

Climate change is harming children's mental health, and this is just the start

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Despite warnings about the impact of climate change on health, surprisingly little has been written about the mental health consequences of climate change for children. Credit: Unsplash/Callum Shaw

With record-breaking [heat waves, wildfires and floods](#), 2021 may be the year we finally [wake up to climate change](#). According to the most [recent assessment](#) of the International Panel on Climate Change, the effects are now "widespread, rapid, and intensifying." Many impacts are irreversible and changes to oceans, ice sheets and sea levels will persist for thousands of years.

In August, the [United Nations Children's Fund reported](#) that half the world's 2.2 billion [children](#) are at "extremely high risk" from the impacts of climate change. More than 230 health-care journals have since [published a joint editorial](#) calling for [urgent action to address the "catastrophic harm to health" from climate change](#).

Despite these warnings, [surprisingly little](#) has been written about the [mental health](#) consequences of climate change for children.

In a new [research paper](#), we show that climate change is already affecting the healthy psychological development of children worldwide. These impacts begin before birth and stretch across development, and will accelerate as climate change advances.

Playing havoc with development

Although awareness about climate change and mental health is increasing, most attention has focused on the issue of [worry about climate change](#)—sometimes called "eco-anxiety"—and the effects of single acute stressors such as [extreme weather events](#). While these problems are important, mental health (both good and bad) is not the consequence of single events, but rather the result of complex causal chains that begin before birth and unfold across development.

We need a broader conceptual framework to understand the relationship between climate change and mental health. A developmental life-course perspective is particularly well-suited to this end. [Developmental perspectives](#) are widely used in psychology, psychiatry and related developmental sciences to understand the origins, course and outcomes of mental health across the lifespan.

The approach is based on the observation that most [mental disorders](#) begin early in life, that disorders are the consequence of genetic,

psychosocial and [environmental factors](#)—including the interplay between them—and that the timing, severity and duration of early-life stressors can have [life-long effects](#) on psychological health and well-being.

Developmental approaches are well-suited to studying the effects of complex, interactive and ongoing stressors like those that arise in the context of climate change. This can be illustrated with several concrete examples.

Children's vulnerability to climate change

Childhood is a period of extremely high [developmental vulnerability](#). Even before birth, acute environmental stressors—such as hurricanes, wildfires, floods and [heat waves](#)—can [traumatize the mother](#) physically and mentally. These experiences can [harm the developing fetus](#) and [increase disease](#) vulnerability for the unborn child [throughout life](#).

Sub-acute stressors like summer heat waves are linked to increased risk of [obstetric complications and preterm birth](#), which are [well-established risk factors](#) for [several major psychiatric disorders](#).

From birth to age five, [children are highly vulnerable](#) to infectious disease, environmental toxins, heat exposure and dehydration. Physical health problems can delay reaching developmental milestones in areas such as cognition and language, and these interact with and increase [mental health vulnerability](#).

In the middle childhood period (six to 12 years), children remain vulnerable to acute and chronic environmental stressors, and become more able to understand climate change and its anticipated impacts. This heightens their [capacity to experience stress and anxiety](#) about the consequences of living on a warming planet.

Adolescence on a warming planet

Major physiological, hormonal and social changes characterize adolescence and many teenagers feel overwhelmed by the challenges presented during this time. The [peak age of onset](#) for any psychiatric disorder is 14.5 years, and around half of all disorders are established before age 18.

Climate change is turning up the heat on this pressure-cooker life stage by increasing the frequency, intensity and duration of weather-related stressors such as drought, heat waves, cyclones and floods. Exposure to such events is linked to [increased risk](#) of [PTSD](#), anxiety and [depression](#), which compromise long-term mental health resilience.

Heat waves alone can [disrupt sleep](#), [learning](#), cognitive test [performance](#) and high school [graduation rates](#). These factors can impede the healthy transition to adulthood and damage long-term social and economic prospects.

In other words, climate change is creating new risks for children and adolescents because it can [trigger a cascade](#) of abnormal developmental changes that interact in complex ways to undermine healthy psychological maturation across the life course.

Protecting children

The best way to protect children from the effects of climate change is to aggressively mitigate global heating and supercharge adaptation to the harm it has already done. This may seem obvious, but the [persistent failure](#) of national governments to collectively tackle climate change has crushed optimism and nibbled away at hope.

Many young people [feel helpless and betrayed and are angry](#) with adults

for failing to prevent the climate crisis. They can and should be [empowered to participate](#) in adaptation and response planning. Effective [climate change education](#) is central to this end. It can [help children cope](#) and lay the foundation for a new generation of engaged citizens and effective leadership.

Around 85 percent of the world's children [live in developing countries](#) that are most vulnerable to climate change, despite being least responsible for causing it. Swift and effective action to reduce this burden is therefore a matter of major international and inter-generational justice.

No time to lose

Healthy psychological development underpins societies' future social, economic and human capital, but it is being undermined by unchecked [climate](#) change. The damage begins before birth and cascades across development, with each unresolved challenge setting traps for the next.

Rapid and effective action to reduce these risks is a pressing practical and moral imperative and a critical investment in the health and well-being of current and future generations of children around the world. There is no time to lose.

Mental health quick facts

- Mental disorders [affect more than a billion people](#) worldwide every year.
- They are a leading cause of global disease burden, [ranked first](#) in terms of years lived with disability.
- In high-income countries, [one in four people](#) will experience a mental health problem in any given year.
- People exposed to extreme weather events such as cyclones and

wildfires have [increased risk](#) of PTSD, anxiety, depression and suicide.

- 15–60 percent of children and adolescents exposed to such events experience [PTSD](#), anxiety and [depression](#).
- Most children with mental [health](#) problems, including those living in high-income countries, receive [no treatment](#).

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