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'I don't want you to be hopeful, I want you to panic': Climate anxiety as concept and condition.

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*Title quote taken from a speech given by climate activist Greta Thunberg directed towards world leaders at the 2019 World Economic Annual Forum Meeting in Davos, Switzerland. The full video can be found in the bibliography under Guardian News, 2019.

Summary

Despite the growing popularity of climate anxiety and eco-anxiety as shorthand descriptions for negative emotional responses to climate change, researchers have noted the ambiguity of these terms. This small-scale exploratory study draws on a focus group with four environmental activists and nine interviews with climate and psychology academics to explore this ambiguity. Discussions with participants highlight the complexities of how different people frame and understand their experience with climate and eco-anxiety. Weaving participants' accounts with findings from wider empirical and advocacy literature, I discuss the framing of climate anxiety as a mental health condition in the context of neoliberal tendencies towards individualising discourse, ethical obligations, and global injustice. I raise potential issues with how the language of climate and eco-anxiety is used, particularly when it comes to summarising swathes of experience under such broad umbrella terms, and the risk this presents for individualising responsibility for the climate crisis itself. Although individualising risk can shift the focus of responsibility away from state and corporate actors, I argue that individual actions and pro-environmental behaviours can also be a form of self-care, and protective for mental health. Emotional responses to the climate crisis raise issues of moral legitimacy, where what counts as a responsible action to protect both mental health and the planet can be highly contested.

Abbreviations

APA	American Psychological Association
CCAS	Climate Change Anxiety Scale
COP	Conference of the Parties
CPA	Climate Psychology Alliance
IPCC	Intergovernmental Panel on Climate Change
WHO	World Health Organisation
XR	Extinction Rebellion

Introduction

The climate crisis is having, and will continue to have, devastating impacts on human health and wellbeing (Wyns and Beagley, 2022; Wyns et al, 2022; Romanello et al, 2022; 2021). These impacts extend beyond physical health. The mental health impacts of the climate crisis are a growing area of both academic and public interest (Stewart, 2022; WHO, 2022a; Romanello et al, 2021: 1627; Clayton et al, 2021; Taylor and Murray, 2020; Taylor, 2020). In 2021 the American Psychological Association (APA) augmented their 2017 report on the mental health impacts of climate change, highlighting a growth in concern in this area among policy makers, the public, and health professionals alike (Clayton et al, 2021; Clayton et al, 2017). During COP27 held in 2022, various events in the Health Pavilion, hosted by the World Health Organisation (WHO) in collaboration with the Wellcome Trust, focused on the relationship between mental health and the climate crisis, further foregrounding these challenges in policy, academic, activist, and public spaces (WHO, 2022b).

Across the world we are both experiencing, and are acutely aware of, the impact that the climate and ecological crisis is having on our lives, with the 2021 Intergovernmental Panel on Climate Change (IPCC) report describing certain impacts as 'irreversible' (Pörtner et al, 2022: 7; McGrath, 2022; McGrath, 2021a; McGrath, 2021b). In the face of this, it seems understandable that there has been a rise in the number of people identifying with some form of emotional distress relating to the climate crisis, particularly those in younger generations (see Teen Vogue, 2022; Hickman et al, 2021; Whitcomb, 2021a; Taylor and Murray, 2020; Carrington, 2020).

Pihkala (2020), an environmental theologian and interdisciplinary academic who has focused much of his work on the concepts of climate and eco-anxiety, notes how discussion regarding climate change related emotional distress can first be found in academic literature around 2007, primarily drawing on the seminal work of Albrecht and his concept of 'solastalgia' (Pihkala, 2020: 1) – 'the distress that is produced by environmental change impacting on people while they are directly connected to their home environment' (Albrecht et al, 2007: 95; Albrecht, 2005). Media attention surrounding this form of distress increased during late 2017, with much discussion focusing on experiences labelled as 'climate anxiety' or 'eco-anxiety' (Pihkala, 2020: 2). Pihkala relates this to the work of the climate activist Greta Thunberg who has spoken of her anxiety relating to the climate crisis during her campaigning and activist work (Pihkala, 2020: 2). Over the last few years, multiple books for a popular audience which aim to guide individuals through their climate or eco-anxiety have been published including Tsui's *It's Not Just You: How to Navigate Eco-anxiety and the Climate Crisis* (2023) and Kennedy-Williams and Kennedy-Woodward's *Turn the Tide on Climate Anxiety* (2022) (see also Wray, 2022; Ray, 2020; Grose, 2020).

