International Journal of Latest Research in Humanities and Social Science (IJLRHSS)
Volume 07 - Issue 12, 2024
www.ijlrhss.com || PP. 40-45

Eco-anxiety: The Role of Environmental Education in its Prevention and Management

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Abstract: Climate change is a source of concern for the scientific community, as it causes numerous environmental disasters that can directly and indirectly lead to physical and psychological pathologies in humans. Climate change has given rise to a psychological phenomenon known as "climate or eco-anxiety," described as a "chronic fear of environmental doom." The mental health impacts associated with climate change are expected to be profound, cumulative, and widespread, affecting individuals with pre-existing mental health issues or vulnerabilities more intensely, as well as communities that heavily rely on local ecosystems. Children and youth are particularly at risk due to their integration into broader social and family contexts and the formative nature of their psychological development. The role of environmental education is pivotal in addressing children's climate anxiety, as it equips them with the knowledge and emotional tools necessary to understand environmental challenges and act with hope and confidence. This approach fosters their empowerment and shapes a generation capable of confronting the consequences of the climate crisis with a positive mindset.

Keywords: climate change, eco-anxiety, climate anxiety, mental health, environmental education

1. Introduction

The impacts of climate change are escalating globally, dramatically affecting weather, temperature, ecosystems, and the availability of water and food. As these changes harm human health and well-being, climate change has been recognized as the greatest global health threat of the 21st century. Research (Gibson, Barnett, Haslam & Kaplan, 2020; Innocenti, Santarelli, Faggi, Castellini, Manelli, Magrini, Galassi & Ricca, 2021) shows that climate change can lead to increased mental health issues and large-scale socio-psychological changes (Cunsolo, Harper, Ford, Edge, Landman, Houle, Blake & Wolfrey, 2013).

The mental health impacts are expected to be profound and widespread, particularly affecting individuals with pre-existing mental health conditions, marginalized populations, and regions more vulnerable to climate change and its variability (APS, 2017; Gibson et al., 2020; Taylor, 2020). Youth under the age of 25 are especially vulnerable due to their intense neurological and cognitive development, which limits their ability to cope with stress and uncertainty (Hickman, Marks, Pihkala, Clayton, Lewandowski, Mayall, Wray, Mellor, & van Susteren, 2021; Wu, Snell & Samji, 2020). Environmental education empowers children by providing them with knowledge and tools to confront the climate crisis with confidence and a positive outlook.

2. Climate Change

Climate change has been characterized as the greatest challenge humanity currently faces. According to climate change researchers (Ágoston, Urbán, Nagy, Csaba, Kovary, Kovacs, Varga, Dull, Monus, Shaw & Demetrovics, 2022; Cianconi, Betro & Janiri, 2020), there is scientific consensus that climate change is caused by human activity, which carries both the burden of responsibility and the opportunity to take mitigation measures. Its negative impacts include prolonged periods of drought, desertification, extreme natural phenomena such as storms and blizzards, severe heatwaves, and natural disasters. These effects lead to the degradation/elimination of ecosystems and species of plants and animals, global mass pollution, and can directly and indirectly cause physical and mental pathologies in humans (Ágoston et al., 2022; Cianconi, Betro & Janiri, 2020; Clayton, 2020; Hogg, Stanley, O'Brien, Wilson & Watsford, 2021; Innocenti et al., 2021; Ma, Moore & Cleary, 2022; Taylor, 2020; Ricardo, 2022; Verlie, 2021).

3. The Impact of Climate Change on Mental Health

Climate change is increasingly recognized as a threat to human health, including mental health and well-being (Comtesse, Ertl, Hengst, Ronser & Smid, 2021; Hickman, Marks, Pihkala, Clayton, Lewandowski, Mayall, Wray, Mellor & Van Sustern, 2021; Wu, Snell & Samji, 2020). Mental health is a multidimensional and subjective concept that describes a state of well-being in which an individual realizes and utilizes their abilities, can cope with daily stress, works productively, and contributes to their community (WHO, 1975). In recent years, there has been increasing recognition of the impact of climate change on mental health, as direct exposure

to climate events (e.g., floods, wildfires) can lead to PTSD, depression, and anxiety (Clayton, 2020; Crandon, Dey, Scott, Thomas, Ali & Charlson, 2022; Wu, Snell & Samji, 2020).

