



Play Spaces for Vulnerable Children & Youth: a Synthesis



**“ACTIVE AND SAFE” INJURY PREVENTION INITIATIVE
TIER 2 (C) PLAYGROUNDS AND NEIGHBOURHOOD PLAY SPACES**

Synthesis of Studies

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The British Columbia Injury Research and Prevention Unit (BCIRPU) was established by the Ministry of Health and the Minister's Injury Prevention Advisory Committee in August 1997. BCIRPU is housed within the Developmental Neurosciences and Child Health (N2N) cluster of the Child and Family Research Institute (CFRI). BCIRPU's vision is "to be a leader in the production and transfer of injury prevention knowledge and the integration of evidence-based injury prevention practices into the daily lives of those at risk, those who care for them, and those with a mandate for public health and safety in British Columbia".

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Children’s Play Spaces: What we know

1 The Problem

Injury is the leading cause of death among children and youth in Canada [1]; the leading cause of hospitalization among 10 to 14 year olds; and is the second leading cause of hospitalization for children aged 1 to 9 years and youth 15 to 19 years old [2].

Global evidence indicates substantial socioeconomic disparities among injured children [3, 4]. In Canada, children living in low-income neighbourhoods have a higher risk of being hospitalized due to unintentional injury than their peers in high-income neighbourhoods [5]. Children in poor neighbourhoods also have greater chances of being exposed to hazards such as inadequate play spaces and high levels of traffic, so called “differential exposure” [6, 7]. In addition, children and care providers in poor neighbourhoods may have less access to protective equipment or devices, so called “differential vulnerability” [4, 6-7].

Playgrounds and other play spaces are among the locations where injuries to children and youth frequently take place. An estimated 2,500 children age 14 and younger are hospitalized every year in Canada for serious playground injuries. Of these, 14% are head injuries, 81% are fractures and 5% are other injuries (dislocation, open wound, etc.) [8, 9]. Falls from equipment are responsible for 60% to 80% of all medically-attended playground injuries [8, 10]. According to the Canadian Hospital Injury Reporting and Prevention Program (CHIRPP), there were approximately four thousand injuries associated with playgrounds in 2008. It is important to note that these injuries do not represent all playground injuries in Canada, but only those seen at the emergency departments of the 15 hospitals participating in the CHIRPP network [11]. Children five to nine years of age have the highest risk of injury, with males injured slightly more often than females (53% versus 47%) [12].

As with all injury, children from low-income families are believed to be at higher risk for playground injuries. A significantly higher proportion of Canadian playground structures in poorer neighbourhoods were found to be below the standards suggested by the Canadian Standards Association (CSA) compared with play structures in wealthier neighbourhoods [13].

2 This Project

This project addressed the safety of outdoor play spaces (including playgrounds, green spaces, urban areas such as parking lots and vacant lots, and the street) available to vulnerable* children

* For this project, vulnerable refers to children and youth who are at higher risk for injury due to living in low socio-economic status families.

and youth in Canada. The Canadian Standards Association and Canadian Playground Safety Institute currently address playground safety, however the safety of all outdoor play spaces being used by children, specifically among vulnerable populations in Canada, was a recognized gap.

Focusing on vulnerable children and youth in Canada, including their parents and caregivers, the broad Safe Play Spaces project aimed to: (1) Describe what we know about current outdoor play spaces for vulnerable populations in Canada; (2) Develop an online training tool for inspecting outdoor play spaces for safety issues; and (3) Share outdoor play space safety issues and information with stakeholders, municipalities, parents and caregivers.

A literature review was conducted to learn about play spaces for 6-12 year olds. A key informant survey was also carried out with adults who worked or lived in vulnerable (low SES) communities and who were aware of where kids played in those communities. In addition, we implemented a small-scale pilot research project that employed Participatory Photo Mapping in order to gain a better understanding of children's experiences of play spaces in two low SES neighbourhoods. Recognizing the rights of children and youth to participate in the decisions that affect their lives [14], this project directly involved children in gathering information about outdoor play spaces.

The detailed reports for all three studies are available at <http://www.injuryresearch.bc.ca>.

This report presents a synthesis of all three studies and includes an overview of overlapping findings on children's play space preferences as well as a description of safety issues and concerns regarding children's play spaces.

3 Key Findings

3.1. Where do children play?

Children and youth play in a range of different spaces in the built environment, with many of these spaces providing social opportunities and challenging physical opportunities. Some of these spaces are designed for children's play and are called 'playgrounds', while others are not specifically designed for children's play, but are spaces where children see the possibility or 'affordance' for play [15]. Such play areas include vacant lots and natural green spaces.

Some research suggests that children prefer nature and open playspaces [16, 17]. Moreover, there is evidence indicating that open places and natural elements, such as grass, trees, leaves and stone, were more important to children than formal play spaces [18]. Interestingly, in a study that asked children to take pictures of their play spaces, only 3% of the photographs depicted formal play areas such as playgrounds [18]. Other studies by children's geographers revealed similar findings indicating that environments with trees, bushes and even waste ground were attractive to children, but considered inappropriate for children's play by adults [19].

