



# Parent perspectives on preschoolers' movement and dietary behaviours: a qualitative study in Soweto, South Africa

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## Abstract

**Objective:** Childhood obesity is of increasing concern in South Africa, and interventions to promote healthy behaviours related to obesity in children are needed. Young children in urban low-income settings are particularly at risk of excess adiposity. The current study aimed to describe how parents of preschool children in an urban South African township view children's movement and dietary behaviours, and associated barriers and facilitators.

**Design:** A contextualist qualitative design was utilised with in-depth interviews conducted in the home setting and analysed using reflexive thematic analysis. Field notes were used to contextualise findings.

**Setting:** Four neighbourhoods in a predominantly low-income urban township.

**Participants:** Sixteen parents (fourteen mothers, two fathers) of preschool-age children were recruited via preschools.

**Results:** Four themes were developed: children's autonomy and the limits of parental control; balancing trust and fears; the appeal of screens; and aspirations and pressures of parenthood. Barriers to healthy behaviours included children's food preferences, aspirations and pressures to consume unhealthy foods, other adults giving children snacks, lack of safe places to play, unhealthy food environments and underlying structural factors. Facilitators included set routines, the preschool environment, safe places to play and availability of healthy foods.

**Conclusions:** Low-income families in Soweto face many structural challenges that cannot easily be addressed through public health interventions, but there may be opportunities for behavioural interventions targeting interpersonal and organisational aspects, such as bedtime routines and preschool snacks, to achieve positive changes. More research on preschoolers' movement and dietary behaviours, and related interventions, is needed in South Africa.

## Keywords

South Africa  
Low- and middle-income countries  
Childhood obesity  
Health behaviours  
Preschoolers  
Parents  
Qualitative research

The burden of non-communicable diseases has risen substantially in Sub-Saharan Africa over the last three decades<sup>(1)</sup>. Overweight and the associated behaviours of physical inactivity and unhealthy dietary behaviours are major non-communicable disease risk factors and very prevalent in Sub-Saharan Africa<sup>(2)</sup>. Rising rates of obesity in the early years of childhood, likely to track into adulthood, indicate that prevention needs to start early<sup>(3–5)</sup>. In South Africa, children in urban low-income settings are particularly at risk of excess adiposity<sup>(6,7)</sup>.

The promotion of healthy behaviours is a central element of preventing childhood obesity<sup>(8)</sup>. Evidence-based dietary and physical activity guidelines set out the

behaviours considered optimal for different age groups, and studies from high-income countries (HIC) have demonstrated associations between physical activity guideline compliance and better health and developmental outcomes<sup>(9–13)</sup>. There is also a large body of literature qualitatively examining young children's health behaviours, parent perspectives and contextual factors, but this literature predominantly stems from HIC<sup>(14–17)</sup>.

South Africa recently launched its first 24-h movement guidelines for children under the age of 5 years, and the national food-based dietary guidelines, including paediatric guidelines, were last updated in 2013<sup>(18,19)</sup>. The new Road to Health booklet launched by the South African

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Department of Health in 2018 for tracking the health of children under the age of 5 years also outlines healthy dietary behaviours<sup>(20)</sup>.

A recent study examining preschoolers' movement behaviours and gross motor skills in Soweto highlighted that many young children were short sleepers and seemed to be going to bed late<sup>(7)</sup>. Concerns around South African children's diets include the lack of dietary diversity in young children's diets, as many are consuming a diet that is high in starchy foods and low in fruits and vegetables, and the consumption of sugar-sweetened beverages, salt and fast food<sup>(21,22)</sup>. It is important to understand the contexts in which these behaviours occur, as it is recognised that factors like socio-economic circumstances and elements of the built environment have a bearing on childhood obesity and related behaviours<sup>(23,24)</sup>.

The complex web of influences on childhood obesity has been conceptualised through various applications of the social-ecological model of health<sup>(25,26)</sup>. According to these, there are several levels and spheres of relevance to childhood obesity and related dietary and movement behaviours, including individual characteristics of a child, home and family settings, preschools, neighbourhoods and wider cultural, societal and political aspects. Primary caregivers have unique insights when it comes to preschoolers' health-related behaviours, and barriers and facilitators to these<sup>(27)</sup>. A better understanding of the constraining or enabling role of the environments in which preschoolers live can inform future behavioural interventions aiming to benefit low-income communities<sup>(27)</sup>.

