

Abstract

The threat of climate change is causing collective fear and worry among individuals and communities worldwide. Children may be among those who are most affected. As global temperatures continue to rise and subsequent natural disasters occur with more intensity, children are taking notice and, as a result, experiencing what experts are calling “eco-anxiety.” Eco-anxiety, a term used to describe the negative emotions associated with climate change, is becoming more prevalent in children as they witness these extreme weather events and hear future dire scenarios laid out by scientists. Children are becoming acutely aware that their governments are not doing enough to protect them or their future, resulting in a distress that could be reduced if world governments became more committed to the fight to protect the planet from climate change. In the interim, there are nursing strategies to help children cope with their overwhelming sense of doom. By having their concerns validated, implementing strategies to feel more connected to the natural world, and becoming more empowered to take action to protect the planet, children can begin to feel more optimistic and confident about their futures.

Key words: Anxiety; Climate change; Mental health; Pediatrics; Public health.

NURSING STRATEGIES TO HELP CHILDREN COPE WITH ECO-ANXIETY

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Health professionals around the world agree that climate change is one of the greatest threats to global public health (Atwoli et al., 2021). Each year there is an increasing number of climate-related events, such as severe hurricanes (Reed et al., 2022), droughts (Williams et al., 2020), floods (Brunner et al., 2021), extreme heat waves (Vose et al., 2017), decreasing food supply (Scheelbeek et al., 2018), and species extinction (Roman-Palacios & Wiens, 2020), that confirm how climate change is accelerating and becoming more destructive. We are reminded almost daily of this ongoing crisis. The distress caused by and related to the climate crisis is called eco-anxiety, which adversely affects the mental health and wellbeing of children worldwide (Coffey et al., 2021). Eco-anxiety is a term used to describe the negative emotions associated with climate change; it is not a mental illness but rather chronic fear about the dangers of climate change and the grim predictions of this planet’s future if no remedial actions are taken (Usher et al., 2019).

Eco-anxiety is prevalent among children around the world. In a 2021 survey of 10,000 children and young people (ages 16–25 years) in 10 countries (Australia, Brazil, Finland, France, India, Nigeria, Philippines, Portugal, the United Kingdom, and the United States with 1,000 participants per country), Hickman et al. (2021) found that 84% of children and young adults are worried about climate change. Fifty-nine percent reported feeling very or extremely worried (Hickman et al., 2021). Nearly half (45%) of young people think their daily lives are negatively affected by climate change, 75% feel that the future is frightening, and 59% believe society is doomed (Hickman et al., 2021). More than half of the participants experienced emotions of sadness, anxiety, anger, powerlessness, helplessness, and guilt (Hickman et al., 2021). The distress was associated with beliefs that their respective governments were not doing enough, leading to feelings of disappointment and betrayal. Nearly two-thirds (65%) of young people feel their governments are failing them, 58% believe that their government has betrayed them and future generations, and 83% said that they think society has failed to adequately care for the planet (Hickman et al., 2021).

Although everyone is vulnerable to climate change and eco-anxiety, not everyone has the same resources to address it. Marginalized communities with limited means to cope with climate change are often the most negatively affected (Browne, 2022). These same communities are frequently left out of conversations about climate change, potentially adding to further environmental injustices and preventing the intersectional approach required to tackle the climate crisis (Browne, 2022).

Ironically, anxiety may be experienced more frequently and acutely by those who are free from living conditions with persistent and pervasive barriers to health and wellbeing. Shahbazi et al. (2022) found a higher incidence of anxiety and depression in people from countries with higher socioeconomic status. They note that this may be attributed to having adequate access to mental health services (Shahbazi et al., 2022). In contrast, countries with inadequate mental health services do not have the ability to screen for these types of disorders or report their prevalence, potentially obscuring their existence (Shahbazi et al., 2022).

Children may be more susceptible to the negative impacts of eco-anxiety as they are at critical stages of their psychological and physical development (Wu et al., 2020). When children are exposed to stress, their body's stress response system releases cortisol (Milligan-Toffler & Jordan, 2022). Although experiencing intermittent stress is natural, chronic stress (such as from continuous negative emotions or experiences) can negatively affect a child's overall health and wellbeing. Repeated or chronic activation of the stress response can decrease a child's ability to focus and can increase the probability of illness, clinical depression, or generalized anxiety disorder (American Psychological Association, 2022). To prevent the adverse effects of eco-anxiety, there are ways that nurses can help empower children to take ownership of their mental health as they adapt to a warming planet.