Despite increasing use of the terms 'climate anxiety' and 'eco-anxiety' within academic and popular discourse, there remains considerable ambiguity around how these concepts are

defined, categorised, and measured. Kurth and Pihkala (2022) note how eco-anxiety is often conceptualised as a 'mash up' (Kurth and Pihkala, 2022: 1) of various negative emotions such as worry, guilt, and sadness – much more than simply anxiety. The heterogeneity of emotions associated with and summarised by an experience of climate or eco-anxiety is also discussed by Soutar and Wand (2022), whose systematic review mapped the extensive scope of discussion regarding climate anxiety in terms of both concerns held by individuals and the diversity of responses to these concerns. As Kurth and Pihkala (2022) discuss, there are also concerns surrounding the quantification and measurement of these emotional responses in a proposed 'Climate Change Anxiety Scale' (CCAS) produced by Clayton and Karazsia (2020). Kurth and Pihkala note that this scale conflates emotions beyond anxiety, including sadness, guilt, and fear, into what comes to be defined as climate anxiety. This is problematic when considering, for example, separating out the role that these distinct and different emotions play in forming pro-environmental behaviours and attitudes (Kurth and Pihkala, 2022: 3). Attempts to validate the CCAS remain in the early stages, with validation studies emerging from different contexts including Korea (Jang et al, 2023), Poland (Larionow et al, 2022), France (Mouguiama-Daouda et al, 2022), and Italy (Innocenti et al, 2021), with some studies providing contradictory results (see Larionow et al, 2022: 2).

Without clarity over what constitutes the emotional response that is labelled climate anxiety, how it relates to and is distinct from other anxiety theories, or what makes climate anxiety distinct from other emotional responses to the climate crisis, such as eco-grief and eco-shame, measuring its prevalence is problematic (Kurth and Pihkala, 2022; Hickman et al, 2021: 871; Ojala et al, 2021). More broadly, commentators (particularly in conversation in the media and on social media) question climate anxiety as a concept rooted in a Western frame of reference, raising questions about the broader usefulness of the terminology (see, for example, Sultana, 2021; Ray, 2021; Whitcomb, 2021b).

Given the poor specificity and questionable generalisability of the concepts of climate anxiety and eco-anxiety in both academic and broader discussion, it would be useful to know how the concepts are used by key actors in fields related to climate change. This small-scale exploratory study maps the literature on climate anxiety and draws on interviews with environmental activists, climate academics, and psychology academics to explore how these people frame and understand their experiences with and perceptions of climate anxiety. Conclusions note the ambiguity surrounding the concept as identified in other literature, while exploring how climate anxiety is experienced in a neoliberal context through a discussion of the tools which participants used to alleviate their concerns. Findings raise questions over the legitimacy of different ways of demonstrating climate anxiety.

Literature review

There are multiple terms used to describe different emotional responses to the climate and ecological emergency. These include climate anxiety, eco-anxiety, eco-grief, eco-shame, Anthropocene anxiety (Pihkala, 2020: 9-10), pre-traumatic stress (van Susteren, 2020), climate worry (Ojala et al, 2021), climate sorrow (Orbach, 2019), environmental melancholia (Lertzman, 2015), and solastalgia (Albrecht et al, 2007) – to name but a few. Pihkala (2020: 4) notes how climate anxiety and eco-anxiety are the terms predominantly used to refer to eco-emotion in both academic literature and wider media discussion.

Multiple definitions can be found for climate anxiety. These include 'anxiety associated with perceptions about climate change' (Clayton, 2020: 2), 'such anxiety which is significantly related to anthropogenic climate change' (Pihkala, 2020: 3), and 'anxiety related to the global climate crisis and the threat of environmental disaster' (Wu et al, 2020: 435). There are also multiple definitions for eco-anxiety. These include the definition given by the APA in 2017 – a 'chronic fear of environmental doom' (Clayton et al, 2017: 68), that found in the *Handbook of Climate Psychology*, published in 2020 by the Climate Psychology Alliance (CPA) – 'heightened emotional, mental, or somatic distress in response to dangerous changes in the climate system' (CPA, 2020: 22), and 'the distress caused by climate change where people are becoming anxious about their future' (Coffey et al, 2021: 1). Pihkala (2020) describes eco-anxiety as 'anxiety which is related to ecological crisis' (Pihkala, 2020: 3), noting how the terms climate and eco-anxiety are often used interchangeably despite the slight difference in what he sees each of these forms of anxiety referring to. He argues that climate anxiety refers specifically to the impacts of human induced climate change, while eco-anxiety refers to the ecological crisis more generally. As such, Pihkala (2020) views climate anxiety as coming under the umbrella of eco-anxiety (Pihkala, 2020: 3). This point is key to discussion later in this paper, where the interchangeable use of terminology is discussed as a point of contention raised in the framing of climate anxiety by those interviewed as part of this study. As the lines are often blurred in literature when it comes to distinctly separating these concepts, discussion in this literature review refers to both climate anxiety and eco-anxiety.

A broad range of emotional states are frequently summarised in literature using the concepts of climate and eco-anxiety. Kurth and Pihkala (2022) discuss how the concept of eco-anxiety is often used to refer to emotions beyond anxiety, including sadness, fear, and guilt (Kurth and Pihkala, 2022: 1-2). A brief literature search shows how common this is. For example, Hickman et al's (2021) global study looking into the prevalence of climate anxiety in younger populations summarises feelings of sadness, fear, anxiety, guilt, powerlessness, helplessness, anger, and shame, among others, under the umbrella of climate anxiety (Hickman et al, 2021: 867; 869; 870). In their narrative review Ojala et al (2021) often refer to grief as a key emotion tied up with eco-anxiety. In an extensive piece considering the classification of climate emotions, Pihkala (2022) identifies amazement, confusion, isolation,

