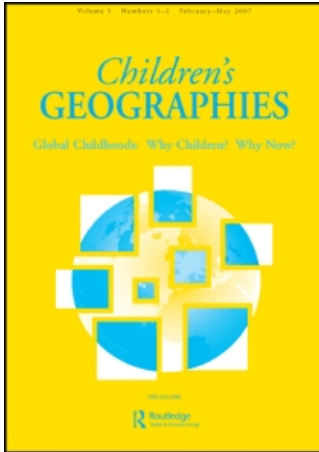


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Jenny Veitch ^a; Jo Salmon ^a; Kylie Ball ^a

^a Centre for Physical Activity and Nutrition Research, School of Exercise and Nutrition Sciences, Deakin University, Burwood Vic, Australia

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Children's Perceptions of the Use of Public Open Spaces for Active Free-play

JENNY VEITCH, JO SALMON AND KYLIE BALL

Centre for Physical Activity and Nutrition Research, School of Exercise and Nutrition Sciences, Deakin University, 221 Burwood Hwy, Burwood Vic 3125, Australia. E-mail: jveitch@deakin.edu.au

ABSTRACT *Activity performed by children in their free-time may have a significant impact on overall physical activity levels, however, very little is known about the influences on children's active free-play. To examine the role and use of public open spaces, 132 children (6–12 years) from a selection of primary schools participated in small focus group interviews. Children reported that their use of public open spaces was influenced by a combination of intrapersonal, social and environmental factors including; the play equipment and facilities at local parks, lack of independent mobility, urban design features, presence of friends, and personal motivation.*

KEYWORDS: *Physical activity, play, children, public open spaces*

Introduction

The benefits of physical activity to health and well-being are well documented (United States Department of Health and Human Services, 1996). Among children, physical activity has been associated with improved cardiovascular risk factors, and optimum bone and mental health (Biddle *et al.*, 2004; Boreham and Riddoch, 2001). Rising levels of obesity (Wang and Lobstein, 2006) and an increased incidence of Type 2 diabetes and other diseases of sedentary living (Troost, 2003) provide further rationales for promoting children's physical activity. In order to influence children's physical activity, it is necessary to understand the factors that relate to the adoption and maintenance of a physically active lifestyle.

Children's physical activity may encompass school time physical education classes and physical activity performed during recess and lunch times; participation in school and community organized sport teams; active transport such as walking and cycling to school; and discretionary activities that take place outdoors in the child's leisure time outside of school hours (i.e. active free-play). Previous research has investigated influences on children's overall physical activity including school physical education and organized sport; however, relatively little is known about the influences on children's active free-play (Sallis *et al.*, 2000).

A better understanding of the nature of, and factors associated with, children's active free-play is potentially important because children may have the discretion to choose what they want to do in their leisure-time. Understanding more about influences on children's active free-play may therefore inform opportunities to promote physical activity among children. Social ecological models provide a comprehensive framework within which to examine this topic as they posit that behavior is influenced by the interaction of individual or personal characteristics with the social and physical environment (Sallis and Owen, 1997). It is therefore likely that influences on children's active free-play may vary according to individual characteristics such as age and sex, and also by socioeconomic status (SES) and the neighborhood within which children live (Crespo and Ainsworth, 1999; Molnar *et al.*, 2004; Timperio *et al.*, 2004). Public health researchers are increasingly interested in how characteristics of neighborhood physical environments influence children's physical activity levels (Davison and Lawson, 2006).

Public open spaces, which include areas in the local neighborhood such as local parks, playgrounds and sports ovals have traditionally been recognized as play spaces for children (Holloway and Valentine, 2000; Karsten, 2005). The amount of time young children spend in play spaces near their home is correlated with their level of physical activity (Sallis *et al.*, 1997). Recent studies have also shown positive associations between access to local parks and playgrounds and children's physical activity (Timperio *et al.*, 2004; Epstein *et al.*, 2006; Roemmich *et al.*, 2006). There is growing concern, however, that adult guardians are increasingly restricting children's independent access to play spaces, such as local parks and streets (Hillman, 2006; Woolley, 2006).

