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REVIEW

Children, young people and climate change in Latin America: A qualitative review

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Abstract

Climate change disproportionately affects Latin American children and young people, exacerbating existing vulnerabilities. This qualitative review analyzes 12 studies published between 2017–2024 on climate impacts that affect this regional demographic group. The methodology used qualitative thematic evidence analysis based on emerging categories. Results of the review reveal the significant effects of climate change on physical and mental health, academic performance, socioeconomic development, environmental impacts and youth leadership. There were very few studies that examined climate change based on the perspectives of children and young people. The authors conclude that there is an urgent need for inclusive climate policies adapted to local contexts, as well as the increased participation of young people in decision-making processes to foster climate resilience in the region.

Keywords

Climate change; impacts; health, mental health; public policies; children and youth.

Thesaurus

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Cambio climático en las infancias y juventudes en Latinoamérica: una revisión cualitativa

Resumen

El cambio climático afecta desproporcionadamente a infancias y juventudes latinoamericanas, agravando vulnerabilidades existentes. Esta revisión cualitativa analiza 12 estudios publicados entre 2017-2024, sobre impactos climáticos en este grupo demográfico regional. La metodología incluyó un análisis temático cualitativo de la evidencia a partir de las categorías emergentes en el análisis. Los resultados revelan efectos significativos en salud física y mental, educación y desarrollo socioeconómico, impactos ambientales y los liderazgos juveniles. Fueron escasos los estudios sobre el cambio climático desde la perspectiva de las infancias y juventudes. Se concluye que urgen políticas climáticas inclusivas y adaptadas al contexto local, así como una mayor participación juvenil en la toma de decisiones para fomentar la resiliencia climática en la región.

Keywords

Cambio climático; impactos; salud; salud mental; políticas públicas; niñez y juventud.

Mudanças climáticas sobre crianças e jovens na América Latina: uma análise qualitativa

Resumo

As mudanças climáticas afetam desproporcionalmente crianças e jovens latino-americanos, exacerbando vulnerabilidades existentes. Esta revisão qualitativa analisa 12 estudos publicados entre 2017-2024 sobre impactos climáticos neste grupo demográfico regional. A metodologia empregou análise temática qualitativa de evidências baseada em categorias emergentes. Os resultados revelam efeitos significativos na saúde física e mental, educação e desenvolvimento socioeconômico, impactos ambientais e lideranças juvenis. Estudos examinando as mudanças climáticas da perspectiva de crianças e jovens foram escassos. A pesquisa conclui que há uma necessidade urgente de políticas climáticas inclusivas adaptadas aos contextos locais, bem como maior participação juvenil nos processos de tomada de decisão para promover a resiliência climática na região.

Palavras-chave

Mudanças climáticas; impactos; saúde, saúde mental; políticas públicas; infância e juventude.

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Introduction

Climate change threatens not only the environment, but also mental health (Hwong et al., 2022). Studies have documented significant psychological impacts, exacerbating disorders such as anxiety, depression, and post-traumatic stress (Crandon et al., 2022; Léger-Goodes et al., 2022). Between approximately 25% and 50% of people affected by climate disasters—such as floods or storms—experience mental health problems (depression, anxiety and post-traumatic stress), a number that can rise to 60% in areas with recurring events (Hwong et al., 2022).

Léger-Goodes et al. (2022) showed that "ecoanxiety" mainly affects children and adolescents. On average, 45% of young people between 16 and 25 years old, in high-income countries, reported feeling that climate change negatively affects their daily life and emotional well-being. In low- and middle-income countries, anxiety increases due to problems like lack of water, crop loss and drought. These factors intensify worry about the future and affect both emotional well-being and long-term cognitive development (Crandon et al., 2022).

Further, a study conducted by Hwong et al. (2022) highlighted that, in climate disaster contexts, up to 30% of adults experience some kind of mental disorder. In regions affected by prolonged heat waves, an increase of up to 20% in suicide rates has been documented, especially among vulnerable populations such as the elderly and people with pre-existing health problems.

