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Bored, afraid, alone

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Bored, afraid, alone: What can we learn from children with paediatric obesity about the impact of the COVID-19 pandemic for future pandemics, care practices and policies?

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ABSTRACT

Purpose: The aim of this study was to gain insight into the perspectives of children with paediatric obesity themselves, during the pandemic and afterwards, regarding their wellbeing and health, and to solicit their advice on tailoring obesity care to match their daily realities.
Design and methods: We used a 'draw, write and tell' interview technique, conducted walk-alongs, participant observations and a group session with children with paediatric obesity from seldom-heard communities in Amsterdam, the Netherlands. Data was analysed using reflexive thematic analysis.
Results: Children reported that during lockdowns they were confined to the house, causing them to feel bored and alone. This triggered them to fall into previous unhealthy patterns, such as an increase in sitting on the couch or lying in bed, gaming or watching TV, feeling hungry a lot and eating more. Some children experienced major events, such as mourning the death of a loved one or taking care of other family members, and thus felt they had to grow up fast.
Conclusion: Our study adds to our understanding of the mechanisms of the impact of the COVID-19 pandemic from the perspectives of children with paediatric obesity from seldom-heard communities and emphasizes the importance of considering how the pandemic (and related measures) affected the daily – as well as future – lives of children in vulnerable circumstances.
Practical implications: The recommendations children gave could be explored as pathways for more child-centred, successful and tailored obesity care practices and policies in order to support their (mental) wellbeing and health.
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Introduction

The number of children and adolescents with paediatric obesity worldwide has risen tenfold in the past four decades (World Health Organization, 2023a, 2023b). To date, there has been limited to no progress to halt its rise. On the contrary, the prevalence of obesity in children is still increasing in high-, middle- and low-income countries (Dolley et al., 2023). Hauerslev et al. (2021) project that by 2030, 254 million children will be obese. Increasing structural imbalances in dietary patterns, such as the intake of high-calorie, carbohydrate-rich and energy-dense foods, and a decrease in physical activity prompted by the sedentary nature of many forms of work, school, entertainment and social interactions, are given as explanations for this steep rise (Seidell & Halberstadt, 2020; Yalanis, 2023). This knowledge is increasingly being supplemented by more critical explanations as to how living environment and structural inequalities jeopardise health and behaviour (Buoncristiano et al., 2021; Fismen et al., 2021; Musić Milanović et al., 2021; Rankin et al., 2016). Being overweight in childhood and adolescence is a strong predictor of adult obesity. This poses serious short-

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[1] Arnoud Verhoeff and Christine Dedding made equal contributions as promoters to this manuscript. Lieke van Houtum acted as supervisor.

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and long-term physical and psychological threats, including type 2 diabetes, cardiovascular diseases, increased mortality, premature death, disability and mental health problems (Simmonds et al., 2015; Llewellyn et al., 2015; Ling et al., 2022). Studies also report that paediatric obesity contributes to an increase in social problems and adversely affects children's and adolescents' school performance (Ling et al., 2022;Patterson et al., 2021; Rundle et al., 2020). Paediatric obesity is also more pronounced in populations living in vulnerable conditions, such as children whose parents are migrants, are unemployed or lack a social network, and children who do not live with both biological parents (Iguacel et al., 2018).

The COVID-19 pandemic and its associated mitigation measures, such as homeschooling and social distancing, negatively affected the health and wellbeing of many children (Bhattacharya et al., 2021; Browne et al., 2021). Studies report loss of motivation for health education and lifestyle interventions, a decrease in exercise, an increase in unhealthy diet and eating habits, disturbance in circadian rhythm, an increase of mental and social problems, and significant weight gain (Patterson et al., 2021; Rundle et al., 2020). Due to the pandemic, children lost access to school life; in normal situations, school improves children's physical and mental fitness through mandatory physical activity and interaction with peers (Bhattacharya et al., 2021). In addition, studies report that obesity was associated with high mortality and comorbidity due to COVID-19 in adolescents (Nogueira-de-Almeida et al., 2020; Zhang et al., 2020).

The aforementioned negative effects of the COVID-19 pandemic are mainly reported from the perspectives of adults, such as government officials, public health organisations, educational institutions and health care professionals (Almandoz et al., 2020; Bhattacharya et al., 2021; Browne et al., 2021; Dalamaga et al., 2021). So far, the perspectives of children have not been included. This goes against their rights, as children have the right to give their opinions freely on issues that affect them, and should be taken seriously, as stated in the Convention on the Rights of the Child, e.g. Articles 12, 13 and 14 (UNICEF, 1990). It is also a missed opportunity to collectively learn about the impact of the pandemic, and what adults might have overlooked or underestimated. Social science research has shown that children, even young children, are knowledgeable about their own bodies and lives, and offer a unique and relevant perspective to improve care practices and policies (e.g. Alderson, 1992; Christensen & Prout, 2002; Dedding et al., 2022; van Leeuwen, 2014; Lems et al., 2019; Aussems et al., 2020). These scholars argue that the starting point is to invite children as knowledge bearers, as experts and agents of change, in order to understand their social reality and develop policies and practices that fit their needs and circumstances.

The aim of this current study was to gain insight into the perspectives of children with paediatric obesity themselves, during the pandemic and afterwards, regarding their wellbeing and health, and to solicit their advice on tailoring obesity care to match their experiences and daily realities. We view children and adolescents as strong, powerful and rich in potential and resources, in line with the Reggio Emilia Approach; or as Malaguzzi (1993) said: “All children are intelligent, all of them”. To understand children's perspectives, it is essential to provoke ‘deep thought’ and reflection about their experiences (Rinaldi, 2013). By *contextualising* their real-life situations, we can better understand the full complexity of their problems, the impact these problems might have on their lives, and how to deliver better (preventive) care. While the data was collected during and shortly after the COVID-19 pandemic, we believe the findings may provide critical insights for care and care policies beyond the COVID-19 pandemic itself. We argue that they can also offer a valuable starting point to reflect on what children and young people with obesity need in order to mitigate the longer-term consequences of this and future pandemics. The aim of this study was twofold: (1) to gain insight into the perspectives of children with paediatric obesity during the pandemic and afterwards, and (2) to solicit their advice on tailoring obesity care to match their experiences and daily realities. We purposefully focused on children living in seldom-heard communities, as they face higher risks for health and social inequities.

Methods

This small Participatory Action Research (PAR) study was part of a larger study, in which we work together with children and young people with paediatric obesity as knowledge-bearing experts and agents of change in research and care.

Setting

In Amsterdam, a city-wide, local-government-led system approach, called the Amsterdam Healthy Weight Approach (AHWA), has been developed to address the complex problem of paediatric obesity. The aim of AHWA is to transform the local environment in order to provide the optimal conditions for healthy patterns of diet, sleep, physical activity and sedentary behaviour among children (Sawyer et al., 2021). An important part of this approach is the integrated care for children with obesity, which means a city-wide, local-government-led initiative aimed at achieving a healthy weight for children in a healthy environment (UNICEF et al., 2020). In Amsterdam, integrated care for children with peadiatric obesity is provided by youth health care (YHC) nurses in the role of coordinating professionals (CP). In this role, YHC nurses coordinate care around all children with obesity and provide support in making lifestyle changes (cf. de Laat et al., 2019; Koetsier et al., 2021). In this study, we focused on the district of Amsterdam Southeast. This area has the highest prevalence of paediatric obesity in the whole municipality of Amsterdam, and the situation is often complicated by the low socioeconomic position of the families involved and lack of a safe environment. Amsterdam Southeast is where the largest number of drug-related and firearms homicides occur nationwide in the Netherlands (cf. Krüsselmann et al., 2021). The community is diverse, with people from a broad variety of non-Western cultural backgrounds.