Indirect exposure, referring to the perception, observation, and thoughts about climate change without personally experiencing it but through the consumption of climate-related content, can also cause eco-anxiety and other negative emotions such as depression, guilt, sadness, anger, fear, anxiety, and despair, even leading to mental disorders (Ma et al., 2022; Gibson et al., 2020; Innocenti et al., 2021). Individuals emotionally connected to nature are more likely to worry about climate change, which may result in severe mental health symptoms. In this context, studies have shown that young people, compared to older generations, experience greater distress as a result of climate change (Comtesse et al., 2021; Innocenti et al., 2021; Andrews & Hoggett, 2019; Ricardo, 2022; Pihkala, 2019).

Significant levels of climate-related distress are reported globally, particularly among children and youth, who are especially vulnerable (Baker, Clayton & Bragg, 2021; Clayton, 2020; Clayton, Manning, Speiser & Hill, 2021; Cunsolo, Harper, Minor, Feather & Williams, Hayes, Williams & Howard, 2020; Hickman et al., 2021; Marks et al., 2021; Tiller, Fildes, Hall, Hicking, Greenland, Liyanarachchi & Di Nicola, 2020). Global quantitative research is scarce but crucial, as modern children will live with the climate crisis for their entire lives. Exposure to chronic stress during childhood has long-term consequences and increases the risk of developing mental health problems (Innocenti et al., 2021).

These studies suggest that climate anxiety may be a significant factor contributing to the mental health burden of young people, who appear to be a particularly vulnerable population subgroup to both the direct and indirect impacts of climate change on mental health. Youth under 25 years old are especially prone to unique and heightened vulnerabilities when it comes to the potential negative effects of climate change on mental health and well-being. Compared to adults, young people are undergoing significant neurological and cognitive development that can limit their ability to cope with stress and uncertainty. They may lack experience in managing anxiety and uncertainty or feel they lack autonomy, political or economic power, or control over their environment (Hickman et al., 2021; Wu, Snell & Samji, 2020).

4. Eco-Anxiety and Climate Anxiety

As people become increasingly aware of the current and future risks associated with climate change, two terms—climate anxiety and eco-anxiety—that were initially confined to activist circles to describe their internal experience of climate change as a significant threat have now entered mainstream vocabulary. This anxiety relates to concerns about the lack of climate action, the current and future impacts of climate change, and uncertainty about the timing and location of these effects (Clayton, 2020; Heeren & Asmundson, 2023).

Albrecht (2011) coined the term "eco-anxiety" to describe a chronic fear of environmental destruction or "the generalized feeling that the ecological foundations of existence are in the process of collapsing" (Coffey, Bhullar, Durkin, Islam & Usher, 2021; Clayton et al., 2021; Wu, Snell & Samji, 2020; Pihkala, 2020b). It is also defined as psychological distress or anxiety associated with the worsening of environmental conditions (Usher, Durkin & Bhullar, 2019) or anxiety experienced in response to the ecological crisis (Pihkala, 2020a). In 2017, the American Psychological Association defined eco-anxiety as a "chronic fear of environmental doom," a definition referenced in most studies (Boyd, Parr & Philo, 2023; Hajek & Konig, 2022; Innocenti et al., 2021; Wullenkord, Troger, Hamman, Loy & Reese, 2021).