The current study aims to describe how parents of preschool-age (3–5 years) children in Soweto, an urban and predominantly low-income township in Johannesburg, view children's health behaviours and to situate these perspectives in the context of preschoolers' homes and wider environments. Findings regarding parents' perceptions of childhood obesity and preschoolers' size and weight have been published previously<sup>(28)</sup>, whereas the focus here is on obesity-related behaviours.

## Methods

### *Theoretical approach and study design*

The current study is situated within a contextualist epistemological approach to qualitative inquiry<sup>(29)</sup> and utilises semi-structured in-depth interviews, field observations and reflexive thematic analysis<sup>(29,30)</sup>. This approach enables a focus on individual experiences and perceptions in relation to the environment. What people say reflects their reality, and where possible, individual accounts are contextualised by observations of the environment in which study participants live and any relevant interactions between the individual and other levels of social-ecological models of health<sup>(25,26)</sup>, such as family circumstances or community characteristics. Individual interviews with parents and field

observations were selected due to the insights that using these methods could elicit regarding both family and home circumstances, and other levels of the social-ecological model. The current study is reported in accordance with the Standards for Reporting Qualitative Research<sup>(31)</sup>.

### *The study setting*

Soweto is a densely populated, urban township in Gauteng Province, South Africa. Colonial and apartheid urban planning policies of racial segregation assigned most of Soweto to Black African residents<sup>(32)</sup>, and the majority of the population is still of Black African descent. The four neighbourhoods included in the current study represent relatively safe and socio-economically diverse parts of Soweto with predominantly formal housing. They were selected due to prior research contacts with preschools that had previously facilitated contact with parents regarding children's participation in other studies. The preschools facilitated initial contact with potential participants who had children in the relevant age group, but they played no further role in the study.

### *Recruitment*

Details of recruitment are described in detail elsewhere<sup>(28)</sup>. In short, recruitment consisted of a combination of purposive (according to inclusion criteria such as being the primary caregiver of a 3–5-year-old child who attends a specific preschool, fluency in English and different socio-economic situations) and convenience (driven by availability of participants) sampling through four local preschools. New participants were recruited gradually until there was sufficiently rich and diverse data to fulfil the study's aims. A conscious effort to recruit fathers into the study was made, but only very few potential participants were men.

Written and verbal information about the study was provided to each potential participant, and written informed consent to participate was obtained after opportunities to ask questions about the research and participation. This process was done by the first author with the help of a local fieldwork assistant, who had been trained in relevant qualitative research methods and ethics.

### *Data collection and analysis*

Data collection comprised in-depth interviews and complementary field notes completed by the first author. The interviews were audio-recorded (Philips DVT4010 VoiceTracer) and transcribed verbatim. This process and the materials used are described in more detail elsewhere<sup>(28)</sup> and in the online Supplementary Material. Interview transcripts were analysed using reflexive thematic analysis according to the process developed by Braun & Clarke<sup>(29,30)</sup>, and contextualising field notes were used to support interpretations. Analysis software MAXQDA (Release 12.2.0) was used to support transcription, coding and data management. The coding and



resulting theme development carried out by the first author was inductive, data-driven and focused on manifest content so as to be open to new concepts or patterns throughout the analysis, and to avoid potentially misguided latent interpretation in this cross-cultural qualitative inquiry. The two other authors acted as 'critical friends'<sup>(33)</sup>, supporting the refinement of themes.

## Results

Table 1 summarises socio-demographic characteristics of the sixteen study participants; further details can be found elsewhere<sup>(28)</sup>. All participants were Black South Africans and the preschool child's biological parent. Most participants were single and lived together with extended family in typical detached houses with electricity and running water that also often have additional rooms or shacks for family members or tenants in the backyard<sup>(34)</sup>. Some participants were such tenants. The socio-economic circumstances of participants ranged from those who were unemployed and not able to rely on much family support to participants who were living with family members who had a stable income while they were studying or also employed. Traffic-related safety concerns were prominent across the neighbourhoods. However, some participants lived on quieter or more spacious streets where children frequently played in the street. All homes had gated yards of varying sizes.

