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Using photovoice to explore Bolivian children's experiences of COVID-19

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Summary

Our capacity to facilitate the empowerment of children is dependent on our ability to understand their values and experiences. This study aimed to explore Bolivian children's experiences of COVID-19. This study used a participatory action research method, photovoice, which involved focus groups, individual interviews and the use of cameras by participants to capture their reality and express their ideas through photographs. Ten participants aged 12–15 years were recruited from a school in the municipality of Mecapaca in Bolivia. Thematic analysis was used to identify and report response patterns. Four themes were developed through analysis: (i) sadness and fear of getting sick, (ii) the challenges of online learning, (iii) the tension between traditional knowledge and modern medicine, and (iv) the role of nature and culture in supporting well-being—natural and cultural capital. The narratives and choice of images by the children illustrate some issues and experiences. These findings also highlighted the importance of considering and exploring how children's experiences and interactions with their habitat, nature and their physical environment impacts on their health and well-being.

Keywords: photovoice, children, well-being, Bolivia

INTRODUCTION

The impact of COVID-19 on children across the world is becoming an area of considerable research due to an increasing body of evidence of the unequal distribution of resources and support available to address the pandemic (Cuevas-Parra and Stephano, 2020; Singh *et al.*, 2020). In 2020, the Organisation for Economic Co-operation and Development (2020), reported that children, particularly those from disadvantaged regions and communities, do not stand on equal footing when it comes to coping with the economic and social effects of COVID-19. Factors such as growing inequality in parents' resources, access to employment and social support, create a profound gap in access to opportunities and experiences of the pandemic between children from different socio-economic backgrounds (Organisation for Economic Co-operation and Development (OECD), 2020).

A 2020 United Nations brief on the impact of COVID-19 on children described how schools' transition to online learning exacerbated the learning crisis among disadvantaged communities where children have traditionally been digitally excluded (United Nations, 2020). Research on the psychosocial impact of the pandemic on children has also shown that some elements related to the pandemic affected children in specific ways including separation from loved ones, loss of social interactions with friends and family, fear about the disease, and the feeling of helplessness (Saladino *et al.*, 2020; Ajanovic *et al.*, 2021). The quality and magnitude of impact on children, as pointed out by research on the mental health of children during the pandemic (Singh *et al.*, 2020), was determined by various factors including age, educational status, pre-existing mental health condition, socio-economic status, and family dynamics.

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School closures changed the way children learn and socialise (Plan International Australia, 2021; Woodland *et al.*, 2022). Both school closures, and subsequent abandonment of COVID-19 protections across much of the world impacted children's mental health and well-being (Lee, 2020; Sweeney, 2022). The pandemic has also exacerbated and shone light on the health inequalities. As described by Smith and Judd (2020), considerations of health equity and social justice principles need to stay at the forefront of the health promotion pandemic responses. It is also important to find creative pragmatic ways to reach vulnerable populations. Hence this study aimed to explore Bolivian children's experiences of COVID-19 using photovoice. In particular it asked: (i) what are the experiences of children after the nationwide lockdown in Bolivia and (ii) how have their lives been impacted by the pandemic?

METHODS

Study design

This study used focus groups and photovoice. Developed in the 1990s, photovoice provides the opportunity for vulnerable groups to participate in research by using photographs and discussing the images (Bisung *et al.*, 2015). The method is well suited to young people's needs as it allows them to tell their own stories as a creative and potentially empowering process. It provides space to amplify their perspectives, enables agency and fosters a sense of belonging (Liegghio and Caragata, 2021). Furthermore, Liegghio and Caragata (2021), have demonstrated how photovoicing is feasible in low-income settings.

Setting

The Plurinational State of Bolivia ('Bolivia') is one of the South American countries with the lowest expenditure in health per capita (Salazar and Rocha, 2022). Like most Latin American countries, Bolivia has high levels of poverty, inequality, and fragmented and deficient systems of social protection (Wanderley *et al.*, 2020). It also has one of the largest informal sectors in the world (it accounts for 62.3%) (Medina and Schneider, 2018) and one of the largest indigenous population (Bohoslavsky, 2020). Before the pandemic there was a lack of infrastructure, supplies and adequate health personnel. The pandemic emergency also overlapped with the political crisis triggered after the failed elections at the end of 2019 (Wanderley *et al.*, 2020). Schools were closed for several months due to social unrest during this time. Suring the pandemic school closures where one of the longest in Latin America (Ortiz-Correa *et al.*, 2021). This also resulted in no access to complementary food and breakfasts which are provided in schools (Castro, 2020). As of February 2023, Bolivia had 1.19 million cases and 22, 364 deaths (Johns Hopkins University and Medicine, 2023).