In summary, few scientific studies have examined issues surrounding the use of public open spaces for children's active free-play. Evidence is emerging that the use of after-school time for active versus sedentary pursuits is a strong correlate of physical activity amongst youth and it has been suggested that young people's free-time should become more of a focus for those promoting and researching children's physical activity (Sallis *et al.*, 2002). In addition, previous research has rarely given children opportunities to be involved with the research and comment directly on issues relating to their physical activity and play behaviors (Chawla, 2002). The aim of this study, therefore, was to examine active free-play from the children's points of view, particularly issues relating to the role and use of public open spaces. It is hypothesized that children's use of public open spaces will be related to a combination of intrapersonal, social and environmental factors. As little is known about the factors associated with children's use of public open spaces, qualitative research methods were considered most appropriate for this study, as they allow for in-depth exploration of attitudes, beliefs and behaviors of issues that are not well understood (Strauss and Corbin, 1990; Ritchie, 2001; Patton, 2002).

Methods

This qualitative study involved focus groups with children from a selection of primary school populations in Victoria, Australia to gain a deeper understanding of children's perceptions of a range of issues relating to the use of public open spaces for active free-play. Participants included boys and girls of various ages and from different SES areas as it was considered important to gain an understanding of the issues and potential influences on the use of public open spaces for active free-play from a broad representation of children. Focus groups were considered a useful way to explore the issues in this study as they are generally a less threatening or intimidating method of interviewing children, and they provide an opportunity for children to share ideas about the topic in a group setting with their classmates (Krueger, 1994; Hawe *et al.*, 1995). Ethics approval was

received from the relevant ethics committees and parental consent was obtained on behalf of all participants.

Participants

One hundred and thirty-two children (71 girls, 61 boys) aged 6–12 years from a selection of five primary schools from metropolitan and outer-urban Melbourne participated in the focus groups.

As children from low SES areas may be at high risk of inactivity (United States Department of Health and Human Services, 1996), purposive sampling was used to ensure that children from a range of SES backgrounds were represented (41 children from a low SES area; 63 children from a mid SES area; and 28 from a high SES area). Schools were selected from areas of different SES, using the Socio Economic Index for Areas (Australian Bureau of Statistics, 1996). SES ranking of schools was confirmed using the 'like' school group ranking (Department of Education and Training, 2002). This ranking categorizes schools in Victoria, Australia, into nine groups based on the demographic background of their students; for instance, the proportion of students receiving Government education benefits which is a means-tested welfare payment (Department of Education and Training, 2002). Two schools from low SES, two schools from mid SES, and one school from high SES were included in the study. The two low SES schools were geographically located on the outskirts of the Melbourne metropolitan area, the mid and high SES schools were more centrally located.

Principals at schools selected for the study were contacted by letter and telephone and asked permission for children in their care to be involved in the work. Once the Principals had given permission for the study to take place at their school, the particular grades from which the children were to be selected were nominated by the Principal.

Across the five schools, 26 focus groups were conducted with an average of five children per group, a focus group size recommended by Krueger (1994) and Morse and Richards (2002). Focus groups were conducted until saturation was reached and subsequent groups produced only repetitious information (Hawe *et al.*, 1995). The focus groups included both boys and girls, however, they were grouped according to age with separate groups conducted with children aged 6–7, 8–9 and 10–12 years, and also according to the children's use of public open spaces. It may be that issues regarding active play vary for children who regularly access public open spaces compared with those who do not, therefore, separate focus groups were conducted with children who were 'regular' users of public open spaces ('POS users', i.e. reported having used some form of public open space at least once in the previous week) and children who were not regular users of public open spaces ('POS non-users', i.e. had not used some form of public open space at least once in the previous week). These classifications were derived from information that was collected from the children in a previous classroom activity. An almost equal proportion of boys and girls and POS users and non-users were selected from each of the nominated age groups at each school to participate in the focus groups.

Procedure

The ecological model formed the theoretical background upon which this study was based. This model suggests that behaviors are influenced by intrapersonal, social, and physical environmental factors in which the individual lives (Sallis and Owen, 1997). This model informed the development of a selection of open-ended questions that

were used as prompts to stimulate and guide the focus group discussions where required. For example, at the intrapersonal level questions included 'When you are playing outside where do you like to play the most and what do you like to do?'; questions based on social factors included 'Who do you like go to public open spaces with?'; and questions relating to the physical environment included 'If you could build your own "perfect" park what would it be like?' Despite the inclusion of these questions, the overall intention was for the focus group discussions to be relatively unstructured and to generate spontaneous group interaction, within the broad social ecological framework, from all participants.