Recently, Europe experienced one of the most intense heat waves in its history, which contributed to a significant increase in death rates among vulnerable populations. During this period, studies like those by Rony and Alamgir (2023), Alho et al. (2024) and Li et al. (2024) reported an increase in psychiatric emergencies due to the exacerbation of disorders such as anxiety and depression. In France, hospital admissions for acute heat-related mental health episodes intensified by 30% (Hayes et al., 2018).

Hurricane Katrina, which left thousands of people displaced in 2005, increased cases of post-traumatic stress disorder by 49% among survivors; post-disaster studies showed

that up to 50% of affected adults developed some kind of mental condition, worsened by the loss of housing, jobs and loved ones (Galea et al., 2007).

In Latin America, prolonged droughts in northeastern Brazil in 2021 led to crop loss and food insecurity, resulting in a 35% increase in cases of depression in rural areas. These climate events not only had impact on the local economy; they also affected communities' mental well-being, leaving families without the resources needed to face the crisis (Shukla, 2013). The effects of climate change on the economy and food security thus exceed the planet's capacity and available resources, increasing risks to life and requiring immediate global efforts (Dasgupta & Robinson, 2022; Kotz et al., 2024).

In general, studies show that developing countries are the most affected, given that their mental health services are not prepared to address the growing demand for climate change-related psychological care (Ingle & Mikulewicz, 2020). It is estimated that only 3% of mental health programs in these countries are so equipped (World Health Organization, 2021).

These effects on mental health are the product of prolonged exposure to extreme climate phenomena, such as heat waves, hurricanes and droughts, which can interrupt daily life, uproot families and lead to food and economic insecurity (Khushi et al., 2024). Due to their stage of development, children and adolescents are sensitive to these factors (Shah & Ragavan, 2024). In this regard, Hwong et al. (2022) found that the growing frequency and intensity of extreme climate events, such as forest fires and storms, are directly related to the increase in psychological disorders among young people, including post-traumatic stress disorder, anxiety and depression. In addition, studies have emphasized that among children and adolescents, the psychological effects of climate change can be long-term, affecting their emotional and cognitive development (Crandon et al., 2022).

Climate change can trigger emotions in children and adolescents such as fear, sadness and impotence since they are faced with uncertainty about their own future and that of their surroundings. These feelings can be intensified when young people see their communities devastated by natural disasters, which produces a sense of hopelessness (Clayton et al., 2017). Studies have shown that repeated exposure to extreme phenomena like floods and droughts can lead to a chronic feeling of anguish, ecoanxiety and lack of control, affecting young people's ability to face difficult situations in the future (Pihkala, 2020).

In addition to emotional impact, the effects of climate change on children's cognitive development are just as worrying. Crandon et al. (2022) highlight that exposure to natural disasters interferes with learning, memory and academic performance, since anxiety and chronic stress make it difficult to concentrate and process information. Over the long term, these effects can jeopardize cognitive skills such as decision-making and problem solving, limiting young people's future educational and professional development.

Children's social and family relationships can also be affected by exposure to extreme climate phenomena. Léger-Goodes et al. (2022) detailed how natural disasters can uproot families, interrupting the social support networks that are essential for children's emotional well-being. This uprooting and social instability can have a negative influence on young people's emotional development, leading to a sense of isolation and difficulties in managing stress over the long term (Hanna et al., 2010). These studies coincide in that this population is particularly vulnerable to the impacts of climate change, since their ability to face traumatic situations is limited by their incipient process of emotional development.

Despite this panorama, research in Latin America into the effects of climate change on the mental health of children and adolescents remains limited given that, up to now, there is scant scientific evidence related to this phenomenon in the region, even considering that it is one of the areas most affected by climate change due to its geography and socioeconomic inequalities (Lawrance et al., 2022). The lack of research in the region thus reflects a lack of awareness of the seriousness of climate change's impact on Latin American children and adolescents (Turzáková et al., 2024).

From a public health perspective, however, it is urgent to conduct more research to understand the magnitude of climate change's effects on the most vulnerable communities in Latin America (Sharpe & Davison, 2022). The lack of studies in the region not only limits understanding of the psychological impact of climate change on key populations like children, adolescents and older adults, it also hinders the design of appropriate strategies for mitigating these effects.