Through the thematic analysis process, four themes were developed that capture parent perspectives on children's obesity-related health behaviours, and associated barriers and facilitators. The four themes are children's autonomy and the limits of parental control; balancing trust

and fears; the appeal of screens; and aspirations and pressures of parenthood. Underlying all four themes is an element of tension and complexity, which reflects the challenges and nuances of parenthood the parents in the current study communicated in the interviews.

### ***Children's autonomy and the limits of parental control***

The tension between children's autonomy and the limits of parental control is exemplified in how parents in the study talked about their preschoolers' health-related behaviours and routines, and eating and sleeping in particular. Illustrative quotes are provided in Table 2.

Many children were described as fussy eaters, and this often resulted in young children having considerable autonomy regarding food. Parents showed awareness of foods that should be limited, but this conflicted with their ability or willingness to set boundaries for children. This appeared to be amplified by the food environment around the home, which was described as fuelling children's desire for certain foods and enabling unhealthy snacking. Parents' concerns about unhealthy foods were not only about sugar, fat or salt, all of which were flagged as unhealthy by participants, but many also talked about foods sold in the neighbourhood being potentially expired or cooked in unhygienic conditions.

Many participants described themselves as being responsible for buying and preparing food at home, and an element of this role was keeping everyone in the household happy. Some described consulting children and other family members about their preferences, and others simply let children decide for themselves what they wanted to eat, within the limits of what was available and affordable. This was

**Table 1** Socio-demographic characteristics of study participants

No.	Age	Relationship to preschooler(s)	Marital status	Age of preschooler(s)	Employment status	Social grants in household
1	21	Mother	Single	4	Unemployed	Child support grant*
2	26	Mother	Single	4	Employed	Child support grant*
3	30	Mother	Married	4	Unemployed	None
4	38	Mother	Divorced	4	Employed (part-time)	Child support grant*
5	47	Mother	Widowed	5	Employed	None
6	23	Mother	Single	4	Unemployed	Child support grant*
7	30	Mother	Married	4	Employed	None
8	42	Mother	Single	3 and 4	Unemployed	Child support grant*
9	36	Mother	Single	5	Employed	Child support grant*, disability grant†
10	37	Mother	Single	4	Employed	Child support grant*
11	27	Mother and aunt	Single	4 (son) and 3 (niece)	Unemployed	Unclear
12	25	Mother	Single	4	Recently unemployed (occasional work)	Child support grant*
13	25	Mother	Single	4	Student	None
14	24	Father	Single	4	Student (part-time work)	None
15	29	Mother	Married	5	Employed	Disability grant†
16	37	Father	Single	5	Unemployed	None

\*The child support grant is approximately US\$28/month/child.

†Disability grants can be up to approximately US\$120/month in South Africa.

**Table 2** Interview excerpts about autonomy and control

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'We don't know when they go outside the gate what they're buying ... It's better that whatever that they want they tell you, "I want this and that and that", and then you buy for them. 'Cos for me, I prefer to buy everything. They know that they always have juice, crisps, everything, they have burgers, whatever.' (Interview 9, mother)

'You'll find that when he's with his friends, the parents will buy them a packet of sweets or chips or whatever, and they'll be eating and he'll come back with a blue tongue (from sweets), you know.' (Interview 14, father)

'I'd say she's healthy when she's at (pre)school 'cos when she's home she eats a lot of sweet and junk food.' (Interview 1, mother)

'When they're going to crèche (preschool) you have to put for them snacks. Maybe I'm putting for him the Zoom, you know the Zoom, the juice Zoom ... And yoghurt and snacks. Every day I have to put for him.' (Interview 6, mother)

'We were at an opening meeting at crèche, and there is a teacher there who ... was telling us no kids will bring Simbas (potato chips) or any sweet here. Next year you only give them a bottle of water and a fruit ... So if there is a kid there who came maybe with a packet of Simbas then I take my son with an apple then he comes back crying, 'Why aren't you buying me Simbas?' you know, ja.' (Interview 11, mother)

'It's challenging 'cos he is a fussy eater ... When you cook pap (maize porridge, traditional staple food) he'll tell you he wants rice. When you cook rice he'll tell you he wants noodles, so he's very challenging when it comes to food ... I prefer to ask him what does he prefer to eat then I can cook what he prefers to eat.' (Interview 7, mother)

'Here at home we don't have a specific time for a child to go to sleep. A child go to sleep when they feel sleepy.' (Interview 10, mother)

'They can decide for themselves. 'Cos they don't want to listen to us.' (Interview 6, mother)

'I can switch off the lights and sleep, make um pretend as if I'm sleeping. Just for him to sleep, then afterwards, wake up and do whatever I'm meant to be doing 'cos normally I read by that time, so yeah. The latest time he sleeps is 10 o'clock.' (Interview 4, mother)

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described as normal and practical, except for when children preferred fast food that the family could not afford.