The focus groups were led by one of two experienced female researchers. The focus groups generally lasted between 35 and 45 minutes and were conducted in a quiet room at each school during the school day. Included as part of the parental consent information and prior to commencing each focus group, it was explained to the children that they were under no obligation to participate and they could refrain from answering questions or withdraw from the study at any time. With the parents' permission, a small cassette recorder was used to audiotape each focus group. No compensation was offered to the children for participating in the focus groups.

Data Management and Analysis

Consistent with the framework that informed the development of the questions used during the focus groups, the ecological model informed the analytical framework. All focus group data were transcribed verbatim and the transcripts were then individually reviewed. Thorough analysis of the data revealed that the majority of points raised by the children could be broadly classified into three major themes: how children feel about playing in public open spaces; barriers to use of public open spaces; and factors that would motivate children to play in public open spaces. Within each of the three themes, a range of important intrapersonal, social and environmental factors influencing children's perceptions on the use of public open spaces were identified. Once these themes were identified thematic analysis (Minichiello *et al.*, 2004) was used to generate a series of coding categories and sub-categories. These codes were then applied to all transcripts using the qualitative software package NVivo (QSR International, 2002). This package was used to facilitate analysis of data and themes, and identification of relevant quotes.

In the Results, responses based on the main themes to emerge from the focus group discussions are described, with illustrative quotes drawn as examples from the raw data. The quotes provided are verbatim responses from children in the study. Results have been presented separately for the POS user and POS non-user groups and the main differences observed between these two groups are described. Although it was considered important to include a representation of children from varying age groups and SES areas, this study did not aim specifically to investigate influences of age or SES difference and therefore results have not been presented separately for each age or SES group. Issues that arose and seemed unique for a particular group, however, are noted and the age and SES of the school attended by the child are listed in all quotes.

Results

The demographic details of the focus group participants are presented in Table 1. Overall, 54% of the participants were girls; and the average age was 9 years. Of the 26 focus groups, 15 groups were conducted with children who were POS users and 11 groups were conducted with children who were POS non-users.

Table 1. Demographics

	POS user focus groups	POS non-user focus groups
Number of groups	15	11
Number of groups from children aged 6–7 years	5	4
Number of groups from children aged 8–9 years	5	4
Number of groups from children aged 10–12 years	5	3
Total number of participants	77	55
Average age (years)	8.7	9.2
Percentage from low SES schools (%)	40	18
Percentage from mid SES schools (%)	42	56
Percentage from high SES schools (%)	18	26
Percentage of girls (%)	58	47

Theme 1: How Children Feel about Playing at Public Open Spaces

POS Users. The children in the POS user groups generally indicated that they liked going to the park because it was fun, they could run around and be active, and play with friends and family. The children also talked about enjoying having open space to play with balls, ride bikes, and play on the playground equipment. Many children also stated that they liked features of the natural environment of public open spaces such as being able to hide in the bushes, climb trees, and play with their pets. A number of children mentioned specifically that they enjoyed going to the park with their father as it provided an opportunity for them to spend time together.

Girl: I love going to the park just because I love the slide and I love going up and down and my dad tries to catch me. (Aged 8, high SES)

Some of the older children also expressed their enjoyment and sense of freedom associated with having a place where they could play outside with their friends independently from adults or teenagers. For example, one group of children aged 11–12 years from a low SES area school spent most of their free-time playing without adult supervision at the sports field that was located next to the school. The children described this field as being in rather poor condition, with no play equipment, broken goal posts and patchy grass; however, the children were happy to have the opportunity to play there independently from adults. When these children were asked if they wanted any new equipment at this field they said that they were happy with it as it was.

POS Non-users. Some children who were involved in the POS non-user focus groups were not regular users of public open spaces, but still played at public open spaces on a less regular basis. Overall the reasons these children liked going to public open spaces were similar to those mentioned by the children in the POS user groups (e.g., trees, space to kick a ball). A number of children from the low and mid SES schools said that they often felt like they were 'stuck' inside their house and would like the opportunity to spend more time playing outdoors.

Boy 1: I want to go to parks more often because I have fun there.