yearning, and rage, among many others, as being related to climate anxiety in academic literature (Pihkala, 2022: 11; 13; 15) – much more than simply anxiety as the name suggests. Through systematic review of qualitative literature Soutar and Wand (2022) have also identified a broad range of concerns associated with climate anxiety, from worry about climate change associated threats to livelihoods, to concern for future generations, and anxiety about the perceived lack of response from others when it comes to tackling the climate crisis (Soutar and Wand, 2022: 13-14). This wide range of concerns is also reflected in the work of Hickman et al (2021) who found young people to be concerned about a range of issues associated with the climate crisis including economic, social, and physical security, hesitancy around having children, and feeling that humanity is doomed (Hickman et al, 2021: 868). Lee and Barnett (2020) assessed questions that children aged 10-12 in 14 UK schools had about the climate crisis. Children asked questions such as 'will polar bears melt?', 'do you think we will run out of air?', and 'how long before global warming kills us all?' (Lee and Barnett, 2020: 874), again highlighting the range of concerns that feed into climate anxiety.

A variety of responses to climate anxiety and other climate related distress are also reported. Physical responses reported include feeling sick, having panic or anxiety attacks, struggling with sleeplessness, and a loss of appetite (see Coffey et al, 2021: 3; Dodds, 2021: 222; Gibson et al, 2020). Beyond physical manifestations, Norgaard's (2011) seminal study, *Living in Denial* shows how climate anxiety can lead to a denial of the issues, leading to what she describes as 'worldwide public paralysis' (Norgaard, 2011: 12) in the face of the climate crisis. This idea is also reflected in work by Innocenti et al (2023) which explores how climate anxiety can lead to 'eco-paralysis' (Innocenti et al, 2023: 7).

On the other hand, experiencing climate anxiety has also been found to empower individuals to incorporate pro-environmental behaviours and activism into their lives, including attending climate protests, changing consumption or travel habits, and influencing friends and family to do the same (Ogunbode et al, 2022: 6). Those who feel anxious about climate and environmental threats have been shown to be more likely to support pro-environmental policies and actions (see Goldberg et al, 2021: 493; Bouman et al, 2020: 7). It is for this reason that thinkers such as Kurth and Pihkala (2022) have theorised climate anxiety to be a form of 'practical anxiety' (Kurth and Pihkala, 2022: 5; Pihkala, 2020: 12; Kurth, 2018).

The reported variety of responses to climate anxiety highlights the lack of specificity of the concept. As Kurth and Pihkala (2022: 3) note, when so many distinctive emotions and concerns are conflated under this umbrella concept, we lose sight of how particular emotions – such as guilt, anger, and sadness – have specific implications for environmental behaviours and attitudes (Kurth and Pihkala, 2022: 3). Similarly, Kleres and Wettegren (2017) note how different emotions associated with climate anxiety, including hope, fear, and anger, interact with each other and are expressed differently by different population

groups. They note particular differences in how those living in the Global South and those living in the Global North respond to and express these emotions. In contrast to narratives found in activist spaces in the Global North, where hope is seen to manage fear and propel action, in climate activism in the Global South, hope is placed into hands of 'sources outside oneself' (Kleres and Wettegren, 2017: 516) and is 'no longer… a choice to be pleasurably and creatively enjoyed; it is rather… a necessity to sustain any action at all' (Kleres and Wettegren, 2017: 516).

Vulnerable populations

Groups identified as particularly vulnerable to experiencing climate anxiety and other forms of climate related distress include Indigenous Peoples, for whom the mental health impacts of the climate crisis are amplified by 'systems of inequity, marginalisation, and colonisation' (Middleton et al, 2020: 2); those living on the 'frontlines of the crisis' (United Nations, 2021) for whom the climate crisis is a tangible reality rather than abstract threat; and young people who will be disproportionally affected by the climate crisis throughout their lives (Crandon et al, 2022: 124; UNICEF UK, 2021; Sanson et al, 2019: 203), and thus are more likely to be affected by climate anxiety at some point in their lives (see Hickman et al, 2021).

A further group identified as particularly vulnerable to experiencing climate anxiety are climate scientists and academics due to their close understanding of the data, models, and wider impacts of the crisis through their work (Haddaway et al, 2021; Clayton, 2018). This is illustrated by the project *Is This How You Feel?* (*ITHYF*) (2020), set up in 2014 by science communicator, Duggan, which asked climate scientists to write letters in response to the question 'how does climate change make you feel?' The most common emotions referenced in these letters were frustration and guilt (Duggan et al, 2021: 854).