Strategies to Help Children Manage Eco-anxiety

Although the realities of climate change can be overwhelming, there are strategies that nurses can implement to help children cope with the mounting fears they experience while they continue to bond with the natural world. Children can learn to build resilience and convert their eco-anxiety into action in their communities. Children often look to their parents or guardians to learn how to think and respond to situations and experiences; therefore, it is important for adults to also practice these strategies with their children, especially if they too experience eco-anxiety.

Screen for Anxiety

The mental health crisis among children has been steadily rising over the past decade due to many concerning issues, including climate change (Martin et al., 2021) and the pandemic (Benton et al., 2022). In 2022, pediatric health experts including the American Academy of Pediatrics, the American Academy of Child and Adolescent

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Psychiatry, and the Children's Hospital Association issued urgent warnings declaring that this mental health crisis among children was so dire that it had become a national emergency (American Academy of Pediatrics et al., 2021). These pediatric groups suggest including more federal funding for school-based and community-based mental health programs and promotion of telehealth so that all children have access to mental health screening and treatment, especially those from underresourced communities (American Academy of Pediatrics et al., 2021).

A panel of medical experts recently recommended that primary care providers screen all children (ages 8–18) for anxiety (U.S. Preventive Services Task Force [USPSTF], 2022). Nurses can help with this issue by starting the screening process during regular pediatric exams so that children can get the care they need. Commonly used screening tools that nurses can use include Screen for Child Anxiety Related Disorders (SCARED; Birmaher et al., 1999; University of Pittsburgh, 2022), Spence Children's Anxiety Scale (SCAS: The Spence Children's Anxiety Scale, 2022; Spence et al., 2003), or the Patient Health Questionnaire modified for Adolescents (PHQ-A; Horowitz et al., 2012; National Institute of Mental Health, 2022). Per the USPSTF (2022), the SCARED screening instrument can be used to identify children with a variety of anxiety disorders and is the most commonly used broad screening tool in the clinical setting. The SCARED self-report screening instrument is designed for children and youth ages 8 to 18 and their parents (University of Pittsburgh, 2022). The instrument takes approximately 10 minutes to complete, has "moderate parent-child agreement and good internal consistency, test-retest reliability, and discriminant validity, and it is sensitive to treatment response" (Birmaher et al., 1999, p. 1231). Other instruments that were developed for specific anxiety disorders may also be used by mental health professionals (USPSTF, 2022).

Validate Feelings and Offer Support

Recognizing how a child feels and allowing them to experience those feelings can provide validation in times of distress. Children want to feel understood and appreciated by the adults in their lives, and acknowledging and honoring their concerns about climate change can help validate their emotions (Sanson & Belleme, 2021). Although it may be uncomfortable to feel anxious or upset about such a distressing topic as climate change, children should be reminded that these feelings are healthy and normal, and that it can be therapeutic to communicate their worries and fears with their parents or guardians (Mufarech, 2022).

Having been ranked as the most honest and ethical profession for 20 consecutive years (Saad, 2022), nurses have gained the public's trust and are uniquely positioned to educate society on such serious issues as climate change. Nurses can facilitate conversations about eco-anxiety between children and their parents or guardians, as well as offer support through active listening, holding



Nurses can foster hope and inspiration by helping children focus on what is currently being done to tackle the climate crisis.

space for their feelings, and encouraging them to take action in a way that makes them feel empowered.

Spend Time in Nature

Spending time in nature can provide children with opportunities to enjoy and feel more connected to the natural world. Research has shown that spending at least 2 hours a week in nature is associated with good health and wellbeing (White et al., 2019), and children in particular benefit from time spent outdoors (Himschoot et al., 2020). Being in nature can mitigate anxieties children may have about climate change, as regular contact with nature helps children feel more relaxed (Cooke et al., 2020), less stressed (Chawla et al., 2014), and more confident (Sheldrake et al., 2019). Going for a hike in the woods, swimming in a lake, planting flowers, and bird watching are all ways for children to engage with the natural world. By allowing children to identify with the outdoors and their natural surroundings, they can develop

CLINICAL IMPLICATIONS

- Validate children's feelings and support them as they process their concerns about climate change.
- Educate children and their families about the benefits of spending time in nature.
- Promote ways for children and their families to get involved in local climate action and encourage nurses to become environmental advocates.
- Screen children ages 8 to 18 for anxiety at their regular pediatric exams to ensure they get the care they need.
- Encourage children to remain hopeful and focus on climate optimism by highlighting positive climate solutions and innovations.

their unique appreciation for nature and deepen their resolve to conserve it. Nurses can share the health benefits of spending time in nature with children and their families and participating in outdoor activities that align with their interests.