Researcher: And what are the reasons you think you can't go more often?

Boy 1: My mum has to cook dinner and iron.

Girl: I would like to go more because I don't want to be stuck in the house all day. I have to sit in my room or watch television.

Boy 2: The rules [at home] are no stuffing around but I always have to stuff around. And she says that you're not allowed to escape from the house. But I escape and she thinks I'm playing in my room but I climb out the window, and she thinks I'm cleaning up my room. (Ages 7–8, mid SES)

In contrast, other children in the POS non-user groups clearly expressed that they had no interest in spending time playing at parks or public open spaces.

Boy: I want to go less to parks because it wastes my time. Mostly boring and it just wastes my time. (Aged 7, mid SES)

Researcher: Would you like to go to parks more often than you do?

Boy: No, I'd rather play the 'Xbox'. (Aged 7, low SES)

Theme 2: Barriers to Use of Public Open Spaces

POS Users. Throughout the discussions, the children in the POS user groups talked about aspects of public open spaces that they did not like. One of the most common issues, especially for the children aged 8–12 years, was that they found the playground equipment uninteresting, not challenging enough, and primarily designed for younger children. The children also commented that there was a lack of variety in playground equipment with the same equipment often found in different parks. These concerns regarding the play equipment seemed to discourage some children visiting parks and resulted in the children preferring alternative activities.

Girl: Well we don't really often go to parks [but go to football grounds at least once per week]. The parks are pretty boring 'cos it's all baby stuff there. I reckon they should have a park where the older kids can go and muck around and have big slides and big things. Not like the little ones that you can't even fit your bum in.

Researcher: So if they had stuff for older kids would you use it?

Girl: I'd be down there everyday. I'd walk from here to there to play.

Boy: It's like what X said it's boring. They've got 'choo-choo' train things and you can't even sit in it. And the slides are only like a meter and a half big. (Aged 11, low SES)

In addition to the age inappropriate play equipment, another major area of concern reported mainly by the children in the mid and low SES areas, was the presence of groups of teenagers at parks. Children said that they often found the older children threatening and intimidating and that their 'bullying' behaviors were frequently the reason why they did not visit parks on a more regular basis.

Girl: Teenagers come to the park and now it's a popular place to hang out. And also around there it's got all vandalized and stuff.

Boy: At around 5pm there's like a gang. You don't want to go there. They all sit down and they're all drinking and stuff. (Aged 11, low SES)

Children also talked about specific barriers associated with actually having the opportunity to visit parks. The first barrier was related to lack of time, with the children reporting that

they had no free time to be visiting parks, especially mid-week, as they or their siblings had other organized activities or homework to do after-school-hours.

Girl: If I don't have anything on after school I'd have to do homework or otherwise play games outside. I can't go to parks because it takes too much time. (Aged 8, high SES)

Limited independent mobility (i.e. a child's ability to walk or cycle to places in the neighborhood unaccompanied by an adult) emerged as another major barrier influencing children's ability to visit parks. Many children reported that due to their young age and associated parental safety concerns they were not allowed to go to the park without adult supervision, and therefore, they were reliant on adults being both willing and available to take them to play at public open spaces.

Girl: I can't go the park because my mum says she's had a long tiring day at work and she can't take us. (Aged 9, low SES)

Girl: My dad can't always be at the park watching me because he's got bills and stuff to do. (Aged 7, mid SES)

There was a wide variation in the degree of independent mobility that the children were allowed. In general, the younger children (aged 6–8) commented more often on their restricted mobility and many were unable to go anywhere at all in their neighborhood without an adult. Some of the older children (aged 8–12) were able to walk to defined locations such as their friend's house, or around the block, and a small number said they were allowed to go anywhere in their neighborhood as long as they were home before dark.

Urban design factors, such as having to cross busy roads and not having parks within walking distance from home, appeared to be associated with increased parental safety concerns (as perceived by the child) and made it more difficult for children to access parks without an adult. Some children described how they had parks located close to their home, but they needed to cross a busy road to get there, and therefore their access was restricted.

Boy: We've got X Park across the road from us

Researcher: And do you tend to go to X Park?

Boy: Sometimes, not much

Researcher: And why don't you go there?