Climate anxiety and other anxiety theories

Pihkala (2020) has noted how climate anxiety and eco-anxiety can blur conversations between social and psychological disciplines when considered alongside other anxiety theories (Pihkala, 2020: 5). In much literature in the field, climate anxiety is not considered to be an anxiety disorder in a clinical or pathological sense (Soutar and Wand, 2022: 19). For example, in the *Handbook of Climate Psychology* (2020), it is suggested that experiencing climate anxiety should not be viewed as a clinical condition, but rather as 'a healthier response than turning away in denial or disavowal' (CPA, 2020: 22). Cunsolo et al (2020) describe these emotions as 'the crucible through which humanity must pass to harness the energy and conviction that are needed for the lifesaving changes now required' (Cunsolo et al, 2020: 262), and Pihkala urges a clear differentiation between what he describes as a 'healthy' experience of eco-anxiety, and more pathological or debilitating forms of anxiety (Pihkala, 2020: 8). Climate anxiety has been considered in regard to other anxiety theories including as a form of existential anxiety (Passmore et al, 2022; Ojala et al, 2021: 39; Pihkala,

2020: 6), a motivating, productive form of 'practical anxiety' (Kurth and Pihkala, 2022: 5; 6; Pihkala, 2020: 12; Verplanken et al, 2020; Kurth, 2018), and in relation to 'trait anxiety' (Pihkala, 2020: 8; 9), anxiety sensitivity, and pre-existing mental health conditions (Pihkala, 2020: 8; 9; Crandon et al, 2022: 123; Doherty and Clayton, 2011: 265). Here it is important to note, as Soutar and Wand (2022) found, that there is a lack of convincing evidence which draws a link between climate anxiety and clinical anxiety, suggesting that climate anxiety and eco-anxiety are not pathological in nature, but existential (Soutar and Wand, 2022: 19).

Methods

A convenience sample of participants were recruited through personal contacts, university staff lists and snowballing. Six climate academics and three psychology academics took part in individual semi-structured interviews. Four environmental activists took part in a group interview. All interviews were held between June 2022 and July 2022 on Microsoft Teams and lasted between 30 minutes and 1 hour. Climate academics were selected as a key participant group as they have been found to be particularly vulnerable to the experience of climate anxiety due to the nature of their work and research (Duggan et al, 2021; Haddaway et al, 2021; Clayton 2018). Environmental activists were selected as conversations about climate anxiety and eco-anxiety are already happening in activist spaces (see Circularity, 2022; Force of Nature, 2023), providing opportunity for nuanced discussion regarding the validity and usefulness of the concept. Participants in the group interview were recruited through university channels and all were under 24 years old and thus members of the 'Generation Z' cohort who have been identified as more concerned about the climate crisis than others (Ro, 2022). Psychology academics were invited to participate to shed light on the validity of the concept and possible pathological nature of climate anxiety.

A topic guide included prompts relating to the emotions participants associated with the climate crisis and how these related to their understanding and possible experience of climate anxiety. Participants were also asked to provide suggestions for how they or others could manage or respond to their emotions.

In extracts from interviews in the *Findings and discussion* section below, tags indicate participants with the prefix CA (climate academic), PA (psychology academic), or EA (environmental activist) depending on which participant group they belonged to, and an interviewee number. Details of Interviews were transcribed in full and analysed thematically using Braun and Clarke's six step framework (Maguire and Delahunt, 2017; Braun and Clarke, 2006). Initial codes were developed into three themes: climate anxiety as rational, variability in experience, and ideas relating to relationality and morality.

This study received ethics approval from the University of Exeter College of Humanities Ethics Committee in May 2022.

Findings and discussion

Climate anxiety as condition: how should a rational response be treated?

The consensus in each participant group was that experiencing climate anxiety is, as CA2 noted, a 'very rational response to the very solid predictions of climate science' (CA2). Despite context dependant references to possible therapeutic intervention most participants did not suggest that climate anxiety could be considered a mental health condition. For a clinical diagnosis of generalised anxiety disorder (GAD), patients must complete the GAD-7 questionnaire (Spitzer et al, 2006). PA3, a cognitive neuroscientist and experimental psychologist, referenced the GAD-7 in their interview when discussing their understanding of climate anxiety in relation to traditionally understood anxiety disorders. They noted how this questionnaire requires that the patient feel excessive anxiety rooted in the notion that 'something awful *might* happen' (emphasis added) (Spitzer et al, 2006: 1093). In defining climate anxiety, PA3 contrasted this with the idea of 'normal rational worrying' (PA3). PA1 similarly stated that when considered alongside clinical conceptualisations of anxiety disorders and while considering the facts of climate science, climate anxiety can be viewed as a non-pathological, entirely rational phenomenon – 'to me having anxiety about the possible end of the world is normal!' (PA1)

Some participants did note a differentiation between healthy, motivating, and practical climate anxiety, and climate anxiety which has a debilitating impact on an individual's day-to-day functioning. This is a distinction that Pihkala (2020) has also made. When climate anxiety is found to have significant implications for an individual's everyday functioning, participants from all participant groups suggested that individuals suffering in this way should reach out to more traditionally recommended clinical or therapeutic interventions for more traditional anxiety disorders. For participants with a psychology background, when considering this idea of debilitating climate anxiety, climate concerns were viewed as a 'trigger' (PA2) or as part of a 'preoccupation' (PA1) associated with a more traditional generalised anxiety diagnosis. As PA2 noted, 'I would suspect that a lot of people who are seeking treatment 'for [climate anxiety], are not seeking treatment for climate anxiety, they are seeking treatment for *anxiety*' (PA2).

