed associations. However, longitudinal or experimental designs would be needed to establish causal direction, as discussed in the Limitations section.

Participants

The target population consists of adults aged 18 years and older, recruited through a combination of university participant pools and online panel sampling to obtain demographic and geographic variability. A minimum sample size of approximately 300 to 400 participants is recommended, based on power analysis guidelines for moderated-mediation models with small-to-moderate expected effect sizes, consistent with sample



sizes used in comparable published studies of climate anxiety (e.g., Torales et al., 2026).

Measures

Climate Change Anxiety: The Climate Anxiety Scale (Clayton & Karazsia, 2020), a 13-item self-report measure assessing cognitive-emotional impairment and functional impairment related to climate change, is proposed as the primary predictor measure.

Psychological Well-Being: Psychological well-being will be assessed using a validated short form of Ryff's Scales of Psychological Well-Being (Ryff, 1989), which yields both a composite well-being score and subscale scores across the six dimensions of autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance.

Coping Strategies: The Brief COPE (Carver, 1997), a 28-item measure assessing 14 coping subscales that can be grouped into problem-focused, emotion-focused, meaning-focused, and avoidant coping composites, will serve as the mediating variable.

Resilience: The Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) will serve as the moderating variable, capturing individual differences in adaptive capacity under adversity.

Demographic and Contextual Covariates: Age, gender, geographic region, prior direct exposure to climate-related extreme weather events, and general (non-climate) anxiety will be measured as covariates, given prior evidence that these factors are associated with climate anxiety severity (Torales et al., 2026).

Procedure

Following institutional ethical approval, participants will complete an online informed-consent form followed by the survey battery, presented in a randomised order to reduce order effects. The survey is estimated to take 20 to 25 minutes to complete. Attention-check items will be embedded to screen for inattentive responding, and participants failing more than one attention check will be excluded from the analytic sample.

Data Analysis Plan

Preliminary analyses will include descriptive statistics, reliability analysis (Cronbach's alpha) for each scale, and bivariate correlations among the study variables. The primary hypotheses will be tested using the PROCESS macro (or an equivalent structural equation modeling approach), specifically a moderated-mediation model (Model 7 or a comparable conceptual model) with climate change anxiety as the predictor, coping strategies as the mediator, resilience as the moderator of the first-stage path, and psychological well-being as the outcome. Bootstrapped confidence intervals (5,000 resamples) will be used to test the significance of conditional indirect effects. Demographic and contextual covariates will be entered as control variables in all models.

IV. Discussion

The moderated-mediation model proposed in this paper offers a more nuanced account of the climate anxiety-well-being relationship than a simple direct-effects model. If supported, the findings would suggest that the psychological consequences of climate change anxiety are not fixed or uniform, but are instead shaped by two modifiable



psychological processes: the coping strategies individuals adopt in response to climate-related distress, and their underlying resilience. This has direct implications for intervention. Rather than treating climate anxiety solely as a symptom to be reduced, mental health practitioners and public health programs might instead focus on redirecting coping responses toward adaptive, problem-focused and meaning-focused strategies, such as collective climate action, community engagement, and cognitive reframing, which prior research suggests are associated with better outcomes among climate-concerned individuals (Daeninck et al., 2023; Gunasiri et al., 2022).

The proposed moderating role of resilience further suggests that broader resilience-building programs, of the kind already used in disaster-preparedness and trauma contexts, may have applicability to the climate domain even though climate change is a chronic and diffuse stressor rather than a discrete traumatic event (Bonanno, 2004; Masten, 2001). This is a meaningful distinction: because climate change cannot be resolved by any single individual, interventions that target the individual's response to the stressor, through coping skills training and resilience building, may be more immediately actionable than interventions that attempt to remove the stressor itself.

At a broader level, this framework also speaks to an ongoing debate in the climate psychology literature about whether climate anxiety should be understood primarily as a pathological symptom or as a rational, potentially adaptive response to a genuine collective threat (Hogg et al., 2023). The proposed model does not resolve this debate, but it does suggest that the psychological consequences of climate anxiety are contingent on downstream processes, coping and resilience, rather than being an inevitable consequence of the anxiety itself. This reframing may help reduce stigma around climate anxiety while still supporting those for whom it becomes functionally impairing.

Limitations and Future Research

Several limitations of the proposed study should be acknowledged. First, the cross-sectional design precludes strong causal inference; although the model is theoretically specified with climate anxiety as the antecedent, reverse or reciprocal relationships (for example, low well-being increasing vulnerability to climate anxiety) cannot be ruled out. Longitudinal or experience-sampling designs would allow for stronger causal and temporal claims. Second, reliance on self-report measures introduces the possibility of shared-method variance and social desirability bias, particularly for coping and resilience measures. Third, convenience and online panel sampling may limit generalizability, particularly to populations with the greatest direct exposure to climate-related hazards, such as residents of low-lying coastal regions or communities recently affected by extreme weather events (Torales et al., 2026).

Future research should consider longitudinal designs capable of testing the temporal ordering implied by the proposed model, as well as experimental or intervention studies that manipulate coping strategies (for example, through brief meaning-focused coping interventions) to test whether shifting coping style causally improves well-being among climate-anxious individuals. Cross-cultural replication is also warranted, given evidence that both the prevalence and psychometric structure of climate anxiety vary across countries and cultural contexts (Hogg et al., 2023). Finally, future work might



usefully examine additional moderators, such as collective efficacy, social support, and pro-environmental identity, which may operate alongside individual resilience to shape the climate anxiety-well-being relationship.

V. Conclusion

Climate change anxiety is a widespread and, for many individuals, functionally significant psychological experience. This paper has proposed a moderated-mediation framework in which coping strategies mediate, and resilience moderates, the relationship between climate change anxiety and psychological well-being. By integrating the transactional model of stress and coping with resilience theory and eudaimonic models of well-being, the proposed model offers a theoretically grounded and empirically testable account of why climate anxiety appears to affect some individuals' well-being more than others. Beyond its theoretical contribution, the model has practical implications for the design of climate-aware mental health interventions that target coping skills and resilience rather than attempting to eliminate climate concern itself, a goal that is neither feasible nor, given the reality of the climate crisis, necessarily desirable. As climate change continues to intensify, understanding and strengthening the psychological processes that protect well-being will be an increasingly important complement to broader efforts at climate mitigation and adaptation.

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