Boy: Because we have to cross X Road. (Aged 9, high SES)

For some children there appeared to be an interesting interaction between these barriers. For example, some children reported easy access to parks that were close to their home; however, their opportunities to visit parks were limited due to other constraints such as household chores or homework.

POS Non-users. Consistent with the findings from the POS user groups, there was discussion by the children in the POS non-user groups about parks being boring because the play equipment was more suited to younger children. The children in these POS non-user groups also talked about not enjoying the park if they had no-one to play with.

Researcher: Can you think of one reason why you don't like going to parks?

Boy 1: Because there's not enough equipment.

Boy 2: Because there's no one to play with. If there were more kids there I would want to go more often.

Boy 3: Because maybe the equipment is too small. (Ages 7–8, mid SES)

Compared with the children in the POS user groups, the children in the POS non-user groups did not mention intimidation by teenagers or bullying gangs as a barrier to park use. Apart from this difference in concerns relating to teenage gangs, for many children in the POS non-user groups' barriers to park or public open space use were similar to those reported by the children in the POS user groups (e.g. lack of free time, limited independent mobility, and urban design features). Compared with the children in the POS user groups, however, many children in the POS non-user groups indicated that they felt it would be quite difficult for them to overcome these barriers.

Researcher: What would be any reasons that stop you going more often than you do?

Girl: Well we do lots of things during the week like my brother's got swimming and I go to drama and everything and sometimes mum gets tired from work. (Aged 9, mid SES)

Girl: The park's across the street and I have to cross the street, so I need someone to take me.

Researcher: Would you like to go to the park more often than you do

Girl: I'd like to go every day. (Aged 9, high SES)

For other children in the POS non-user groups their main barrier was their personal lack of interest in visiting parks. For example, some children had no difficulty in accessing parks as they had parks close to home or were allowed to go there independently; however, they had no interest in going to parks as they found parks uninteresting, or they simply preferred to do other things.

Girl: I usually go less than once a week. 'Cos we have like parks near us but we're happy to occupy ourselves at home. (Aged 11, high SES)

Finally, for some children in the POS non-user groups, the reason for not going to parks on a regular basis was a very simple thing like not having a football to play with or social issues relating to peer pressure such as having the 'wrong bike' as highlighted in the quote below.

Boy: It's been about a year since I've been to a park. I'm scared of the bigger boys. I've got a mountain bike that is yellow and I think they will tease me. It would be ok if my bike was cool, the same colour as theirs. (Aged 12, mid SES)

Theme 3: Factors that would Motivate Children to Play at Public Open Spaces

POS Users. When discussing factors that would encourage more frequent visits to parks the children in the POS user groups expressed a strong desire to have someone to play with when they were at the park. If the children knew that their friends would be at the park, or if they could take a friend with them to the park, then they would be much more likely to want to go there. The aesthetics of the park also seemed important, with children indicating their desire for a clean and attractive setting.

Girl: The park doesn't look very nice because there are no flowers around it. It would look really good with a garden, maybe the council could make someone come down and water and make sure it's done. (Aged 11, low SES)

To conclude the focus group discussions, the children were asked to describe their 'perfect' park or public open space. The most common remark from the children of all ages about a 'perfect' park was that they wanted physically challenging and exciting play equipment. They also wanted the provision of space and facilities to allow them

the opportunity to participate in a variety of activities such as bike riding, ball sports and using skate boards.

Girl: I want a really really big slide and it sort of goes in a circle and it spins around when you go in it. And I want lots of monkey bars, and a really long flying fox. (Aged 8, low SES)

Boy: I would have places where you could ride your bike and skate board and I would have a trampoline and a really good high slide and a big space that you could kick a soccer ball or a football. And I would have a big big slide and some soccer goals. (Aged 9, mid SES)

Finally, some children, particularly the older children from low SES schools, were not concerned about having elaborate play equipment or facilities as long as they had a place where they could play with their friends and be independent from adults and/or safe from teenagers.

Boy: A perfect place would have maybe a cage where all the teenagers can go.

Girl 1: I just want a kind of a place where all the kids can go and hang out and don't have to worry about people coming up to them and annoying them.

