

Review

Generation Z Worries, Suffers and Acts against Climate Crisis—The Potential of Sensing Children’s and Young People’s Eco-Anxiety: A Critical Analysis Based on an Integrative Review

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Abstract: The adverse and severe impacts of climate-induced natural hazards, which are expected to be aggravated by climate change, are forming a wider outline of the environmental crisis, being a source of negative emotions for human societies. Children and young people, in particular, are one of the most vulnerable social groups to this distress. In this research, we intend to analyze the eco-anxiety and climate anxiety aspects of Generation Z, based on a critical review of studies on children’s and young people’s ecological feelings worldwide, alongside a study of actual data on natural disasters per country since the year 2000. The results of the research revealed that (a) Generation Z worries in the Global North and suffers in the Global South, (b) Generation Z acts against climate change, and (c) there is an existential dimension of children’s and young people’s eco-anxiety. The study also highlights dimensions of eco-anxiety that are under-researched and are important to explore in the future. Empathizing with Generation Z’s emotional state in relation to ecological crisis and climate change may affect and highlight new directions in environmental thought and awareness.

Keywords: eco-anxiety; climate anxiety; Generation Z; climate change; natural hazards



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1. Introduction

Climate or climatic crisis is a rather new term used to describe the adverse environmental effects imposed by climate change. According to the United Nations (UN) [1], global warming has been accelerating in recent years, and it is expected to affect ice and glacier melting in polar and mountainous regions, causing a sea level rise. The UN states that “*If no action is taken, entire districts of New York, Shanghai, Abu Dhabi, Osaka, Rio de Janeiro, and many other cities could find themselves underwater within our lifetimes, displacing millions of people*”. Additionally, an increase in climate extremes (heatwaves, floods, droughts, typhoons) is anticipated, causing food insecurity and economic issues. Under such conditions, poor and vulnerable countries will be affected the most. The inequalities between nations and the competition for resources will be exacerbated, triggering socioeconomic tensions, resulting in conflicts and massive displacements.

This era of ecological crisis, which involves climate-induced natural hazards and has consequences for human societies and ecosystems, creates profound feelings of despair and grief, among others [2,3]. Climate anxiety has recently started being evaluated worldwide in several countries and contexts [4] and in relation to the well-being of human societies [5]. In the Anthropocene, the geological period which is characterized by the consequences

of human activity for the environment and the anthropogenic change of the planet's biosphere [6], distress and anxiety about the future of ecosystems and human communities have skyrocketed. New specialized terms describing dark emotions have been defined to express environmental crisis-induced distress, marking the effect of this geological era on human feelings. "Solastalgia" is a relevant concept that expresses mourning for the transformation or destruction of the physical world. It describes the pain experienced by the loss or lack of the loved home environment due to environmental degradation, which can be experienced as an attack on the sense of place and endemic place identity [7,8]. Another specialized concept that reflects mourning due to environmental change is "environmental melancholia", describing the way that people experience loss and disruption caused by environmental crisis and climate change [9]. Lertzman ([9], p.4) defines environmental melancholia as "a condition in which even those who care deeply about the well-being of ecosystems and future generations are paralyzed to translate such concern into action". Environmental melancholia is neither a pathetic acceptance of environmental problems nor an unwillingness to act. It is based on unattended or unresolved mourning due to negative feelings such as anxiety, grief, and despair, wherein a person can become "frozen" [9]. Similarly, solastalgia is not nostalgia about the past. On the contrary, it includes hope and care for a sustainable future [7].

Children are the most vulnerable age group to the direct (e.g., increased temperatures) and indirect (e.g., climate-induced migration and malnutrition) consequences of climate change [10]. How do children and young people experience climate and ecological crisis? The first words of *The Climate Book*, by the famous young environmental activist Greta Thunberg, feature the anxiety and disappointment that young people experience: "The climate and ecological crisis is the greatest threat that humanity has ever faced. It will no doubt be the issue that will define and shape our future everyday life like no other. This is painfully clear. In the last few years, the way we see and talk about the crisis has started to shift. But since we have wasted so many decades ignoring and downplaying this escalating emergency, our societies are still in a state of denial" [11].

In the Global South, the effect of climate crisis on children and young people is harmful not only to their psyche but also to their survival and everyday life in their environment. For instance, Rallis [12], in his documentary *Mighty Afrin: In the time of floods*, which deals with climate crisis effects on children in Bangladesh, filmed for five years Afrin, a young girl who has lost her house and family due to flooding of the Brahmaputra River and is struggling to survive in a world that is sinking. Through Afrin, we can observe the emotional condition of many children and how climate anxiety can be transformed into eco-trauma in the Global South in the Anthropocene.