The consensus understanding of climate anxiety here as a rational, and often practical response to the climate crisis resonates with literature such as that from Pihkala (2020), Kurth and Pihkala (2022), and Ogunbode et al (2022) who have discussed climate anxiety as a means of motivating individuals to take part in various pro-environmental behaviours. Practical anxiety is theorised by Kurth (2018) as a means to assist in moral decision making (Kurth, 2018: 1-2). A theorisation of climate anxiety as a form of practical anxiety speaks to how participants in this study approached the management and alleviation of their climate anxiety. Rather than seeking treatment through clinical or therapeutic intervention, participants described how individual actions centred around small-scale pro-environmental

behaviours helped them to work through and manage their emotional response to the crisis.

Climate anxiety in the context of neoliberalism

Taking part in individual small-scale pro-environmental behaviours was both motivated by participants' climate anxiety and seen as a means through which they could manage and alleviate some of their concerns. However, in conjunction with these conversations, there was also a keen acknowledgment during participant responses and taken implicitly during wider discussion that participants believed that individual actions are not enough and will not solve the climate crisis. It is through this contradiction found in participant responses between the value of individual action for the individual themselves and the acknowledgment that this is not the solution to the cause of the problem – with the root of much climate anxiety discussed here as related to a desire for collective and governmental level action – where the pervasive nature of individualising discourse found in neoliberal culture as damaging can be assessed with regard to climate anxiety.

In Western neoliberal culture, responsibility for risk lies within the individual. This idea is reflected in many different realms, including in climate discourse (see Fremstad and Paul, 2022; Lukacs, 2017) and in health discourse (see Herrick, 2016; 2020; 2021; Lynch, 2016; Brown and Baker, 2013). As in the context of health, in the context of the climate crisis, individuals have similarly been presented with the idea that they have a significant role to play in mitigation efforts even though 71% of greenhouse gas emissions can be attributed to just 100 producers (Griffin, 2017: 8). Similar to the framing of non-communicable diseases as 'lifestyle diseases' shifts responsibility for health onto the individual, concepts such as the personal carbon footprint, created by oil giant BP in 2005, similarly shift responsibility for the climate crisis onto the individual and away from corporation and state entities, thus diminishing the role of wider contextual factors – and allowing questions of accountability to be avoided (Kaufman, 2021).

Participants in this study recognised that the actions they took as individuals to manage their climate anxiety, including recycling, walking to work, saving water etc., were limited in how beneficial they were in mitigating against the crisis at large, maintaining an awareness of the above. Participants discussed how much of their anxiety was rooted in wider concerns regarding a lack of governmental or state level action, broader societal questions of social injustice, and an acknowledgment that individual action is 'not what will save us' (CA2) - 'I feel like the things I do are so small, I don't know if they're helping' (PA1), '… we are not part of an organisation that's polluting in the same way' (EA2), 'I try to empower myself every single to day to change… the inevitable' (CA4) – yet in the face of their emotional distress, this is what they saw as able to help them on a day-to-day basis. Arguably, through this discussion and the focus on individual action as a tool to alleviate their climate anxiety, participants came to frame their climate anxiety as their own problem

– a problem of the individual, suggesting that the responsibility for alleviating their distress lies not with those in positions of power or in the collective whom they saw as having a significant role to play in mitigating against the crisis more broadly, but with the individual themselves. This suggestion diminished the role that their noted wider concerns and perceived lack of governmental level action etc. played in producing their climate anxiety, suggesting a perpetuation of the ideas discussed above regarding the framing of the climate crisis and many health conditions in the context of neoliberalism as something the individual is solely responsible for, an issues raised by Clayton (2020), a conservation psychologist and key scholar in this field. She cautions against individualising narratives around climate anxiety which could 'distract attention from the societal response that is necessary to address climate change' (Clayton, 2020: 1).

This argument could be reframed. Rather than as perpetuating the individualising discourse, the seeming contradiction between the noted cause or root of climate anxiety and its discussed management techniques may not be contradictory at all. Participants acknowledge that conversations must expand beyond the individual – '… stuff is out of control, and the people that could do something about it aren't' (EA1). There is a suggestion here that addressing their climate anxiety at an individual scale, through acts such as recycling and interacting with nature, acts not to alleviate climate anxiety in relation to its root cause, but to preserve the broader mental health and wellbeing of those who experience these emotions. As CA2 stated, 'individual action is not what will save us [but] individual action helps you' (CA2). By preserving their broader wellbeing through these small-scale actions it can be argued that these behaviours allow those interviewed here not to perpetuate neoliberal discourse and ideas about individual responsibility, but to act within this context in a manner which allows them to think beyond these constraints.

In the context of this reframing, the individual action described by participants can be viewed as acting almost as a form of self-care which allows them to continue either conducting research in this area, or for some, campaigning as part of a wider collective. When reframing the discussion in this way, suggestions from participants as to how they alleviate their climate anxiety can be seen not to perpetuate the individualising discourse of neoliberalism but as providing a counter to the overwhelming sense that the individual cannot play a significant role in mitigating against the crisis themselves. Individual scale pro-environmental behaviour, whether that be recycling or behaviour which grounds participants in the everyday and connects them to nature, can be seen as creating a space for participants to address their climate anxiety – and the crisis itself – through more collective or radical means beyond the pervasive constraints or discourse found in neoliberalism regarding individual responsibility. As EA4 noted, taking care of yourself when working in these spaces is important to prevent yourself becoming entirely overwhelmed and paralysed by the scale of the climate crisis.