Girl 2: We want an area where all the young kids can hang out. We have the oval next to school but this old woman always hangs over her fence and yells 'go home, go home' for 15 minutes until we go and we have nowhere else to go. (Aged 11, low SES)

POS Non-users. The children in the POS non-user focus groups were clearly divided on the topic of what would motivate them to play at public open spaces. Some of the children did not mention anything, as they were simply not interested in going to parks; however, others clearly expressed that features similar to those suggested by the children in the POS user groups (e.g. friends, interesting play equipment) would encourage them to visit parks more often.

Boy 1: I would go there more often if there were more people my age to play with and if it was closer to my house.

Boy 2: If there wasn't any graffiti or broken glass or syringes on the ground. If the Council cleaned that up I'd probably go more. (Ages 10–11, mid SES)

The children were also asked to describe their 'perfect' park. For some children in the POS non-user focus groups their suggestions were similar to those mentioned by the children in the POS user groups; however, a significant number of children seemed to have some difficulty coming up with suggestions for their 'perfect' park and compared to the children in the POS user focus groups, their suggestions were often more unrealistic. For example, they talked about theme parks with roller-coasters, and in some instances they suggested having access to the things they usually played with when inside at home (such as the Playstation®) whilst at the park.

Girl 1: It would have flying foxes, scary roller coasters and water rides.

Boy 1: Six kilometer long slide.

Boy 2: Haunted house.

Boy 3: And a roller coaster, a ghost train, an eight mile water slide, a flying fox that goes a really long way and that's all. (Ages 8–9, mid SES)

Discussion

The use of qualitative data collection techniques provides the opportunity to generate a wealth of information from the child's perspective about the use of public open spaces for free-play activities. Children in this study reported that their use of public open spaces was influenced by a combination of intrapersonal, social and environmental factors including; a lack of well-resourced local parks, time constraints, parental restrictions on children's independence, urban design features, social aspects and personal motivation. These findings suggest that there are many influences on children's use of public open spaces as a play space and, as a consequence, opportunities for active free-play may be restricted for many children.

Although most children seemed to appreciate the natural features of parks like playing among the trees, hiding, and having space to kick a ball around, many children identified that a range of other facilities such as basketball rings or skate ramps, a clean and aesthetically attractive environment, and most importantly more physically challenging and interesting play equipment would entice them to go to parks more often. This is consistent with findings of a study of playgrounds in Spanish cities, which identified that play equipment is often more suited to younger children and that children also require space for example to kick balls and ride bikes. In that study, the implications of the increasingly strict regulations on playground equipment are discussed and they conclude that parents and politicians prioritize safety and design whereas children desire enjoyment and risk (Ferré *et al.*, 2006). The design of playground equipment in Australia and internationally is governed by safety standards with the aim of minimizing the incidence of playground related injuries (Playground equipment, www.saiglobal.com; US Consumer Product Safety Commission, www.cpsc.gov). Although Government and policy makers recognize that children enjoy challenging play equipment (Department of Education and Training, 2006) what is currently on offer to children in public open spaces, particularly age-appropriate equipment, may not be meeting these needs. Intervention measures to reduce playground injuries in the community should consider the impact of changing playground equipment at the expense of reducing challenging play opportunities (Nixon *et al.*, 2003) and potentially reducing use.

Lack of time due to other organized activities and homework, and limited independent mobility were raised as other barriers limiting park use. Many children were not permitted to walk to, or play at, their local park without an adult (mainly due to parental safety concerns), and therefore, the children's use of public open spaces was restricted as they were dependent on their parents having the time and inclination to take them to play at places outside the home. Children's independent use of their neighborhood environment and the degree to which they are able to visit places on their own and play outside in safe and challenging environments has been identified as being critical for children (Churchman, 2003; Kyttä, 2004).

A desire for independent outdoor play was highlighted by children from schools in the mid and low SES areas, who expressed their wish for a place in which they could play outdoors with their friends independently of adults. This type of play is perhaps more typical of play in previous generations where children spent almost all free-time outdoors and unsupervised (Karsten, 2005). It seems less common in current times where there is a perception that children need to be constantly supervised for their safety and as a consequence are being denied opportunities to play outdoors in public spaces (Valentine and McKendrick, 1997). In the current study, children in the POS non-user groups also expressed concerns about feeling confined and 'stuck in their house' and wished to spend more time outside. This highlights the inability of some children to experience

neighborhood public open spaces in the urban context and reaffirms the need to examine the impact of restricting children's access to their local environment on their physical, emotional, and social development in future research (McNeish and Gill, 2006; Woolley, 2006).