Participants and recruitment

Recruitment was done at the Parent and Child Team location connected to the district authorities of Amsterdam Southeast. Children aged 6 to 13 years who were willing to share their experiences were recruited by the researcher (SC), who also works as a CP in paediatric obesity care in the district. During health consultations at the Parent and Child Team location, children and their parents were asked to participate. The participants were predominantly primary school-aged children; one female participant started high school during the research period. All children had parents with a non-Western nationality and cultural background, namely (African) Surinamese, Pakistani, Afghan, Caribbean and Ghanaian. All children lived in and attended a primary school based in Amsterdam Southeast. An overview of the characteristics of the participants is presented in Table 1, as well as the data collection methods.

Participatory process, methods and data collection

Following Dedding et al. (2022), who state that building participation practices is about creating spaces for different types of knowing and competences, the starting point of the participatory process was to create a communicative space for children. Habermas (1984, 2003) describes communicative space as the ideal place for people to come together,a place of mutual recognition that adopts reciprocal perspectives and in which there is a shared willingness to consider one's own conditions through a stranger's eyes and to learn from each other (Dedding et al., 2022, p 871). In this study, the researcher (SC) used patience, personal closeness, creativity and flexibility in order to engage children at their own pace in meaningful processes of critical dialogue, informed

Table 1
Characteristics of participants, parental descent and frequency/duration of the data collection methods.

Methods	N=	Pseudonyms	Ages	Year	Frequency	Parental descent (both parents)
'Draw, write and tell' interviews & participatory observations at home (+/− 1 h per participant)	9	Joe	10y	2022	Once	Suriname
		Dave	10y	2022	Once	Ghana
		Lauryn	13y	2022	Once	Ghana
		Kate	12y	2022	Once	Suriname
		Lovelle	11y	2022	Once	Suriname
		Ella	6y	2022	Once	Ghana
		Joan	8y	2022	Once	Ghana
		Shane	10y	2022	Once	Caribbean
		Dina	11y	2022	Once	Caribbean
Participatory observations during health consultations (+/− 30 min per participant)	19	Joe	10y	2021	Once	Suriname
		Dave	10y	2021	Twice	Ghana
		Lauryn	13y	2022	Once	Ghana
		Kate	12y	2022	Once	Suriname
		Amara	7y	2022	Twice	Afghanistan
		Lovelle	11y	2022	Once	Suriname
		Ella	6y	2022	Twice	Ghana
		Joan	8y	2022	Once	Ghana
		Ted	10y	2022	Twice	Ghana
		Shane	10y	2021	Twice	Caribbean
		Dina	11y	2022	Once	Caribbean
		John	10y	2021	Once	Pakistan
		Nadia	8y	2022	Once	Caribbean
				2022		
				2022		
				2022		
Group session (+/− 3 h) & walk-along sessions (2 × 30 min)	6	Joe	10y	2022	Group session & one walk-along	Suriname
		Ella	6y	2022	Group session & one combined walk-along	Ghana
		Joan	8y	2022	Group session & one combined walk-along	Ghana

by principles of Appreciative Inquiry. Following Treacy (2022), the researcher interpreted 'appreciation' as respecting and acknowledging what was meaningful for the participants and honouring the full range of their lived experiences. Every contact and encounter with the children started with facilitating collaborative spaces that cultivated listening for and appreciating difference. We used four sources of data: (1) participatory observations, (2) a 'draw, write and tell' technique in semi-structured one-on-one interviews, (3) a group session, and (4) walk-along sessions. We collected the data during and after the COVID-19 pandemic and the resulting lockdowns, between August 2020 and November 2022.

Participatory observations

Due to the unique combination of the first author being both a CP as well as a researcher, it was possible to observe the children during health consultation hours and at home in order to reflect on contextual dimensions such as (family) space, living environment, activities, interactions, time and emotions. Observations were followed by a brief informal interview in which children were asked about these dimensions, reflecting together whether the observations matched the experiences and the challenges they encountered in relation to COVID-19. Data from the participatory observations with children and their families were recorded in detailed fieldwork notes, so that they could be interpreted and compared with the data from other sources and critically reflected upon within the research team.

'Draw, write and tell' technique and one-on-one interviews

A 'draw, write and tell' technique (cf. Angell et al., 2014) was used for semi-structured one-on-one interviews. This technique aims to be engaging, participatory, familiar and non-threatening, while providing a structured way for children to gently recall experiences and construct cognitively complex ideas, enhancing communication between researcher and child and supporting the construction of meaning (cf. Murphy et al., 2021). The sessions were conducted and audio-recorded by the researcher (SC) during home visits and lasted approximately 60 min. Table 2 presents the interview guide with the interview topic questions.

Group session and walk-alongs

Recruitment for the group session and walk-alongs was done through convenience sampling by the researcher (SC) during consultation hours. Five children and their parents agreed to participate; however, two children cancelled because they were sick on the day the group session and walk-alongs were scheduled. The researcher proceeded to form a small group of the remaining three children (two girls aged 6 and 8 years and a boy aged 11 years). The group session was held at an indoor playground chosen by the children. After the group session, the girls engaged together in a walk-along session with the researcher, followed by a separate walk-along session with the boy (2 × 30 min). The aim of these sessions was to validate themes we found in the interviews and to identify possible additional themes. The walk-alongs offered an additional opportunity to check children's

Table 2
Interview guide: focus and interview topic questions.

Focus	Interview topic questions
1. Writing &Telling	How was life for you during COVID (lockdowns)? How did you feel? Are there things you were afraid of or worried about? What went well? Why did it go well? What didn't go well? Why did it not go well? Who or what helped you with these things?
2. Drawing	Can you draw the most important things that have happened in the past year? Can you draw or show me what that was like for you? What went well? Why did it go well? Who or what helped with this? What didn't go well? Why did it not go well? Who or what helped? Are there any more or other things you want to say, write or draw about this period of time?

Table 3
Topic guide group session.

Step 1 Checking data together
1. Check whether I have correctly understood your drawing.
2. Which themes do you recognise and why? 'Yes' (green post-it) / 'No' (red post-it) / 'I don't know' (yellow post-it).
3. What do you consider important?
4. Do you miss anything and why?
Step 2 Searching for solutions together
1. Write or draw your own solution on a post-it (anonymously).
2. Gathering all post-its with the solutions in a magic hat (now all solutions are ours).
3. Post-its are taken out of the hat one by one; grades for the solutions (1 = don't know, 2 = not good, 3 = bit good, 4 = good, 5 = very good).
4. Making a top 3 of the best solutions.
5. Last check for the top 3: What else is needed? Are we forgetting anything?

perspectives and deepen the findings. The questions used for the walk-along sessions were: 'What do you consider important and why?' and 'What else do you want to share?' Table 3 presents the interview topic guide for the group session.

Data collection and analysis

Data collection involved conducting participatory observations, 'draw, write and tell' interviews, a group discussion and walk-along sessions. Transcripts and ad verbatim of interviews, a reflexive diary and field notes were assessed by iterative phases of reflexive thematic analysis (Braun & Clarke, 2006; Campbell et al., 2021). We applied the six phases of reflexive thematic analysis as described by Braun and Clarke (2006): (1) familiarising ourselves with the data, (2) generating codes, (3) constructing themes, (4) reviewing potential themes, (5) defining and naming themes, and (6) producing the report. Drawings were coded concurrently with the transcripts and the codebook was revised and refined until no new themes emerged from the data analysis. Data was colour-coded, grouped and analysed by (SC), accompanied by thorough discussion with (LvH). Analysis and discrepancies were discussed in the research team (SC, LvH, AF & CD) by rounds of iterative processing, analysing and dissecting the data until we reached consensus (cf. Campbell et al., 2021).