The variable experience of climate anxiety

Conversation with participants highlighted the multiplicity of emotions present in experiences of climate or eco-anxiety, as noted in Pihkala's (2022) overview of climate emotions and Kurth and Pihkala's (2022) questioning surrounding the consolidation of many emotional states under the umbrella of eco-anxiety. As Figure 1 shows, participants described their climate anxiety primarily manifesting as anger, overwhelm, and frustration. Anxiety, grief, and depression were also frequently discussed. Positive responses such as hope and optimism were referenced in regard to youth participation in the climate movement, technological and scientific advancements, or as CA2 discussed, hope was seen as essential to overcoming their anxiety: 'you don't have hope because you want to or because it's true or right that things are going to get better, you have hope because you need it, because if you don't have hope, you can't continue' (CA2).

Figure 1: Word cloud depicting the frequency of word occurrences in interview transcripts
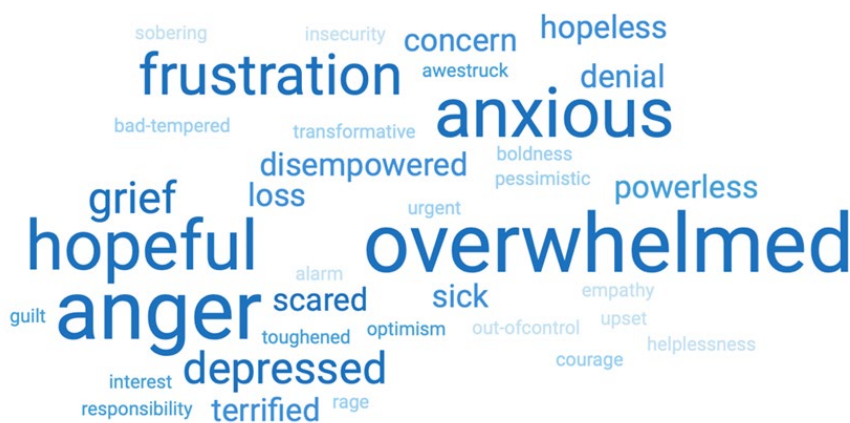
Key to discussion was a sense that the emotions participants associated with their climate anxiety were transient and experienced in fluctuation in response to news headlines, the publication of certain reports, and their own research. CA1 and CA6 who both research climate and earth systems, suggested that they were simultaneously able to be concerned about the crisis while maintaining a sense of interest and optimism in their work. It was for this reason that CA1 questioned whether it would be right to say that they identify with climate anxiety as they understood it – they saw the fact that they were able to note positive *and* negative emotions in congruence as constraining their ability to identify with the term however concerned they were.

CA3 also discussed the importance of variability and fluctuation in relation to their experience with climate anxiety. This participant described their age (65) as a noted source

of guilt when considering the impact that the crisis will have on younger and subsequent generations and the role that their generation played in created this 'mixed bag' (CA3) of a future. Despite their guilt, they described how they were able to simultaneously maintain a sense of hope in the actions of the younger generations they described, drawing on the work of the youth led *Friday's for Future* climate strikes. Even though placing hope into the hands of younger generations felt like a 'real cop out' (CA3), it provided some respite from their other more negative feelings about the crisis. This sense that the emotions associated with climate anxiety were not only varied but that they also fluctuated over time, were experienced transiently, and that often positive and negative emotions appeared concurrently raises questions about the categorising of the concept, creating space to ask what it means to be climate anxious if the emotions tied to this concept shift and change over time.

For many participants climate anxiety was not only 'more than anxiety' (CA2), but also 'more than climate' (CA3). Concerns that fed into the climate anxiety that participants described extended out towards wider ecological concerns and wider questions of social justice, with some participants seeing other terminology such as 'ecological grief' (CA2), 'climate and other environmental change anxiety' (CA3), and 'environmental change anxiety' (CA6) as more fitting to their experience. For example, EA1 and EA3 referred to a module they took during their undergraduate degrees which explored the interconnection between the climate crisis and other questions of social justice relating to economic organisation, colonialism, racism, and the systemic nature of these issues. The fact that participants described these concerns which, while inextricably linked to the climate crisis, extend beyond traditionally considered implications suggests further issues associated with the categorisation and classification of climate anxiety – is it right to summarise these different concerns using the term *climate* anxiety, when for many, climate is not their only or principal concern?

