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Amplifying Children's Voices

A qualitative exploration of associations between the built environment and social and emotional wellbeing in children living in hardship in urban growth areas

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Research Summary

Why was the research done?

Neighbourhood environments are known to influence how children feel and get along with others. However, children rarely have a say in the planning of their suburbs or cities. We wanted to ask children and their carers what makes children feel good in their neighbourhood, so their perspectives can inform how their neighbourhoods are designed.

What were the key findings?

We conducted family interviews with 14 children aged 4 to 12 years and 6 carers experiencing hardship and living in new, outer-suburban neighbourhoods. The findings identified four ways that neighbourhood environments might shape children's wellbeing: 1) sensory and nature play in green and blue spaces can help children feel 'calm happy'; 2) risky play in green and blue spaces can help children feel 'excited happy'; 3) private, safe spaces can help children feel a sense of belonging; and 4) pet-friendly housing and public space can help children feel a sense of community and friendship.

What does this mean for policy and practice?

Urban planners should prioritise safe, accessible local green and blue spaces that support both calming and stimulating play, enable children to play independently near their home, provide clean and accessible facilities, and support affordable, pet-friendly housing. These priorities may be particularly important for families experiencing hardship and living in outer-suburban neighbourhoods.

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We acknowledge the Traditional Custodians of the lands on which we work and live across Australia.
We pay our respects to Elders past and present and recognise their continued connections
to land, sea and community.

Abstract

Introduction: Children's voices remain largely absent from urban planning policy, despite growing recognition that children's perspectives should inform decisions shaping their environments and wellbeing. Participatory, child-centred research is needed to inform urban planning policy and ensure that children's perspectives are translated into actionable recommendations for planning and design. This study explored the perspectives of children and their carers to determine 'what' and 'how' features of the neighbourhood built environment impact the social and emotional wellbeing of children residing in urban growth areas and experiencing hardship.

Methods: Between December 2024 and April 2025, six carers and 14 children aged 4-12 years residing in Perth, Western Australia, were purposively recruited from a Child and Parent Centre to participate in one or more child-friendly research activities. Family go-along interviews were conducted at locations informed by a 'draw and tell' activity and an online mapping activity capturing children's feelings in different locations. A reflexive thematic analysis of the interview data was undertaken.

Results: Four themes were identified: 1) sensory and nature play in green and blue spaces facilitates 'calm happy'; 2) risky play in green and blue spaces facilitates 'excited happy'; 3) private, safe spaces facilitate sense of belonging; and 4) pet-friendly housing and public space facilitate companionship and sense of community.

Conclusions: Children living in urban growth areas and experiencing hardship offer valuable insights into how neighbourhood features can shape their social and emotional wellbeing. Embedding children's perspectives in policy and practice is critical to designing equitable and inclusive neighbourhoods for all ages.

Introduction

Social and emotional wellbeing plays a critical role in early childhood development, shaping children's ability to build relationships, succeed in school and navigate life's challenges (Australian Institute of Health and Welfare, 2022). The social and emotional development and wellbeing of young children has been linked to built environment features in the neighbourhood, such as housing quality and density; access to playgrounds, parks, and services; and the outdoor home environment (Abdollahi et al., 2023; Christian et al., 2015; Collyer et al., 2022; Francesconi et al., 2022; Robinson et al., 2022). However, neighbourhoods in low socio-economic areas can often lack 'child-friendly' features that support wellbeing due to the limited availability of high-quality services and infrastructure (Villanueva et al., 2025). Geographic inequities may be further exacerbated in urban growth areas, commonly defined as greenfield sites on undeveloped land on the outskirts of cities (Victorian Auditor-General's Office, 2017). These newer outer suburban developments are frequently characterised by low residential density, detached housing, poor walkability, and inadequate local infrastructure (McCulloch, 2012). Furthermore, these areas often attract families with young children due to their relative affordability and availability of yard space (McCulloch, 2012; Tomlinson, 2012; Villanueva et al., 2016). In the absence of essential services, such as schools, childcare and health care, families living in urban growth areas must often travel beyond their neighbourhood to meet everyday needs, increasing transport-related expenses and reducing time for local exploration, social connection, rest and recreation (Currie & Delbosc, 2011). Subsequently, children and families living in new outer suburban developments may feel increasingly isolated in ways that compromise their social and emotional wellbeing (Almeida et al., 2022).

Social and emotional wellbeing emphasises how a person thinks and feels about themselves and others and is most often associated with positive mental health indicators, such as optimism, resilience and coping (Australian Institute of Health and Welfare, 2016). However, an exploration of Early Childhood Development Index data from 35 low and middle income countries found that 26% of children aged 3-4 years had low socio-

emotional developmental scores (McCoy et al., 2016). In Australia, research conducted between 2013 and 2014 found one in 10 Australian children scored in the 'of concern' range of social and emotional developmental difficulties (Australian Institute of Health and Welfare, 2022).