Likewise, the lack of scientific research on the impact of climate change on mental health in Latin America prevents a clear assessment of the needs of these communities. This is concerning, since the region is one of the most affected by droughts, hurricanes and flooding (Hayes et al., 2018). The lack of data also makes it hard to identify vulnerable groups, which limits the response capacity of governments and international organizations (Ingle & Mikulewicz, 2020).

Furthermore, there is a clear shortage of investment in addressing the psychological impacts of climate change. Only a small percentage of government budgets in Latin America is allocated to mental health, and even less to specific climate change-related programs (World Health Organization, 2021). This lack of resources means that mental health infrastructure is not up to the task of meeting the growing demand for psychological care stemming from climate disasters (Clayton et al., 2017).

The lack of public policies addressing the link between climate change and mental health in Latin America is an urgent problem. Although some countries recognize the importance of climate change, few have developed policies that incorporate mental health into their adaptation and mitigation plans (Shukla, 2013). It is critical for governments to prioritize the creation of climate-resilient mental health programs that include training for professionals, psychological health care centers in vulnerable areas, and integration of mental health into disaster response plans (Hanna et al., 2010).

In this vein, systematic reviews and meta-analyses have provided a clearer view of the widespread effects of climate change on mental health, revealing consistent patterns in diverse regions and populations. For example, a meta-analysis conducted by Turzáková et al. (2024) concluded that there is a robust association between climate changes and adverse mental health outcomes. This mixed study found that people who live in areas repeatedly exposed to extreme climate phenomena, such as flooding and heat waves, are at higher risk of developing mental health disorders, such as anxiety, depression and post-traumatic stress disorder.

For its part, the systematic review by Khushi et al. (2024) evaluated the effects of climate change on childhood mental health globally, highlighting the lack of research in Latin America. Similarly, Hwong et al. (2022) indicated that although climate change affects mental health in all populations, there are large gaps in research methodologies (e.g., using longitudinal studies) that make it possible to understand the long-term effects on people displaced by climate disasters who are at greater risk of chronic psychological disorders. In addition, they emphasized the urgency of implementing global mental health policies adapted to climate crises. For their part, Léger-Goodes et al. (2022) concluded that ecoanxiety is a growing problem among children and adolescents, who are more vulnerable to developing anxiety, depression and feelings of helplessness due to constant exposure to environmental deterioration and future risks.

Finally, Sharpe and Davison (2022) conducted a review in low- and middle-income countries, concluding that climate disasters in these regions have a disproportionate

impact on childhood mental health. The review showed that children exposed to disasters like hurricanes or prolonged droughts experienced a high prevalence of post-traumatic stress disorder, with rates of up to 70% in some areas. A lack of access to mental health services was also identified, which exacerbates even further the psychological effects of climate change in these scenarios.

In this context, the objective of the present study was to explore the current state and the evolution of research into the effects of climate change on children and adolescents in Latin America. The questions that guided this research were: What is the impact of climate change on Latin American children, young people and adolescents? and What are the most relevant analytical themes that have characterized these studies to date?

Methods

A qualitative literature review methodology was used. Literature review studies focus on classifying and critically analyzing the main debates, concepts and documented evidence on a particular problem or field of study (Montero & León, 2007)—in this case, the impact of climate change on children and young people in Latin America.

The document search was conducted in the Web of Science, Redalyc, Scielo and Dialnet databases. The selection of these databases corresponded to a methodological strategy that combined both global and regional scope. Web of Science provided access to high-impact, international scientific publications, while Redalyc, Scielo and Dialnet offered coverage of Latin American scientific production, thus enabling the inclusion of studies that address the region's specific sociocultural contexts. This complementarity not only broadened the geographic and linguistic diversity of the sources, but it also ensured a multidisciplinary perspective (covering environmental sciences, health, education and sociology) to understand the multiple dimensions of climate change's impact on the population.