The limits of parental control were manifest both in the home and in relation to parents' ability to monitor or influence what children were eating outside the home. Even though pocket money was often described as something for school-age children rather than preschoolers, it was evident from both participant accounts and fieldwork observations that very young children were also given small amounts of pocket money. Since children often played in the street outside their house in groups without much adult supervision, they were able to buy sweets and other snacks sold by street vendors and in small stalls (tuckshops) that were either in or very near the areas in which they played. Some parents also described the challenges of other adults, such as relatives or other parents, giving their children fast food or unhealthy snacks, as this was again outside of their control.

Parents tended to consider preschools a healthy setting for children, involving elements of structure and control. This contrasted with the limited control many parents described having over their children's dietary behaviours. However, parents did have some influence on what their children ate at preschool through the afternoon snacks they were expected to send with their children. The options described by parents were sweetened fruit drinks, yogurt, fresh fruit and small bags of potato chips. Seeing as many parents described bulk-buying of such snacks, potato chips or other non-perishables were usually preferred over the healthier option of fresh fruit. It was also clear from field observations that children sometimes brought sweets with them to preschool. As one mother explained (see Table 2), a teacher had tried to regulate the snacks children could bring, but this was unlikely to be successful due to peer

pressure and inconsistent practices among parents. In these ways, decisions that were under parents' control sometimes conflicted with the healthy routines promoted by preschools, for both financial and practical reasons, and due to parents catering to children's preferences.

It was also practical to allow children to decide when to go to bed. Children not wanting to obey adults, or not being tired when the parents went to sleep, were cited as reasons for allowing children to set their own bedtimes. In many homes, children of different ages were allowed to stay up until they were ready to go to sleep, and younger children's greater need for sleep compared to older children was thus not always recognised. Preschool-age children were described as often wanting to sleep at the same time as parents or grandparents, and parents who did have more established routines around bedtimes often pretended to sleep until the preschoolers fell asleep. Some parents therefore found ways to harmonise children's preferences with healthy behaviours through developing specific routines.

### ***Balancing trust and fears***

This theme captures the uneasy relationship parents have with the neighbourhood in which they live, and illustrative quotes are summarised in Table 3. Many participants were positive about their neighbourhoods in general, but had concerns about their children playing outside in terms of safety. Several parents had grown up in the same area themselves, and they tended to reason that it must be fine for their own children to play outside before it gets dark because they had done the same as children. Nevertheless, fears regarding reckless and dangerous driving in the neighbourhood, and the possibility of children getting kidnapped and murdered, were often expressed.

**Table 3** Interview excerpts about trust and fears

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'They can go out, I'm fine but yoh (colloquial exclamation) I don't like the idea of them going out, I really don't like it. But I don't have a choice, they're kids. I'm not gonna lock the doors every day! I can't, nobody locked the doors for me so (laughing) I can't do that.' (Interview 4, mother)

'Uhh it is not safe (for kids to play outside the yard) . . . Like kids now get kidnapped, murdered, so that's the reason.' (Interview 11, mother)

'I don't feel safe. It's better that he's in the yard because you won't be depending on other people to look after your kid . . . I don't trust my neighbours.' (Interview 9, mother)

'Ja then I'm just thinking like there's no other extramural activities around. Because even if they do create, our own people mess it up so, it's quite, it's quite tough . . . Like when you get to have like nice parks with nice activities, bins and everything, but then because of people that are exposed to other things they go and damage. So now the kids don't have those places anymore.' (Interview 16, father)

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Playing was something that mostly took place outdoors, either in the yard or if considered safe enough, out in the street. Parents described children's playing as 'running around', and this was not an indoor activity. Some also had bicycles or scooters, which again required outdoor space. All parents recognised the need or desire of children to spend time playing outdoors, but this had to be balanced with fears about what might happen to children playing outside.