Poor social and emotional development has been strongly linked to socio-economic disadvantage and inequality (Australian Institute of Health and Welfare, 2022; Visser et al., 2021). For example, recent reports have shown Australian children living in the lowest socio-economic areas were twice as likely to score 'of concern' for social-emotional developmental difficulties than those living in the highest socio-economic areas (16.0% vs 7.2%)(Australian Institute of Health and Welfare, 2022). Furthermore, they were more likely to experience difficulties in social competence (16.6% vs 7.3%) and emotional maturity (13.9% vs 7.1%)(Australian Early Development Census, 2025; Australian Institute of Health and Welfare, 2022).

Inequities in social and emotional development may be reduced through interventions targeting the social determinants of health, such as neighbourhood environments. Few studies have explored relationships between neighbourhood socio-economic status, built environments and children's social emotional development or wellbeing (Collyer et al., 2022; McEachan et al., 2018; Putra et al., 2021). Notably, children and families living in socio-economically disadvantaged neighbourhoods may also experience hardship - described as difficulty meeting basic needs or managing essential aspects of daily life (e.g., food, housing and financial obligations) - in ways that impact their use of neighbourhoods (Phillips & Callis, 2021; Thomas, 2022). Collyer and colleagues (2022) investigated how associations between built environment features and neighbourhood level variations in early child development domains differed by neighbourhood socio-economic status (SES) in metropolitan Perth, Western Australia (Collyer et al., 2022). For children attending their first year of school and living in low SES neighbourhoods, poorer emotional development was associated with greater residential density; increased traffic and street connectivity; shorter distances to parks, learning, childcare and health services; and more services and public transport stops (Collyer et al., 2022). In high SES

areas, children's social, emotional and developmental domains were all associated with greater residential density and improved access to parks, public transport, learning, childcare and health services. The reasons for these mixed findings were unclear but were thought to be multifactorial, potentially reflecting parents' neighbourhood perceptions of the neighbourhood, as well as the quality and use of built environment features. Villanueva and colleagues (2025) explored associations between neighbourhood disadvantage and urbanicity (e.g., living in inner-city more established areas versus urban growth areas) and early childhood development in Melbourne, Australia. Parents of young children aged 0-8 years living in urban growth areas reported a need for social and community infrastructure (e.g., libraries) to facilitate local supportive relationships, and high quality amenities for supporting positive developmental outcomes (Villanueva et al., 2025). However, children's perspectives were not reported.

Engaging children in urban planning processes is essential to ensure that policies adequately address children's needs (Ataol et al., 2019; Christian et al., 2021). The United Nations Convention on the Rights of the Child (Article 12) affirm that children have the right to express their views on decisions that affect them and have those views considered (United Nations, 1989). However, child input into urban planning policy development remains limited (Australia, 2022; Christian et al., 2021; Mansfield et al., 2021). While studies of children's participation in the planning and design of child-friendly cities and public places exist (Derr & Tarantini, 2016; Wilhelmsen et al., 2023), few studies have explored children's perceptions of how their neighbourhood environment impacts their social and emotional wellbeing, particularly qualitative research that gives voice to the lived experience of children. Moreover, these studies focusing on associations between built environment features and developmental outcomes have rarely adopted child-centred participatory methods to translate children's lived experiences into practice recommendations for planning in urban growth areas. Integrating children's and carer's lived experiences into research is critical when adopting a socio-ecological approach to human behaviour as the effects of environmental factors on wellbeing are shaped by how individual's perceive, experience and interact with their surroundings. A socio-ecological

framework recognises that social and emotional development is shaped by complex and interacting influences, ranging from the immediate family and neighbourhood to broader social and policy contexts (Bronfenbrenner, 1994). Thus, guided by a socio-ecological framework, this study explored ‘what’ and ‘how’ features of the neighbourhood built environment impact children’s social and emotional wellbeing, focusing specifically on the lived experience of children residing in urban growth areas and experiencing hardship.

Methods

Ethics approval for this mixed-methods study was provided by The University of Western Australia (2024/ET000338).

Sample

A purposive sampling technique was used to select children aged 4–12 years and their parents or caregivers (hereafter referred to as carers) in an urban growth local government area (LGA) in Perth, Western Australia. The LGA was identified as an urban growth area based on criteria provided by the Australian National Growth Areas Alliance, a peak body representing Australia’s fast-growing outer metropolitan local government areas (National Growth Areas Alliance, 2025). The LGA was characterised by low-density, car-oriented suburban neighbourhoods, master-planned estates and limited access to established services and infrastructure typical of urban fringe development. In addition, the LGA was considered a low socio-economic status (SES) area (decile 3) according to the 2021 Socio-Economic Indexes for Areas LGA Index of Relative Socio-Economic Disadvantage for Western Australia (Australian Bureau of Statistics, 2023).

Families were recruited from a Child and Parent Centre run by a not-for-profit partner organisation. Child and Parent Centres in Western Australia provide community-based services, such as early learning programs, child and maternal health care and parenting support to optimise children’s development and family wellbeing. Centre staff distributed study information to carers who they perceived to be experiencing hardship. Although a singular definition of hardship was not provided by the research team, staff considered

family and area-level SES, country of birth and difficulty meeting basic needs when recruiting carers and their children. When carers had multiple children in the eligible age-group, all children were invited to participate in the study.