Mecapaca is a municipality of La Paz in Bolivia. In Mecapaca less than 10% (9.2%) of the inhabitants aged 19 and over have no level of education, never attended any formal education course. Out of every 100 homes in Mecapaca only 14 have a computer, 56 households have water and; 42 have basic sanitation facilities (Nuñez-Villalba *et al.*, 2017). The town where the school is based is part of the municipality of Mecapaca and its located 20 km away from La Paz (the administrative capital and commercial centre of Bolivia). Compared to La Paz, Mecapaca had less COVID-19 cases and deaths and a lower vulnerability index (26.4 vs. 49). The index measures the municipality's structural conditions and their sanitary capacity to face the pandemic (Acuña *et al.*, 2020). Due to limited internet access in the community in 2021 this school asked permission to the Bolivian Ministry of Health to re-open in February 2021. Biosecurity protocols were developed in consultation with parents and families, health centres and the local government. The students returned to the face-to-face modality in July 2021.

Participants and recruitment

Purposive sampling was used to identify participants aged between 12 and 16 years attending a school in the municipality of Mecapaca. The criteria for inclusion were: (i) students of all genders aged 12–17 years, (ii) living in the area, and (iii) able to communicate in Spanish.

Information about the project was provided by the science teacher. She advertised the study amongst the students and those that expressed interest in participating were given a participant information statement (PIS) to share with their parents. Potential participants and their parents were then invited to participate in a meeting at the school. At the meeting they were informed verbally about the aim of the study, provided with a printed PIS and a consent form in Spanish. Information on the nature and expectations of the study, including the potential risks and benefits of participation, and their right to refuse or withdraw from the study without consequences were also explained in Spanish by first author (GG) and supported by the science teacher as Aymara is the mother tongue for most of the parents.

Data collection

After participants agreed to take part in the study two group training sessions on ethical considerations in the research process and taking of pictures as well as technical use of disposable cameras was provided. Participants were directed not take photographs

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of faces to protect others' privacy unless the person gave consent to do so. To overcome the digital divide and lack of access to internet and devices (such as laptops) these sessions took place at the school during breaks. Participants were then given a disposable camera (with 27 exposures each) and were instructed to take photographs of what they felt best documented their experiences of the lockdown. Participants were told to take as many photos as they wanted. All cameras were retrieved after one week and photos were developed and printed (at no cost to participants). We then asked participants to choose two photos that best represented their perspective on the impact of COVID-19 on their lives and those of their community. These were used as a basis for discussion in follow-up individual interviews or focus group discussions (FGDs) based on students' availability.

Two FGDs and two individual interviews were facilitated by GG (first author and an experienced qualitative researcher) in October 2021. Participants presented their respective photographs and explanations. The discussion was guided by SHOWeD, a five-step questioning technique: (i) What do you See in this photograph? (ii) What is Happening in the photograph? (iii) How does this relate to Our lives? (iv) Why do these issues exist? (v) What can we do to address these issues? (Wang *et al.*, 1998). Along with presenting individual responses, as a group, the children worked together to support an analysis of individual responses identifying similarities and differences between group members in their considerations of their experiences with COVID-19. Analyses therefore focus on individual experience and collective experiences. After the analysis, a photo exhibition was organised at the school to share the photos with other students and teachers.

Data analysis

Each interview and FGD conducted was digitally recorded and fully transcribed in Spanish. Coding and analysis were conducted in Spanish to ensure cultural accuracy and prevent unintentional changes in meaning. This was done by second author (BC) and GG. Thematic analysis involved an iterative mix of inductive and deductive coding. Two members of the research team (BC and GG) independently read the interview transcripts and meet to discuss the development of themes. Microsoft Excel (version 16.51) was used to facilitate the systematic organisation of codes and themes developed from sustained comparative analysis of participants' accounts. Data were synthesised and a staged thematic content analysis was conducted by BC and GG (Charmaz, 2006). Selected photographs and quotes are included to illustrate how students expressed their perspectives.

Ethics

Ethical approval was granted by the Human Research ethics committees of the Australian National University (2021_346) and the University of Notre Dame Australia (2021-155S). Participation was voluntary and all participants parents provided written informed consent. Participants were given office supplies as a token of appreciation for their time. The guidelines of Cox *et al.* (2014), with respect to confidentiality and anonymity for ethical conduct in arts-based research were followed.

