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Climate Change Anxiety, Coping Strategies and Mental Health: Exploring the Goldilocks Zone of Climate Anxiety in Ireland

Sinéad Renu Sheehan

sinead.sheehan@universityofgalway.ie

University of Galway https://orcid.org/0000-0002-3056-9770

Adam Kirby

University of Galway

Navjot Bhullar

James Cook University

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Abstract

There is growing research about how coping strategies and engagement in activism may interact in the relationship between climate change anxiety (CCA) and negative mental health impacts. Data from 109 Irish adults assessed engagement in climate activism, CCA, coping strategies and generalised anxiety and depression. A cluster analysis revealed three clusters: Climate-Disengaged, Climate-Active, and Climate-Anxious. Climate-Disengaged group comprised non-activists reporting the lowest levels of CCA. Climate-Active group, comprising activists, reported just below average levels of CCA and significantly higher levels than the Climate-Disengaged group; and greater use of problem-focused and meaning-centered coping compared to Climate-Disengaged and Climate-Anxious groups. Climate-Anxious group included non-activists who reported significantly higher levels of CCA compared to that of Climate-Disengaged group, and greater use of emotion-focused and avoidant coping. Consistent with the goldilocks zone of CCA, our findings suggest that a moderate amount of CCA tends to operate in tandem with problem-focused, meaning-centered coping and climate activism.

The psychological and mental health impacts of climate change are increasingly documented globally (IPCC, 2022). Climate change anxiety (CCA) is defined as worry or anxiety about climate change and its effects (Clayton & Karazsia, 2020). Although CCA is not classified as a clinical condition, there is ongoing debate regarding its connection to mental health outcomes (Cianconi et al., 2023; Coffey et al., 2021). Previous research investigating the links between CCA and anxiety and depression has been mixed, suggesting there may be other moderating factors such as individual, behavioural or situational differences influencing the relationship (Whitmarsh et al., 2022). Qualitative and quantitative evidence indicates that engaging in collective climate action and coping styles are important variables related to CCA, but the role of these variables in the connection between CCA and mental health outcomes remains unclear (Coffey et al., 2021; Veijonaho et al., 2025).

Introduction

The psychological and mental health impacts of climate change are increasingly documented globally (IPCC, 2022). Climate change anxiety (CCA) is defined as worry or anxiety about climate change and its effects (Clayton & Karazsia, 2020). Although CCA is not classified as a clinical condition, there is ongoing debate regarding its connection to mental health outcomes (Cianconi et al., 2023; Coffey et al., 2021). Previous research investigating the links between CCA and anxiety and depression has been mixed, suggesting there may be other moderating factors such as individual, behavioural or situational differences influencing the relationship (Whitmarsh et al., 2022). Qualitative and quantitative evidence indicates that engaging in collective climate action and coping styles are important variables related to CCA, but the role of these variables in the connection between CCA and mental health outcomes remains unclear (Coffey et al., 2021; Veijonaho et al., 2025).

Coping Style

Theories of stress and coping suggest that coping style influences the relationship between the perception of a stressor and its impact on the individual (Carver et al., 1989). The Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) argues that individuals appraise a stressor in terms of perceived threat and perceived severity, along with their perception of ability to cope. Problem-focused coping addresses the stressor directly; emotion-focused coping manages resulting emotions; meaning-focused coping finds meaning when the stressor cannot be resolved (Eisenbeck et al., 2022), whereas avoidant coping may involve substance use or attempts at thought suppression and can be associated with mental health disorders (Barlow et al., 2016).

Ojala (2012) found that individual coping style moderated the relationship between climate distress and wellbeing among Swedish children. Emotion-focused coping, such as de-emphasising the seriousness of climate change, was negatively associated with measures of distress. Problem-focused coping, such as engaging in pro-environmental behaviour, was correlated with depressive symptoms. Meaning-focused coping, for example, having a sense of hope regarding climate change, was associated with positive affect. These findings suggest that coping style is an important variable in understanding the connection between CCA and mental health outcomes.

Climate Activism

Research has demonstrated a significant link between CCA and engaging in climate activism (Schwartz et al., 2023; Heeren & Clayton, 2026). Schwartz et al. (2023) found that engaging in activism moderated the relationship between CCA and depression. However, other research suggested that engaging in activism was perceived as a challenge that negatively affected mental health (Tremblay & Harrisson, 2026).

Heeren & Clayton (2026) argue that a moderate (Goldilocks) amount of CCA can be beneficial for motivating pro-environmental behaviour, such as climate activism, but higher levels of CCA can be detrimental to mental health. They suggest that coping mechanisms can play a beneficial role in regulating CCA, thereby promoting climate-friendly actions and preventing mental health problems.