For the search equation, terms in both English and Spanish were used to reduce linguistic barriers and biases in the search (Amano et al., 2016); it was conducted by topic, and no restrictions by year, record type or area of study were applied. The equation was as follows:

- *In English:* ((«climate change*») AND («children*» OR «adolescent*» OR «youth*» OR «infants») AND («Latin America» OR «South America»))

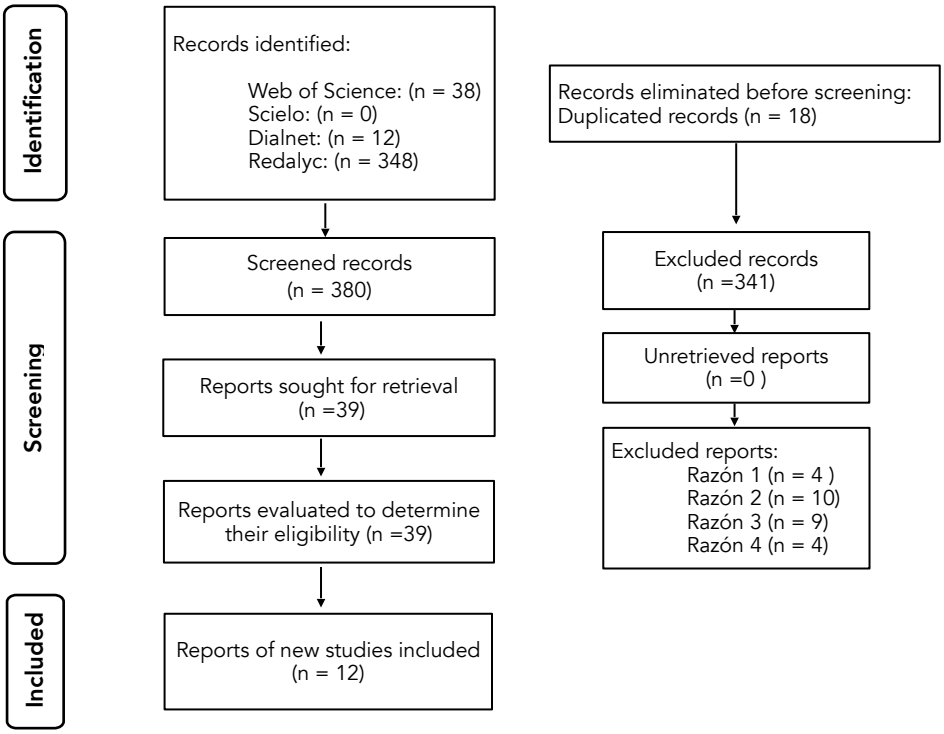
- *In Spanish:* («Cambio climático» AND (niños OR infancia OR adolescente OR jóvenes) AND (América latina OR Latinoamérica))

Bibliographic records were exported to analyze their suitability based on the following inclusion criteria: 1) empirical studies, either qualitative or quantitative, with no restrictions on methodological design, focused on climate change; 2) studies that included the populations of children, adolescents or young people; 3) studies focused on the Latin American context, whether by the geographic characteristics of the analyses performed or by the nationalities of the study participants; 4) studies written in any language meeting criteria 1, 2 and 3. The following were used as exclusion criteria: 1) studies that did not have any participation of children, adolescents or young people; 2) studies that did not include any Latin American country in their analyses; 3) studies that do not have climate change as a central topic or issue. Figure 1 shows the flow chart of identification criteria, screening and inclusion of the studies that were part of this review.

The included studies were analyzed using ATLAS.ti (version 24.0) software, which enabled categorization of the main concepts and findings, as well as analysis of the studies' thematic structure. The results are presented based on those categories.

Figura 1

Flow chart of identification criteria, screening and inclusion of studies



We began with a detailed reading of all the included studies to analyze the content and context. Then, we performed an open coding, identifying and labeling relevant text segments with descriptive codes. These codes were grouped in broader categories during the axial codification, exploring the relationships among them to identify subcategories and main themes. Finally, the codification matrix was filled in, focusing on the categories and themes most relevant to the study objectives.

The categories developed based on the grouped codes represent the main themes identified in the data. The thematic analysis was conducted using these categories, identifying patterns and interpreting the data in the context of climate change and its psychological effects.

Results

Following the process laid out in the methodology, Table 1 presents the main findings of the studies selected for the document review of the effects of climate change on children, young people and adolescents.