Methodological and ethical considerations

As the researcher (SC) works as a youth healthcare nurse herself, it was possible to engage with children and their families for a period of two years. Credibility was established by techniques such as, the prolonged engagement with children and their families, participatory observations, member checking, reflective journaling (cf. Lincoln & Guba, 1985). Reflexivity within the research team during all phases of the study (i.e. accuracy of the data, data analysis, interpretations), enforced the rigour and trustworthiness of the findings (cf. Koch & Harrington, 1998). Furthermore, this study was approved by the Medical Ethical Review Committee of the Amsterdam University Medical Centers (METC; reference number W20_552). Parents received verbal and written information about the study and had two weeks' time to decide if they wanted to let their children participate or not. It was highlighted in every session that participation was voluntary, and that withdrawal from the study was possible at any time without needing to give a reason. Finally, parents were assured that withdrawal would not have any consequences in terms of the quality and continuation of obesity care provided by YHC nurses/CP's. The 'draw, write and tell' interviews, the group session and the walk-alongs were conducted with children whose parents gave informed consent verbally and in writing. Parents and their children were assured that the purpose of the participatory observations during the health consultations was to substantiate the data from the interviews and would be used for research purposes only. Furthermore, they were reminded that they could withdraw from the health consultation with the researcher at any time. In collaboration and with the informed consent of the children and their parents, we used pseudonyms in order to protect their anonymity. The children received a box of 50 coloured markers or crayons as compensation for their time and efforts. Taking into account that the participating children are minors, parents were present in the room at all times but did not have an active role in the conversations and activities.

Results

It was challenging to engage children with paediatric obesity from seldom-heard communities in the study. It took time and effort to build a relationship of trust and to create a space where children felt comfortable, safe and able to get acquainted with their role as experience expert. After the researcher demonstrated that she really wanted to listen to the children, and that she appreciated and acknowledged what was meaningful for them, they became more willing to share the full range of their lived experiences. In the 'draw, write and tell' interviews, nine children were willing to share their experiences on what life was like for them during and after the COVID-19 pandemic (see Table 1). Half of these children are growing up in a single-parent home and live at or below the poverty line. First, we describe children's experiences and expand on the struggles they encountered related to paediatric obesity during the pandemic and how to interpret these experiences. Second, we focus on the recommendations children gave for future pandemics, care practices and policies.

Being confined to the house made life boring

For all of the children, being confined to the house was the biggest problem they faced during lockdowns. Not being able to go outside was horrible. Typically, most children in Amsterdam Southeast have quite an active life, which includes going to school and having afterschool activities, such as football (soccer), urban sports and games, dancing, modelling and crafting. However, during the lockdowns, all schools were closed and afterschool activities were cancelled. In addition, children voiced that parents ordered them to stay inside the house; they complied because they wanted to stay safe from COVID-19. During a drawing session, Dave [10Y] shared: *"I thought if we don't go outside then we can't get infected with Covid"*. Two of the older girls said that there was fear in their family of going outside and getting infected with COVID. Lovelle [11Y] said: *"I was really scared of getting COVID myself"*; while Lauryn [13Y] explained: *"We were really afraid of COVID"*. This fear was concentrated on the 'outside' world. As Lauryn explained further: *"When it [COVID] first came, I told my mother, then I said 'I don't want to go outside anymore'. I didn't dare touch the elevator, afraid of getting the virus and dying, I […] was scared"*. Interestingly, staying indoors at first felt nice and cosy for the children. Ella [6Y] said: *"It was a lot of fun, everybody was home so we could play games and watch television together"* (Fig. 1).

As time passed, however, life became boring and frustrating. Children indicated that they were able to be creative and resourceful in the beginning of the pandemic, but as the periods of lockdown became more frequent and they still lacked access to outside activities, they ran out of ideas. Joan [8Y] said: *"It was a long time and it was boring, you have nothing to do"*. As feeling bored and having nothing to do was mentioned in all 'draw, write and tell' sessions, we explored these experiences together with the children. Joe [10Y] shared: *"Yes, I was sitting here [pointing at his drawing] and on my phone, I went to watch YouTube, then after an hour I was bored and had nothing to do again, I went back upstairs [pointing at the stairs in his house], I started playing Fortnite again, then I had nothing to do after this; then I started playing Roblox again"*.

The lockdowns and limited opportunities to engage in activities outside the house made young people feel very limited, as Lauryn [13Y] explained: *"After sitting at home for a while, that became really boring. You get tired of it. And uh yes, then you really want to go outside"*.

Both boys and girls voiced having nothing to do, although boys expressed more frustration, as their lives changed more due to

Fig. 1. Ella [6Y] draws herself happy inside the house, together with her mother, sisters and brother in front of the TV and on the couch. Outside are COVID, flowers and the empty swing at the playground.

COVID-19 regulations compared to girls. Before COVID-19, the boys had spent most of their free time outside, for example to play football (soccer). Not being able to go outside was really frustrating for them, as Dave [10Y] explained: *"Not being able to play panna goal [popup soccer with foldable goals] outside was the worst"*. Girls, on the other hand, said that they often did the same things as before COVID-19, such as talking with their friends online and watching TV. Girls did, however, mention that they missed doing activities together with their friends, as Ella [6Y] explained: *"It's much more fun when we play together; playing outside together is more fun than alone"*. Joan [8Y] added: *"When we play together, we can think of much more fun games to do and play together"*. In order to keep in contact with their friends, they would meet online, as Kate [12Y] explained: *"I couldn't meet with my friends in real life; I met them online for hours and hours playing Roblox, Fortnite and Among Us together"*.

Increase in screen time and unhealthy eating habits

Children tried to search for something to do besides online games, but did not always succeed. Lauryn [13Y] explained that the extent of feeling bored depended on the resourcefulness of her mother: *"We would play games. My mom sent for games from Ghana, games like Ladoo [see Fig. 3] and Oware that she used to play herself as a child; we would then play together over and over again"*. All children explained that they spent more time online, since their screens offered the fastest and easiest way to distract themselves. All children reported feeling hungry throughout the day and experienced the craving to eat snacks: *"If you are at home then of course you are a bit more hungry. When you're at school, you're obviously a bit distracted" [Lauryn, 13Y]*. Joe [10Y] shared: *"I went on my phone, then took some food, then back on my phone again"*. Lauryn [13Y] shared that during the lockdowns she would have hot meals more than once a day: *"My mother made rice, for example, but normally we eat dinner only in the evening. But now of course we were at home all the time. So then you just want to eat when you're awake"*. Children who reported an increase in screen time also reported eating more high-fat foods. Joe [10Y] explained: *"When I was hungry, I would eat potato chips and I would watch TV. After that I was still hungry and I would eat fruit. I am often hungry"*. After asking him why he is often hungry, he said: *"I am often hungry. Sometimes I am and sometimes I'm not. I'm especially hungry when I skip breakfast, then I get very hungry later and then I eat a lot"*. We discovered that the children found themselves in a vicious cycle: from sitting on the couch or lying in bed, gaming or watching TV, to feeling hungry and eating more. Fig. 2 presents a visualisation of the reinforcing loop children found themselves in (see Fig. 6).

Most children explained that it was hard to keep up their usual healthy habits in order to keep their weight stabilised, such as physical exercise. Some were aware that they had to be active in order to regulate their weight. For example, Dave [10Y] explained that he was able to exercise on a home trainer (bicycle) to keep from gaining weight: *"I was going to do training, which you can do inside, I tried to cycle a lot"*. For other children this was not feasible; they reported having very few options to be physically active inside the house.