Data Collection

Data collection occurred between December 2024 and April 2025. Prior to commencing Phase One, a member of the research team read the child(ren) an age-appropriate storybook that outlined the study aims, research plan and how the data would be used. This ensured each child understood the project and could provide informed assent to participate in a developmentally appropriate way. Children were also asked to choose a pseudonym or 'undercover name' to use throughout the project to encourage a sense of research ownership (Itzik & Walsh, 2023). Children who chose their own name instead of a pseudonym were assigned a new name by the research team when reporting findings to protect their anonymity. Children and their carers provided written consent prior to participating in the study.

Phase One included a 'draw and tell' activity at the Child and Parent Centre that required children to draw their ideal neighbourhood. The activity was facilitated by two researchers and lasted approximately two hours. During the activity, researchers asked the children questions about their drawings, exploring what they had drawn and why, how children might use the space illustrated, how the spaces made children feel, and what changes they would suggest for their real-life neighbourhood. While carers were present during the drawing activity, children were encouraged to express themselves independently.

Phase Two was completed during the same session as Phase One and consisted of a mapping activity involving Maptionnaire, an online public participatory geographical information system (PPGIS) platform used to collect children's geographical data and feelings associated with neighbourhood locations (Kytä et al., 2023). A satellite view of the child's local government area was given to children on an electronic device, with children asked to drop digital pins on locations that were important to them and where they regularly spent time. At each location, children were asked to identify how they usually felt

when they visited the location, with the response categories derived from the Positive and Negative Affect Scale (PANAS): joyful, cheerful, happy, lively, proud, miserable, mad, afraid, scared and sad (Watson et al., 1988). Emojis were included with each emotion to increase the visual appeal and comprehension of the mapping activity. While carers helped their child(ren) accurately place pins on the map and assisted them with interpreting questions, children selected locations independently. Mapped locations that reflected children's ideal neighbourhoods (Phase One) informed the selection of locations for the Phase Three family go-along interviews to ensure the interviews occurred in places that children found relevant and meaningful.

The Phase Three family go-along interviews enabled researchers to observe children's real-time interactions with their environment, prompting discussion and deepening researcher's understanding of participants' experiences. Mapped locations associated with positive emotions (joyful, cheerful, happy, lively, proud) were prioritised to reflect the study's emphasis on wellbeing. The proximity of locations to the family's home and other key neighbourhood destinations (schools, community centers, friends' and family members' houses) was also prioritised when selecting destinations for the go-along interviews to encourage participation. Two researchers accompanied the child(ren) and their carer to the chosen location. Interviews were conducted separately for each family, with one carer, and between one and four children, attending each interview. However, in instances where siblings selected different locations, the same family attended multiple sites. A semi-structured interview guide was developed by a research team with expertise in the built environment, child health, physical activity, mental health and qualitative research. During the site visit, participants were asked to describe their location, including how it made them feel; how they used the space; who accompanied them; how the location could be improved; and how they would share information about their environment with the people in charge of making decisions. Conversations were audio-recorded, with interviews lasting between 24 and 48 minutes. Data collection ceased once new codes stopped being identified during analyses. Carers also completed a short demographic survey containing questions about their age, gender, marital status, highest

level of education, employment status, country of birth, family household structure, participating child's age and participating child's gender. Carers self-reported their gender, as well as their child's, without the research team providing a definition of gender in the survey instrument. Responses therefore reflected participants' self-identification of the construct.

Analysis

Transcripts from the Phase One 'draw and tell' activity were analysed with the assistance of qualitative software, NVivo Version 14. A qualitative content analysis of the 'draw and tell' transcripts was undertaken to determine the features children wanted to see in their ideal neighbourhood. Desirable neighbourhood features identified in the drawings were also cross-referenced with Maptionnaire and spatial data (Phase Two) to explore the difference between what children wanted and what was available to them. Maptionnaire data were uploaded to Google My Maps to create a visual representation of the data and compare the microfeatures (e.g., playgrounds, open spaces, amenities) in locations chosen by children.

Transcripts from the family go-along interviews were coded with the assistance of NVivo (Lumivero, 2021). A theoretically informed reflexive thematic analysis of the data was initially undertaken by one author (KP), a public health researcher with five years of qualitative research experience (Braun & Clarke, 2006). A socio-ecological understanding of children's social and emotional wellbeing informed the analysis, reflecting the recognition that wellbeing is shaped through interactions between children and their physical and social environments. The coding framework was comprised of deductive and inductive codes. Deductive codes were informed by existing literature linking the built environment to social and emotional wellbeing, including built and social environmental features, social and emotional wellbeing outcomes, equity and disadvantage, and children's voices and participation opportunities. Inductive open coding was used to capture unanticipated concepts and participants' lived experiences. Codes were refined and grouped into broader categories and themes. Regular discussion among members of the research team (KP, JF, HC, GA) supported critical reflection on coding decisions, theme development and the interpretation of data. While the research team

acknowledged the role of researcher bias and interpretation when collecting and analysing the data, an emphasis was placed on insights and experiences that could inform real-world improvements to built environments and child wellbeing.