Pihkala (2019, 2020a) notes that the terms "eco-anxiety" and "climate anxiety" are widely used in contemporary media and observes that there is an overlap between the two concepts. Eco-anxiety can describe any anxiety related to the ecological crisis, while the term "climate anxiety" specifically refers to anxiety associated with anthropogenic climate change. The literature also identifies other related terms and phenomena, such as environmental anxiety, ecological grief, eco-guilt, eco-shame, eco-nostalgia, solastalgia, eco-trauma, eco-exhaustion, eco-resignation, eco-paralysis, and eco-mourning. These topics are receiving growing attention and highlight the lack of consensus on defining eco-anxiety or climate anxiety.

5. Eco-Anxiety and Environmental Education

Baker, Clayton & Bragg (2021) highlight that children and young people are not immune to catastrophic environmental messages in the media, which shape how they feel about climate change. As a result, parents and teachers often find themselves explaining the reality of climate change to already concerned children. The challenge of this role partly stems from the variety of often conflicting emotions that children feel about the environment. As prominent sources of information, parents and educators can use their role to frame environmental information in a way that honors the magnitude of the loss experienced while fostering hope for a better future.

There are various perceptions regarding the role of schools, suggesting that they should educate students about sustainability and climate change while also orienting them toward action. Schools are involved to

varying degrees; some adopt a whole-school approach to sustainability, while others take smaller steps. When students perceive that discussions about a sustainable future are rare at school, they are less likely to experience constructive hope for the future and engage in pro-environmental behavior.

Teenagers who perceive that their teachers acknowledge the negative emotions related to socio-environmental issues and have more positively oriented teaching styles regarding these topics are more likely to experience constructive hope and feel greater efficacy regarding their future. Therefore, curricula on environmental and sustainability education should also address the management of emotions and the distress children feel. For example, after students learn about environmental issues, schools should collaborate with teachers to ensure that they openly validate students' positive and negative emotions as natural responses and provide curriculum-oriented solutions.

Schools have the power not only to help children gain greater knowledge about climate change but also to strategically support their growing awareness, political engagement, and emotional responses with developmentally appropriate reactions. Schools and teachers can support children who choose to participate in activist initiatives, such as school strikes for climate change. This would show children that their voices and concerns are valued by adults, helping to increase trust in others and counter feelings of despair and powerlessness.

Pihkala (2020b) notes that eco-anxiety has been found to be closely linked to many difficult emotions, such as grief, guilt, anger, and despair, but it can also have an adaptive dimension, which may be termed practical anxiety. Anxiety is tied to expectations, motivations, and hopes. Therefore, Pihkala argues that environmental educators need organization and peer support, both in relation to their own difficult emotions and in developing emotional skills in their work. Educators should first practice self-reflection on eco-anxiety, through which they can develop a significant ability to help their audience build emotional resilience—something that poses a challenge for various forms of environmental education and education for sustainability.

According to Pihkala (2020b), environmental education refers to the entire field of education related to ecological problems. Thus, disciplines such as education for sustainability, education for sustainable development, and climate education are included here. Essentially, environmental education is closely linked to many other environmental sciences, particularly environmental communication (including climate change communication) and environmental psychology (including ecological psychology), as well as other psychological disciplines related to the environment. The term "eco-anxiety" is used as a general term for anxiety in relation to the ecological crisis. Educators should build a broad understanding of eco-anxiety so that they can address both anxiety-like manifestations and other related issues such as grief, anger, and guilt (Pihkala, 2020b).

Psychologists and educational scholars present ideas and recommendations for educators, educational institutions, and researchers in environmental education. These recommendations include the further integration of eco-anxiety and ecological emotions into environmental education theories, the need for educators to practice self-reflection on their emotions and attitudes, ideas for developing organizational practices, and efforts to provide various positive coping models for eco-anxiety. For practicing educators, the tasks and opportunities involve validating the ecological emotions and eco-anxiety students feel, acknowledging that teachers themselves may have ambivalent emotions, offering information on coping with eco-anxiety, and, if resources permit, providing students with opportunities to discuss or even physically address their ecological emotions. One of their core responsibilities is also to provide empowerment opportunities (Andrews &Hoggett, 2019; Pihkala, 2020b).