This paper examines the way that children and young people of Generation Z experience living and growing up in the world of climate change. Is the Anthropocene a dark and pessimistic period or the last chance for environmental change? How does Generation Z emotionally experience and respond to the environmental and climate crisis worldwide? Listening and understanding Generation Z's concerns is not only a duty in a democratic, global, and ecological society [13], but it can also help us visualize our common future on the planet. It is imperative to comprehend the emotional ways that children and young people respond to the ecological crisis [14], because if there is much suffering and fear for the future it should be identified and taken into account. Sensing and empathizing with Generation Z's emotional state may reveal new directions in environmental thought and awareness. This paper investigates the above issues through a critical review of relevant studies on children's and young people's eco-anxiety, worldwide.

The research aims at sensing Generation Z's eco-anxiety, revealing new dimensions and discussing how the negative feelings experienced due to the global ecological and climate crisis can enrich environmental thought and awareness. Further, this study attempts to indicate gaps in the relevant literature, where future studies in different disciplines may provide valuable contributions.

2. Generation Z and Eco-Anxiety

Eco-anxiety can be described as negative feelings experienced as a consequence of the ecological crisis. This distress mainly appears to be non-clinical and has been approached with great interest by different disciplines and contemporary media. Climate anxiety is a manifestation of eco-anxiety which is related to distress from climate change and is most widely discussed [15]. There are many different definitions and terms used to approach the context of eco-anxiety. Some of them include a range of different emotions that, at the same time, may be used to describe distinct levels of eco-anxiety: worry, fear, dread, anger, guilt, grief, hopelessness, and despair [16–18]. Eco-anxiety is used as a “*general term for anxiety in relation to the ecological crisis, and the term climate anxiety is used to refer to such forms of that anxiety which are considerably related to the climate crisis*” ([19], (p. 2)). In this study, the terms eco-anxiety and climate anxiety are used interchangeably, since climate crisis is the most common environmental problem that concerns young people all around the world.

This paper focuses on exploring the emotions of children and young people who make up Generation Z (Gen Z). Generation Z includes children and young people born between the mid-to-late 1990s and the early 2010s (1997–2012). They are also being called “*the climate generation*” as they have spent their whole lives in a world affected by the consequences of global warming and climate change.

Ray [20] describes some of the characteristics and contradictions that young people experience today. Gen Z has been raised with technology, social media, and direct access to information through the Internet, while at the same time is lonelier, suicidal, and more depressed than earlier generations. They have also been raised in circumstances characterized by more safety, peace, health, and security. Nonetheless, they are deeply concerned about climate change and social justice, understanding the interconnections between the two, while worrying about the economic disparities between rich and poor [20].

Children and young people are more vulnerable to the experience of climate anxiety [21–23]. In the largest international eco-anxiety survey of children’s and young people’s eco-anxiety to date, with 10,000 participants (aged 16–25 years) from ten countries, it was revealed that the majority worried about climate change, expressing negative emotions, such as sadness, anxiety, anger, powerlessness, helplessness, and guilt [4].

There is an increasing number of studies that explore and connect children’s and young people’s eco-anxiety and climate anxiety with mental health [16,24–27]. Many reviews on eco-anxiety and climate anxiety have contributed decisively to the definition of the term and the exploration of this new eco-emotion, highlighting its dimensions that derive primarily from the fields of psychology and public health (e.g., [16,24,26–29]). All the above have now formed a new, distinct interdisciplinary field. Within this field, there are studies that raise the need for investigating the philosophical, existential, spiritual, and theological dimensions of eco-anxiety [15,30], as well as the political dimension through emphasizing the participation of young people [31–33].

In this paper, we highlight the qualities and investigate the ways in which Generation Z experiences ecological and climate change on a global scale. We attempt to listen to the voice of Generation Z and identify the emotions attributable to the ecological crisis and climate change. The emergence of these emotions is of immense importance [14] and can forge new paths in environmental thought and awareness. They are also able to affect environmental policy and environmental education/education for sustainability, which are important fields that may lead the race to overcome the global ecological crisis.

Through this study, we attempt to highlight the environmental concerns of young people. We aim to investigate the formation of a new kind of environmental thought and action that starts from the bottom, through emotional experience and expression [20,31]. We also aim to investigate Generation Z’s eco-anxiety through an interdisciplinary prism. Through this interdisciplinary approach, we hope to shed light on new elements of eco-anxiety and climate anxiety that concern the emergence of inequalities between the Global South and Global North, existential and political dimensions of the ecological crisis that should be taken into account by researchers, environmental policymakers, and environmental

education teachers. The new environmental emotional movement that is being created by Generation Z may play a determinant role in decision-making processes and initiatives in solving one of the most important global issues of our times, transcending the era of the Anthropocene.

