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Climate change and mental health series: Co-creating a resilient future

Policy Brief 3: Opportunities, solutions and future generations

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Highlights

- 1. Teachers and caregivers are not yet equipped to teach and discuss climate change with children in schools.
- 2. Community-led approaches could act as cooperative platforms where multiple stakeholders can discuss and establish trust.
- 3. Global commitments, such as the SDGs and NDCs need to be accelerated to effectively address climate risks on mental health and to increase awareness of the issue.
- 4. There is insufficient investment in mental health support systems at national-level climate action planning in most countries.
- 5. Innovative solutions, such as digital mental healthcare, sustainable urban design, and rebonding with nature can help build climate resilience and protect mental health.

This policy brief is the third in a series of three from the United Nations University - Climate Resilience Initiative (hosted by UNU institutes in Belgium, Germany, and the Netherlands) proposing recommendations on the impact of climate change on mental health and well-being. The first brief outlines the current, global state of affairs; the second assesses the risks that intensify the impact on mental health; and this,the third, identifies policy opportunities and solutions.

Background

Climate change has increasingly negative direct and indirect impacts on people's mental health and well-being. However, opportunities exist for local, national, and international communities and governments to address and combat these risks and impacts. These include policy solutions such as enhancing the role of climate education and community-led approaches, leveraging climate finance and investment, and developing advanced technology to help build sustainable climate resilient cities.

Climate education and preparing educators

Tackling the complex problems of climate change demands comprehensive strategy that encompasses equipping both young people and adults with the necessary knowledge and abilities to initiate climate action. In 2025, the Programme for International Students Assessment (OECD, 2023) plans



to assess 15-year-olds' understanding of climate change and their capacity to address climate-related issues at both local and global scales. However, in most cases, educators (Beach, 2023) and caregivers (Leger-Goodes et al., 2023) may not yet be fully equipped (Boon, 2016) to discuss climate risks with children as climate science and its complexities are constantly evolving and can be overwhelming. Moreover, the emotional effects of learning about climate change science and impacts can't be neglected as they can trigger fear in young people and children. Acknowledging how children make sense of climate change and developing support for positive teaching programs can provide coping strategies for emotions caused by climate anxiety in children.

A pro-environmental mindset can already be fostered in children, such as by integrating climate education into existing school curricula, facilitating innovative teaching approaches that encourage experiential learning to promote climate knowledge, and group projects focusing on pro-environmental actions such as community cleanups or planting trees in their local environments. Such approaches can be promoted through collaborations between educational institutions, community organisations, mental healthcare services, and local businesses to establish collaborative learning ecosystems. Therefore, the prioritisation of preparing teachers and caregivers (Tytler and Freebody, 2023) should be a key consideration in national education planning as well as climate strategies.

Community-led approaches and citizen assemblies for climate action

Climate activism can be associated with increased mental well-being where it emphasises the importance of creating opportunities for engaging in collective action and developing a sense of solidarity (Schwartz et al., 2023). When populations have trust in their government's efforts to tackle climate change, they often exhibit World Health Organization, 2022). Community-led approaches such as citizen assemblies on climate action could act as cooperative platforms where multiple stakeholders - communities, scientists, mental health care practitioners and governments - can discuss and establish trust (European Climate Foundation, 2021). In order to facilitate community-level connections, it is crucial to have reliable and understandable climate communication to encourage transparent and meaningful discussions and create a welcoming environment for community members. Participants can express their concerns and feelings about the planet's future (Denworth, 2019), gain knowledge about climate change (UNICEF, 2022), and promote collective actions (Spiteri, 2020) to mitigate and adapt to climate

change ,including developing evidence-based tools to support their well-being.

Investment in mental health support and climate finance

Climate investments should not only be channelled toward physical infrastructure and environmental protection, as is already widely acknowledged, but also toward mental health support services. Although recent global attention has underscored the link between climate change and mental health outcomes (Romanello, et al., 2022), there are only a few examples where National Adaptation Plans and Nationally Determined Contributions (NDCs) consider mental health and psychosocial implications (WHO, 2021). However, only 28% of countries report having a functional programme that integrates mental health and psychosocial support within preparedness and disaster risk reduction, including for climate-related hazards (WHO, 2021).