Table 1

List of reviewed articles

#	Article name	Authors	Year	Objective
1	*Climate impacts associated with reduced diet diversity in children across nineteen countries*	Niles *et al.*	2021	Analyze the link between climate change and diet diversity in children.
2	*Global projections of temperature-attributable mortality due to enteric infections: a modelling study*	Chua *et al.*	2021	Estimate the world mortality projection for temperature-attributable enteric infections in different future sociodemographic and climate change scenarios.
3	*The drivers of child mortality during the 2012–2016 drought in La Guajira, Colombia*	Contreras *et al.*	2020	Analyze the determinants of child mortality during the 2012–2016 drought in La Guajira, Colombia.
4	*The 2023 Latin America report of the Lancet Countdown on health and climate change: the imperative for health-centred climate-resilient development*	Hartinger *et al.*	2024	Analyze the relationship between climate change and health in Latin America.
5	*Overview of invasive fungal infections in children in South America – the threat of resistant Candida species and the role of climate change in the new geographic distribution of endemic systemic mycosis*	Fonseca	2024	Estimate the invasive fungal infection load in children in South America and its relationship with climate change.
6	*The legacy of natural disasters: The intergenerational impact of 100 years of disasters in Latin America*	Caruso	2017	Analyze the long-term effects and intergenerational transmission of exposure to natural disasters by children in Latin America the last 100 years.
7	*The association of maternal exposure to ambient temperature with low birth weight in term pregnancies varies by location: In Brazil, positive associations may occur only in the Amazon region*	Requia *et al.*	2022	Analyze the link between low birth weight (LBW) and maternal exposure to environmental temperature in South America, Brazil.

8	*Exposure to particulate matter and ozone, locations of regulatory monitors, and sociodemographic disparities in the city of Rio de Janeiro: Based on local air pollution estimates generated from machine learning models*	Kim *et al.*	2024	Analyze the sociodemographic variations in exposure and information on air pollution in Rio de Janeiro, Brazil from 2012 to 2017.
9	*Let's take care of the water: Social representations in preschoolers*	Riquelme-Arredondo *et al.*	2024	Understand the social representations of water care in children who attend a kindergarten in Santiago de Chile.
10	*Crisis ecológica global y educación desde la perspectiva de las juventudes*	Aránguiz & Sannzzaro	2024	Understand the role of formal education in the ecological crisis and the transition to sustainable societies from the perspective of young people in Latin America.
11	*Climate shocks and human capital: The impact of the natural disasters of 2010 in Colombia on student achievement*	Valencia	2020	Analyze the impact of the climate shocks in Colombia that happened in 2010 on school performance based on Saber 11 test results (2010–2012).
12	*¿Cómo educar sobre la complejidad de la crisis climática?*	González *et al.*	2020	Explore the role of education on climate crisis and climate change based on integration of scientific, political and social aspects.

Impact of climate change on children, young people and adolescents

The text analysis reveals that the effects of climate change on children, young people and adolescents are multidimensional and significant. These effects can be categorized in five main areas: physical and mental health, socioeconomic vulnerability, education and opportunities, and environmental impacts.

Physical and mental health

This category covers direct and indirect impacts on physical and mental integrity in the development of children, young people and adolescents. The impacts on physical health are worrying, first of all, in terms of diseases and injuries. It is estimated that children suffer more than 80% of the illnesses, injuries and deaths attributable to climate change, due to events such as extreme heat, droughts and natural disasters (Aránguiz & Sannzzaro, 2024; Caruso, 2017; Kim et al., 2024).

Childhood malnutrition is a significant effect of climate change linked to the decrease in precipitation and to droughts, which affects food security and diet diversity (Fonseca, 2024; González et al., 2020). In addition, climate change has a negative impact on the mental health of young people and adolescents, manifesting as anxiety, depression and post-traumatic stress disorder, especially following extreme climate events. In children, these effects are intensified in cognitive development, compromising their learning capacity and growth (Fonseca, 2024; González et al., 2020; Hartinger et al., 2024).

Socioeconomic vulnerability

This finding relates to the pre-existing socioeconomic conditions that interact with climate impacts, creating or exacerbating disadvantages for children, young people and adolescents. Socioeconomic vulnerability determines not only the initial exposure to climate risks, but also the capacity for recovery and long-term adaptation, creating a cycle that can perpetuate and deepen existing inequalities.