Comforting family patterns versus previously-developed (un)healthy patterns

Children highlighted that instead of exercising, they preferred to watch TV together and eat snacks, as this was comforting and homey. It created a sense of togetherness and reminded them of the family patterns they normally have during summer holidays. However, it also created internal conflict: children shared that they could not maintain what they had learned about healthy lifestyle changes, such as exercising daily and avoiding unhealthy foods. This conflict resulted in a relapse to the previous unhealthy patterns that had caused their obesity in the first place; it felt like moving backwards. As Joe [10Y] said: *"When we play outside, I play about three hours. Then I get thirsty and come inside the house only to drink water. When I'm outside I don't eat"*. The children knew that it was not good to fall back into their unhealthy

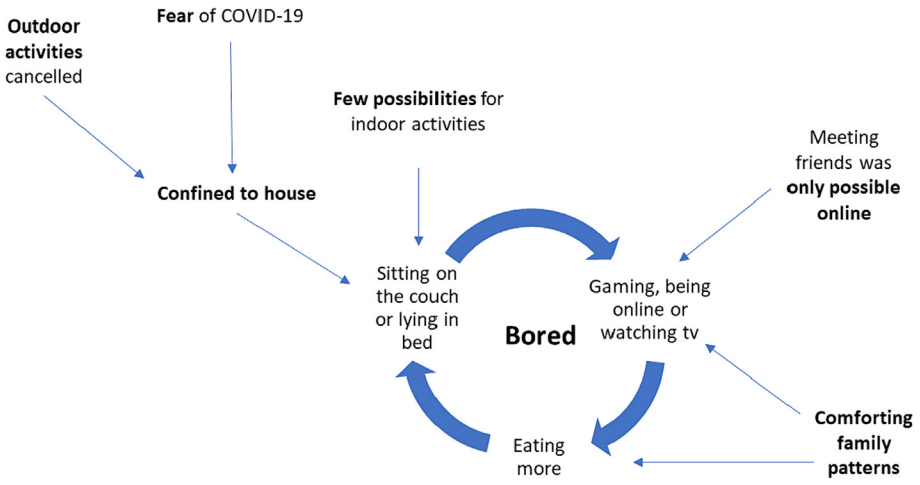

Fig. 2. A visualisation of the reinforcing loop children found themselves in.

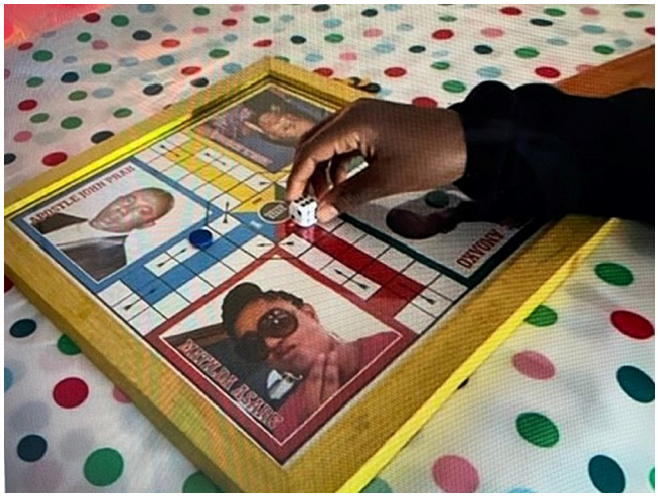

Fig. 3. The Ghanaian game Ladoo, which Lauryn [13Y] would play with her mother, brother and sisters.

eating habits; the realisation was there, but there was simply little or no distraction to curb their urge to eat unhealthy things.

Loneliness as a catalyst for mental health issues

Another issue that older children reported were major events such as the death of a family member or suddenly having to take care of other family members and doing tasks they normally do not have to do. In analysing the data, we found that these experiences differed from child to child. For example, some had to face the loss of family members up-close, whereas some only heard of family members in their country of origin getting infected with COVID-19 and dying. During a health consultation, Kate [12Y] reflected that she was worried about her family living in Suriname: *"We could not travel to Suriname to attend the funeral of my uncle. A lot of people died then, it felt like everybody was dying of COVID oversees"*. Kate [12Y] shared that she had to fend for herself after her mother was taken to the hospital: *"Suddenly my mother was very short of breath and couldn't breathe well. It was frightening. I had to call the ambulance immediately. They took her to the hospital and suddenly I was all alone in the house and had to take care of myself"* (Fig. 4).

A consequence of this was that some children felt alone and like they had to grow up fast, having to do tasks that they did not do before. As mentioned before, many families living in disadvantaged neighbourhoods such as Amsterdam Southeast have a low socio-economic position. As Kate [12Y] further elaborated: *"I was all by myself. My mom left me a little bit of money, so I went to McDonalds to buy food for myself. I suddenly had to do everything myself"*. In a drawing session, Lovelle [11Y] explained: *"I was really worried about my mom, she had COVID and she was very sick. I had to take care of her and my sisters"*. For Lovelle, it was very comforting to have her friend Kate, who experienced the same things: *"On the phone, we could share what happened and how we felt, that helped me to stay positive"* (Fig. 5).

Lastly, a third issue that older children mentioned was not being able to meet up with friends. In general, during all of the drawing sessions, children reported that they stayed inside the house more and spent limited time outside, but the older children specifically added that they missed social interactions. The girls voiced that going outside usually means 'hanging out' with their friends. Being with their friends is fun and makes them happy, as Lauryn [13Y] shared: *"It was hard to live, there were a lot of rules which changed often and we did not understand them. I could not meet with my friends and go to stores"*. Other girls emphasised that they felt sad and alone: *"During the lockdowns it was very hard. I could not see my friends and hang out. I sat alone inside a lot"* [Lovelle, 11Y]. In participatory observations it was also observed that not being able to meet with friends was strongly associated with more psychological problems.

Children voiced feeling more down and depressed than usual and missing their peers. During the participatory observations of the health consultations, it was also observed that fear of COVID-19 was the main reason for families to stay inside their homes. For example, parents did not want CPs to visit them at home nor did they want to visit the youth health care clinics for consultation and obesity care out of fear of the

Fig. 4. Kate's [12Y] drawing of an ambulance driving her mother to the hospital after experiencing severe COVID-19 symptoms. It shows Kate feeling sad and crying ['ik' means 'me' in Dutch], and a drawing of her father, illustrating the divorce ['papa weg gegaan' means 'dad left us'], which happened after the lockdown.

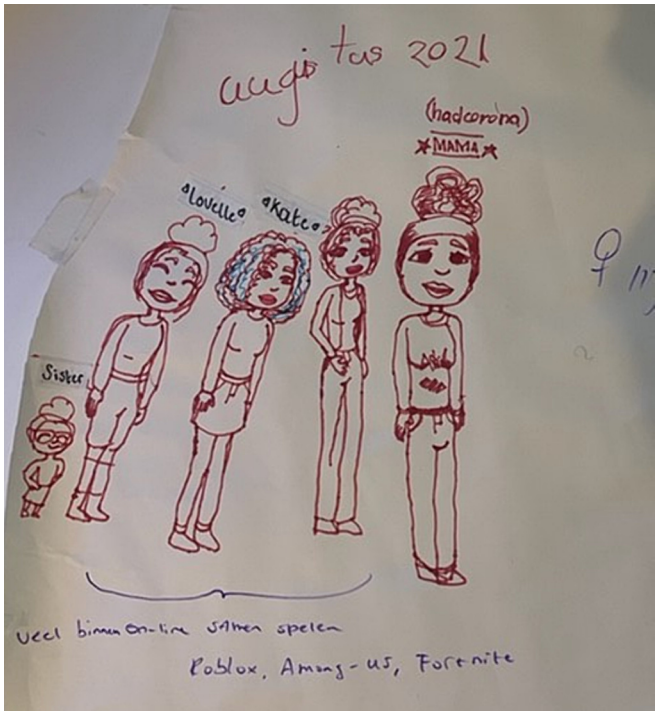

Fig. 5. Lovelle's [11Y] drawing of herself with her friend Kate and her big and little sister. In the front is her mother, who was infected with COVID-19 in August 2021. She shares: "staying inside a lot and playing online together. Roblox, Among-us, Fortnite".