Supervision was described as essential, but many parents talked about not wanting to trust others with their children. The presence of extended family or having enough space for other children to come over to play as opposed to allowing children to go elsewhere to play alleviated the issue of having to trust adults outside one's family. There was not much active parental supervision detectable in the study neighbourhoods during field observations, and supervision of outdoor play was described as checking on children through a window or listening out for sounds of playing.

When asked what could be changed or improved about the neighbourhoods, the most consistent suggestion was for children to have access to safe parks or playgrounds. However, the complicated dynamic of trust and fears in relation to the neighbourhood was present here as well as some speculated that while it would be important to have more spaces dedicated to children, such new facilities would likely be vandalised or become unsafe.

### ***The appeal of screens***

As illustrated by the quotes in Table 4, devices such as smartphones, tablets and laptops were described as both entertainment and educational resources, which contributed to their prominence in children's daily routines. Preschoolers also

regularly watched cartoons or soap operas on TV, especially in the weekends and in the evenings after it got too dark to play outside. Sometimes this was a shared family activity, and a way for parents to spend time with their children. However, the strong desire of children to play with phones and tablets was described as more of a novelty compared with the normalised activity of TV viewing.

On the one hand, parents were impressed with their young children for being able to operate devices like smartphones and tablets. On the other hand, parents found it inconvenient that children were playing with the parents' phones or other personal electronic devices, potentially deleting important information, using too much data or making noise with games.

The reasons for parents to restrict children's screen time were therefore mostly practical. The dangers of strangers on social media or content that is not meant for children also came up, but none of the parents talked about screen time itself as a potentially harmful or unhealthy activity.

### ***Aspirations and pressures of parenthood***

This theme captures the ways in which parents described aspirations and pressures in relation to being a parent, often stemming from their social and physical environment, as well as from the challenges of unemployment. This theme adds nuance to some of the tensions already presented under the first theme of autonomy and control, as it further contextualises the decisions made by parents, particularly in relation to food and the food environment. Quotes illustrating these aspirations and pressures are summarised in Table 5.

Both healthy and unhealthy foods were described as easily available in the neighbourhoods, and one challenge was maintaining healthy dietary behaviours for children when

**Table 4** Interview excerpts about the appeal of screens

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'He wants to play games with it and by the end of the day . . . I find my phonebook deleted . . . I keep it away. But then whatever chance or whatever opportunity that he gets he will definitely take it and I find him trying, just pressing and pressing . . . So yeah, the last time he found out my pattern. I found him already opening my phone and playing the game already. So, they're quite smart. They're quite smart.' (Interview 16, father)

'I bought them these tablets but not like it's for games, it's not really games. It's for learning but it's too loud. Yoh! (colloquial exclamation) And obviously they need it volume up. Play it, volume up, ohh. So I took out the batteries. It must come out. It's too much. So they sing along to that. Your ABCs, your 123s.' (Interview 15, mother)

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**Table 5** Interview excerpts about aspirations and pressures

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'We have a Debonairs (pizzeria) just next to us. Imagine the child passing by with a box of pizza here and then this one she is sitting at the gate. "Mommy doesn't buy me that, she is always making me eat carrots and all those things", can you imagine the pressure?' (Interview 12, mother)

'Love is very important. It's something that you can never buy or, it comes naturally. So that's the most important thing I guess for me. It's just to give them that... Being with them.' (Interview 16, father)

'You know, sometimes you need to go out and especially to the malls... It blesses you as a mom, at least I am doing something for my kids. Even though I know I don't have to, you know kids, even you can buy a small pizza, to them it's like you did something big, so I just buy a pizza... Honestly, I only do that every three months, I have to budget... so that I can be able to afford to take them to, to the mall.' (Interview 8, mother)

'Cos you know, without money at home, I cannot be raising my kids, you understand? We're gonna face some certain challenges... You find (name of older son) is nine, "Oh my mom can't buy for us food, my mum can't do that", he's gonna start going out, start robbing people, start doing funny things. Just to put food uh food on the table so I don't want that.' (Interview 4, mother)

'(Members of the extended family) try to take a second parent role, you know. So, maybe if you're lacking somewhere, they'll cover up that part without you even noticing. Let's say maybe I'm not like financially stable. I cannot get my child takeaways maybe every month... You know. They'll be there to get him takeaways.' (Interview 14, father)