To date, there is no published research investigating the associations between CCA, coping strategies and mental health outcomes among Irish residents. Although several studies have highlighted the potential importance of coping style as a moderator of the relationship between CCA and mental health, little evidence is available investigating this relationship. To address the identified gaps, the present study investigated the relationships between CCA, different coping strategies and mental health outcomes (generalised anxiety and depression) in a sample of Irish adults. The study was pre-registered at the following DOI: https://doi.org/10.17605/OSF.IO/AJPM5 and all hypothesised moderation analyses were non-significant (see SM B). We conducted an exploratory of a cluster analysis to identify distinct subgroupings within our sample based on their engagement with climate activism, reported levels of CCA and use of different coping strategies. This was an exploratory analysis with no *a priori* hypothesis.

Methods

Participants

Participants aged 18 years or over residing in Ireland for 6 months or more were recruited via convenience sampling through social media advertisements (Instagram, WhatsApp, and Signal accounts of the first two authors). Data comprised 109 participants (Female=55, Male=34, Other=15, and Prefer not to say= 5) with an age range of 20-73 years (mean=34.37, *SD*=13.84).

Measures

Climate activism was measured with a single question asking respondents whether they are a climate activist (Y/N).

Climate change anxiety**.** The Climate Change Anxiety Subscale (*CCAS*; Clayton & Karazsia, 2020) is a 13-item measure that assesses the frequency of climate anxiety symptoms on a scale ranging from 1 (*never*) to 5 (*almost always*). Items are averaged with a higher score indicating greater CCA.

Coping style**.** The Brief COPE (Carver, 1997) is a 28-item measure with 14 subscales, each comprising two items. Participants rated each item on a scale from 1 (*I haven't been doing this at all*) to 4 (*I have been doing this a lot*). Items are summed with a higher score indicating greater use of the coping style. Consistent with Dias et al. (2012), we used three subscales: problem-focused coping (comprising active coping, use of informational support, planning, and positive reframing), emotion-focused coping (comprising venting, emotional support seeking, humour, acceptance, self-blame, and religion), and avoidant coping (comprising self-distraction, denial, substance use, and behavioural disengagement).

Meaning-centred coping**.** The Meaning-Centered Coping Scale (*MCCS*; Eisenbeck et al., 2022) is a 9-item scale that assesses coping strategies including positive restructuring, maintaining life appreciation and hope in the face of adversity, and engaging in prosocial and meaningful activities. Participants rated each item on a scale ranging from 1 (*I do not agree at all*) to 7 (*I completely agree*). Items are summed with a higher score indicating greater coping.

Generalised anxiety**.** Generalised Anxiety Disorder (GAD-7; Spitzer et al., 2006) is a 7-item scale used to measure anxiety ranging from 0 (*not at all*) to 3 (*nearly every day*) regarding how often the participant experienced negative and anxious feelings in the last 2 weeks. Items were summed to indicate levels of generalised anxiety, where a total summed score between 0-4 indicates 'minimal anxiety', 5-9 as 'mild anxiety', 10-15 as 'moderate anxiety', and 16-21 as 'severe anxiety'.

Depression. The Centre for Epidemiological Studies-Depression (CES-D, Radloff, 1977) is a 20-item self-report measure assessing the frequency of emotional and behavioural symptoms of depression, ranging from 0 (*rarely*) to 3 (*most of the time*).Items are summed with higher scores indicating greater symptom severity. We have used Moon et al. (2017) severity categories: Not depressed (0-9), mildly depressed (10-15), moderately depressed (16-24), or severely depressed (>25).

Procedure

Ethical approval was granted by the University of Galway Research Ethics Committee. All participants provided informed consent. Data collection took place between 18/03/2025 and 16/07/2025 using an online survey with Gorilla software. The order in which the participants completed the survey questions was randomised by the software and all data were anonymised. Incomplete surveys were excluded.

Results

Descriptive Statistics

In our sample, 32.1% (*n* = 35) self-identified as climate activists. Intercorrelations and descriptive statistics of key study variables are presented in Supplementary Materials (SM) Table A. Consistent with the a priori hypothesis, CCA was significantly correlated with greater generalised anxiety and depression, as well as use of all coping strategies. Problem-focused coping was significantly associated with the greater use of the other three coping strategies as well as with generalised anxiety. Emotion-focused coping was also significantly associated with the greater use of avoidant and meaning-centered coping as well as higher generalised anxiety and depression. Avoidant coping was significantly associated with higher generalised anxiety and depression, and generalised anxiety was significantly associated with greater depressive symptoms. On the other hand, avoidant coping was not significantly related to meaning-centered coping, and the latter was not significantly associated with generalised anxiety and depression. However, the multivariate analyses testing a priori hypothesised moderating relationships indicated non-significant findings (see SM B).