Pihkala (2020b) emphasizes that emotions, particularly difficult emotions, are a relatively under-researched topic in environmental education. This relative lack of research on emotions in environmental education reflects the broader situation in education and pedagogical sciences. However, in recent decades, many proposals and movements have emerged emphasizing the need to integrate emotional skills more firmly into educational practice. When emotions have been discussed in environmental education literature, so-called positive emotions have received much greater attention than negative ones, as positive emotions like empowerment are obvious goals of environmental education and are closely tied to feelings of efficacy. In the 2010s, scientific discussions about ecological emotions and their effects in various fields prompted an increasing number of education and environmental education researchers to reflect on these dimensions. This remains a relatively small, albeit rapidly growing, area of research, and there is a significant need to integrate proposals from various educational research fields.

Psychologist and researcher Maria Ojala (2023), who focuses on eco-anxiety in environmental education, has emphasized the importance ofCritical Emotional Awareness (CEA) for both educators and students. This approach acknowledges the power of emotions, while the various aspects of each emotion are critically examined. For instance, worry is not merely a negative feeling but can signify concern and motivation; on the other hand, if worry is excessively intense and continuous, it becomes problematic. Ojala's studies (2016, 2023)

have shown that teachers play a powerful role as role models, because they create "emotional norms" in their classrooms. Thus, if eco-anxiety and other emotions are to be addressed productively in educational environments, the first task for teachers and educators is to examine their own attitudes and skills regarding emotions. Teachers need to be sensitive to the emotions of their students and aware of their own emotional responses and reactions.

Ojala (2023) places Critical Emotional Awareness (CEA) at the center of her framework. In environmental education, CEA is related to research and philosophy concerning emotions and their impact on learning processes about sustainability issues. It primarily focuses on the existential dimension of teaching about climate change and other sustainability challenges and the related feelings of concern, anxiety, and ambivalence. Ojala argues that CEA should be invaluable for all educators teaching about climate change and other sustainability problems at all levels of the educational system, especially at the higher levels, such as secondary and tertiary education. The core components of CEA include teaching future educators about emotions and their role in everyday life and learning processes from an interdisciplinary perspective and equipping them to communicate and respond to students' emotions about climate change in ways that promote both well-being and value-based learning.

Finally, Verlie (2021) underscores that our efforts to engage with climate change must move beyond pedagogical approaches that rely solely on the "knowledge" of climate change. The relationship between knowledge about climate change and the distress it can provoke highlights the need to reconsider the entire endeavor of pursuing knowledge about climate change.

6. Conclusions

In summary, climate change can cause physical and mental health issues in humans. Children and young people, in particular, tend to face unique and heightened vulnerabilities when it comes to the potential negative impacts of climate change on mental health and well-being. Environmental education can play a significant role as a tool to address eco-anxiety and empower young people to manage their emotions and actively participate in environmental protection. However, a holistic approach is necessary—one that goes beyond simply providing knowledge and includes the cultivation of emotional resilience and critical emotional awareness. As the challenges associated with climate change intensify, education can play a central role in fostering hope and action, shaping a generation capable of responding with empathy and effectiveness to the ecological challenges of the future.

References

[1]. Ágoston, C., Urbán, R., Nagy, B., Csaba, B., Kőváry, Z., Kovács, K., Varga, A., Dúll, A., Mónus, F., Shaw, C. A., &Demetrovics, Z. (2022). The psychological consequences of the ecological crisis: Three new questionnaires to assess eco-anxiety, eco-guilt, and ecological grief. *Climate Risk Management*, *37*, 100441. https://doi.org/10.1016/J.CRM.2022.100441

[2]. Albrecht, G (2011). Chronic environmental change: emerging 'psychoterratic' syndromes. In: Weissbecker I (ed) Climate change and human well-being. Springer, New York, pp 43–56

[3]. Andrews, N. & Hoggett, P. (2019). Facing up to ecological crisis: a psychosocial perspective from climate psychology. In: J. Foster (Ed.) Facing up to climate reality: honesty, disaster and hope. Green House / London Publishing Partnership. pp.155- 171.