3. Methodology

3.1. Identification of the Main Issue

Eco-anxiety and climate anxiety are notions that have emerged in the Anthropocene and have recently caught the attention of scholars from various disciplines. The research team of the current study intended to investigate the topic from an interdisciplinary perspective, including natural sciences (meteorology, hydrology, agricultural, and environmental processes) and social and educational sciences (environmental education, democratic education, political philosophy, and environmental movements).

3.2. Methodological Choices

To investigate the main research question, “How does Generation Z experience ecological and climate crisis and how can these emotions affect environmental thought and awareness?”, we decided to conduct an integrative review, providing a comprehensive understanding of the topic. An integrative review uses diverse sources of information—both empirical and theoretical literature—to describe and understand a complex topic [34]. This approach allows a holistic comprehension of the topic and is proper for the intended interdisciplinary nature of the research, considering also the complexity of the research question. Thus, this research follows the basic principles and stages of the integrative review methodology [34,35].

3.3. Literature Search Process

The first step of the process was to identify the main terms related to the research question. The primary source for the literature search was the Scopus database, using the keywords presented in Figure 1. The research team identified the inclusion and exclusion criteria of relevant publications that are presented in Table 1.

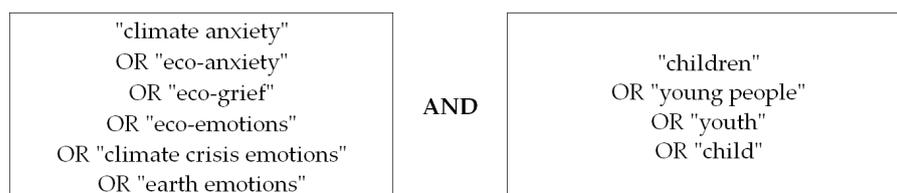


Figure 1. The keywords that were used in the literature search process.

Table 1. The inclusion and exclusion criteria of the literature review process.

Inclusion Criteria		Exclusion Criteria	
a.	Publications written in English.	a.	Review papers on eco-anxiety and climate anxiety.
b.	Publications including negative emotions caused by the climate crisis in young people and children.	b.	Publications focusing mainly on the educational dimension (practices, interventions, etc.).
c.	Publications can be derived from different scientific fields; they can be qualitative or quantitative studies or theoretical articles.	c.	Publications focusing mainly on treatment of eco-anxiety and climate anxiety and resilience.
d.	Publications related to Gen Z.		

The literature search in the Scopus database revealed 66 publications. Three of them did not meet the first inclusion criterion and were, thus, excluded. The title, the abstract, and the keywords of the 63 publications were screened for relevance to the research question and the other inclusion criteria. In many cases, the full text of a publication had to be examined. After the screening for eligibility, 33 publications were excluded and 30 publications remained in the second stage of the in-depth review. As secondary sources, the reference lists of the included papers and the Google Scholar database were searched. At this stage, 7 more publications that met the inclusion criteria were added [34]. The remaining publications were examined in detail regarding the exclusion criteria and 15 of them were also excluded.

The final list for the in-depth review consisted of 22 publications, published between 2012 and 2023. The majority were qualitative or quantitative studies published in peer-reviewed journals, including data on the topic under investigation. There were also theoretical papers, a book, a report, and a few short publications written by scholars in the Global South. The above-described procedure is graphically depicted in the following flowchart (Figure 2).