Inequality is one of the main vulnerabilities in terms of climate change. Low-income young people in countries of the Global South face a greater risk of suffering from its adverse effects, creating a "double injustice" where the most vulnerable are the most affected (Contreras et al., 2020; Chua et al., 2021). Further, poverty and the lack of access to essential resources limit these young people's capacity for adaptation, increasing their vulnerability (Niles et al., 2021; Requia et al., 2022).

Education and opportunities

This category covers the impacts of climate change on young people's access to education and both personal and professional development opportunities. The interruption of education and limitation of opportunities due to climate change can have long-term effects on personal development, social mobility and young people's ability to contribute to sustainable solutions.

The environmental crisis can have serious implications for the right to a high-quality education. This impact is particularly severe for young women, who face additional barriers in access to education (Riquelme-Arredondo et al., 2024; Valencia, 2020).

Environmental impacts

Environmental impacts are changes in the natural environment caused or intensified by climate change. This category analyzes the direct and indirect influence of these changes on children, adolescents and young people, considering both their immediate consequences and their long-term repercussions for quality of life and well-being. These impacts not only compromise the current health and well-being of the youth population, but they can also disturb the ecosystems on which they depend for subsistence and future development (Aránguiz & Sannzzaro, 2024; Caruso, 2017; Chua et al., 2021; Niles et al., 2021).

Activism and leadership

Climate change has been the catalyst for an unprecedented phenomenon of youth activism, positioning young people as critical change agents in the political and social

spheres. This upsurge is due in large part to the perceived emergency felt by young people and adolescents who are facing a future directly threatened by climate impacts. Awareness of the magnitude of the problem and the inadequacy of current actions has driven many young people to take on leadership roles in global movements, in international forums and by pressuring decision-makers to implement more ambitious climate policies (Aránguiz & Sannazzaro, 2024; Hartinger et al., 2024). A trend of excluding young people from decision-making processes on climate policies has also been observed, which limits their ability to have influence over their own future and on the mitigation and adaptation strategies (Hartinger et al., 2024; Valencia, 2020).

However, this activism also reflects a deep frustration and anxiety among young people, stemming from the perception that prior generations and current leaders are not acting with sufficient speed or effectiveness to mitigate the climate crisis. This situation has led to a redefinition of youth leadership on environmental issues, characterized by a more direct, global focus that is backed by social media and technology. Despite the above, this activism faces significant challenges, such as the exclusion of young people from formal decision-making processes, resistance to change by entrenched power structures and the emotional exhaustion that can result from the constant struggle against a crisis of such magnitude (Contreras et al., 2020). In this vein, Table 2 presents a differentiated summary of the climate change impacts addressed by the selected studies.

Table 2

Differentiated impact of climate change by population group

Impact	Children	Adolescents	Young people
Physical and mental health	Greater vulnerability to climate-related diseases (diarrhea, malaria). Risk of malnutrition due to food insecurity.	Anxiety and stress linked to climate change. Post-traumatic stress disorder following extreme climate events. Risks of injuries in open air work. Reproductive health problems.	Impact on cognitive development. Increase in mental health problems (anxiety, depression).
Socioeconomic vulnerability	Greater risk of poverty due to the loss of family livelihoods.	Diminished access to formal employment opportunities.	Forced migration due to adverse climate conditions. School dropout to contribute economically to the family.
Education and opportunities	Interruption of education due to natural disasters.	Limited access to the education system, particularly for women.	Limited access to the education system, especially for women. Reduction in the quality of education due to damaged infrastructure.
Activism and leadership	Early development of environmental consciousness.	Limitations on political participation. Development of communication and organization skills. Environmental leadership.	Exclusion from decision-making on climate policies, limiting their ability to have influence over their future. Emergence of youth leaders in climate negotiations.

Based on the above, the following is a proposal targeted to the establishment of relevant fields of study, as a scenario of opportunity for analyzing the effects of climate change on Latin American children and young people.

Key fields of study on the effects of climate change on the population

Studying the effects of climate change on the human population involves diverse interconnected fields, each of which addresses critical aspects of this multifaceted, global challenge. In the area of public health and climate epidemiology, researchers examine how changes in climate patterns directly and indirectly affect human health (Fonseca, 2024; Hartinger et al., 2024).