'The unemployment, hey. Yeah. Not being employed, yeah. I think that's all (I would change). 'Cos I-I have support here at home, like we take care of each other at home but the not working part, not getting a permanent job, yeah.' (Interview 4, mother)

'Challenges, eish (colloquial exclamation), no, I don't think I have any challenges. I'm doing great. I'm doing good (laughs). Obviously it's not, it's not easy being a mom. It's not easy. And obviously you are never taught how to be a mom. Just, it's a natural thing. You don't know whether you're doing right, or you're doing wrong. But you hope that you're doing the best you can.' (Interview 15, mother)

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others could be seen to do something different. The way in which the affordability of different foods was described paints a somewhat complex picture. Vegetables and other foods described as healthy were reportedly cheap and available everywhere, but many parents expressed concerns about being able to afford enough food for their families, and some preferred to spend their money on more filling foods than vegetables. While financial constraints were often cited in relation to buying what were seen as luxurious or unhealthy foods, such as takeaways, some parents also found it easier and cheaper to buy local fast food compared with buying all the ingredients for cooking a meal.

Parents talked about wanting to make their children happy, and while loving and caring for children was typically described as spending time together, there were also aspirations related to taking children to places like malls, cinemas and fast food restaurants. A typical narrative was expressing that love and care are the most important things parents provide for their children, and that love is not really about money, but there are things money can buy that could make children happier or that would make parents feel like they really are doing their very best for their children. Only a few families were able to spend money on such things regularly, as many were affected by unemployment and found it difficult to afford everything they needed each month. One mother's fear that children might turn to stealing as they got older in order to compensate for parental shortcomings illustrates the severe pressure some parents felt. The feeling of not being able to give your children everything you want was one of the most difficult challenges parents described facing. The role of extended family was described as compensating where parents were lacking, for example, in buying presents or treating children to takeaway meals.

Despite the pressures and sometimes unachievable aspirations, most parents in the study described themselves as being

happy with their situation. Typically, the only desired change was finding work, or if already working, getting a better paid job. Having a job or sufficient family support tended to mean that both necessities and luxuries could be afforded, although parenthood still came with its own challenges.

## Discussion

The aim of the current study was to describe how parents or caregivers of preschoolers in an urban township setting in South Africa view children's health behaviours and to situate these perspectives in the context of the home and wider environment. Four themes were developed: children's autonomy and the limits of parental control; balancing trust and fears; the appeal of screens; and aspirations and pressures of parenthood. These themes centre on complex barriers and facilitators to healthy behaviours, and they reflect the nuanced ways in which parents in the study described their views and situations.

The participants showed varying degrees of awareness regarding health-related behaviours, and health itself was not necessarily the guiding principle in how parents made decisions that related to preschoolers' movement and dietary behaviours. Practicality, aspirations, pressures and financial constraints, among other things, played a role in this. The social-ecological model helps to conceptualise the barriers and facilitators highlighted by participants, and these are summarised in Fig. 1.

While the focus was on the social and physical environments, such as family routines and neighbourhood food environments, the interviews with parents of preschoolers also shed light on how structural factors, such as unemployment and poverty, were prominent concerns in the families' lives and inseparable from other influences on



**Fig. 1** (colour online) Barriers and facilitators to healthy behaviours organised by levels of the social–ecological model

health behaviours. Other studies from Soweto have also highlighted the limits of individual agency vis-à-vis structural constraints in this low-income setting when it comes to health-related behaviours<sup>(35)</sup>. Recognising these tensions in people's lived experiences and circumstances necessitates critical consideration of what can be achieved through public health interventions, and in particular, who is most likely to benefit<sup>(36)</sup>.

From a public health perspective, the findings of the current study show that there are several aspects of children's movement and dietary behaviours that could be targeted through interventions. In particular, some of the behaviours and routines that parents described around children's snacking and sleeping may be possible to address without being hindered by structural or environmental factors. While these complex constraints should also be addressed, they will require approaches beyond behavioural public health interventions. The most promising avenue for behavioural interventions may thus be the targeting of behaviours more constrained by interpersonal and organisational rather than structural or community factors (Fig. 1). It is, however, important to acknowledge that behavioural interventions are influenced by many different factors and may be more or less effective depending on the social–ecological level<sup>(37)</sup>.