Physical environmental factors including busy roads and urban design features may be important influences on children's independent access to play spaces. These findings are consistent with other quantitative studies that have examined features of the physical environment relating to children's physical activity. An Australian cross-sectional study of children aged 5–6 years ($n = 235$) and 10–12 years ($n = 677$) found that a need to cross busy roads, and poor access to lights and crossings were negatively associated with frequency of walking/cycling to school (Timperio *et al.*, 2006). In the current study, safety concerns relating to feeling threatened and intimidated by teenage gangs in parks were also identified as barriers to park use by children from schools in low and mid SES areas. These findings are consistent with recent focus group research with 160 Canadian youth aged 12–18 years by Humbert *et al.* (2006) who found that fighting and intimidation was mentioned in nearly every low-SES group; however, it was not reported as an issue in the high SES groups. In addition, previous research by Percy-Smith and Matthews (2001) involving 181 children in the UK aged 10–15 years found that neighborhood bullying by older children and gangs was a recurring problem and was more common in venues away from adult supervision, such as in parks and local streets. Together these findings suggest the need for suitable activities and places for teenagers and children in the local neighborhood.

Social factors, such as having friends or peers to play with when at the park were raised as an important issue in this study by children across all focus groups. This is consistent with our findings from an earlier study (Veitch *et al.*, 2006) where parents indicated that having other children to play with was an important contributor to outdoor play for their child. For some children in the current study, however, particularly those from the POS non-user groups, their main reason for not playing at public open spaces was their personal lack of interest and their preference was to spend their free-time indoors using electronic gadgets. Preference for particular activities has been found to be associated with time spent in these activities among children. For example, a cross-sectional study of almost 900 children aged 10–12 years by Salmon *et al.* (2005) found that preference for sedentary pursuits, such as Internet use and television viewing was associated with lower levels of physical activity and higher levels of television viewing, respectively.

Several important limitations of this study should be noted. Possibly due to their young ages and lack of experience in participating in group discussions some of the children who participated were nervous and hesitant to contribute. Therefore, the views and opinions of the most outspoken or confident children may have dominated the focus group discussions and some children may have been influenced by the opinions expressed by other children in the group. Involving children directly in the research process was, however, a strength of this study as recent research on children's social and cultural geography has increasingly recognized that children are social agents with valuable perspectives that should be investigated (Holt and Holloway, 2006). We also recognize that school-level SES may not accurately capture the socio-economic circumstances of all children in that school. However, we considered this sufficient considering that the study did not aim to specifically investigate SES differences, but rather to ensure that views of children from a range of SES backgrounds were included. In addition, the sample was limited to students attending five primary schools in Melbourne, Australia and different views may have been expressed in a broader sample. However, the aim of this study was not to obtain population representative data but rather to explore views and generate hypotheses about a poorly

understood issue. Finally, conducting separate groups for public open space users and non-users made it possible to explore particular issues for both groups in more detail.

In conclusion, this study provides a unique contribution to the literature by identifying from children's perspectives specific factors that influence their use of neighborhood parks and playgrounds during their free-play time. Results from this study showed that whilst a small minority of children were simply not interested in playing at public open spaces, most children expressed a desire to have opportunities to play outdoors with their friends at interesting, attractive and convenient public play spaces. Unfortunately, many children in this study felt that opportunities to play in public open spaces more often were limited. These findings could have important implications for the development of public health initiatives and the promotion of physical activity for children. Considering that features of the local neighborhood have been shown to be associated with children's physical activity (Romero, 2001; Epstein, 2006), it is important to further explore the impact of the neighborhood physical environment on the day-to-day experience of children's lives. Future research may need to examine ways in which children can have the opportunity to more freely explore their local neighborhood. For example, providing safer road crossings to local parks, alternative spaces and activities for teenagers, as well as installing more age-appropriate and challenging playground equipment. Given that the qualitative nature of this study does not allow the results to be generalized beyond the children who participated in these focus groups, it will be important to confirm the issues raised in quantitative studies involving representative population samples. Finally, we are living in times of tremendous social and environmental change and therefore it is important to facilitate urban planners, public-health professionals, government bodies, and parents to work together to ensure children are allowed the opportunity to play safely in public open spaces.

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