RESULTS

Eleven students consented to participate in the study and took part in the photovoice workshop. Of these only ten took photos they were aged between 12 and 15 years and eight were females (see Supplementary Table 1). The children in the study uncovered important issues and experiences about COVID-19 and the impact lockdown had on their lives and their communities. To illustrate the findings quotes were selected and pseudonyms given to the respondents. The following themes were produced:

1) Sadness and fear of getting sick.
2) The challenge of online learning.
3) The tension between traditional knowledge and modern medicine.
4) The role of nature and culture in supporting well-being—natural and cultural capital.

Theme 1. Sadness and fear of getting sick

One of the most recurrent feelings expressed by the children during the interviews was sadness. This sadness was the result of the realisation that the activities they used to do before and the world they knew was changing. There was also sadness and fear of losing their family members. Silvia, Amalia and Julian expressed this sadness through comments such as:

> *At the beginning I knew we wouldn't be able to go to school and my sister and we felt sad; my dad would not let us leave the house (Silvia, aged 11)*

> *I felt sad because we couldn't go out anymore, or to go and visit our grandparents, first my grandma died and this year my grandfather (Julian aged 14)*

Not being able to go to school or leave the house meant the loss of interaction with friends and classmates. All the children in the study expressed sadness about school closures as well as anxiety and concern they would fall behind in their studies. The disruption of their routines and the challenges of social isolation

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were overwhelming for some of the children, as well as the separation from family and friends. Mario's choice of the school in one of his photographs, was a reflection of how much he missed it:

I: Tell me about the first photo?
This is my school, that during the quarantine I could not go to school and I missed it a bit

I: A bit or a lot?
A lot, more or less…. my friends, yes (Mario aged 12)
I felt sad, partly because nothing was the same, to go out with family, with friends as well (Lina aged 15)

Children were sad about not being able to study anymore and some described they were concerned about 'missing out' or 'lagging' in their studies. However, they also came up with creative ways to learn. For example, one of the students decided to teach her younger sister. Silvia explains:

…….that we weren't going to study anymore, and we've been sad because... my sister just told me 'we're not going to be able to study anymore', so it was our turn... so we created a game like the teacher, we played that game with my sister... I couldn't read much, I couldn't write, but my sister knew how to write and all that... (Silvia aged 12)

The children also expressed fear about their family and grandparents getting sick. Grandparents are key figures in the lives of children and families in Bolivia. They perform important roles as economic contributors as well as carers and transmitters of traditional cultural knowledge (Bastia, 2009). The strong bonds between children and their grandparents were expressed by all the participants and the fear of them getting sick or dying was constantly raised by the children. The following comments illustrate this point:

We felt fear that something could happen to us, that is, fear that my grandparents could get the virus because we saw in the TV the first case in Santa Cruz...I felt sad because I was living with my grandparents and they were unwell and I was scared.. I cried a lot … but in the end nothing happened. (Carmen aged 14)

My grandfather is 85 and my grandmother 80, I cried a lot … but nothing happened … we always kept them here, at home, my grandparents so they wouldn't go out and get sick, because where we lived there were no biosecurity measures….nothing. (Amalia aged 14)

The fear of getting sick included not only concerns about catching the virus, but, more interestingly, some of the children interviewed, expressed anxiety and apprehension about the potential health impacts of getting vaccinated. The following comments illustrate this point:

No, No one in my family is getting the vaccine, we are all scared because they say that a lady who got the vaccine touched her flowers and got sick and then touched water and died and that is why my father and mother don't want the vaccines (Silvia aged 12)

They [grandparents] don't want (to get vaccinated) because maybe it can harm them because they are old, my great grandmother got sick from the vaccine, she could not walk, she got the vaccine on her birthday and now she can't move… and my mother also got sick (Mario aged 12)

Only my sister got the vaccine.
I: And you, are you getting vaccinated?
No
I: Is your family getting vaccinated?
Neither. We are scared of getting sick (Mario aged 12)

However, some students also wanted the get vaccinated and mentioned that their parents had already done so. Vaccination started in Bolivia in March 2021. At the time the data were collected vaccination of children was not approved in Bolivia.