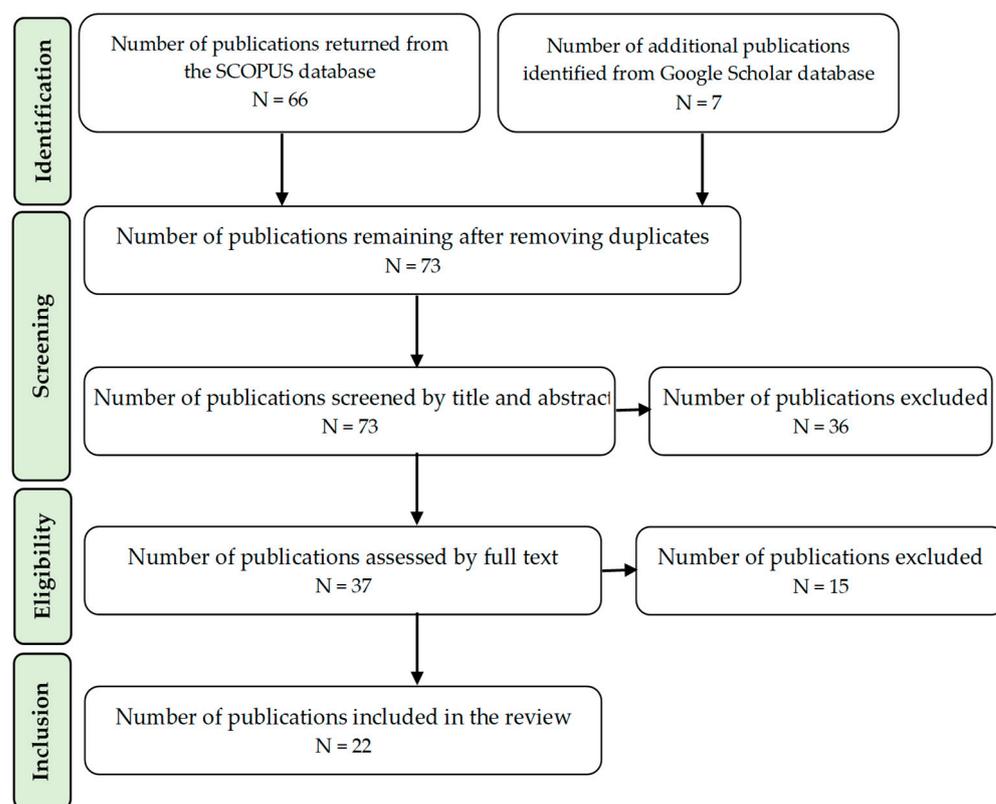


Figure 2. Flowchart of article selection process.

The analysis also considered data related to natural hazards and their impacts at a country level for the last two decades, derived from the EM-DAT.CRED/UC global database. These data were used to examine possible associations between the eco-anxiety characteristics in regions of the world and the actual occurrences of climate-induced disasters (floods, wildfires, and droughts) in these regions. Principally, this may reveal whether and to what extent the eco-anxiety of children and young people is affected by natural events that have been personally experienced in their own environment while growing up, considering also the socioeconomic status of each region.

The analysis and synthesis process led to the formation of three thematic categories that address the research question, presented in detail in the results under three sub-sections:

(a) Generation Z worries in the Global North and suffers in the Global South, (b) Generation Z acts against climate change, and (c) the existential dimension of eco-anxiety.

4. Results

4.1. Generation Z Worries in the Global North and Suffers in the Global South

Children and young people are social groups highly vulnerable to experiencing eco-anxiety. A higher percentage of people in these groups feel distressed by global ecological issues compared to older people. This fact is reflected in the study of Patrick et al. [36] in Australia, according to which young people (18–24 years old) experienced significantly higher rates of eco-anxiety than the older age groups. Younger children are also familiar with the feeling of eco-anxiety, as revealed by the studies conducted by Strife [37], Jones and Whitehouse [38], and Léger-Goodes et al. [25]. According to Jones and Whitehouse's [38] ethnographic study in England, even children as young as 9–10 years old experienced a spectrum of emotions when they tried to cope with the climate crisis in the classroom, including mainly sadness, anger, and helplessness. It is noted, though, that only a few studies focus on the eco-anxiety of young children (aged below 12 years old).

In a global study by Hickman et al. [4], the majority of the participants experienced distress and painful, complex emotions, including sadness, anger, despair, grief, and depression. The difference in the level and intensity of eco-anxiety between the Global North and the Global South is evident in the results of the study. For example, children and young people felt extremely worried in the Philippines, followed by India and Portugal, then the United Kingdom, the United States, France, and Finland. Impact on daily life and functioning was experienced mostly by children and young people in the Global South, as shown by the significant difference in the rates—for example, 74% in India and the Philippines and 50% in Brazil compared to 28% in the UK and 26% in the USA [4].

It is of particular interest that a high rate of children in the Global South, such as in the Philippines (83%) and India (64%), experience eco-anxiety, compared to the Global North, for example, 59.9% in the UK and 57.8% in the USA. The gap widens even more in regard to intense and dark emotions, such as grief, with 62.4% in the Philippines and 54.9% in India, compared to 35.3% in the UK and 35.2% in the USA. Climate distress is more intense in countries of the Global South that are already experiencing extensive impacts of climate-induced disasters, such as coastal flooding and typhoons in the Philippines and in countries of the Global North that were affected by natural hazards, such as the wildfires in Portugal [4].

Even though the whole planet is facing the consequences of the climate crisis, the countries of the Global South do not have sufficient economic resources to climate-proof their citizens [39,40]. The empirical findings on eco-anxiety among children and young people mostly derive from high-income countries. Research, worldwide, reflects the fact that climate change impacts mental health of “*children from climate-vulnerable and low- and middle-income countries have not been receiving sufficient scientific attention*” ([40], (p. 321)).