Think Local and Take Action

Turning anxiety into action can be an antidote for children experiencing eco-anxiety (Sheldon-Dean, 2022). With encouragement, children can take steps toward significant action and discover that they can help heal problems with their unique talents and efforts. Children can participate in the climate movement by discussing ways to conserve energy at home, starting a backyard garden, opting to walk or bike more, organizing a community cleanup group, writing letters to elected officials, or joining a local climate action youth group (Sheldon-Dean, 2022). Children of all ages can actively take these positive steps for themselves, their communities, and the environment. Understanding that they can make a difference while having fun can help children feel more empowered and confident in their ability to tackle obstacles even as overwhelming as climate change (Sheldon-Dean, 2022).

Nurses can recommend activities to help children engage in climate action and get involved in environmental advocacy themselves. As important as it is for young people to get involved in local action, it is equally critical to demonstrate to children that they are not expected to take the whole climate burden on themselves (Sanson & Bellemo, 2021). Nurses can serve as leaders by helping their patients, communities, and health care organizations engage in mitigation activities (such as advocating for clean energy or sustainable forms of transportation) and prepare for the potential effects of climate change. By using their influence and expertise, they can work for effective policy change, take steps to lower their carbon footprint, and educate community members about the links between climate and health. Nurses can take such action individually, with other nurses, or collaborate

with others in different professions (including, but not limited to, mental health professionals). Nurse educators can also incorporate eco-anxiety into nursing curriculum to ensure that future nurses are prepared to care and advocate for their patients dealing with the mental health consequences of climate change (McDermott-Levy et al., 2022).

Focus on Climate Optimism

Although it is easy for children to feel helpless and defeatist about climate change, maintaining hope and optimism about the future is crucial. Without it, the climate crisis can cause or worsen the existing high rates of anxiety and depression in children. As a result, children can feel overwhelmed by feelings of doom or passivity about their futures (Hickman et al., 2021). The Harvard T.H. Chan School of Public Health's Center for Climate, Health, and the Global Environment (C-CHANGE) saw a need for more climate positivity and created the monthly newsletter, *The Climate Optimist*, in which they write about the environmental progress that is being made worldwide. Climate optimism is not about being in denial, but focusing more on the solutions that are being developed or currently in place.

These huge innovations in climate solutions and a drastic shift in public opinion and an increasing number of local governments are acting by investing in clean energy and green infrastructure. As a result, progress has been made. For example, before 2015, the planet was expected to warm by 4° C by 2100 (Sherwood et al., 2014); however, if current global climate commitments are kept, the planet will warm by 2° C (Hausfather & Moore, 2022). Nurses can share these climate wins with children and their families as encouragement to maintain a positive outlook and to help them understand that there are many people trying to tackle this climate crisis.

Conclusion

The climate crisis is affecting the mental health and well-being of children around the world, leading to a rise in eco-anxiety and fears of an uncertain future. Screening children for anxiety can be an effective way for nurses to identify the impacts climate change may have on them and open the door to discuss solutions. To help children cope with these anxieties, strategies can be implemented by nurses to help them express their feelings, connect to nature, and take action. Nurses can become part of the solution and advocate for the changes they want to see. Focusing on the positive aspects of what is currently being done to tackle the climate crisis can also offer hope and inspiration to children as they find ways to be a part of the solution. ✚