[4]. Australian Psychological Society (2017). Coping With Climate change distress.

[5]. Baker, C., Clayton, S., & Bragg, E. (2021). Educating for resilience: parent and teacher perceptions of children's emotional needs in response to climate change. *Environmental Education Research*, *27*(5), 687–705. https://doi.org/10.1080/13504622.2020.1828288

[6]. Boyd, C., Parr, H., & Philo, C. (2023). Climate anxiety as posthuman knowledge. *Wellbeing, Space and Society*, *4*. https://doi.org/10.1016/j.wss.2022.100120

[7]. Cianconi, P., Betrò, S., & Janiri, L. (2020). The Impact of Climate Change on Mental Health: A Systematic Descriptive Review. *Frontiers in Psychiatry*, *11*.https://doi.org/10.3389/FPSYT.2020.00074

[8]. Clayton, S. (2020). Climate anxiety: Psychological responses to climate change. *Journal of Anxiety Disorders*, *74*. https://doi.org/10.1016/J.JANXDIS.2020.102263

[9]. Clayton, S., Manning, C. M., Speiser, M., & Hill, A. N. (2021). Mental Health and Our Changing Climate: Impacts, Inequities, Responses. Washington, D.C.: American Psychological Association, and eco America.

[10]. Coffey, Y., Bhullar, N., Durkin, J., Islam, M. S., & Usher, K. (2021). Understanding Eco-anxiety: A Systematic Scoping Review of Current Literature and Identified Knowledge Gaps. *The Journal of Climate Change and Health*, *3*, 100047. https://doi.org/10.1016/j.joclim.2021.100047