Fig. 6. Ella [6Y] and Joan [8Y] checking, discussing and exploring solutions together during a group session at an indoor playground in Amsterdam Southeast.

virus. As a consequence, CPs could contact most of the families only by telephone. After every lockdown, when obesity care again took place face-to-face, the children in this study reported the experienced consequences to their weight. Examples included not fitting into clothes anymore and feeling tired due to weight gain, as a result of eating more unhealthy foods and engaging in less physical activity. Moreover, children expressed feeling bad about themselves, having negative thoughts about their body and experiencing a decrease in motivation to maintain a healthier lifestyle. A few of these problems, such as insufficient physical activity and unhealthy eating habits, were already present to a greater or lesser extent before the pandemic, but the children experienced an increase in these predicaments during the lockdowns.

Recommendations of children and considerations for adults

Children did not have an immediate answer regarding what adults could have done better or needed to act on, but reflected on the time before the pandemic and what they appreciated about their lives before COVID-19. Joe [10Y] explained: *"I just want everything to go back to normal, to how it was before COVID. Everything was better before that"*. In a walk-along, Joe elaborated: *"Now [after lockdown] I go to school and after that, I go outside a lot and play for three or four hours with my friends. I realised how much I missed it"*. Dave [10Y] explained that it is helpful that the rules at home are more strict now that he has returned to school after the lockdowns: *"During the day I have to go to school so I cannot play on my phone. My mom only allows it before school and in the evening"*. Many of the children's responses emphasised how important it is to be able to play outside and go to school to help sustain healthy behaviour.

Secondly, children reported that doing activities together with other children, preferably from their own age group, is most important to keep motivated, to sustain healthy lifestyle changes and to achieve health goals. For example, doing sports lessons together or even just playing outside in the playground or courtyard is more fun than being alone. It makes them more creative, results in playing outside for longer periods of time, and inspires them to compete or take on challenges. Ella [6Y] shared: "*When I play outside with my sister or my friends it's more fun and we laugh and play a lot. My mom has to call us to come back in the house*".

Thirdly, the children plead to have multiple options and access to activities inside and outside their home. These activities should be free of charge and near their homes or in their own neighbourhood, as children are not allowed to travel far from home on their own. It was also important to them that the location of these activities should feel safe, referring not only to the risk of COVID-19, but also to the criminal activity in their neighbourhood.

Discussion

Little attention has been paid to how the COVID-19 pandemic impacted the lives of children with paediatric obesity from the perspective of children themselves. The qualitative participatory approach of this study made it possible to capture a deep understanding of the mechanisms and reinforcing cycle of the impact of the pandemic on these children's lives. Children reported that they were confined to the house, causing them to feel bored and lonely. This triggered them to fall into previous unhealthy patterns, such as an increase in sitting on the couch or lying in bed, gaming or watching TV, and feeling hungry a lot and eating more. Some children experienced major events, such as mourning the death of a loved one or having to take care of other family members. They felt they had to grow up fast. The succeeding findings stand out for the discussion.

First, where other studies report that due to the COVID-19 lockdown, children were less physically active, screen time was higher during and after the school closures (ten Velde et al., 2021), children ate more and gained more weight (Razi & Nasiri, 2022; Palermi et al., 2022; Barth, Radominski & Demartini, 2023), our study provides the mechanisms that lie beneath these findings. Life as they knew it changed dramatically, and there were few options to distract themselves from feeling bored and alone. They ran out of ideas, creativity and resourcefulness to cope with the impact of the pandemic. Instead of reporting an increase in their body weight as a problem or a theme to worry about, children mentioned struggles and wishes related to living a normal life: they talked about feeling alone, not being able to meet up with friends, and having severely limited play and social interactions. While Pietrobelli et al. (2020) also reported that isolation due to COVID-19 among children and adolescents struggling with obesity created an unfavourable environment for promoting and maintaining healthy lifestyle behaviours, we tend to overlook what it meant to be a child during the pandemic, especially for those who encountered strong feelings of fear, loneliness and who mourned the loss of loved ones. Not only their (mental) wellbeing, but also obesity prevention and weight management interventions would benefit from focusing on the existing assets that children describe, such as friendships, and emphasising health benefits framed by child-based motivations, for example happiness and mental wellbeing (cf. Murphy et al., 2021).

Secondly, although children did not mention poverty as a problem, living in a deprived neighbourhood is associated with paediatric obesity. Kimbro and Denney (2013) argue that structural conditions in neighbourhoods influence paediatric obesity above and beyond individual- and family-level factors. This means that policies need to take structural factors into account, particularly in the case of policies targeting children with paediatric obesity living in vulnerable circumstances and belonging to seldom-heard communities (Bender & Clark, 2011; Caprio et al., 2008; Iguacel et al., 2018). This includes access to proper and timely health information and tailored obesity care in order to support children's (mental) wellbeing and health. Timely health information could have prevented unnecessary fear and worries, enabled children to continue to play outside, and could have possibly lowered the impact of the pandemic and lockdowns on weight gain. As Ekezie et al. (2022) have reported, health information lacked clarity and consistency and was not accessible or attuned to those from non-Dutch ethnic backgrounds and/or those with a more practical education compared with those with a more theoretical education.

A whole-system approach is increasingly advocated by scholars to tackle and prevent paediatric obesity (Sawyer et al., 2021; UNICEF et al., 2020). As part of a whole-system approach, it is crucial to engage children and their families in order to gain better insight into their perspectives and to provide recommendations that are more in line with their personal needs and living environment (Concincion, van Houtum, van de Vorst, Verhoeff, & Dedding, 2023). Examples of lived experiences, as assessed by participatory action research that engaged youth with paediatric obesity in Amsterdam, do exist

(see van Houtum et al., 2020). Connecting to the experiences of a child or young person requires specific skills from researchers. Lord et al. (2012) describe seven principles to improve and achieve quality in work by, with and for children and young people: (1) striving for excellence, (2) being authentic, (3) being exciting, inspiring and engaging, (4) ensuring a positive child-centred experience, (5) actively involving children and young people, (6) providing a sense of personal progression, and (7) developing a sense of ownership and belonging. In our study, the researcher, a youth health care nurse and CP who had already built long-term relationships of trust with families in vulnerable circumstances, could apply these principles to work together with children and engage with their views and perspectives. Nevertheless, it was not easy to recruit families, children and young people with paediatric obesity from seldom-heard communities to participate in the study. We encountered parents who said they are suspicious of the government and research institutions, leading to fear of speaking to researchers and youth health care professionals. Some parents had negative experiences with child welfare services and feared that their children would be taken away from them and placed in foster care, or that the police would be involved. Over-surveillance and over-policing of black children by the child welfare system (cf. Dettlaff et al., 2020) and the ethnic profiling of specific groups by the Dutch Police (Boogaard & Roggeband, 2009), as well as the growing lack of trust in authorities (Kużelewska & Tomaszuk, 2022), might have played a role here. Besides, parents fear being stigmatised due to the tendency of society to see children with paediatric obesity and their parents as lazy, dumb or poor (cf. Pont et al., 2018; Puhl & King, 2013; Puhl & Latner, 2007). This might also be an explanation for parents' hesitation to participate. The existing trusted care relationship between parents and children and the researcher helped to lower the bar to participation in the research project. This shows the advantage of a person conducting action research at an organisation where he/she is also a permanent member (Roth et al., 2004). Personal engagement and patience were also key factors in gaining the trust of children, and the 'draw, write and tell' sessions were helpful for children to reflect on what had happened and to talk about sensitive issues like loneliness, grief and sorrow.