Further variability was also found when discussion turned to personal experience with the effects of the crisis. For example, CA2 emotively described their experience living in Arizona (USA) during a set of climate change induced wildfires in July 2021. The implications of direct versus indirect experience with the effects of the crisis on the experience of climate anxiety was illustrated by how this participant spoke of their current circumstances living in Devon (UK) – 'part of me is so relieved to be in England… I'm okay now' (CA2). How those who did not have direct experience with the impact of climate change spoke of those who do, also suggested a difference in the experience of climate anxiety in this instance – concern as rooted in a possible future, and concern as rooted in the here and now. For example, EA4's concerns seemed to be rooted in a sense that what is already happening in more vulnerable countries *could* happen in the UK at some point – 'that could be what we see in this country in my lifetime' (EA4). During the data collection process, several interviews were conducted during the 2022 European heatwave, where temperatures in the UK reached 40°C for the first time. CA6, whose research at time of interview centred around

the health impacts of climate change noted how this heatwave made them realise in real terms just how dangerous these high temperatures can be for health, shifting their experience from thinking theoretically about the problem to personal experience. This gave them a 'real sense of alarm that we need to do it quickly' (CA6) – it being acting to mitigate against the climate crisis. This account, although not illustrative of all participants, further suggests a distinction which needs to be acknowledged when it comes to experiencing climate anxiety as someone with direct experience with the effects of the crisis, and as someone contemplating possible future implications for themselves or future generations.

Categorisation: what does it mean to label responses as *climate anxiety*?

Participants also discussed the categorisation of responses as *climate anxiety* when asked to define the concept in their own words. Concerns discussed suggest a difficulty in categorising or giving an appropriate name to this emotional state which has come to be umbrellaed by this terminology when considered alongside personal lived experience.

> …and when does concern become anxiety – I'm not sure (CA1)

> …and it's not just the climate right! (CA2)

> I guess for me it's not only climate, to me it's climate and other environmental change, plus all sorts of revisionings of my own white privilege, colonialism, racism, the wars… it's not just climate anxiety (CA3)

> …it isn't only anxiety… (CA4)

> I think the word anxiety is quite limiting (CA5)

> I'm not sure that anxiety is the best starting point (PA2)

The connotations of this language, particularly in a Western context, of anxiety as excessive, irrational, and individual (Lynch, 2016: 154; Spitzer et al, 2006: 1093) is framed as potentially downplaying other prominent emotions, such as grief, anger, hope, and frustration. Does describing this emotional response as climate *anxiety* minimise the legitimacy of other key emotions participants tied up in their experience or does it prevent those who do not identify anxiety in their emotional response to the climate crisis taking part in these discussions?

This is a particularly pertinent question, as much media discussion regarding the mental health impacts of the climate crisis uses the language of climate anxiety and eco-anxiety as a starting point for these important conversations (Pihkala, 2020: 2). The popularisation of the terms climate anxiety and eco-anxiety has been criticised by those who suggest that 'climate

anxiety [can be viewed as] an overwhelmingly white phenomenon' (Ray, 2021). As Professor of Environmental studies and author of *A Field Guide to Climate Anxiety: How to Keep Your Cool on a Warming Planet* (2020), Ray, is quoted as saying in conversation with Browne (2022) for WIRED UK, 'the reality is that what the term… means to a white middle-class European might differ completely from what it means to a poor farmer in Lagos' (Ray in Browne, 2022: para. 6). Jennifer Uchendu, a Nigerian sustainability advocate has also discussed this in conversation with Whitcomb (2021b). Describing her experience with climate anxiety on moving from Nigeria to London for her studies, she discusses how she realised that 'her experience of climate anxiety was different from that of other students in her cohort' (Whitcomb, 2021b: para. 2) because of her lived experience – 'the guilt she saw in their experience [of climate anxiety] had no part in her sense of injustice' (Whitcomb, 2021b: para. 2).

Albrecht's (2019) book, *Earth Emotions: New Words for a New World*, provides a consideration of how other categorisations or labels for emotional responses to the climate crisis beyond the concepts of climate and eco-anxiety could operate. Albrecht (2019) argues that the Anthropocene – the much-contested idea that we are now living in a 'human-dominated geological epoch' (Lewis and Maslin, 2015: 171), has 'inexorably infiltrated every aspect of life in the early twenty-first century' (Albrecht, 2019: 193). He suggests that we need to expand the vocabulary we use surrounding the emotions we feel about the Earth. Terminology coined by Albrecht such as the seminal 'solastalgia' which names the emotional distress felt in response to the sense of loss one feels when their home environment is impacted by environmental change (Albrecht et al, 2007), creates space to consider in broader terms the human emotional response to the Earth – our psychoterratic emotions (Albrecht, 2019: x). Through his work Albrecht supposes that a vocabulary and categorisation beyond the popularised terminology of climate and eco-anxiety creates space to consider and account for the transient and variable nature of what participants in this study explored in their interviews, helping to overcome some of the nuances which can be said to be overlooked by current conceptualisations of the mental health implications of the climate crisis as climate anxiety.

Is there a right way to be climate anxious?

This point of discussion was brought to the fore through comments made by EA4. The language they used and how they spoke of their concerns during the group interview can be read as implying that their experience of climate anxiety was different or more acute than that of others, despite their claims that this was not the case – 'that's not to say I know better than you blah, blah, blah' (EA4). Comments such as 'I think I am even further into the rabbit hole than you guys' (EA4) and 'I've literally made plans to go to prison for the movement… that's the stage that I'm at' (EA4), illustrate the inferred implication that their experience of climate anxiety led them to care more deeply about the cause. Their key claim – that they had made plans to go to prison as a form of direct action – provides space to

consider whether people willing to go to prison for the climate crisis experience climate anxiety more acutely than those who do not – do they care more?