Among the examined studies, the majority explored eco-anxiety and climate anxiety of children and young people in countries of the Global North, such as Finland [41,42], the USA [37,41], Australia [36,43], Canada [44,45], and Sweden [46]. In Australia, which is also vulnerable to climate crisis consequences, the research by Gunasiri et al. [43] recorded diverse levels of negative emotions that young people experience, ranging from worry about the future and eco-anxiety to despair and grief, indicating the mental health impact of climate change on young people. Only a few publications include actual data and the voices of Generation Z in the Global South (e.g., [47–50]) about eco-anxiety.

In Figure 3, the climate-related natural hazards occurrences per country between 2000 and 2023 are indicated. It is shown that flood disasters have mostly affected China, Indonesia and India, and then the USA, the Philippines, and Brazil, followed by countries of the Asian continent and South America (Figure 3a). In the last two decades, the USA, Australia, and Russia have been affected by many wildfire disasters, followed by countries of the Global South such as Chile, South Africa, and Indonesia, and also Canada (Figure 3b).

Mediterranean countries, such as Portugal, Spain, and Greece, also experienced major impacts from the latter disasters (Figure 3b). During the same time period, drought episodes have affected various parts of the world. A substantial number of droughts occurred in China and, to a lesser degree, in the USA and Brazil. Countries of the Global South such as Mozambique, Ethiopia, Honduras, Kenya, Somalia, Thailand, and Madagascar also suffered from droughts; however, it is noted that data on drought conditions in several African countries are not available for the examined time period (Figure 3c).