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References

- American Academy of Pediatrics, American Academy of Child and Adolescent Psychiatry, & Children's Hospital Association. (2021). *AAP-AACAP-CHA declaration of a national emergency in child and adolescent mental health*. <https://www.aap.org/en/advocacy/child-and-adolescent-healthy-mental-development/aap-aacap-cha-declaration-of-a-national-emergency-in-child-and-adolescent-mental-health/>
- American Psychological Association. (2022). *How to help children and teens manage their stress*. www.apa.org/topics/child-development/stress
- Atwoli, L., Baqui, A. H., Benfield, T., Bosurgi, R., Godlee, F., Hancocks, S., Horton, R., Laybourn-Langton, L., Augusto Monteiro, C., Norman, I., Patrick, K., Praities, N., Olde Rikkert, M. G. M., Rubin, E. J., Sahni, P., Smith, R., Talley, N., Turale, S., & Vazquez, D. (2021). Call for emergency action to limit global temperature increases, restore biodiversity, and protect health. *The New England Journal of Medicine*, 385(12), 1134–1137. <https://doi.org/10.1056/NEJMe2113200>
- Benton, T., Njoroge, W. F. M., & Ng, W. Y. K. (2022). Sounding the alarm for children's mental health during the COVID-19 pandemic. *JAMA Pediatrics*, 176(4). <https://doi.org/10.1001/jamapediatrics.2021.6295>
- Birmaher, B., Brent, D. A., Chiappetta, L., Bridge, J., Monga, S., & Baugher, M. (1999). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): A replication study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38(10), 1230–1236. <https://doi.org/10.1097/00004583-199910000-00011>
- Browne, G. (2022). *The climate anxiety discussion has a whiteness problem*. <https://www.wired.com/story/climate-anxiety-whiteness-problem/>
- Brunner, M. I., Swain, D. L., Wood, R. R., Willkofer, F., Done, J. M., Gil-Elend, E., & Ludwig, R. (2021). An extremeness threshold determines the regional response of floods to changes in rainfall extremes. *Communications Earth & Environment*, 2, 173. <https://doi.org/10.1038/s43247-021-00248-x>
- Chawla, L., Keena, K., Pevec, I., & Stanley, E. (2014). Green schoolyards as havens from stress and resources for resilience in childhood and adolescence. *Health & Place*, 28, 1–13. <https://doi.org/10.1016/j.healthplace.2014.03.001>
- Coffey, Y., Bhullar, N., Durkin, J., Islam, 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. <https://doi.org/10.1016/j.joclim.2021.100047>
- Cooke, E., Thorpe, K., Clarke, A., Houen, S., Oakes, C., & Staton, S. (2020). "Lie in the grass, the soft grass": Relaxation accounts of young children attending childcare. *Children and Youth Services Review*, 109. <https://doi.org/10.1016/j.childyouth.2019.104722>
- Hausfather, Z., & Moore, F. C. (2022). Net-zero commitments could limit warming to below 2 °C. *Nature*, 604(7905), 247–248. <https://doi.org/10.1038/d41586-022-00874-1>
- Hickman, C., Marks, E., Pihkala, P., Clayton, S., Lewandowski, R. E., Mayal, 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](https://doi.org/10.1016/S2542-5196(21)00278-3)
- Himschoot, E., Lloyd, J., & Reuben, A. (2020). *Improving child & adolescent mental health through outdoor programming*. Yale Center for Business and the Environment. https://cbey.yale.edu/sites/default/files/2020-10/CBEY_REPORT_HEALTH-NATURE_FINAL.pdf
- Horowitz, L. M., Bridge, J. A., Teach, S. J., Ballard, E., Klima, J., Rosenstein, D. L., Wharff, E. A., Ginnis, K., Cannon, E., Joshi, P., & Pao, M. (2012). Ask Suicide-Screening Questions (ASQ): A brief instrument for the pediatric emergency department. *Archives of Pediatrics & Adolescent Medicine*, 166(12), 1170–1176. <https://doi.org/10.1001/archpediatrics.2012.1276>
- Martin, G., Reilly, K., Everitt, H., & Gilliland, J. A. (2021). Review: The impact of climate change awareness on children's mental well-being and negative emotions—a scoping review. *Child and Adolescent Mental Health*, 27(1), 59–72. <https://doi.org/10.1111/camh.12525>
- McDermott-Levy, R., Jackman-Murphy, K., Leffers, J., & Cantu, A. (2022). *Environmental health in nursing, 2nd edition*. Alliance of Nurses for Healthy Environments.
- Milligan-Toffler, M., & Jordan, C. (2022). *A solution for climate anxiety: Spending more time in nature*. ecoAmerica. <https://ecoamerica.org/a-solution-for-climate-anxiety-spending-more-time-in-nature-blog/#:~:text=Just%20being%20out%20in%20nature,feel%20calmer%20and%20less%20stressed>
- Mufarech, A. (2022). *Your crushing anxiety about climate crisis is normal*. Smithsonian Magazine. <https://www.smithsonianmag.com/science-nature/how-to-deal-with-the-anxiety-caused-by-the-climate-crisis-180980093/#:~:text=%E2%80%9CClimate%20anxiety%20is%20not%20in,comes%20to%20the%20climate%20crisis>