The climate crisis has exacerbated food insecurity in Latin America and the Caribbean, as seen in an increase in undernourishment. Water scarcity has become an urgent problem in arid and semi-arid regions where climate change increases the frequency and severity of droughts (Contreras et al., 2020; Chua et al., 2021). This is related to an increase in morbidity and mortality due to extreme climate events, such as heat waves and floods, as well as changes in the distribution of infectious diseases. In addition, the impact on mental health is studied, recognizing that climate change affects not only physical health, but also the psychological well-being of populations (Contreras et al., 2020).

Environmental education and climate literacy emerge as essential fields in the response to climate change. Researchers focus on developing educational curricula that incorporate knowledge of this issue, its causes and its consequences. Innovative teaching methods are explored for fostering critical thinking and climate action, evaluating the effectiveness of different educational approaches in the promotion of sustainable behaviors (Aránguiz & Sannzzaro, 2024). Climate justice and social vulnerability constitute another field of analysis that examines the unequal distribution of climate change impacts. Some studies focused on factors such as poverty, discrimination and the lack of access to resources that increase the vulnerability of certain groups to climate change (Contreras et al., 2020; Niles et al., 2021).

Effective climate governance requires a fundamental transformation in decision-making structures, particularly in regard to the inclusion of young people (Aránguiz & Sannazzaro, 2024). The creation of long-term spaces for power sharing and the incorporation of diverse viewpoints in the design of climate policies are imperative for equita-

bly and sustainably addressing the climate crisis. This inclusion must be accompanied by the development of transformative capacities, implemented through educational programs targeted to climate justice and grounded in local contexts. These initiatives are critical for training young people in national and regional policymaking, ensuring that their contributions are substantive and effective. Further, adequate financing arises as a critical factor for supporting the inclusion and real participation of young people, thus ensuring that climate policies are both effective and fair.

Despite progress in climate change policymaking, significant challenges persist in planning and implementing the policies, especially at subnational levels. This is evident in countries with federal political structures like Argentina and Brazil, where political will and cross-sector collaboration are identified as defining factors for progress. The complexity of these challenges is amplified when the multifaceted impacts of climate change on public health and the economy are considered. Climate policies must, therefore, be comprehensive and well planned to mitigate these effects, recognizing that the transition to clean energies can offer significant collateral benefits to public health and sustainable economic development (Chua et al., 2021).

The success of climate change mitigation and adaptation strategies depends largely on public and political commitment. More robust involvement from key societal actors, including governments and corporations, is required for effectively addressing the intersection of health and climate change. This commitment must be demonstrated in more inter-connected and collaborative policies that recognize the interdependent nature of these global challenges.

Main challenges

Climate change represents an unprecedented threat to current and future generations, especially affecting children and young people. However, research and policies on this issue face critical challenges that limit understanding and response capacity (Sanson et al., 2019; Sanson & Bellemo, 2021; Sanson & Masten, 2024).

Despite growing recognition of young people's vulnerability to the impacts of climate change, specific research in this area continues to be limited. While there is consensus in the scientific community about the susceptibility of this demographic group, literature directly addressing their experiences and specific needs is scarce. This gap in the research hinders development of mitigation and adaptation strategies suited to this sector of the

population, especially in the global south of America (Aránguiz & Sannzzaro, 2024; Caruso, 2017; Kim et al., 2024).

A significant challenge in this research is its tendency to focus on a privileged segment of the population. This bias leads to the systematic exclusion of the perspectives of low- and middle-income communities, as well as of marginalized groups. As a result, a biased and limited understanding of how climate change affects diverse segments of the youth population is produced, which can lead to the formulation of inappropriate policies or those that are insufficient for addressing the needs of the most vulnerable groups (Contreras et al., 2020).

Intergenerational justice, though central in the rhetoric on climate change, is not adequately addressed in sustainability studies. This omission leads to inadequate incorporation of the concerns of future generations into the planning and implementation of current policies (Aránguiz & Sannazzaro, 2024). The lack of a robust intergenerational approach in the research limits the ability to develop long-term strategies that protect the interests of future generations.

Current research methodologies often do not adequately consider young people's subjective, everyday knowledge, instead prioritizing scientific knowledge. This approach can lead to policies that fail to reflect the realities and needs of young people, who are frequently seen as passive recipients rather than agents of change. The integration of more inclusive and participatory methodologies is critical for capturing the diversity of youth experiences and perspectives (Hartinger et al., 2024; Valencia, 2020).