Limitations

Apart from the aforementioned strengths of the study, like all studies we also encountered limitations. We acknowledge that since this study was conducted during and after the pandemic, this meant that we were limited in terms of recruiting and interacting with families, resulting in a relatively low number of participants. This is compensated, however, by the uniqueness and depth of the findings. During this time of lockdowns and social distancing, the unique double role of the researcher is what made generating data possible at all. Supporting the notion that a double role of a researcher can provide a richer and more developed understanding of complex phenomena (Koch & Harrington, 1998; Lincoln & Guba, 1985; Malterud, 2001). Our findings also resonate with previous research (Borualogo & Casas, 2021; Buchanan et al., 2023; Concincion et al., 2024). In a second limitation, parents were always present during all sessions. This might have comforted the children, but could also have made them hesitant to share private issues. van Bijleveld et al. (2013) report that professionals have to maintain a difficult balance between the child's right to participate and the child's right to be protected, as well as between the need to gather evidence and the child's entitlement to give information on his or her own terms.

Implications for practice and policy

Our study emphasizes the importance of recognizing the specific experiential expertise of children, their knowledge and experiences can contribute to enhance obesity-care. The recommendations children gave – such as providing free-of-cost, age-appropriate group activities in safe locations outside of the home – could be explored as pathways for more child-centred, successful and tailored obesity care practices and policies in order to support their (mental) wellbeing and health. Furthermore, our results are insightful for policymaking in case of a new pandemic. Recommendations for future policies and research are aimed at incorporating children's perspectives based on their lived experiences in order to understand their daily life struggles and to develop interventions and policies that are more in line with their personal needs and living environment.

Conclusion

The aim of this study was to gain insight into the perspectives of children with paediatric obesity during and after the COVID-19 pandemic, regarding their wellbeing and health, and to solicit their advice on tailoring obesity care to match their experiences and daily realities. Our results provide a detailed insight into the experiences of Dutch children with paediatric obesity, and the mechanisms that helped to explain why they fell back into unhealthy behaviours and struggled to maintain a healthy lifestyle. Feeling bored and alone over a long period of time, and not being able to enjoy contact with peers, could at least partly have been prevented by peer support and access to safe and joyful activities in and outside of children's homes. The recommendations children gave – such as providing free-of-cost, age-appropriate group activities in safe locations outside of the home – could be explored as pathways for more child-centred, successful and tailored obesity care practices and policies in order to support their (mental) wellbeing and health.

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Ethics approval statement

The study has been assessed and approved by the recognised Medical Ethical Review Committee of Amsterdam University Medical Centers (METC; reference number W20_552).

Patient consent statement

Parents and children received verbal and written information about the study and parents had two weeks' time to decide if they wanted to let their children participate or not. It was highlighted in every session that participation was voluntary, and that withdrawal from the study was possible at any time, without having to give a reason. Parents and children were assured that withdrawal would not have any consequences regarding the quality and continuation of obesity care provided by youth health care nurses.

CRediT authorship contribution statement

Siegnella Concincion: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. **Lieke Van Houtum:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Supervision, Validation, Visualization, Writing – review & editing. **Arnoud Verhoeff:** Conceptualization, Data curation, Formal analysis, Methodology, Supervision, Validation, Visualization, Writing – review & editing. **Christine Dedding:** Conceptualization, Data curation, Formal analysis,

Methodology, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing.

Data availability

Data presented in this study are not available to access, post or share. Due to the sensitive nature of the interview questions asked in this study and the unique position of the researcher/corresponding author, parents and children in the study were assured that the raw data would remain confidential and would not be shared.

Declaration of competing interest

The authors declare no conflict of interest.

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References

Alderson, P. (1992). Everyday and medical life choices: Decision-making among 8- to 15-year-old school students. *Child: Care, Health and Development*, *18*(2), 81–95. https://doi.org/10.1111/j.1365-2214.1992.tb00343.x.

Almandoz, J. P., Xie, L., Schellinger, J. N., Mathew, M. S., Gazda, C., Ofori, A., ... Messiah, S. E. (2020). Impact of COVID-19 stay-at-home orders on weight-related behaviours among patients with obesity. *Clinical Obesity*, *10*(5). https://doi.org/10.1111/cob.12386.

Angell, C., Alexander, J., & Hunt, J. A. (2014). 'Draw, write and tell': A literature review and methodological development on the 'draw and write' research method. *Journal of Early Childhood Research*, *13*(1), 17–28. https://doi.org/10.1177/1476718x14538592.

Aussems, K., Muntinga, M., Addink, A., & Dedding, C. (2020). "Call us by our name": Quality of care and wellbeing from the perspective of girls in residential care facilities who are commercially and sexually exploited by "loverboys". *Children and Youth Services Review*, *116*, Article 105213. https://doi.org/10.1016/j.childyouth.2020.105213.

Barth, M., Radominski, R., & Demartini, A. (2023). Impact of the COVID-19 pandemic on overweight children and adolescents: Influence of lockdown and school closure on Childhood Obesity. *Residência Pediátrica*, *13*(2). https://doi.org/10.25060/residpediatr-2023.v13n2-1066.

Bender, M. S., & Clark, M. J. (2011). Cultural adaptation for ethnic diversity. *Californian Journal of Health Promotion*, *9*(2), 40–60. https://doi.org/10.32398/cjhp.v9i2.1435.

Bhattacharya, S., Aggarwal, P., Bera, O. P., Saleem, S. M., Shikha, D., Vallabh, V., ... Singh, A. (2021). Covid-19 and childhood obesity (co-besity) in the era of new normal life: A need for a policy research. *Journal of Public Health Research*, *10*(2_suppl). https://doi.org/10.4081/jphr.2021.2673.

van Bijleveld, G. G., Dedding, C. W., & Bunders-Aelen, J. F. (2013). Children's and young people's participation within child welfare and child protection services: A state-of-the-art review. *Child & Family Social Work*, *20*(2), 129–138. https://doi.org/10.1111/cfs.12082.

Boogaard, B., & Roggeband, C. (2009). Paradoxes of intersectionality: Theorizing inequality in the Dutch police force through structure and agency. *Organization*, *17*(1), 53–75. https://doi.org/10.1177/1350508409350042.

Borualogo, I. S., & Casas, F. (2021). Children's and adolescents' reports on their quality of life during the COVID-19 pandemic. *Psikohumaniora: Jurnal Penelitian Psikologi*, *6*(2), 153–170. https://doi.org/10.21580/pjpp.v6i2.8572.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa.

Browne, N. T., Snethen, J. A., Greenberg, C. S., Frenn, M., Kilanowski, J. F., Gance-Cleveland, B., ... Lewandowski, L. (2021). When pandemics collide: The impact of covid-19 on childhood obesity. *Journal of Pediatric Nursing*, *56*, 90–98. https://doi.org/10.1016/j.pedn.2020.11.004.

Buchanan, D., Hargreaves, E., & Quick, L. (2023). Schools closed during the pandemic: Revelations about the well-being of 'lower-attaining' primary-school children, primary-school children. *Education*, *3–13*, *51*(7), 1077–1090. https://doi.org/10.1080/03004279.2022.2043405.

Buoncristiano, M., Williams, J., Simmonds, P., Nurk, E., Ahrens, W., Nardone, P., ... Breda, J. (2021). Socioeconomic inequalities in overweight and obesity among 6- to 9-year-old children in 24 countries from the World Health Organization European region. *Obesity Reviews*, *22*(S6). https://doi.org/10.1111/obr.13213.

Campbell, K., Orr, E., Durepos, P., Nguyen, L., Li, L., Whitmore, C., ... Jack, S. (2021). Reflexive thematic analysis for applied qualitative health research. *The Qualitative Report*, *26*(6), 2011–2028. https://doi.org/10.46743/2160-3715/2021.5010.