Theme 2. The challenge of online learning

The introduction of online teaching was a challenge for the students as many of them did not have computers or access to the internet at home. Some of the children relied on their mobile data to access their lessons and also found it difficult to engage with teachers and classmates:

I: So there were no classes, and if there were some it was on the internet, or no classes at all?
No, only internet classes

I: Only internet. And did you have internet?
No, I have not been attending class, only once … my sister and I didn't have a cell phone (Silvia aged 12)
It wasn't the same, I didn't understand and it was not enough time and you couldn't ask the teacher if you didn't understand because the [internet] signal wasn't good (Lina aged 15)

I: Was it hard to learn virtually?
Yes, I thought so… It was also complicated to ask questions …I asked the teacher; I told the teacher I don't understand this, she wouldn't answer me because she said she had many messages and

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Fig. 1: Photograph by Mario feeding the animals. [Used with permission].

questions … and the memory in my cell phone will get full and so, that was the problem with the virtual teaching (Amalia aged 14)

Theme 3. The tension between traditional knowledge and modern medicine

Concerns about the use of vaccines were also followed by comments regarding the value of traditional remedies which some of the children believed were more effective in protecting them and their families against the virus. John explains how his grandparents recovered from COVID-19:

They [grandparents] recovered, but only with 'mates' [traditional herbal drink], just 'mates' … they would boil them in a pressure cooker, just herbs (Mario aged 12)

Another child explained why the community did not get sick from COVID-19:

Here people in general don't get sick… because here we all grow plants and use them to get cured. When my grandad got sick he cured himself with plants 'mates', honey, ginger, chamomile, garlic with ginger. (Ana aged 12)

During lockdown many of the children got involved in agricultural and gardening tasks helping their parents and grandparents. Several children took photos of these tasks, and this indicated a strong link with the land and agricultural tasks (see Figure 1). The following comments illustrate this:

I also went to feed the animals … and to help my grandmother in the farm pick up the flowers (Ana aged 12)

I have taken this photo because during the quarantine I went to feed the animals … they belong to my stepfather, his mother has a cow and I have taken this photo because before we also had animals in my grandfathers' farm and we used to grow aloe vera, chives, corn, broccoli… (Mario aged 12)

I like plants
I: And what did you think when you took this photo?
Well, the plants called me to water them… this helped me, I felt calm. This photo is in my house. I took it because this is the bucket I used to water my plant.
I: Now that the quarantine is over, do you keep watering the plants or you have less time now?
I keep watering them (Julian aged 14)

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Fig. 2: Photograph of a landscape. [Used with permission].

Theme 4. The role of nature and culture in supporting well-being—Natural and cultural capital

Farming tasks such as feeding the animals, or watering the plants gave the children an important source of support and cultural activity during the pandemic. Closely related to the previous theme on the use and understandings of plants and farming practices, the children in the project, demonstrated in their choice of photos, nuanced interactions among nature, culture, and well-being. The term 'Natural capital' refers to the natural assets which include geology, soil, air, water and all living things (Talmage *et al.*, 2022). And cultural capital to the accumulated knowledge, traditions and practices as well as agricultural techniques, the community uses to support their well-being and livelihoods (Talmage *et al.*, 2022).

The availability of social and cultural interactions with natural resources such as mountains (see Figure 2), valleys, lakes and animals provided the participants with important resources to sustain them during the pandemic lockdowns as the following comments regarding their choice of photographs indicate:

I: Why did you take this photo? Tell me.
Because it was like a paradise, for me... because there are only hills, mountains and all those things and I told my sister 'I'm going to take a picture of this' and she 'I'm going to take it too', she told me... (Silvia aged 12)

The land is very large and I have a doggie, chickens, rabbits, rabbits with big ears...
I. And in the quarantine, what did you do that was different?
John: I fed them
I: And did you like it, did you enjoy it?
John: Yes, playing with my pet rabbit just like a Limachi … Yes, I was happy because my grandfather also lives there (Mario aged 12)

The links between natural capital and social capital is evidenced in the interactions with parents and grandparents who provided the children with skills, cultural knowledge about care of the land and environment and emotional support. These interactions highlight the interconnectedness of family,

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community, and nature. Some of the families relied on the sale of agricultural products for their daily living and the restrictions and forced isolations impacted on traditional forms of livelihood including farming and selling/exchanging products at vegetable markets, which had an economic and social impact on the children and their communities. Through cultural capital including strong community leadership and organization, new strategies were introduced to support the families (see Figure 3), as the comments below indicate:

> *My parents, there was no work, we didn't know what to do... then the community members held a 'feria' (market), we sold fresh produce and food (Silvia aged 12)*

> *The communities gathered and talked and they set up like this 'feria' (market)…… At first it was empty but then people began to arrive and more people came from all the communities … and they also wanted a stall in the market. Because it was like that, whoever arrived sat where they wanted and sold but now stalls are built and they are all the same size and they gave them to people and other people came from other places. (Lina aged 15)*

Cooperation and collective action among families and community members allowed them to implement solutions and activate mechanisms to ameliorate the impact of the restrictions and device solutions to continue selling and exchanging products with other communities.