Results

Fourteen children from six different families living in the urban growth area participated in at least one of the three research activities. Six children were male and eight were female, with ages ranging between four and thirteen years. All children completed the drawing activity, with 12 of these children also completing the Phase Two mapping activity. The mapping activity identified six types of locations where children chose to spend time, including other people's homes, playgrounds, bushland or nature spaces, streets and pathways, outdoor water areas and indoor play areas. Across all locations, children reported feeling happy ($n=31$), followed by joyful ($n=6$), cheerful ($n=5$), proud ($n=4$), afraid ($n=2$) and mad ($n=1$). Children could select more than one feeling at each location.

Go-along interviews were completed by eight children (three males and five females aged between 4 and 12) and six carers at 10 separate locations. Two of the eight interviews included visits to two adjacent locations. Locations included local parks ($n=4$), community centres ($n=1$), vacant blocks ($n=2$), nature reserves ($n=1$) and streets close to the child's home ($n=2$). All six carers who participated in the interviews were female and spoke English. Four carers were aged between 35 and 44 years, one between 25 and 34 years, and one between 45 and 54 years. Three carers were single, one was separated and two were married. Two did not complete high school, one completed year 10, and three had a trade or apprenticeship as their highest level of education. Two carers worked outside of the home, both on a part-time basis.

Four themes addressing the relationship between the built environment and children's social and emotional wellbeing were identified during the analysis of go-along interview data, with each theme representing a different social and emotional wellbeing indicator. Themes included: 1) sensory and nature play in green and blue spaces facilitates 'calm

happy'; 2) risky play in green and blue spaces facilitates 'excited happy'; 3) private, safe spaces facilitate sense of belonging; and 4) pet-friendly housing and public space facilitate sense of community and companionship. Figure 1 presents the built environment features and social and emotional wellbeing indicators identified by the participants, as well as potential pathways linking neighbourhood built environment features to social and emotional wellbeing.

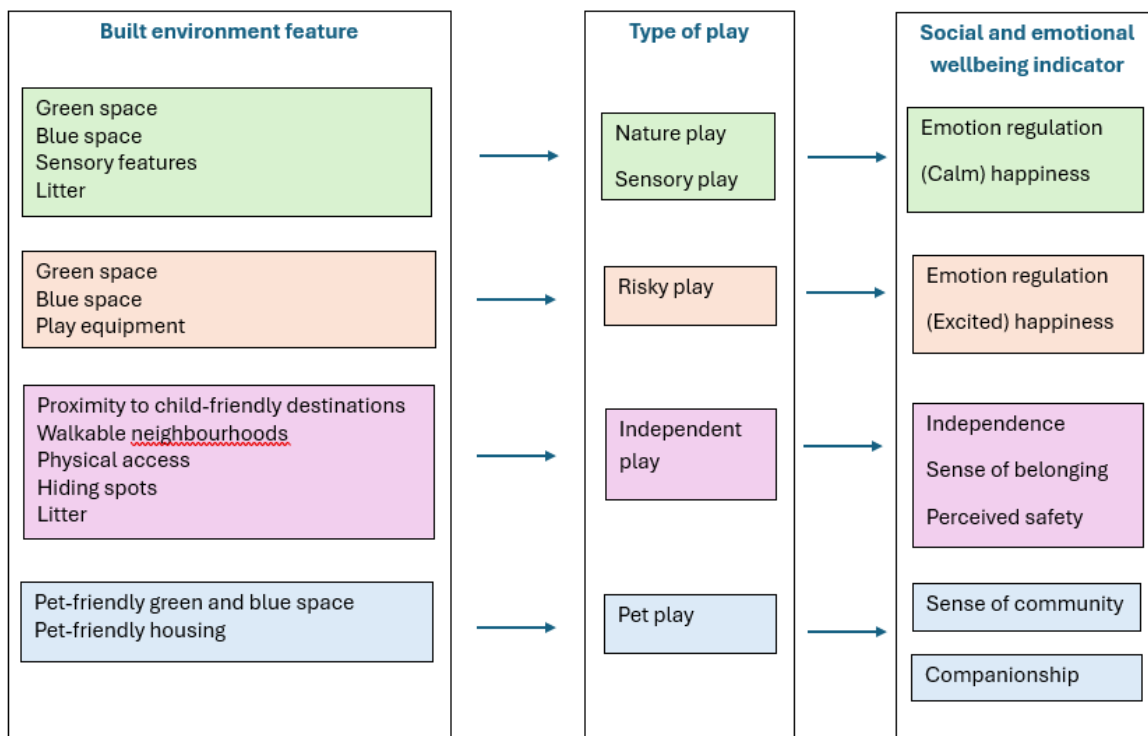


Figure 1 Potential pathways linking neighbourhood built environment features to children's social and emotional wellbeing