Caprio, S., Daniels, S. R., Drewnowski, A., Kaufman, F. R., Palinkas, L. A., Rosenbloom, A. L., ... Kirkman, M. S. (2008). Influence of race, ethnicity, and culture on childhood obesity: Implications for prevention and treatment. *Obesity*, *16*(12), 2566–2577. https://doi.org/10.1038/oby.2008.398.

Christensen, P. I. A., & Prout, A. (2002). Working with ethical symmetry in social research with children. *Childhood*, *9*(4), 477–497. https://doi.org/10.1177/0907568202009004007.

Concincion, S., van Houtum, L., van de Vorst, B., Verhoeff, A., & Dedding, C. (2023). How are children and young people engaged in research on paediatric obesity and which issues do they report? A scoping review. *International Journal of Child and Family Studies*, *14*(3), 50–72. https://doi.org/10.18357/ijcyfs143202321634.

Concincion, S., van Houtum, L., van de Vorst, B., Verhoeff, A., & Dedding, C. (2024). Obesity care for youth during the COVID-19 pandemic: Challenges youth healthcare nurses experienced in providing obesity care in the Netherlands. *Nursing & Health Sciences*, *26*(1), Article e13084. https://doi.org/10.1111/nhs.13084.

Dalamaga, M., Christodoulatos, G. S., Karampela, I., Vallianou, N., & Apovian, C. M. (2021). Understanding the co-epidemic of obesity and covid-19: Current evidence, comparison with previous epidemics, mechanisms, and preventive and therapeutic perspectives. *Current Obesity Reports*, *10*(3), 214–243. https://doi.org/10.1007/s13679-021-00436-y.

Dedding, C., Groot, B., Slager, M., & Abma, T. (2022). Building an alternative conceptualization of participation: From shared decision-making to acting and work. *Educational Action Research*, *1–13*. https://doi.org/10.1080/09650792.2022.2035788.

Dettlaff, A. J., Weber, K., Pendleton, M., Boyd, R., Bettencourt, B., & Burton, L. (2020). It is not a broken system, it is a system that needs to be broken: The upEND movement to abolish the child welfare system. *Journal of Public Child Welfare*, *14*(5), 500–517. https://doi.org/10.1080/15548732.2020.1814542.

Dolley, D., Du Randt, R., Pühse, U., Gerber, M., Bosma, J., Aerts, A., Adams, L., Arnaiz, P., Joubert, N., Müller, I., Nqweniso, S., Seelig, H., Steinmann, P., Utzinger, J., & Walter, C. (2023). Relationship between body mass index and physical activity among children from low-income communities in GQEBERHA, South Africa: A cross-sectional study. *International Journal of Environmental Research and Public Health*, *20*(2), 1428. https://doi.org/10.3390/ijerph20021428.

Ekezie, W., Maxwell, A., Byron, M., Czyznikowska, B., Osman, I., Moylan, K., ... Pareek, M. (2022). Health Communication and inequalities in primary care access during the covid-19 pandemic among ethnic minorities in the United Kingdom: Lived experiences and recommendations. *International Journal of Environmental Research and Public Health*, *19*(22), 15166. https://doi.org/10.3390/ijerph192215166.

Fismen, A., Buoncristiano, M., Williams, J., Helleve, A., Abdrakhmanova, S., Bakacs, M., ... Breda, J. (2021). Socioeconomic differences in food habits among 6- to 9-year-old children from 23 countries—WHO European childhood obesity surveillance initiative (COSI 2015/2017). *Obesity Reviews*, *22*(S6). https://doi.org/10.1111/obr.13211.

Habermas, J. (1984). *The theory of communicative action. Reason and the rationalization of Society, Vol. 1*.Heinemann.

Habermas, J. (2003). Truth and Justification. Cambridge, MA: MIT Press.

Hauerslev, M., Narang, T., Gray, N., Samuels, T. A., & Bhutta, Z. A. (2021). Childhood obesity on the rise during COVID-19: A request for global leaders to change the trajectory. *Obesity*, *30*(2), 288–291. https://doi.org/10.1002/oby.23307.

van Houtum, L., Concincion, S., & Fernald, F. (2020). Examples of lived experiences assessed by participative research. *European Journal of Public Health*, *30*(Supplement_5). https://doi.org/10.1093/eurpub/ckaa165.518.

Iguacel, I., Fernández-Alvira, J. M., Ahrens, W., Bammann, K., Gwozdz, W., Lissner, L., ... Moreno, L. A. (2018). Prospective associations between social vulnerabilities and children's weight status. Results from the IDEFICS study. *International Journal of Obesity*, *42*(10), 1691–1703. https://doi.org/10.1038/s41366-018-0199-6.

Kimbro, R. T., & Denney, J. T. (2013). Neighborhood context and racial/ethnic differences in young children's obesity: Structural barriers to interventions. *Social Science & Medicine*, *95*, 97–105. https://doi.org/10.1016/j.socscimed.2012.09.032.

Koch, T., & Harrington, A. (1998). Reconceptualizing rigour: The case for reflexivity. *Journal of Advanced Nursing*, *28*(4), 882–890.

Koetsier, L. W., van Mil, M. M., Eilander, M. M., van den Eynde, E., Baan, C. A., Seidell, J. C., & Halberstadt, J. (2021). Conducting a psychosocial and lifestyle assessment as part of an integrated care approach for childhood obesity: Experiences, needs and wishes of Dutch healthcare professionals. *BMC Health Services Research*, *21*(1). https://doi.org/10.1186/s12913-021-06635-6.

Krüsselmann, K., Rabolini, A., & Liem, M. (2021, November 19). *The illegal use of hand grenades in the Netherlands: 2008-2021*. Scholarly Publications. https://scholarlypublications.universiteitleiden.nl/handle/1887/3249908.

Kużelewska, E., & Tomaszuk, M. (2022). Rise of conspiracy theories in the pandemic times. *International Journal for the Semiotics of Law - Revue internationale de Sémiotique juridique*, *35*(6), 2373–2389. https://doi.org/10.1007/s11196-022-09910-9.

de Laat, S. A., Jacobs, M. A., Markus, A. E., van Mil, E. G., & van de Goor, L. A. (2019). De Rol van de jeugdverpleegkundige en jeugdarts in De ketenaanpak voor Kinderen met Overgewicht in 's-hertogenbosch. *JGZ Tijdschrift voor jeugdgezondheidszorg*, *51*(6), 161–167. https://doi.org/10.1007/s12452-019-00199-y.

van Leeuwen, K. (2014). Dedding, C., Jurrius, K., Moonen, X., & Rutjes, L. (eds). (2013). *Kinderen en jongeren actief in wetenschappelijk onderzoek. Ethiek, methoden en resultaten van onderzoek met en door jeugd*. Houten: Uitgeverij Lannoo Campus. isbn 978 94 014 0651 2, 191 p., € 24,99. *Kind En Adolescent*, *35*, 60–61. https://doi.org/10.1007/s12453-014-0007-6.

Lems, E., Hilverda, F., Broerse, J. E., & Dedding, C. (2019). 'Just stuff yourself': Identifying health-promotion strategies from the perspectives of adolescent boys from disadvantaged neighbourhoods. *Health Expectations*, *22*(5), 1040–1049. https://doi.org/10.1111/hex.12913.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park: CA: Sage Publications.

Ling, J., Chen, S., Zahry, N. R., & Kao, T. A. (2022). Economic burden of childhood overweight and obesity: A systematic review and meta-analysis. *Obesity Reviews*, *24*(2). https://doi.org/10.1111/obr.13535.