- National Institute of Mental Health. (2022). *PHQ-9 modified for adolescents (PHQ-A)*. <https://www.nimh.nih.gov/research/research-conducted-at-nimh/asq-toolkit-materials/asq-tool/phq-9-modified-for-adolescents-phq-a>
- Reed, K. A., Wehner, M. F., & Zarzycki, C. M. (2022). Attribution of 2020 hurricane season extreme rainfall to human-induced climate change. *Nature Communications*, 13(1), 1905. <https://doi.org/10.1038/s41467-022-29379-1>
- Roman-Palacios, C., & Wiens, J. J. (2020). Recent responses to climate change reveal the drivers of species extinction and survival. *Proceedings of the National Academy of Sciences*, 117(8), 4211–4217. <https://doi.org/10.1073/pnas.1913007117>
- Saad, L. (2022). *Military brass, judges among professions at new image lows*. Gallup. <https://news.gallup.com/poll/388649/military-brass-judges-among-professions-new-image-lows.aspx>
- Sanson, A., & Bellema, M. (2021). Children and youth in the climate crisis. *The British Journal of Psychiatry*, 45(4), 205–209. <https://doi.org/10.1192/bjb.2021.16>
- SCAS: The Spence Children's Anxiety Scale. (2022). *Information for researchers and practitioners*. <https://www.scaswebsite.com/>
- Scheelbeek, P. F. D., Bird, F. A., Tuomisto, H. L., & Dangour, A. D. (2018). Effect of environmental changes on vegetable and legume yields and nutritional quality. *Proceedings of the National Academy of Sciences*, 115(26), 6804–6809. <https://doi.org/10.1073/pnas.180044211>
- Shahbazi, F., Shahbazi, M., & Poorolajal, J. (2022). Association between socioeconomic inequality and the global prevalence of anxiety and depressive disorders: An ecological study. *General Psychiatry*, 35(3), e100735. <https://doi.org/10.1136/gpsych-2021-100735>
- Sheldon-Dean, H. (2022). *Kids and climate anxiety: Helping them handle big worries in healthy ways*. Child Mind Institute. <https://child-mind.org/article/kids-and-climate-anxiety/#taking-action>
- Sheldrake, R., Amos, R., & Reiss, M. (2019). *Children and nature: A research evaluation for The Wildlife Trusts*. Institute of Education, University College London. <https://www.wildlifetrusts.org/sites/default/files/2019-11/Children%20and%20Nature%20-%20UCL%20and%20The%20Wildlife%20Trusts%20Full%20Report.pdf>
- Sherwood, S., Bony, S., & Dufresne, J. L. (2014). Spread in model climate sensitivity traced to atmospheric convective mixing. *Nature*, 505, 37–42. <https://doi.org/10.1038/nature12829>
- Spence, S. H., Barrett, P. M., & Turner, C. M. (2003). Psychometric properties of the Spence Children's Anxiety Scale with young adolescents. *Journal of Anxiety Disorders*, 17(6), 605–625. [https://doi.org/10.1016/S0887-6185\(02\)00236-0](https://doi.org/10.1016/S0887-6185(02)00236-0)
- University of Pittsburgh. (2022). *Child and adolescent bipolar spectrum services*. University of Pittsburgh. <https://www.pediatricbipolar.pitt.edu/resources/instruments>
- U.S. Preventive Services Task Force. (2022). *U.S. Preventive Services Task Force issues final recommendation statements on screening for anxiety, depression, and suicide risk in children and adolescents*. United States Preventive Services Task Force Bulletin. https://www.uspreventiveservicestaskforce.org/uspstf/sites/default/files/file/supporting_documents/screening-anxiety-depression-suicide-risk-final-rec-bulletin.pdf
- 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. <https://doi.org/10.1111/inm.12673>
- Vose, R. S., Easterling, D. R., Kunkel, K. E., LeGrande, A. N., & Wehner, M. F. (2017). Temperature changes in the United States. In D. J. Wuebbles, D. W. Fahey, K. A. Hibbard, D. J. Dokken, B. C. Stewart, & T. K. Maycock (Eds.), *Climate science special report: Fourth national climate assessment, volume I* (pp. 185–206). U.S. Global Change Research Program. <https://doi.org/10.7930/JON29V45>
- White, M. P., Alcock, I., Grellier, J., Wheeler, B. W., Hartig, T., Warber, S. L., Bone, A., Depledge, M. H., & Fleming, L. E. (2019). Spending at least 120 minutes a week in nature is associated with good health and wellbeing. *Scientific Reports*, 9(1), 7730. <https://doi.org/10.1038/s41598-019-44097-3>
- Williams, A. P., Cook, E. R., Smerdon, J. E., Cook, B. I., Abatzoglou, J. T., Bolles, K., Baek, S. H., Badger, A. M., & Livneh, B. (2020). Large contribution from anthropogenic warming to an emerging North American megadrought. *Science*, 368(6488), 314–318. <https://doi.org/10.1126/science.aaz9600>
- 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](https://doi.org/10.1016/S2542-5196(20)30223-0)