[11]. Comtesse, H., Ertl, V., Hengst, S. M. C., Rosner, R., &Smid, G. E. (2021). Ecological grief as a response to environmental change: A mental health risk or functional response? *International Journal of Environmental Research and Public Health*, *18*(2), 1–10. https://doi.org/10.3390/ijerph18020734
[12]. Crandon, T. J., Dey, C., Scott, J. G., Thomas, H. J., Ali, S., & Charlson, F. J. (2022). The clinical implications of climate change for mental health. *Nature Human Behaviour*, *6*(11), 1474–1481. https://doi.org/10.1038/S41562-022-01477-6
[13]. Cunsolo, A., Harper, S. L., Minor, K., Hayes, K., Williams, K. G., &Howard, C. (2020). Ecological grief and anxiety: the start of a healthy response to climate change? *The Lancet Planetary Health*, *4*(7), e261–e263. https://doi.org/10.1016/S2542-5196(20)30144-3
[14]. Cunsolo Willox, A., Harper, S. L., Ford, J. D., Edge, V. L., Landman, K., Houle, K., Blake, S., & Wolfrey, C. (2013). Climate change and mental health: An exploratory case study from Rigolet, Nunatsiavut, Canada. *Climatic Change*, *121*(2), 255–270. https://doi.org/10.1007/S10584-013-0875-4
[15]. Gibson, K. E., Barnett, J., Haslam, N., & Kaplan, I. (2020). The mental health impacts of climate change: Findings from a Pacific Island atoll nation. *Journal of Anxiety Disorders*, *73*. https://doi.org/10.1016/j.janxdis.2020.102237
[16]. Hajek, A., & König, H. H. (2022). Climate anxiety in Germany. *Public Health*, *212*, 89–94. https://doi.org/10.1016/J.PUHE.2022.09.007
[17]. Heeren, A., & Asmundson, G. J. G. (2023). Understanding climate anxiety: What decision-makers, health care providers, and the mental health community need to know to promote adaptative coping. *Journal of Anxiety Disorders*, *93*, 102654. https://doi.org/10.1016/J.JANXDIS.2022.102654
[18]. Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, R. E., Mayall, E. E., Wray, B., Mellor, C., & van Susteren, L. (2021). Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. *The Lancet Planetary Health*, *5*(12), e863–e873. https://doi.org/10.1016/S2542-5196(21)00278-3
[19]. Hogg, T. L., Stanley, S. K., O'Brien, L. V., Wilson, M. S., & Watsford, C. R. (2021). The Hogg Eco-Anxiety Scale: Development and validation of a multidimensional scale. *Global Environmental Change*, *71*. https://doi.org/10.1016/j.gloenvcha.2021.102391
[20]. Innocenti, M., Santarelli, G., Faggi, V., Castellini, G., Manelli, I., Magrini, G., Galassi, F., & Ricca, V. (2021). Psychometric properties of the Italian version of the Climate Change Anxiety Scale. *The Journal of Climate Change and Health*, *3*, 100080. https://doi.org/10.1016/j.joclim.2021.100080
[21]. Ma, T., Moore, J., & Cleary, A. (2022). Climate change impacts on the mental health and wellbeing of young people: A scoping review of risk and protective factors. In *Social Science and Medicine* (Vol. 301). Elsevier Ltd. https://doi.org/10.1016/j.socscimed.2022.114888
[22]. Marks, E., Hickman, C., Pihkala, P., Clayton, S., Lewandowski, E. R., Mayall, E. E., ... & van Susteren, L. (2021). Young people's voices on climate anxiety, government betrayal and moral injury: A global phenomenon. *Government betrayal and moral injury: A global phenomenon*.
[23]. Ojala, M. (2016). Facing anxiety in climate change education: From therapeutic practice to hopeful transgressive learning. *Canadian Journal of Environmental Education (CJEE)*, *21*, 41-56.
[24]. Ojala, M. (2023). Climate-change education and critical emotional awareness (CEA): Implications for teacher education. *Educational Philosophy and Theory*, *55*(10), 1109-1120.
[25]. Pihkala, P. (2019). *Climate Anxiety*. Helsinki: *MIELI Mental Health Finland*
[26]. Pihkala, P. (2020a). Anxiety and the ecological crisis: An analysis of eco-anxiety and climate anxiety. *Sustainability (Switzerland)*, *12*(19). https://doi.org/10.3390/SU12197836
[27]. Pihkala, P. (2020b). Eco-anxiety and environmental education. *Sustainability (Switzerland)*, *12*(23), 1–38. https://doi.org/10.3390/su122310149
[28]. Ricardo, Q. S. (2022). Eco-anxiety, uncertainty, communication and climate urgency. *IJGSR*, *9*(1), 1733-1745.
[29]. Taylor, S. (2020). Anxiety disorders, climate change, and the challenges ahead: Introduction to the special issue. *Journal of Anxiety Disorders*, *76*, 102313.
[30]. Tiller, E., Fildes, J., Hall, S., Hicking, V., Greenland, N., Liyanarachchi, D., & Di Nicola, K. (2020). *Youth survey report 2020.*
[31]. Usher, K., Durkin, J., & Bhullar, N. (2019). Eco-anxiety: How thinking about climate change-related environmental decline is affecting our mental health. *International journal of mental health nursing*, *28 6*, 1233-1234 .
[32]. Verlie, B. (2021). Learning to Live with Climate Change: From Anxiety to Transformation (1st ed.). Routledge. https://doi.org/10.4324/9780367441265
[33]. WHO. (1975). *Promoting health in the human environment*. Geneva.

[34]. Wu, J., Snell, G., & Samji, H. (2020). Climate anxiety in young people: a call to action. *The Lancet Planetary Health*, *4*(10), e435–e436. https://doi.org/10.1016/S2542-5196(20)30223-0

[35]. Wullenkord, M. C., Tröger, J., Hamann, K. R. S., Loy, L. S., & Reese, G. (2021). Anxiety and climate change: a validation of the Climate Anxiety Scale in a German-speaking quota sample and an investigation of psychological correlates. *Climatic Change*, *168*(3–4). https://doi.org/10.1007/s10584-021-03234-6