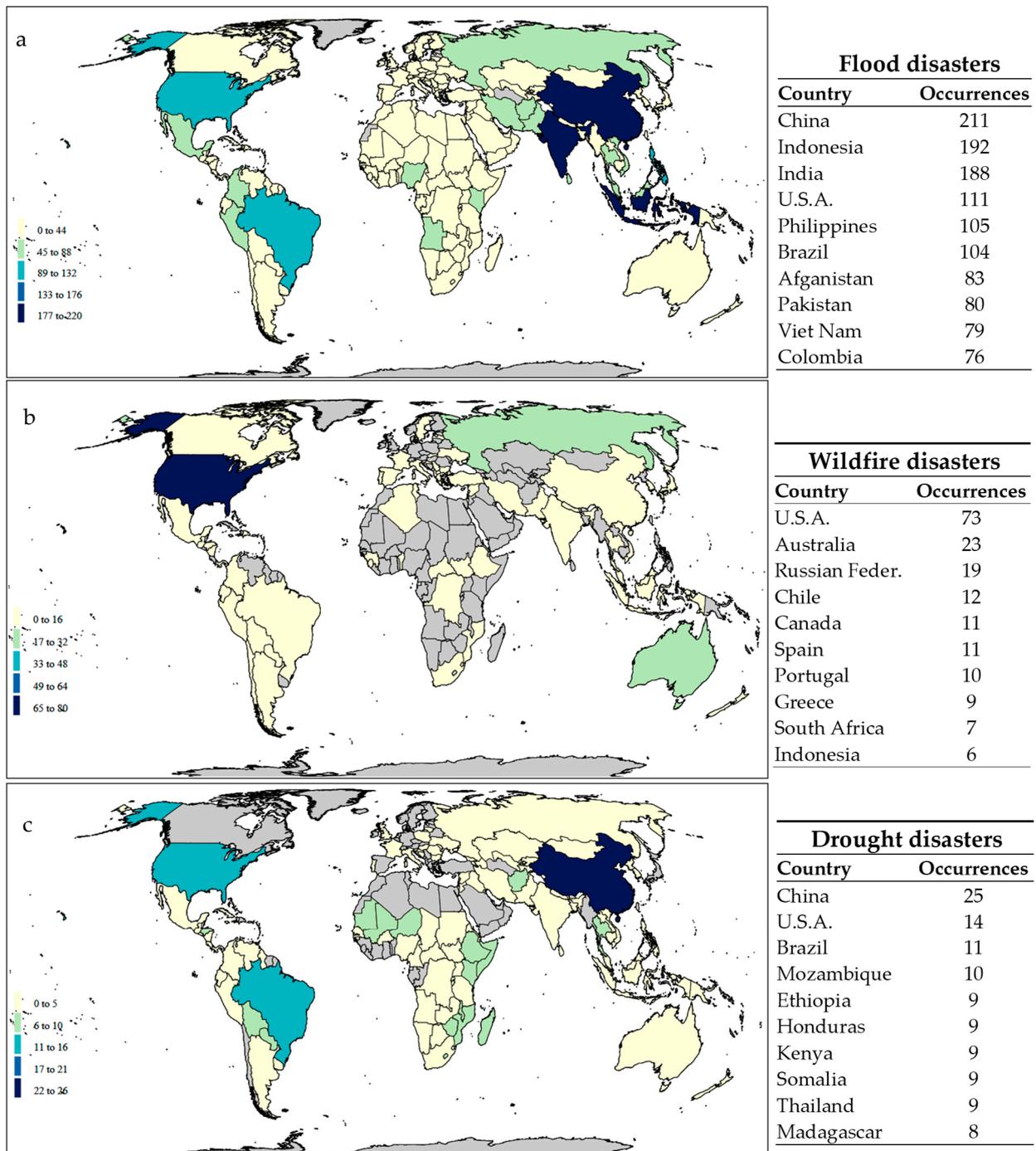


Figure 3. Global occurrences of (a) flood, (b) wildfire, and (c) drought disasters at country level for the period 2000–2023. (Source: EM-DAT.CRED/UCLouvain.Brussels.Belgium—www.emdat.be, accessed on 29 May 2023).

From a comparative analysis between the data shown in Figure 3 and the aforementioned outcomes of the literature review, it is revealed that research on eco-anxiety is mostly implemented in countries of the Global North, where sufficient data are currently available. Considering that the latest research principally includes participants living in rather protected regions, it is yet unknown what is the actual extent of eco-anxiety in the Global South and particularly in countries highly affected by climate crisis and related natural hazards. Orienting future research in these regions would be useful for understanding and finding the means to support a generation suffering from climate change consequences.

4.2. Generation Z Acts against Climate Change

In 2018, the young people's protest movement for climate change made its presence felt with the young activist Greta Thunberg from Sweden introducing school protest movements, such as "Fridays for Future" (FFF) [51,52]. Generation Z, worldwide, has been protesting against the environmental issue of climate change and its social and economic consequences that are already disproportionately affecting young people in the Global South [33].

The wide range of emotions that compose eco-anxiety is also related and connected to Generation Z's environmental activism [53]. Coppola and Pihkala's [41] study explored the way that climate change affects the lives of environmentally engaged young people in the Global North. Specifically, the research revealed that young people involved with climate activism in the USA and Finland are distressed about the climate crisis, experiencing a wide range of negative feelings, such as sadness, anxiety, and worry. Additionally, feelings of guilt, a sense of responsibility, inadequacy, and uncertainty were reported among the young participants.

Jones and Whitehouse [38] highlighted a different way of interpreting children's eco-emotions in their ethnographic study. They approached children's anger towards ecological catastrophe as "*moral anger*", as a primary political emotion that can be motivated for encouraging participation. These feelings can and do, sometimes, take the form of political feelings against injustice and oppression that accompany the ecological crisis and climate change for young people's future [54].

In studies examining the youth protest movement, based on participants' own words, there are indications that Generation Z's negative feelings are being transformed into participation and activism to overcome the climate crisis. For example, young people in studies by Bowman [55] and Pickard [32,33] refer to distress, anxiety, fear, anger, and loss of hope as motivation for acting. Young activists of the FFF movement from 19 cities, mainly from the Global North, who participated in the research of de Moor et al. [54], reported that they felt mostly worried but also frustrated and angry while thinking about climate change and global warming. They also reported fear and anxiety in response to climate change.

4.3. The Existential Dimension of Eco-Anxiety

Many studies include the existential dimension of eco-anxiety, which has not been deeply investigated or highlighted yet. As Pihkala ([15], (p. 13)) observes, "*Deep questions related to meaning or meaninglessness, guilt, and mortality are evident in empirical data about eco-anxiety*". Eco-anxiety is an adverse condition for the personal health and well-being of children and young people and, at the same time, for the political and social well-being of present and future societies. However, what do we mean by existential dimension, and what are the indicators that distinguish the existential element of eco-anxiety?

Existential concerns, which are associated with the climate crisis, have started to be raised in Generation Z. The perceived severity of the climate crisis activates these existential concerns in young people, including finitude, responsibility, suffering, and meaninglessness. Young people hesitate to have children, as the climate generation is not able to imagine a desirable future [20]. Pickard's [33] research reported that the existential distress experienced by some young environmental activists led to the loss of hope and solastal-

gia for the environment. They perceived the ecological crisis as an existential crisis and highlighted the importance of the physical world for well-being beyond material concerns.

The existential dimension of eco-anxiety is also evident in the worldwide study by Hickman et al. [4], which reports that 75.5% of children and young people believe that “the future is frightening” and 82.6% think that “people have failed to take care of the planet”. These negative thoughts arise not only in vulnerable countries experiencing severe natural hazards but also in countries of the Global North that are more climate-proof. The same study also found that a significant percentage of respondents (39.1%) reported hesitance to have children. Specifically, this rate is higher in countries that suffer from climate crisis, such as the Philippines (47.3%) and Brazil (47.6%), but also in countries where young people are particularly environmentally aware and active, such as Finland (42.2%).