Exploring the Goldilocks Zone of CCA

As an exploratory analysis, we conducted a 2-step cluster analysis to identify unique clusters within the study sample based on key predictor variables (continuous variables: CCA, problem-focused, emotion-focused, avoidant coping and meaning-centred coping; categorical variable: climate activism) that co-exist or combine within individuals. Results revealed a 3-cluster solution with an overall silhouette coefficient of 0.4, indicating a fair, easily interpretable and theoretically meaningful solution (see SM Figure A for cluster quality).

Figure 1 illustrates cluster membership based on six variables. *Cluster 1* (41.3% of the sample), *Climate-Disengaged*, comprised individuals who did not identify as climate activists and reported experiencing significantly lower levels of CCA and less than average use of problem-focused, emotion-focused, avoidant and meaning-centred coping strategies. *Cluster 2* (32.1% of the sample), Climate-*Active*, comprised individuals who identified as climate activists and reported above average levels of climate change anxiety, moderate use of problem-focused and emotion-focused coping strategies, greater use of meaning-centered coping, and average use of avoidant coping. Finally, respondents in *Cluster 3* (26.6% of the sample), *Climate-Anxious*, were non-activists who reported above average use of problem-focused, emotion-focused, and avoidant coping, and average use of meaning-centered coping. Specifically, the

Climate-Anxious group experienced significantly higher levels of CCA than the Climate-Disengaged group, and greater use of emotion-focused and avoidant coping strategies compared to the other two groups. SM Figure B shows the distribution of CCA scores across the 3-cluster solution.

Results showed significantly different response patterns across the three clusters. Descriptive statistics and univariate analyses are summarised in Table 1. Cluster membership was also significantly associated with generalised anxiety and depression. The Climate-Disengaged cluster reported mild generalised anxiety; however, moderate levels of depressive symptoms. The Climate-Active cluster also reported mild generalised anxiety and moderate levels of depression. The Climate-Anxious group reported moderate levels of generalised anxiety and severe levels of depression (the highest severity levels compared to other cluster groups).

Table 1

Summary of Descriptive Statistics and Univariate Analyses of Clustering and Outcome Variables

Clustering variables	**Cluster 1** ***Climate-Disengaged*** **(*n* = 45)** **41.3%**	**Cluster 2** ***Climate-Active*** **(*n* = 35)** **32.1%**	**Cluster 3** ***Climate-Anxious*** **(*n* = 29)** **26.6%**	**Univariate Analyses** **F (2, 106)**	**η^2**
Climate activism (Y/N)	No: 100%	Yes: 100%	No: 100%	-	-
Climate change anxiety	1.43^{a} (0.41)	2.13^{b} (0.74)	2.41^{b} (0.57)	29.39^{***}	.36
Problem-focused coping	3.35^{a} (1.00)	4.79^{b} (1.46)	4.52^{b} (1.24)	15.65^{***}	.23
Emotion-focused coping	3.17^{a} (.74)	4.21^{b} (1.09)	4.84^{c} (.72)	35.52^{***}	.40
Avoidant coping	2.44^{a} (.49)	3.29^{b} (.97)	4.57^{c}(1.25)	49.21^{**}	.48
Meaning-centered coping	36.73^{a} (7.54)	41.11^{b} (7.53)	36.17^{a} (10.71)	3.53^{*}	.06
Outcome variables					
Generalised anxiety Severity levels	5.69^{a} (5.45) Mild	8.40^{ac} (5.46) Mild	11.34^{c} (6.01) Moderate	9.06^{***}	.15
Depression Severity levels	16.40^{a} (11.34) Moderate	21.74^{a} (12.18) Moderate	30.14^{c} (12.85) Severe	11.51^{***}	.18
Demographic variables					
Age(years)	37.60^{a} (15.47)	33.80^{a} (13.13)	30.03^{a} (10.80)	2.77	.05
Gender(Male:M/Female:F)	M:16 | F:24 | Other: 5	M:9 | F:20 | Other: 6	M:9 | F:12 | Other: 8	-	-

Note. Means with different superscripts (in rows indicating post-hoc analyses) are significantly different at $p < .001$. For univariate analyses: $^{*}p < .05$, $^{***}p < .001$