Sensory and nature play in green and blue spaces facilitates 'calm happy'

Built environment features that facilitated sensory play or access to the natural environment, such as water, sand and vegetation, often resulted in feelings of 'calm happy', a term used by some participants to describe a sense of contentment and relaxation. This

recurring emotional experience was reflected in a statement by one child who frequently attended a nature playground:

If I'm angry and sad, I can just go here and, like, just play...[I feel] calm happy. (Goose, age 8)

The concepts of feeling happy or relaxed when in nature or engaging in sensory play were evident across many children:

Can you tell me how you feel out here? (Interviewer)

Happy! (Butterfly, age 4)

What makes you feel happy? (Interviewer)

Playing with flowers (Butterfly, age 4)

Carers also reported that engaging in nature play and sensory play helped their children manage their emotions. For example, 'Jeremy the Third' found school difficult and often spent time fishing near local bushland. He reported feeling 'calm happy' in this location, noting that fishing helped him decompress and manage his emotions. As his carer noted:

He is here pretty much every day...fishing...[for] hours...He's got ADD/ADHD so fishing is his outlet. (Carer of Jeremy the Third, age 10)

Barriers to accessing 'calm happy' spaces included children's concerns about climate change, litter and the subsequent impact on local animals. Some children noted that the presence of litter in their nature-play spaces threatened local ecosystems that could impact their own enjoyment of the space:

Animals need places to live and shelter and keep alive...if all of the animals die, everyone would be so bored... the animals might choke on the rubbish. (Lily, age 6)

Another barrier to accessing green and blue spaces that children and carers mentioned was the absence of basic amenities or inclusive infrastructure, as well as the presence of homeless people and their belongings:

The trouble with all the parks...there's a lot of homeless people living up there...There's no toilets or drink fountains ...there's no disability stuff there, so disabled people can't play there. (Carer of Butterfly, age 4)

Risky play in green and blue spaces facilitates 'excited happy'

Built environment features that are often found in green and blue space and support risky play (e.g., climbing structures, rocks and open grassy areas) also promoted children's social and emotional wellbeing by facilitating 'excited happy' feelings. 'Excited happy' was defined by 'Goose' when referring to the mix of adrenaline and high energy happiness that she felt while playing tag, climbing, running and doing cartwheels:

I run, get energy out...[I feel] excited happy. (Goose, age 8)

Similarly, Goose described the type of happiness she experienced when engaging in risky play activities:

[I feel] scared and happy because I have to climb. The scary part is if you fall and then hurt yourself. (Goose, age 8)

The feeling of 'excited happy' that accompanied visits to green and blue spaces containing play equipment was widely recognised by children and carers as beneficial, with both 'excited happy' and green and blue space associated with energy expenditure. When asked how a trip to the local skate park influenced his behaviour, Jake's carer replied:

[The skate park helps him] get some energy out. And then he's happy. And he's done something that he enjoys as well. He likes to get out and scooter and run-a-muck outside. They never like to be inside. Especially boys. (Carer of Jake, age 10)

Similarly, environments that encouraged active play and periods of rest were recognised as restorative by children:

I get my energy out. Then, if I stay calm and then have a rest, I get my energy back. (Goose, age 8)

Play equipment that enabled active and risky play, such as tall slides, basketball courts, pools and ladders, also featured frequently in children's drawings of public and private space in their ideal neighbourhood, with many children considering risky play equipment a desirable neighbourhood feature. Children often expressed wanting play equipment that was bigger and more challenging than what was currently available in their home or neighbourhood (Figures 2 and 3).

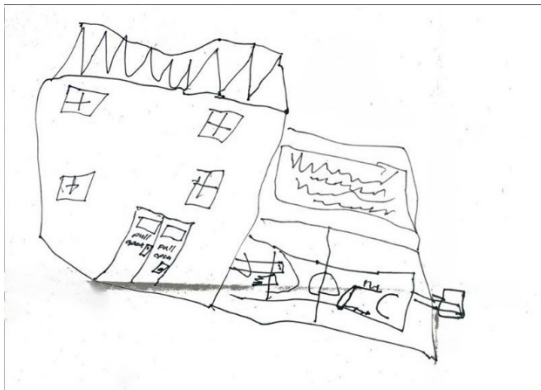


Figure 2 Tony's ideal neighbourhood featured a basketball court and a pool in his backyard.



Figure 3 Ruby's ideal neighbourhood had a very tall playground with giant slides.