DISCUSSION

This study aimed to explore Bolivian children's experiences of COVID-19. The narratives from the children in this study highlighted some important ways in which the COVID-19 pandemic impacted on children's lives as well as the resources and forms of capital used to ameliorate its impacts. The narratives and choice of photos illustrate some issues and experiences that share some commonality with children across the world—particularly children in low and middle-income countries including issues around



Fig. 3: The market 'feria'. [Used with permission].

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psychosocial impact of extended school disruptions and loss of income and economic security of their parents

Sadness and fear of getting sick

Similarly, to findings in our study, Thompson *et al.*, (2021), in the United Kingdom (UK) identified sadness as a common feeling experienced by the children as a result of their inability to see, play and hug friends and relatives as they used to. They also expressed deep fears and anxieties about the pandemic including getting sick or losing people they love, as well as not knowing when life would go back to normal, particularly school where most of their social life and interactions take place. Despite these negative experiences, the study also found that the children experienced some positive impacts such as spending more time with the family and outdoors (Thompson *et al.*, 2021).

The fear expressed by the children regarding them or their families getting COVID-19 was a common experience for all the participants in our study. Research on children and COVID-19 has identified fear and stress as a common symptom on children across the world (Larcher *et al.*, 2020; Ajanovic *et al.*, 2021; Stephenson, 2021; Goldfeld *et al.*, 2022) and often exacerbated by false and misleading information in the media and social channels (Ares *et al.*, 2021). This was particularly critical in Bolivia where disinformation was contaminated by politics (Steinbach Méndez and Hurtado Calderón, 2021) The disbelief of many people about the severity of the pandemic and the political conflict created an atmosphere of violence and mistrust in the government (Steinbach Méndez and Hurtado Calderón, 2021). Belief amongst informal workers included that the temperature, the solar rays and the altitude would slow down the virus and that the policy of confinement implemented by the interim government was excessive (Morales, 2020).

For the children in this study, one of the biggest fears was the loss of grandparents to the virus. This highlights an important finding in the study which is the central role grandparents play in the lives of children and the interconnectedness of family, community, and nature in communities with strong indigenous heritage and culture. As described by Sánchez et al. (2019), about family and resilience in indigenous culture older people are central to key social, economic and cultural interactions with their grandchildren and the community through their knowledge and management of the land and the environment.

Challenges of online learning

The children in our study also described how difficult it was to learn online. Not only due to the lack of access to appropriate devices but also internet. This is not unique to children in rural areas of Bolivia. A study of primary school children in public schools in La Paz found that lack of connectivity and devices are part of a large problem that highlights the educational and social inequalities in Bolivia (Vera Zegarra, 2022). According to a 2020 report by UNICEF 75% of households with children enrolled in public education in Bolivia did not have access to internet at home during the pandemic (Ortiz-Correa *et al.*, 2021).

The tension between traditional knowledge and modern medicine

The knowledge and use of traditional medicine by children and their families in this study needs also be understood within a framework of ecologies of practice; that is complex relationships with nature, the habitat, cultural knowledge and practices and historical relationships with the state. One of the legacies of colonization of indigenous communities across the world includes a deep-seated mistrust by indigenous populations of the state and its institutions including medical agencies (Howard-Bobiwash *et al.*, 2021; Rieger, 2021; Graham *et al.*, 2022). Some of the children in the study made explicit references to what they and their communities perceived as the negative impact of vaccinations including higher risk of illness and death. They attributed the death of family and community members to the vaccines illustrating this perceived fear and mistrust of western medicine. An implication of this finding is that better communication and culturally appropriate information and engagement with children and communities would be required to dispel misinformation regarding the use and impact of vaccines. Vaccine hesitancy is high in Bolivia and disinformation rampant via social media (Moran Avila *et al.*, 2021).