Research focusing on this issue has already been initiated in countries of the Global North. For example, the research of Smith et al. [45], about pregnancy intentions of young women aged 18–25 years old in Canada, reports that the participants experienced eco-anxiety, hesitancy towards having children, and a sense of loss associated with their environments. Moreover, the study argues that climate change was one of the factors that affected the majority’s childbearing decision-making. In agreement with the above findings, the research by Galway and Field [44] shows that a significant percentage of participants (aged 16–25 years old) across Canada (39%) express hesitation about having children due to climate change, 73% think that the future is frightening, and 76% believe that people have failed to take care of the planet.

The existential dimension of eco-anxiety is vital for securing the well-being of future generations and should be further explored in a multidisciplinary framework, including the disciplines of psychology, philosophy, sociology, theology, and environmental education. The results of the study are summarized in Table 2.

Table 2. Concise overview of the outcomes based on the critical analysis of the studies combined with the actual global data of climate-induced hazards.

Thematic Categories of the Research Results	Sub-Categories of the Research Results	References
Generation Z worries in the Global North and suffers in the Global South	<ul style="list-style-type: none"> • Children and young people in the Global North express eco-anxiety and climate anxiety, which mainly include their worries and distress about ecological crisis and climate change. • More children and young people in the Global South experience eco-anxiety and climate anxiety compared to the Global North. The gap widens even more in regard to intense and dark emotions, such as grief, hopelessness, and despair. • Climate distress is clearly more intense in countries of the Global South that are already experiencing extensive impacts of climate change, and in countries of the Global North that have been impacted by climate change consequences, such as the Mediterranean region. • Research on eco-anxiety is implemented mainly in countries of the Global North, where currently more data are available. • There is limited research including sufficient participants from the Global South, and particularly from countries that are highly affected by climate-induced natural hazards; therefore, there is narrow knowledge on the actual rate of eco-anxiety in these regions. 	[4,25,36–47,49,50]

Table 2. Cont.

Thematic Categories of the Research Results	Sub-Categories of the Research Results	References
Generation Z acts against climate change	<ul style="list-style-type: none"> Eco-anxiety and climate anxiety are linked to youth activism. There are indications that Generation Z's eco-anxiety and climate anxiety are motivations and are being transformed into participation and action for environmental change. 	[32,33,38,41,54,55]
The existential dimension of eco-anxiety	<ul style="list-style-type: none"> The intensity of the climate crisis activates existential concerns among young people worldwide including hesitance to have children, fear for the future, and meaninglessness. Generation Z approaches the ecological crisis as an existential crisis and highlights the existential importance of the physical world, which is of great importance for well-being beyond material concerns. 	[4,20,44,45]

5. Discussion

The Anthropocene hypothesis has already influenced a wide range of environmental scientists, researchers, philosophers, artists, and activists, as it reflects a chance for the human species to overcome the ecological crisis. According to the eco-philosopher Morton ([3], (p. 59)), “the Anthropocene doesn’t destroy Nature. The Anthropocene is Nature in its toxic nightmare form. Nature is the latent form of the Anthropocene waiting to emerge as catastrophe”.

Generation Z, the climate generation, experiences the consequences and the fear of the climate crisis. At the same time, it is extremely aware and emotionally affected by the global ecological crisis. The results of the current research reveal that the scientific community is becoming more aware of the way that children and young people experience eco-anxiety in countries of the Global North. In these countries, Generation Z worries about the climate crisis. Young people’s eco-anxiety has been transformed into ecological awareness and consciousness.

However, how do children and young people of the Global South—especially those from countries in which inhabitants live in direct interaction with natural ecosystems, experiencing their destruction and loss—react? What about the children who have lost their home, their place of residence, and their family due to the ecological crisis? Is it only about distress or about eco-anxiety in its traumatic dimension—an eco-trauma, a climate trauma [56]—whose effects have not yet been explored? The first indications derived from the research emerging the dark feelings and severe impacts experienced by a significant number of children in the Global South underline the need for further investigation. How do younger children react to ecological and climate crisis, and what are the qualitative characteristics of their reaction? These questions have not yet been investigated in depth and should be explored in the future.

Furthermore, this study revealed that there is a serious tendency for the eco-anxiety of young people to be transformed into existential anxiety. On the one hand, this illuminates the existential dimension of the ecological crisis; on the other hand, it indicates that the severe magnitude of ecological disaster affects the mental balance and the willingness of young people to hope for and envisage a better future. For the first time, there is evidence that the ecological crisis is shaping serious existential questions in so many young people. This fact should seriously urge the societies of the Global North to speed up and drastically support radical social, political, and economic processes for overcoming the ecological crisis.