In short, the limited participation of young people in the production of knowledge and decision-making on issues that directly affect them is a significant challenge. This lack of inclusion translates to inadequate representation in research processes and climate policymaking. Limited youth participation not only undermines the legitimacy of the resulting policies, but it also squanders the innovative potential and perspective that young people can contribute to the fight against climate change.

Discussion

The results of this study suggest that climate change has a significant and multidimensional impact on children and young people in Latin America. In line with previous studies, it was found that the effects include physical and mental health, socioeconomic vulnerability, access to education and environmental impacts. These dimensions reveal

the urgent need to propose integrated strategies that address both immediate and long-term effects, especially in contexts of high social vulnerability.

In terms of physical and mental health, the results confirm what is found in prior studies (Fonseca, 2024; Niles et al., 2021), where it is noteworthy that more than 80% of climate change-related diseases and deaths affect children and young people. Droughts and the decrease in food security are directly linked to an increase in malnutrition rates, which compromises children's cognitive development; further, mental health disorders, such as anxiety and post-traumatic stress, arise as critical problems, exacerbated by exposure to extreme climate events (Caruso, 2017; Hartinger et al., 2024).

Previous review studies back our findings. In this regard, Laborde et al. (2015) indicate that the increase in environmental pollution in Latin America, the product of industrialization processes and rapid urbanization, have marked adverse impact on children's health, related to air and drinking water pollution, exposure to toxic substances and climate change (Laborde et al., 2015). In addition, Jassal (2015) notes that high levels of environmental pollution in countries with accelerated patterns of industrialization and urbanization have increased the prevalence of chronic childhood diseases, especially asthma. The author emphasizes a strong relationship between exposure to growing sources of urban atmospheric pollution and the inflammation of respiratory pathways associated with pediatric asthma, with a marked increase in asthmatic symptoms in Latin America.

In terms of socioeconomic vulnerability, the findings agree with other, previous studies (Contreras et al., 2020; Chua et al., 2021), which suggest that low-income young people in Latin America face a double injustice. Poverty not only increases their initial exposure to climate risks, but it also limits their adaptability. This situation perpetuates a cycle of disadvantages that exacerbates pre-existing inequalities, highlighting the importance of policies that prioritize the most vulnerable populations in mitigating these effects.

In terms of education and opportunities, the results show that climate change interrupts access to high-quality education, especially for young women. This confirms the findings of Riquelme-Arredondo et al. (2024) and Valencia (2020), who indicated that natural disasters could affect education infrastructure, limiting access to opportunities for young people. In addition, a systematic exclusion of young people from decision-making processes was observed, which limits their ability to influence the climate policies that will affect their future (Hartinger et al., 2024).

The challenges identified in the research and attention to the impact of climate change on children and young people highlight the urgent need to develop more inclusive, intergenerational and participatory approaches. It is important to recognize the active role of young people as change agents and not only as passive recipients of policies. The effective incorporation of their voices, experiences and knowledge in policymaking and program development is critical for crafting more equitable responses to the climate crisis.

Nonetheless, this study presents a few limitations. First, the document review was exclusively focused on studies in specific databases, which could have excluded relevant studies not published on these platforms. Likewise, the geographic representation could have been biased toward some regions (Colombia, Brazil and Chile), which suggests the need to expand the scope of future studies to include more research from rural and indigenous areas.

Despite these limitations, the findings are very important for the design of public policies that contemplate climate justice and the inclusion of young people in decision-making. It is suggested that mitigation strategies should be sensitive to the needs of the most vulnerable, integrating intersectional approaches that address both the effects of climate change and social inequalities.

Finally, future research should address these gaps by promoting methodologies that capture the diversity of youth experiences and strengthen their participation at all levels of climate change-related decision-making. It is recommended that the role of youth activism in the fight against climate change be explored in greater detail, along with their potential for influencing regional policies. Further, it would be valuable to conduct empirical studies that address more specifically the differentiated impact between rural and urban communities, with a focus on the educational and socioeconomic barriers facing young people in Latin America.

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