A barrier to experiencing 'excited happy' was carers' perceptions of physical safety and concerns about risky play. Children who expressed wanting to run long distances or engage in risky play were often discouraged by their carers:

I don't normally play on those little playgrounds... because of my mum... because it's too far...I wish I could. (Goose, age 8)

Private, safe places facilitate sense of belonging

In addition to accessing playgrounds and risky play equipment, the ability to access private, safe places near a child's home was frequently mentioned when exploring the relationship between the built environment and children's mental health. While carers

often preferred their children to visit high-quality green and blue spaces containing varied equipment, many children reported a preference for familiar, local spaces where they had previous positive experiences, even when the location was small or contained less or lower-quality equipment:

The foreshore's pretty good for us....It's got the water, it's got the playgroup, it's got the basketball courts. It's got everything in one section. (Carer of Lily, age 6)

But I like this park more!...There's no swings at the foreshore...You have to wait in line when people have to go down the slide...This park is still the best. (Lily, age 6)

Similarly, children reported seeking places to retreat and decompress independently when in busy locations, such as tunnels or hammocks. Hidden places that were easily accessible to children were reported as providing them with a sense of belonging and perceived safety. As children often preferred environments that they could visit regularly and independently of their carers, suitable locations needed to be close to home, allow for active travel, and be perceived as safe by both carers and children in terms of road safety and personal safety (e.g., stranger danger). For example, 'Jeremy the Third' identified his favourite place as a lake he could access independently by bike. He spent hours fishing in a hidden spot in local bushland, which both he and his carer identified as restorative. When asked how he would feel if he could no longer fish at his special spot, 'Jeremy the Third', aged 10, replied "*I would feel sad*". Notably, the location was close enough to home that his carer could check on him regularly:

I'm usually down here, driving, like: "Come on, it's time to go home" or just checking in on him constantly. (Carer of Jeremy the Third, age 10)

The desire for privacy and independence was consistent across both public and private spaces. 'Duck's' drawing (Figure 4) of her ideal neighbourhood included a house that was separate from, but still next door to, her carers. It also contained an attic she could hide in.



Figure 4 Duck's (age 6) ideal neighbourhood: A house for her and her sister, attached to a house for her carers. Her house contains an attic she can hide in, filled with baby lions, kangaroos and cats. The front yard contains a trampoline and a pool. Inside is a giant couch.

Barriers to accessing private, safe places included housing instability and the presence of rubbish and pollution. Children in families experiencing housing instability often lost access to previously frequented parks. The presence of litter also impacted children's sense of pride in a place and was viewed as polluting or spoiling their safe space.

I really like this park [but]...people are littering...it's very dirty. (Lily, age 6)

Pet-friendly housing and public space facilitate companionship and sense of community

Built environment features within the neighbourhood that facilitated pet-ownership and spending time with animals, such as large backyards and dog-friendly public spaces, supported children's mental health by facilitating a sense of companionship and

community. Children often viewed pets as friends or family members. They spoke about how they enjoyed taking them to the park and the positive memories they created together, as well as the interactions pets facilitated with other community members.

[Jeremy the Third] knows all the neighbourhood dogs and all the old people that walk them. (Carer of Jeremy the Third, age 10)

Private spaces were also identified by children as needing to accommodate pet ownership. Children's drawings often contained big backyards and other features specifically for their real or imaginary pets (Figure 5).

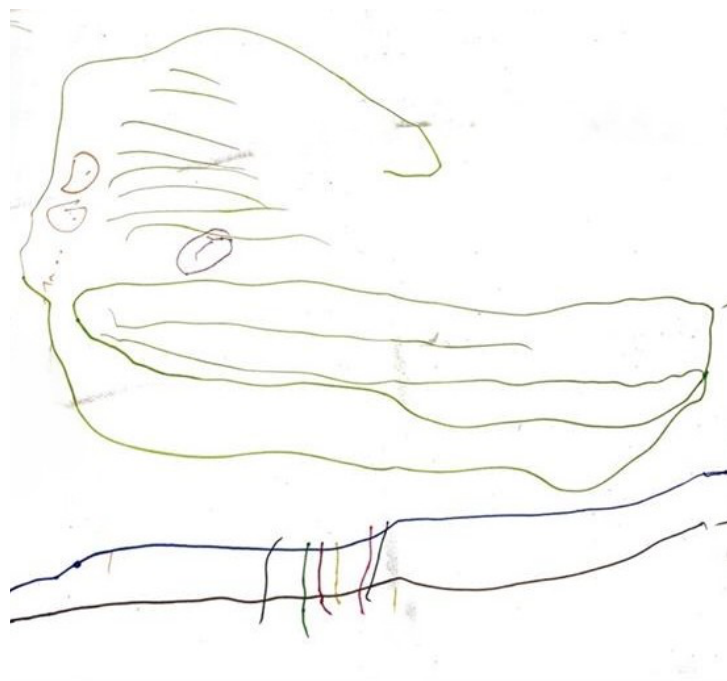


Figure 5: 'Butterfly's' drawing of her ideal neighbourhood, featuring her rabbits, surrounded by long grass and carrots. Her house has a long driveway and several baby lions.