Research in HIC has found parenting styles to have a bearing on preschool-age children's health behaviours, such as fruit and vegetable consumption<sup>(38,39)</sup>, and supporting parents to promote healthy behaviours could be explored in the Sowetan setting too. Preschools and parents might be able to overcome some aspects of peer pressure and unhealthy snacking through coordinated action. Similarly, in households where different family members have enough space to feasibly sleep at different times, there is an opportunity to establish bedtime routines that would ensure that preschoolers get enough sleep. Engaging families and preschools in this way could be a way to improve the degree to which young children meet sleep and dietary guidelines, given that these have been

identified as areas of particular concern in South African children<sup>(7,21,22,40)</sup>.

Similarly, when it comes to screen time, the dual nature of how parents approach it as both educational and disruptive could be utilised in promoting behaviours that meet recommended guidelines. If parents are willing and able to limit screen time for certain purposes, without feeling like potential educational benefits will be lost, it may be possible to support parents to establish routines and behaviours for their preschoolers that align with guidelines and that favour educational and developmentally appropriate content. While guidelines focus on the quantity of screen time, the evidence base on the different effects on health and beyond of different types of screen time is growing, although mainly through research in HIC outside the African continent<sup>(12,41)</sup>. Intervention development to address screen time and the earlier mentioned routines around sleeping and eating in the specific context of Soweto would need to be done in a participatory way in order to fully align with people's realities and, for example, the wider household and family dynamics.

Parents worried about different aspects of their children's health and well-being. The prominence of their concerns around food safety and hygiene in the neighbourhood was understandable against the background of a recent listeriosis outbreak<sup>(42)</sup>, and their fears and lack of trust expressed in relation to children's personal safety are, unfortunately, well founded in light of statistics on violent crime and child abuse in South Africa<sup>(43,44)</sup>. While there is a growing discourse around the promotion of so-called 'risky play' in high-income settings<sup>(45)</sup>, there is a need to make outdoor play safer for children in South Africa. Even if South African preschoolers are relatively active<sup>(6,7)</sup>, it is unacceptable for it to happen at the expense of their safety and well-being. A focus on the interpersonal level in interventions and engaging parents to address barriers to healthy behaviours together may also be a way to stimulate some trust and community cohesion through parents realising they share the same concerns for



their children. However, crime and violence will need to be addressed on multiple and higher levels, and interpersonal trust is unlikely to improve significantly without concrete improvements in safety.

It is clear from the analysis presented here that parents want their children to learn, develop and feel happy and loved. Supporting these positive notions through interventions that promote nurturing care in a way that also promotes healthier behaviours could be a promising approach. While nurturing care and parenting interventions have tended to focus on the first 2 years of life<sup>(46,47)</sup>, the findings of the current study suggest that preschoolers may also benefit from such an approach. Research exploring this type of interventions in urban townships in South Africa is beginning to emerge<sup>(48)</sup>, and rigorous evaluations are needed to determine the effectiveness of such approaches on promoting healthy behaviours.

Other research in South Africa has explored the ways in which aspirational consumption is linked to indebtedness, poverty and the legacy of apartheid<sup>(49)</sup>. Indeed, the aspirations that parents in the study expressed around buying certain things, or giving their children experiences like visiting malls, provide insights into the lived experience of poverty and inequality in a society where consumption is a way of signalling social status or well-being. It is evident from the parents' narratives that consumption can also signify parental love and the pursuit of making one's children happy. It may be difficult to steer these types of aspirations towards more health-centred ideals without also introducing an element of judging parents for the choices they make. Moreover, given the framing of fast food consumption as occurring on special occasions, it may not be a pivotal part of children's diets on which to focus.

A review comparing the associations between parenting practices and child health and developmental outcomes in Sub-Saharan Africa with those in HIC found that such associations were broadly similar across country settings in the existing evidence base<sup>(50)</sup>. This points to the transferability of such findings. However, despite similarities or theoretical soundness of findings from different settings, it should not be assumed that qualitative evidence from HIC can directly inform interventions elsewhere.