Discussion

The current study examined the links between CCA, coping strategies, and generalised anxiety and depression in a sample of Irish adults. Bivariate correlations suggested positive correlations between CCA and generalised anxiety and depression. Cluster analysis identified three clusters of respondents

with differential levels of climate activism, CCA and use of coping strategies. The Climate-Disengaged group were non-activists and reported the lowest levels of CCA. It was therefore expected that they scored lower on all coping types, except for meaning-centered coping, which did not show a statistically significant difference between the Climate-Disengaged and Climate-Anxious groups. The 'Climate-Active' group were climate activists reporting just above average levels of CCA but a significantly higher level than the Climate-Disengaged group. Consistent with Ojala (2012), the Climate-Active group used more problem- and meaning-focused coping strategies than the other two groups. There were no significant differences between Climate-Active and Climate-Disengaged groups in reporting generalised anxiety and depression. However, the Climate-Active group reported lower levels of generalised anxiety and depression than the Climate-Anxious group. The Climate-Anxious group identified as non-activists and reported greater CCA than the Climate-Disengaged group and the highest levels of generalised anxiety and symptoms of depression compared to other groups. The Climate-Anxious group employed more emotion-focused and avoidant coping strategies.

Our findings are consistent with evidence that people who are higher in concern about climate change, taking action (such as engaging in activism or tackling the problem directly (problem-focused coping) may buffer the relationship between CCA and negative mental health outcomes (Schwartz et al., 2023). The results of the cluster analysis provide preliminary evidence into the goldilocks zone of CCA in an Irish sample. Identification of three clusters: Climate-Disengaged, Climate-Active, and Climate-Anxious shows that moderate levels of CCA (reported by Climate-Active group) work in unison with being a climate activist and the use of adaptive coping strategies, such as problem-focussed and meaning-centred coping. Together, the findings suggest that a moderate amount (Goldilocks zone) of CCA may be useful to engaging people in activism, but there could be a mental health cost to engaging in activism and/or having higher CCA unless problem-focused and meaning-centered coping strategies are employed.

Limitations and Future Research

Cluster analysis suggests qualitatively different coping strategies may shape the connection between CCA and mental health. However, due to a small sample size and sampling method, these findings may not generalise broadly. Further research could examine how problem-focused and meaning-centered coping can be integrated into psycho-educational interventions for individuals with moderate to high CCA levels and at risk of experiencing elevated levels of generalised anxiety disorder or clinical depression.

Declarations

Conflict of Interest Statement:

On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical Approval:

The study received ethical approval from the University of Galway Research Ethics Committee.

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Figures

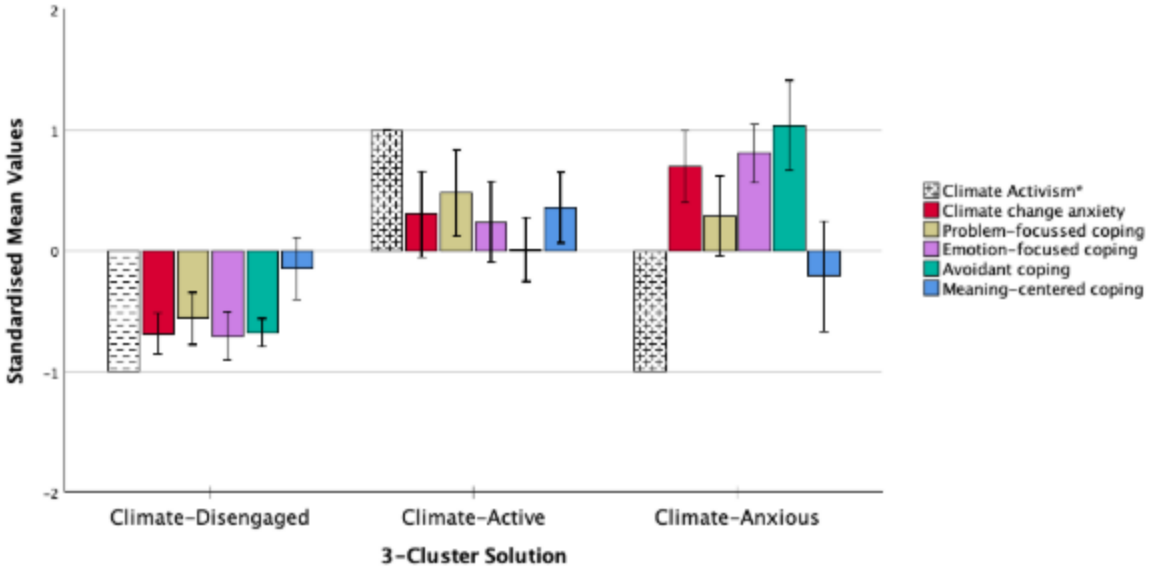


Figure 1

Standardised means (*M* = 0, *SD* = 1) of CCA and different coping strategies across three clusters. *Climate Activism: No = -1, Yes = 1.

Supplementary Files

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- SupplementaryMaterials.docx