Campaigning groups such as Extinction Rebellion (XR) have been criticised for suggesting that tactics such as mass arrest and financial disobedience should be central to how they undertake their direct action (see Wretched of the Earth, 2019). XR hopes that by getting large numbers of people arrested at their events they will be able to raise awareness of the climate and ecological crisis in a similar manner to the civil rights movement in the US (Kinniburgh, 2020; Marshall, 2019). Commentary surrounding the actions proposed by XR criticises their approach for often failing to acknowledge the privilege needed to take part in these actions which is seen as marginalising significant numbers of people for whom taking part in actions such as mass arrest is not an accessible option (Wretched of the Earth, 2019). Taking this into account alongside comments made during the group interview, I would argue that a willingness to go to prison for the movement, or even to partake in other forms of direct action such as financial disobedience or protest, cannot be seen as demonstrating that an individual cares more about the cause or experiences climate anxiety to a greater extent – especially when not everyone has the ability to take part in actions like these (see also Bell, 2020).

Variability in the concerns that participants described as associated with their climate anxiety generates questions about whether there is a 'right way' to be climate anxious or to demonstrate these anxieties. Concerns described by participants ranged from individual-centred concerns about themselves and their loved ones and how they personally would cope with the worsening effects of the climate crisis, to broader concerns around the interconnection between the climate crisis and colonialism, systemic racism, and intergenerational injustice. Here I question whether those who spoke of concerns beyond the individual experience climate anxiety to a greater extent or whether their broader concerns mean that they care more? Fundamentally I ask, is their climate anxiety more meaningful? For example, EA2 associated their climate anxiety with broader questions of social justice, assuming that, for example, an individual who was vegetarian or vegan for environmental reasons or who identified as anti-racist, should also to some extent identify with climate anxiety. Bearing this in mind, if an individual does not align their climate anxiety with other aspects of their lifestyle, such as through adopting a plant-based diet, does this contradict with their identification with climate anxiety, and does this matter? Questions of individual privilege clearly play significantly into these conversations, meaning that attributing morality becomes fraught with contention.

Conclusion

In conclusion, this study explored the concepts of climate and eco-anxiety through a focus group session with environmental activists and interviews with climate and psychology academics. Discussion highlights the complexities surrounding how different people frame and understand their experience with and perception of climate anxiety as a concept and condition. Participants discussed how they see climate anxiety as a rational, but variable, and as an almost inevitable response to climate and ecological breakdown.

Conversations surrounding the rational and inevitable nature of climate anxiety led to explorations surrounding the framing of climate anxiety as an individualised experience which was a key thread throughout discussion. Here questions were raised about the experience of climate anxiety in the context of neoliberalism and how pervasive ideas about the role and responsibility of the individual when it comes to both mental health and the climate crisis influence understanding and use of the concept. Participants reported using everyday pro-environmental behaviours to alleviate their climate anxiety even though they acknowledged that individual action and behaviour change are insufficient climate mitigation techniques in and of themselves. These conversations raised ethical discussions around attributions of morality and authenticity in choices around responses to climate anxiety, such as direct action.

This report began with Kurth and Pihkala's (2022) work on the ambiguity and abundance of emotions and concerns tied up in the experience of climate anxiety, which creates challenges for labelling, identifying, and measuring the concept. Interrogating this ambiguity with those who identify with climate anxiety sparked valuable conversations about how different emotions present themselves in the context of climate breakdown, and how these emotions motivate – or even paralyse – the action needed to mitigate against the climate crisis. The varied emotions present here implied a need to go beyond or to reconsider the categorisation of climate anxiety when for many this was both 'more than climate' and 'more than anxiety'. It may be the case that these conversations require an expanded vocabulary, as suggested by Albrecht (2019). Alternatively, inherent complexity may limit the possibilities of more positivist or quantitative research of the kind proposed by the CCAS (Clayton and Karazsia, 2020).

However, the mental health impacts of the climate crisis will become increasingly apparent in the coming years. Despite these challenges in definition and conceptualisation, there is a need for 'living with the ambiguity' to develop more sophisticated approaches to naming the emotional consequences of climate crisis for individuals, and for exploring their responses to those consequences. Studies which look beyond an Anglo-American context and those which question what this concept means for those directly affected by the climate crisis will be particularly valuable here.

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Appendix: summary of participants

Climate academic disciplinary backgrounds

CA1	Climate modelling; carbon cycles and vegetation
CA2	Anthropologist specialising in environmental and medical anthropology, currently writing an ethnography on climate change
CA3	Occupational and environmental health physician; working on oceans, epidemiology, and human health
CA4	Research focused on population health, health inequalities and climate change
CA5	Earth systems science and climate modelling; tipping points
CA6	Health geographer researching the impact of environmental and climatic changes on health

Psychology academic disciplinary backgrounds

PA1	Environmental psychologist with a background in teaching and research methods
PA2	Social psychologist
PA3	Cognitive neuroscientist with a background in experimental psychology and clinical research