There are both similarities and differences when comparing qualitative evidence of parent perspectives on preschoolers' movement and dietary behaviours from other settings to the findings from Soweto. A recent study examined such parenting practices in Brazilian immigrant families in the USA<sup>(51)</sup>. The Brazilian parents actively discouraged screen time in favour of physical activity and set boundaries in a more health-centred manner than the Sowetan parents, who mostly restricted screen time for more pragmatic reasons. This suggests differences in awareness about the health implications of movement behaviours. Similarly to the Sowetan context, traffic-related concerns, financial constraints and limited space were cited by the Brazilian parents

as limiting opportunities to play and be active. As for setting boundaries related to food and eating, a study with Nepali mothers of children aged 5–10 years also reported mothers feeling powerless due to both children's preferences and obesogenic environments<sup>(52)</sup>. Giving children what they want is understandably a desire felt by parents across settings, and children's preferences are a commonly reported factor contributing to unhealthy dietary intake<sup>(16)</sup>.

The findings of the present study both support some other qualitative findings and add new perspectives and nuance to the growing qualitative evidence base on preschoolers' movement and dietary behaviours. The findings further underscore that Soweto is a dynamic and complex setting in which to promote health. Much needed improvements in livelihoods and employment opportunities may also mean increased opportunities for consuming unhealthy foods. In engaging parents in preschoolers' health behaviours, it would be important to promote healthy routines in a non-judgmental way and try to inspire health-aligned aspirations by, for example, making the case for healthy behaviours promoting children's development and learning, which is evidently important to parents<sup>(48)</sup>.

There are some strengths and limitations that relate to the design and methods of the current study. Given the complexity illustrated in social–ecological models, many other perspectives, including children's own views and those of, for example, preschool staff<sup>(53)</sup>, are also relevant to explore but were beyond the scope of the present study. A specific limitation is the small number of male participants, and the fact that no other caregiver types, such as grandparents, aunts or uncles, were recruited into the study despite their relevance as primary caregivers of many children in Soweto. Moreover, asking parents about health-related behaviours inevitably involves some social desirability bias as their responses are an expression of how they wish to be viewed as parents. Although interview findings were contextualised and triangulated with the help of field observations, it is impossible to determine whether specific claims made by participant were influenced by social desirability bias. In addition to social desirability bias, the socio-economic imbalance between participants and researchers may also have encouraged participants to emphasise negative aspects of their experiences due to expectations held towards the research team or university. However, there were no requests of any kind made by participants, and accounts of difficult experiences or circumstances were sometimes followed by observations that talking about them had felt helpful. Overall, the open and inductive approach of the qualitative inquiry seemed to allow for nuanced and in-depth accounts from research participants despite the likely barriers introduced by the cross-cultural and once-off nature of the interviews<sup>(54,55)</sup>.

It is important to reflect on the role of the authors in shaping these analyses, and Abimbola's framework on authorial reflexivity is useful here<sup>(56)</sup>. One author is a





South African citizen, and all three are White women with no personal experience of being a parent in Soweto. No claims are therefore made about possessing a fully local perspective from which to write this article. Similarly, the research involves a foreign gaze, situating these findings in an international, HIC-dominated literature around health behaviours and behavioural interventions. The interpretations presented here may thus differ from those made with the benefit of a more emic perspective throughout the study. In particular, the focus on informing interventions may have resulted in simplified assumptions about children's behaviours and circumstances. Nevertheless, the research was guided by trying to understand rather than judge participants, and the authors are responsible for any misrepresentations or misunderstandings.

### Conclusions

The current study paints a complex picture of preschoolers' movement and dietary behaviours in Soweto. Low-income families face many challenges that cannot easily be addressed through public health interventions, but there may be opportunities for behavioural interventions targeting interpersonal and organisational aspects, such as bedtime routines and preschool snacks, to achieve positive changes in children's health behaviours. More research on preschoolers' movement and dietary behaviours, and related public health interventions, is needed in South Africa.

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collected all data; carried out analyses and drafted the manuscript with guidance and supervision from C.E.D. and E.M.F.v.S. at each aforementioned stage. All authors contributed to the editing of the manuscript, and read and approved the final manuscript. *Ethics of human subject participation:* The current study was conducted according to the guidelines laid down in the Declaration of Helsinki and all procedures involving research study participants were approved by the University of the Witwatersrand's Medical Human Research Ethics Committee (reference number: M180257), and this approval was also supported by the Psychological Research Ethics Committee at the University of Cambridge in the United Kingdom. Written informed consent was obtained from all participants. A supermarket voucher (approximately US\$10) was given at the end of each interview as appreciation of participants' time. To avoid incentivising or pressuring people into participating, the voucher was not mentioned in the study information sheet nor verbally before the interview.

### Supplementary material

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