Prioritising and allocating adequate resources to address mental health challenges is urgently needed. The presence of health and mental health within adaptation and non-economic loss and damage workstreams of the UNFCCC should also be broadened and deepened with specific, dedicated funding mechanisms (see Policy Brief 1 in this series). At COP27 it was agreed to set up a fund for Loss and Damage. The forms the fund will take will be decided at COP28, but there are serious unresolved questions about who will pay in and how much, and which countries will be eligible to receive funds. Such climate investment mechanisms must ensure support for countries on the frontline of the climate crisis, and specifically for children and other vulnerable or marginalised populations.

Innovative solutions and climate resilience

With over 4 billion current users and a projected increase to 6 billion by 2027, social media offers a valuable platform for mental health intervention. Al and natural language processing tools enable the identification of mental health conditions (Zhang, 2022) and trends through language patterns and images in social media posts. Public-private partnerships involving technology and social media companies, NGOs and governments can leverage predictive analytics to detect issues early, provide interventions, and shape national mental health policies. While social media and new Al tools present opportunities, usage of such new technologies and individual data need to be carefully regulated to minimise risks to security and privacy (Okamoto, 2023).

Based on the lessons learned from the COVID-19 pandemic, there are several innovative solutions developed to support

our collective and individual well-being (WEF, 2021). Digital mental healthcare through tele-therapeutic apps has seen explosive growth during the pandemic. More than 10,000 digital apps (King et al., 2023) claim to treat psychological difficulties and offer the opportunity to increase access to mental health care. Offering mental healthcare support via digital and online technologies can help reduce inequalities in accessing mental health support (Pieters and Nagabhatla, 2023). Such online services reach remote regions and reduce fears of stigma around seeking support. However, these technologies also have the potential for misuse and mistreatment.

Several organisations have begun developing assessment criteria for digital tools, and such measurements (WEF, 2021) would allow innovators to ensure that their products are clinically validated, ethical, secure and effective.

Finally, improvements in public infrastructure can create a physical environment more conducive to good mental health. For this reason, investing in efforts to build more is essential (United Nations, 2023). Reducing heat and air pollution through urban redesign in cities, such as improved green spaces, walkable neighbourhoods, and improved active and public transport infrastructure can provide other mental health and well-being benefits. These include promoting physical activity, better sleep quality, increased social connectivity and safety, and ultimately providing more green spaces and offsetting CO2 emissions (Cheng & Berry, 2013).

Key points and recommendations

The climate change mental health nexus is a substantial challenge, but also a significant opportunity for boosting public health outcomes and understanding the potential loss and damage that can result from climate change. Policymakers must take a comprehensive approach to address these issues and ensure that mental health services are integrated into climate action planning. We outline six key actions to help achieve this goal.

1. Create targeted early interventions and prevention programs for children and young people

These urgently-needed mechanisms include programmes for schools to build awareness and develop emotional coping skills, integrating mental health counselling services and preparing teachers and caregivers to create safe spaces for children to learn about climate change facts as well as to share their feelings.

2. Support community-led approaches

Community-led approaches such as citizen assemblies on climate action could act as a cooperative platform where multiple stakeholders – communities, scientists, mental health care practitioners and governments – can discuss and establish trust.

Accelerate global commitments, such as the SDGs and NDCs

Global commitments and related initiatives, such as the SDGs, Paris Agreement, and climate action decision platforms (such as COP) can help effectively address climate risks on mental health and increase awareness of the issue.

4. Integrate mental health into climate action planning by including relevant services into national adaptation planning

This should also be supported by meaningful financial commitments.

5. Enhance existing capacities

Given the substantial shortage of support staffing alongside with the modest budget allocated to mental healthcare globally, significant shares should be used for training care providers and providing cost-effective online education programs on good mental health practices.

6. Use public-private partnerships to promote collaboration and steer innovative solutions from digital technology

These can include utilising online services (education, support tools), early detection of mental health trends by natural language processing, and the creation of climate resilient cities and communities.