For some children, their discussion about pet ownership was aspirational as the pets they mentioned were not always living with them due to housing instability, being unable to afford vet bills, or animal behavioural issues. For example, 'Butterfly' shared that she would like her dog, cat and deceased rabbit in her ideal neighbourhood. It was then revealed that

'Butterfly' had a cat who was currently injured after a suspected altercation with 'Butterfly's' neighbours and that her dog had been rehomed:

[Butterfly] had a dog, but then she got taken because she was too much and kept jumping on her and hurting her. (Carer of Butterfly, age4)

Discussion

This study explored 'what' and 'how' features of the neighbourhood built environment impacted the social and emotional wellbeing of children aged 4-12 years, focusing specifically on the lived experience of children residing in urban growth areas and experiencing hardship. Both the 'draw and tell' and mapping activities were used to identify locations for family go-along interviews, leading to identification of four themes linking the built environment to children's social and emotional wellbeing: i) sensory and nature play in green and blue spaces facilitates 'calm happy'; ii) risky play in green and blue spaces facilitates 'excited happy'; iii) private, safe spaces facilitate sense of belonging; and iv) pet-friendly housing and public space facilitate companionship and sense of community.

The pathway linking the built environment to 'excited happy' and 'calm happy' illustrated how different nature, sensory and risky play experiences can support emotion regulation by creating opportunities for calming, sensory input or energetic release. Sensory and nature play opportunities in green and blue space were found to facilitate attention restoration processes, such as emotion regulation, and feelings of relaxation and happiness that children referred to as 'calm happy'. Similarly, green and blue space, playgrounds and equipment that facilitated risky play provided opportunities for emotion regulation by enabling children to expend energy and feel excitement and happiness (i.e., 'excited happy'). The social and emotional benefits of different types of play are well documented in the published literature (Brussoni et al., 2015; Bundy et al., 2009; D'Cruz et al., 2024; Johnstone et al., 2022; Sando et al., 2021; Timmons et al., 2007). For example, active play may contribute to behavioral self-regulation in preschool children (D'Cruz et al., 2024; Timmons et al., 2007), while risky play can promote positive social interactions,

creativity and resilience (Brussoni et al., 2015; Bundy et al., 2009; Sando et al., 2021). Our study's findings support complementary design objectives for urban planners, such as green and blue spaces to support restorative experiences and risky play elements to support energetic regulation.

This study also found that many children sought neighbourhood locations that provided opportunities for independent play and developing a sense of belonging. Some children preferred local, familiar environments that could be accessed independently, rather than more distant locations with higher quality playground equipment. This reflects children's desire for independent mobility and highlights the importance of place attachment, the emotional bond between a child and a place that supports a sense of identity, security, belonging and overall wellbeing (Jack, 2010; Rowles, 1983; White & Green, 2011).

Environments that enable safe, unsupervised play and are located close to home can foster stronger place attachment, even when the quality of infrastructure is modest (Jack, 2010; Moore & Lynch, 2018). Place attachment is also critical for the social sustainability of new, urban neighbourhoods by fostering a sense of community (Ebrahim, 2015; Eizenberg & Jabareen, 2017; Yang et al., 2023). However, children experiencing hardship reported housing instability and safety concerns, including the presence of homelessness in public spaces, which may undermine their ability to form these attachments. Our findings highlight that city planners should prioritise the delivery of safe, local and accessible spaces for play, opportunities for independent mobility, and neighbourhood design that fosters social connection and belonging when planning new communities – particularly in urban growth areas where there may be a lag in the provision of built environment infrastructure. Policy makers can support these findings by embedding requirements for affordable housing, accessible support services and the provision and maintenance of inclusive, well-connected public and play spaces within planning frameworks. Policies that enhance walkability, reduce traffic speeds and volumes, and support children's active travel are particularly important in lower socio-economic areas, where families may have limited capacity to access destinations beyond their immediate neighbourhood.

Children's pets and desired proximity to animals were frequently mentioned in this study and were seen to provide children with companionship and facilitate a sense of community. Companion animals have often been associated with feelings of emotional support, reduced loneliness and crisis coping (Brooks et al., 2018). Wenden (2021) found that regular dog interactions, including playing and walking, were associated with improved social and emotional wellbeing in young children, including increased prosocial behaviours and decreased conduct and peer problems (Wenden et al., 2021). Similarly, a systematic review of 22 studies involving the impact of pet ownership on child and adolescent development found associations between pet ownership and better self-esteem, less loneliness and improved social skills (Purewal et al., 2017). However, the overall evidence that pet ownership reduced anxiety and depression and improved behaviour or social-emotional development was inconclusive, highlighting a need for further research exploring the mental health benefits of pet ownership in children (Adams et al., 2024; Ng et al., 2026; Purewal et al., 2017). Nonetheless, pet-friendly housing and LGAs that provide appropriate walking areas with features that cater to dog owners (e.g., water bowls, off-leash exercise) and incentivise human social interaction may support the social and emotional wellbeing of children and families (Westgarth et al., 2014). Notably, new urban growth and infill areas in Australia are increasingly characterised by smaller backyards, reducing private green space for accommodating pets and children's play and increasing the need for nearby green, blue and shared spaces (Hall, 2010).