The use of traditional remedies and practices were on the other hand considered safe and reliable. This finding points to the well documented research on the value of integrating traditional medicine with western medical knowledge through cross-cultural dialogue and mutual respect. The 2007 adoption of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (United Nations, 2007) affirms the rights of indigenous peoples to their traditional medicines and health practices, and the research reinforces the importance of understanding the role traditional medicine beliefs and practices play in children's responses to the pandemic. In many rural communities in Bolivia, medicinal plants play a strong role in the treatment of health ailments and there are specific roles grandparents play in transmitting this knowledge. Indigenous plants are used extensively in the treatment of illness. Knowledge about the curative properties

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of plants is passed down the generations (Proyecto Regional Andino (PRA), 2020). A potential implication of this finding relates to the development of educational programs that respect Indigenous knowledge of health practices so that children have access to their cultural knowledge in addition to mainstream health information.

The role of nature and culture in supporting well-being—Natural and cultural capital

Our study also highlights the unique experiences and accounts of the manner in which COVID-19 changed the lives of the children, their communities and their habitat. The narratives and choice of photos draw attention to a complex and poorly explored area in health promotion and social research regarding the social ecological context of children's experiences; that is the interconnected, fluid and organic set of relationships, interactions and transactions that take place among children, their families, communities, and their habitat (Singh *et al.*, 2020). The role of nature in supporting children's well-being through social, cultural and physical interactions with nature, people and animals highlights another important finding of the study. As the comments from the children illustrated, nature and cultural capital including access to natural environments, and relationship with people and animals in these environments provided them with support, cultural knowledge and a sense of well-being. There is strong evidence from research on children and COVID-19 around the world that nature deprivation under the pandemic lead to diminished well-being of children in high density urban areas (Talmage *et al.*, 2022). This finding reinforces the importance of future research on public health policy planning to consider the role of nature connectivity in children well-being and the potential of local nature contact to support individual well-being in a background context of emotional distress and social isolation (Talmage *et al.*, 2022). Understanding the complex interaction between natural and cultural capital evidenced in the complex interactions and practices around the environment, nature and culture can help us better understand the sources of resilience among children as well as the challenges the pandemic presented in their lives.

The decision of the community to get together and find common solutions to the economic threats posed by the pandemic by designing and implementing a 'feria' to sell and exchange products is also an important finding in the study. It highlights two important points. One is the manner in which COVID-19 restrictions exposes the vulnerabilities disadvantaged communities with precarious employment face, particularly in countries like Bolivia, where approximately 60% of the population are employed in the informal sector (Navia, 2020). The second point is the capacity and resilience of communities to find solutions and resist imposed narratives of dependency and inability to self-manage. The 'feria' set up during the pandemic is evidence of a tradition of solidarity economy movement (Kumpuniemi, 2019). Through the 'feria', the community was able to sell and exchange their products and ensure access to funds to sustain them during the pandemic. These strategies reinforce other research on indigenous communities across South America during COVID-19 which has highlighted examples of use of cultural capital, traditional links to the land and environment and history of self-reliance and reciprocity to meet the challenges brought up by the pandemic (CEPAL, 2021). A compilation of Indigenous people (Quechuas y Aymaras) of the Bolivian Andes stories highlighted that solidarity among communities was a response to what was seen as the ineffective government measures in place (Gonçalves and Chambi Mayta, 2021) For the children in this study, being part of these activities provided them with an important lesson on community self-reliance and local based solutions in the absence of state protection and support. It also gave them agency to see themselves as active agents working with their communities to address needs and support each other.

Strengths and limitations

The transferability of the study findings may be limited due to the characteristics of the setting. Nevertheless, this study provides a unique contribution. It is important to explore the different concerns and experiences of children from diverse countries and socio-economic contexts. Children's individual, interpersonal, institutional, community, and public policy factors played a role in shaping their understanding of the pandemic and the way it has impacted on their lives.

CONCLUSIONS

The findings from this study highlight the importance of considering and exploring how children's experiences and interactions with their habitat, nature and their physical environment impact on their health and well-being. Public health responses (including campaigns, educational initiatives, and policy) should consider children's lived experiences of COVID-19. Children's narratives highlighted what is unique and different about the impact of the COVID-19 pandemic within a socio-ecological context marked by a complex web of traditional indigenous values alongside contemporary standards, nuanced interactions with nature and the environment and a history of community self-reliance.

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Supplementary Material

Supplementary material is available at *Health Promotion International* online.

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ETHICS

This study received approval by the Human Research ethics committees of the Australian National University (2021/346) and the University of Notre Dame Australia (2021_346).

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