References

Beach, R., 2023. Addressing the Challenges of Preparing Teachers to Teach about the Climate Crisis. *The Teacher Educator*, 58(4), pp. 507 - 522.

Boon, H. J., 2016. Pre-Service Teachers and Climate Change: A Stalemate?. *Australian Journal of Teacher Education*, 41(4).

Cheng, J. J. & Berry, P., 2013. Health co-benefits and risks of public health adaptation strategies to climate change: a review of current literature. *International Journal of Public Health*, 58(2), pp. 305 - 311.

Denworth, L., 2019. Children Change Their Parents' Minds about Climate Change. *Scientific American*, 6th May.

European Climate Foundation, 2021. The growing traction of climate citizens assemblies. [Online] Available at: https://europeanclimate.org/stories/the-growing-traction-of-climate-citizens-assemblies/ [Accessed 5th November 2023].

Fox, C., 2021. These are the top 10 innovations in mental health. [Online] Available at: https://www.weforum.org/agenda/2021/09/these-are-the-top-10-innovations-tackling-mental-ill-health/[Accessed 5th November 2023].

Herzog, K., 2020. Mental health apps draw a wave of new users as experts call for more oversight. [Online]

Available at: https://www.cnbc.com/2020/05/24/mental-health-apps-draw-wave-of-users-as-experts-call-for-oversight.html [Accessed 5th November 2023].

King, D. R. et al., 2023. Methods for Navigating the Mobile Mental Health App Landscape for Clinical Use. *Current Treatment Options in Psychiatry*, Volume 24, pp. 1 - 15.

Léger-Goodes, T. et al., 2023. How children make sense of climate change: A descriptive qualitative study of eco-anxiety in parent-child dyads. *PLoS One*, 20(18), p. e0284774.

Okamoto, S. (2023). Worried about AI? You might have AI-nxiety. Here is how to cope. *The Conversation UK*, https://theconversation.com/worried-about-ai-you-might-have-ai-nxiety-heres-how-to-cope-205874

Organisation for Economic Co-operation and Development, 2023. Agency in the Antrhopocene: Supporting document to the PSA 2025 Science Framework, Paris: OECD.

Pieters, R. & Nagabhatla, N., 2023. *Unlocking Solutions: AI For Disaster Management and Psychosocial Well-being*. [Online] Available at: https://cris.unu.edu/unlocking-solutions-ai-disastermanagement-and-psychosocial-well-being [Accessed 5th November 2023].

Romanello, M. & et. al., 2022. The 2022 report of the Lancet Countdown on health and climate change: health at the mercy of fossil fuels. *The Lancet*, 400(10363), pp. 1619 - 1654.

Schwartz, S. E. O. et al., 2023. Climate change anxiety and mental health: Environmental activism as buffer. *Current Psychology*, Volume 42, p. 16708 –16721.

Spiteri, J., 2020. Too Young to Know? A Multiple Case Study of Child-to-Parent Intergenerational Learning in Relation to Environmental Sustainability. *Journal of Education for Sustainable Development*, 14(1), pp. 61 - 77.

Tytler, R. & Freebody, P., 2023. How should we teach climate change in schools? It starts with 'turbo charging' teacher education. *The Conversation*, 12 June.

United Nations, 2022. Education is key to addressing climate change. [Online] Available at: https://www.un.org/en/climatechange/climate-solutions/education-key-addressing-climate-change [Accessed 5th November 2023].

United Nations, 2023. *Goal 11: Make cities inclusive, safe, resilient and sustainable*. [Online] Available at: https://www.un.org/sustainabledevelopment/cities/ [Accessed 5th November 2023].

WHO, UNESCO, UNICEF, 2022. Five essential pillars for promoting and protecting mental health and psychosocial well-being in schools and learning environments, New York: UNICEF.

World Health Organization, 2021. *Health in national adaptation plans: review.*, Geneva: WHO.

World Health Organization, 2022. *Review of IPCC Evidence 2022*, Geneva: World Health Organization.

Zhang, T., Schoene, A. M. & Ji, S. e. a., 2022. Natural language processing applied to mental illness detection: a narrative review. *NPJ Digital Medicine*, 5(46).

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