Many of our findings regarding links between the built environment and social and emotional wellbeing in children living in hardship reflect those of Perez-del-Pulgar and colleagues (2021), who identified associations between residential proximity to outdoor play spaces and reduced prevalence of mental and behavioural disorders among children aged 0-12 years in Barcelona, particularly in lower socio-economic areas (Pérez-del-Pulgar et al., 2021). However, while this large quantitative study has demonstrated the existence and distribution of associations between play spaces and mental health, our findings have provided insights into the lived experiences and mechanisms through which play spaces may influence social and emotional wellbeing among children experiencing hardship. Our

findings highlight how factors, such as opportunities for independent mobility, perceptions for safety, and the social and functional qualities of public space shape 'if' and 'how' these environments are used. Our study therefore extends existing evidence by illustrating how the potential benefits of neighbourhood public space may be mediated by everyday constraints and experiences, offering a more nuanced understanding of why these environments may be particularly protective for families living in hardship and low SES areas.

Although previous studies have also shown that children raised in safer, greener, orderly neighbourhoods tend to have better mental health and wellbeing and fewer behavioural problems (Alderton et al., 2019; Francesconi et al., 2022; Putra et al., 2024), our study is one of the first to explore the impact of the neighbourhood built environment on children's social and emotional wellbeing in an urban growth area. Francis and colleagues' (2014) exploration of adults' perspectives of the facilitators and barriers of mentally healthy neighbourhoods in urban growth areas also found well-maintained public space and natural vistas, as well as perceived safety and feelings of security, were crucial components of mentally healthy neighbourhoods. In addition, the sense of isolation that one might expect when moving to a new residential development in an urban growth area was less notable than expected, with some residents experiencing a higher sense of community due to the small size and similar life-stage of the local population (Francis et al., 2014). Many new residential developments also contained high quality public space maintained by property developers, as well as community development officers who established Residents' Associations and instigated public events to foster a sense of community (Francis et al., 2014). Further research is needed to determine if these specific findings apply to children experiencing hardship in urban growth areas.

Strengths and Limitations

Our study used multiple participatory research methods to capture the perspectives of children experiencing hardship and living in urban growth areas and to understand their

behaviours and motivations to inform urban planning and public health policy. The drawing component of the 'draw and tell' activity helped children who preferred to communicate non-verbally express their ideas effectively and maintain engagement, reinforcing other research that has shown collaborative, play-based activities are an effective means of engaging children in research (Egli et al., 2021). In particular, the drawing activity helped the research team engage with participants who were neurodivergent and did not feel comfortable expressing themselves verbally (Aldridge, 2007). Using multimodal methods of data collection can increase the numbers and engagement of children participating in research and subsequently yield richer data (Horgan, 2017; Sevón et al., 2025). Conducting short, child-friendly interviews as part of both the drawing and go-along interview activities provided opportunities to explore emerging themes further. Go-along interviews are particularly well-suited to studies with children as they allow: i) researchers to observe participants' embodied knowledge of, and interactions with, place; ii) reduce power imbalances between researchers and participants; and iii) improve participants' ability to recall relevant details and experiences (Bartlett et al., 2023). In addition, the shared movement and play between researchers' and participants during go-along interviews helped establish rapport and fostered more open and engaged dialogue with children. Despite the small sample, the richness of data provided meaningful insights. The child-generated terms 'calm happy' and 'excited happy' also offered a useful lens for interpreting how different features of the built environment support social and emotional wellbeing and captured the nuanced ways children described different emotional states. The terms reinforced the importance of using developmentally appropriate language when conducting research with children to ensure children's perspectives are represented accurately, rather than relying on adult-centric interpretations.

A limitation of this study was that children predominantly focused on locations they associated with positive emotions and experiences. Future research might include interviews conducted in neighbourhood locations associated with negative emotions to better understand how children experience and navigate neighbourhood environments that adversely affect mental health and wellbeing. During interviews, the research team

was also reliant on writing notes when recording non-verbal communication during the go-along interviews. Video recordings that capture examples of role-play or the use of natural materials when demonstrating spatial interactions could be more beneficial. Additionally, children often described immediate emotional reactions to place rather than longer-term social and emotional wellbeing impacts, with boys typically less willing or able than girls to articulate their feelings. Future studies could explore gender differences in findings.

Conclusion

This study provided evidence that children can serve as 'local experts' on how neighborhood environments shape their social and emotional wellbeing. By adopting a child-centered qualitative approach, it offers context-specific insights into the lived experiences of children experiencing hardship in urban growth areas, highlighting the importance of environments that support attention restoration, play, belonging and social connection. For urban planning and policy, these findings emphasise the need to embed children's lived experiences into decision-making and translate them into actionable design responses, including safe, accessible and well-connected neighbourhood spaces and high-quality green and social infrastructure. Such approaches are critical to advancing more child-responsive and equitable cities. Future research should focus on developing scalable planning tools that operationalise child-informed measures of neighbourhood quality and wellbeing and support their integration into urban policy and child-focused city health indicators.

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