Llewellyn, A., Simmonds, M., Owen, C. G., & Woolacott, N. (2015). Childhood obesity as a predictor of morbidity in adulthood: A systematic review and meta-analysis. *Obesity Reviews*, *17*(1), 56–67. https://doi.org/10.1111/obr.12316.

Lord, P. S., Sharp, C., Lee, B., Cooper, L., & Grayson, H. (2012, July). (PDF) raising the standard of work by, with and for children and young people: Research and consultation to understand the principles of quality. https://www.researchgate.net/publication/324280480_Raising_the_Standard_of_Work_By_With_and_For_Children_and_Young_People_Research_and_Consultation_to_Understand_the_Principles_of_Quality.

Malaguzzi, L. (1993). Your image of the child: Where teaching begins. https://www.reggioalliance.org/downloads/malaguzzi:ccie:1994.pdf.

Malterud, K. (2001). Qualitative research: Standards, challenges and guidlines. *The Lancet*, *358*, 483–488. https://doi.org/10.1016/S0140-6736(01)05627-6.

Murphy, M., Boardman, F., Robertson, W., & Johnson, R. (2021). Children's perspectives and experiences of health, diet, physical activity and weight in an urban, multi-ethnic UK population: A qualitative study. *Child: Care, Health and Development*, *47*(5), 597–607. https://doi.org/10.1111/cch.12867.

Musić Milanović, S., Buoncristiano, M., Križan, H., Rathmes, G., Williams, J., Hyska, J., ... Breda, J. (2021). Socioeconomic disparities in physical activity, sedentary behavior and sleep patterns among 6- to 9-year-old children from 24 countries in the WHO European region. *Obesity Reviews*, *22*(S6). https://doi.org/10.1111/obr.13209.

Nogueira-de-Almeida, C. A., Del Ciampo, L. A., Ferraz, I. S., Del Ciampo, I. R. L., Contini, A. A., & Ued, F. (2020). Covid-19 and obesity in childhood and adolescence: A clinical review. *Jornal de Pediatria*, *96*(5), 546–558. https://doi.org/10.1016/j.jped.2020.07.001.

Palermi, S., Vecchiato, M., Pennella, S., Marasca, A., Spinelli, A., De Luca, M., ... Biffi, A. (2022). The impact of the COVID-19 pandemic on childhood obesity and lifestyle—a report from Italy. *Pediatric Reports*, *14*(4), 410–418. https://doi.org/10.3390/pediatric14040049.

Patterson, R. R., Sornalingam, S., & Cooper, M. (2021). Consequences of covid-19 on the childhood obesity epidemic. *BMJ (online), 373*. https://doi.org/10.1136/bmj.n953.

Pietrobelli, A., Pecoraro, L., Ferruzzi, A., Heo, M., Faith, M., Zoller, T., ... Heymsfield, S. B. (2020). Effects of covid-19 lockdown on lifestyle behaviors in children with obesity living in Verona, Italy: A longitudinal study. *Obesity*, *28*(8), 1382–1385. https://doi.org/10.1002/oby.22861.

Pont, S. J., Puhl, R., Cook, S. R., & Slusser, W. (2018). Stigma experienced by children and adolescents with obesity. *Obesity: Stigma, Trends, and Interventions*, 4–14. https://doi.org/10.1542/9781610022781-stigma.

Puhl, R. M., & King, K. M. (2013). Weight discrimination and bullying. *Best Practice & Research Clinical Endocrinology & Metabolism*, *27*(2), 117–127. https://doi.org/10.1016/j.beem.2012.12.002.

Puhl, R. M., & Latner, J. D. (2007). Stigma, obesity, and the health of the nation's children. *Psychological Bulletin*, *133*(4), 557–580. https://doi.org/10.1037/0033-2909.133.4.557.

Rankin, J., Matthews, L., Cobley, S., Han, A., Sanders, R., Wiltshire, H. D., & Baker, J. S. (2016). Psychological consequences of childhood obesity: Psychiatric comorbidity and prevention. *Adolescent Health, Medicine and Therapeutics*, *7*, 125–146. https://doi.org/10.2147/ahmt.s101631.

Razi, M., & Nasiri, A. (2022). Concerns of parents about children's overweight and obesity during the COVID-19 pandemic: A qualitative study. *Journal of Pediatric Nursing*, *63*, 111–116. https://doi.org/10.1016/j.pedn.2021.11.012.

Rinaldi, C. (2013). Re-imagining childhood. https://reimaginingchildhood.com/app/uploads/2018/10/reimagining-childhood.pdf.

Roth, J., Sandberg, R., & Svensson, C. (2004). *The dual role of the insider action researcher. 117–134*.Collaborative Research in Organizations. https://doi.org/10.4135/9781412983679.n7.

Rundle, A. G., Park, Y., Herbstman, J. B., Kinsey, E. W., & Wang, Y. C. (2020). Covid-19–related school closings and risk of weight gain among children. *Obesity*, *28*(6), 1008–1009. https://doi.org/10.1002/oby.22813.

Sawyer, A., den Hertog, K., Verhoeff, A. P., Busch, V., & Stronks, K. (2021). Developing the logic framework underpinning a whole-systems approach to childhood overweight and obesity prevention: Amsterdam healthy weight approach. *Obesity Science & Practice*, *7*(5), 591–605. https://doi.org/10.1002/osp4.505.

Seidell, J. C., & Halberstadt, J. (2020). National and local strategies in the Netherlands for obesity prevention and management in children and adolescents. *Obesity Facts*, *13*(4), 418–429. https://doi.org/10.1159/000509588.

Simmonds, M., Llewellyn, A., Owen, C. G., & Woolacott, N. (2015). Predicting adult obesity from childhood obesity: A systematic review and meta-analysis. *Obesity Reviews*, *17*(2), 95–107. https://doi.org/10.1111/obr.12334.

Treacy, D. (2022). Appreciating situations of breakdown for researcher reflexivity. *Action Research*, *20*(3), 278–294. https://doi.org/10.1177/14767503211073083.

UNICEF (1990). *Convention on the rights of the child*. UNICEF. https://www.unicef.org/sites/default/files/2019-04/UN-Convention-Rights-Child-text.pdf.

UNICEF, EAT, & City of Amsterdam (2020). *The Amsterdam healthy weight approach: Investing in healthy urban childhoods: A case study on healthy diets for children*. UNICEF. https://www.unicef.org/documents/amsterdam-healthy-weight-approach-investing-healthy-urban-childhoods-case-study-healthy.

ten Velde, G., Lubrecht, J., Arayess, L., van Loo, C., Hesselink, M., Reijnders, D., & Vreugdenhil, A. (2021). Physical activity behaviour and screen time in Dutch children during the covid-19 pandemic: Pre-, during- and post-school closures. *Pediatric Obesity*, *16*(9). https://doi.org/10.1111/ijpo.12779.

World Health Organization (2023a). *Tenfold increase in childhood and adolescent obesity in four decades: New study by Imperial College London and WHO*. World Health Organization. https://www.who.int/news/item/11-10-2017-tenfold-increase-in-childhood-and-adolescent-obesity-in-four-decades-new-study-by-imperial-college-london-and-who.

World Health Organization (2023b). *World obesity day 2022 – Accelerating action to stop obesity*. World Health Organization. https://www.who.int/news/item/04-03-2022-world-obesity-day-2022-accelerating-action-to-stop-obesity.

Yalanis, G. C. (2023, February 4). Childhood obesity statistics 2023. The Checkuphttps://www.singlecare.com/blog/news/childhood-obesity-statistics/.

Zhang, X. -B., Gui, Y. -H., Xu, X., Zhu, D. -Q., Zhai, Y. -H., Ge, X. -L., & Xu, H. (2020). Response to children's physical and mental needs during the COVID-19 outbreak. *World Journal of Pediatrics*, *16*(3), 278–279. https://doi.org/10.1007/s12519-020-00365-1.