In the coming years, eco-anxiety should be studied from an interdisciplinary perspective, including theoretical principles and methodological tools from the fields of existential psychology, existential philosophy, environmental ethics, and environmental education. As Pihkala ([15], (p. 13)) suggests, “*experiences of eco-anxiety may be strongly linked with existential anxieties. This subject area was discussed by scholars in many fields, such as psychodynamic, psychosocial, and sociological researchers. Further discussion between existential psychology, philosophy, and eco-anxiety research seems promising and important. Deep questions related to meaning or meaninglessness, guilt, and mortality are evident in empirical data about eco-anxiety*”.

Additionally, this study demonstrated that, especially in the Global North, there is a connection between the negative feelings of young people about the environmental condition of the planet with their mobilization through protests and activism for the ecological crisis and climate change. Emotions play a significant role in motivating young people to become environmentally active and participate in collective action [54]. Based on research results mainly from the Global North, we see that Generation Z acts for a better future and an ecological planet. Generation Z takes politics into its own hands, without relying on traditional political structures. It is organized from bottom to top in a “*Do-It-Ourselves*” concept, which is an interesting and crucial aspect for further research [32,33]. Generation Z’s protests against climate change articulate its solidarity with the vulnerable victims of the ecological crisis living in the Global South.

How do children’s and young people’s feelings about environmental problems and climate change in the Global South manifest? Our research highlighted regions where it would be particularly useful to focus on environmental research and action in the future. It also emerged that there are regions of the world that experience extensive and severe climate-induced natural hazards, where no studies have been conducted related to Generation Z’s eco-anxiety, such as countries in Asia and Southern Europe.

Through the current research, specific fields worth exploring in future investigations have been revealed. A research topic that has arisen as an essential need for further exploration includes the aspects and dimensions of eco-anxiety and climate anxiety that would be revealed by interdisciplinary quantitative and qualitative research, originating from countries affected by climate-induced natural hazards. An especially interesting orientation of such research would be a focus on children and young people from the Global South and regions of the Global North (such as the Mediterranean region), which are significantly affected by the consequences of climate change. Our research also revealed multiple and complex dimensions of eco-anxiety that may concern different disciplines such as environmental policy, psychology, environmental science, environmental philosophy, ethics and theology, environmental education, and broader ecological thinking. A research question that would be worth exploring is one that concerns the guidelines and methodology that this multidisciplinary field could propose for the alleviation and resilience of children’s and young people’s eco-anxiety.

An interdisciplinary synergy and orientation in the research and decision-making are crucial to transform the dialectical relationship between Generation Z’s emotions and the environmental crisis into the possibility of environmental change and justice. This could be achieved by the creation of a participatory, emotional geography of eco-anxiety [57]. This could also be achieved through considering young people’s emotions in environmental policy.

6. Concluding Remarks

The current research revealed elements and dimensions of eco-anxiety and climate anxiety that could affect the interdisciplinary environmental field, with the aim of contributing to the struggle of overcoming the environmental and climate crisis. Generation Z is emotionally charged about the ecological and climate crisis. Children and young people in the Global North worry about the future of the environment. Young people visualize and act for environmental change. They are already aware of and extremely sensitive to

environmental problems. At the same time, they have been existentially affected by the severity of climate-induced natural hazards worldwide.

Children and young people in the Global South are suffering from the ecological and climate crisis. Nevertheless, we do not have enough research data about their emotional state in relation to their interlocutors in the ecological Global North. Future research in regions severely affected by climate-induced natural hazards, such as Asia and the Mediterranean region, may reveal important dimensions of eco-anxiety.

The existential dimension of Generation Z's eco-anxiety is evident in the results of this study. It deserves further investigation, considering its importance for the health and well-being of citizens of future societies. Further research on the matter and informed decision-making can enforce young people's resilience to ecological crisis.

Children's and young people's eco-anxiety and climate anxiety have manifested in a new emotional movement that raises global environmental awareness and consciousness. The outcomes of this study reveal that there is an interconnection between climate-induced natural hazards and the emotions of children and young people. The increasing impacts of the climate crisis and global environmental destruction seem to be in tune with the pulse of Generation Z, which worries, suffers, and acts against the climate crisis. This dialectical relationship is worth further exploration through interdisciplinary synergies. Listening to Generation Z's distress regarding the ecological and climate crisis, sensing the prism of its feelings with an empathetic, just, and intergenerational approach, may allow us to envisage different paths and create possibilities of co-existence in an ecological, common world of hope.

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