The key informant survey revealed that whereas public park and schoolyard play spaces remain the most common spaces where children play, they also frequently play in natural places, such as forests, beaches and riversides, as well as open spaces such as streets, parking lots and alleys, and outdoor skating or skateboard parks. Many respondents emphasized numerous advantages of children’s play in natural spaces. Although such spaces can be associated with certain additional hazards related to wild animals and the wilderness, they also provide children with opportunities for imaginative and creative play, often lacking in formal playgrounds.

Similar to the findings from the literature review and key informant survey, the Participatory Photo Mapping project showed that children were intrigued by the natural elements of play spaces (e.g., rocks, trees, paths, water), whether in urban or rural locations. In particular, the children in the rural group expressed appreciation for the type of creative free play that happens in the local forests.



We always go on the back path down the river, but there were cougar tracks. We thought it was just a little mark and it started to run away from us and we ran after it. Then it started to run at us. We didn’t tell our Mom and Dad because we want to go around the block again. (rural area)

I like climbing that tree because it is so easy. Once I climbed it in grade 2 and hid and spied on people. (urban area)

The children’s narratives highlight a tension between the risk and delight of playing in outdoor natural environments, and the related controversy about children’s engagement in “risky play”. It is important to note that while these children identified risks in these natural environments, they also identified such places as being particularly interesting, imaginative and stimulating.



Every summer time, my friend and I go to each others places. When he comes to my place we jump on these rocks and we also play. It's very special. You can sit on them, jump on them, you can do anything! (urban area).



We kind of adventured in there one day...we found metal train track pieces and put them into logs. We found a funny branch we called the lion's tail...We made our own trail and found things. There is no kind of path shape, you don't know what you will come up to, but you can make up a path yourself. (rural area)

3.2. What factors influence children's active free play?

3.2.1. Safety concerns

The key informant survey revealed a range of safety concerns related to different play spaces. The respondents from urban/suburban communities most commonly mentioned that outdoor skating rinks/skateboard parks often become “a gathering spot for undesirable behavior” such as bullying and alcohol/drug use, whereas in rural/remote communities the most common disadvantage mentioned by the respondents was lack of supervision. According to respondents, good fencing and lighting were two safety elements most commonly lacking at both public park and schoolyard playgrounds in their communities. Among other safety concerns frequently cited by the respondents were inadequate depth of surfacing for fall protection, cleanliness of play areas and inappropriate use by older youth and adults.

Close proximity to traffic and poor equipment maintenance in public parks were of greater concern for the respondents from rural/remote communities than those from urban/suburban areas.

The majority of the key informants were concerned about children playing unsupervised in natural areas such as “canals, drainage ditches, old farm equipment, etc.” and potential safety risks associated with those spaces: risk of falling on inappropriate surfacing, wild animals, falling through thin ice, soft banks along river, fast flowing river and close proximity to water. The participants from rural communities had more concerns regarding natural spaces than those from urban spaces.

Other issues mentioned by respondents were heavy traffic volume, overlap of various age groups, crime and drug use in the area, “the ravines are home to transients and vagrants” and wildlife in many rural areas.

The majority of respondents agreed that open spaces such as parking lots, streets, alleys etc. were not safe for children’s play. Traffic was considered the main risk: “Always at risk for getting hit by a vehicle or coming across strange items in alleyways.” Another problem was lack of supervision: “youth often wander the streets without adequate supervision and can get into trouble”. Some parking lots had “lots of broken glass, poorly lit, no signage, free-for-all atmosphere”.

The literature review suggests that safety concerns play an important role in children’s outdoor play and can come from both children and parents. According to children, barriers to active play outdoors include fears for their own safety, in particular being bullied, unkempt play areas and traffic. For example, children also saw litter such as broken glass, presence of drug taking equipment (like syringes) in play areas, poorly maintained toilets, shaded areas and insufficient lighting as problems and, in some cases, barriers to their play [20]. In addition, children’s fears associated with adult strangers and road traffic in public places may also contribute to reduced outdoor play [21].

According to many studies, parental concerns about the safety of their children was an important factor that limited where children were allowed to play. Veitch et al found that this was the most frequent factor identified by parents as influencing their decision regarding children’s play spaces [22]. The following safety issues were mentioned: strangers, teenagers/gangs, and road traffic on the way to the play space. A fear of strangers was high among parents and limited the number of places available for children to play without supervision. Another concern regarding teenagers loitering in parks was particularly evident among parents from low and mid SES areas. The parents also had concerns about potential risks to their children from teenagers’ anti-social behaviours such as bullying, swearing, drinking alcohol or taking drugs. Parental concerns about road traffic tended to differ depending on the home location. Only half of parents from families living in main or through streets reported allowing their children to play on the street, whereas all children living in a court or cul-de-sac were regularly allowed to play out on the street [21]. Ironically, parental concerns about child abduction by strangers led to increased driving of children, which aggravated concerns related to road traffic safety [23].

Interestingly, the PPM study found that sometimes children are reluctant to tell their parents about their play in potentially dangerous outdoor spaces out of the knowledge that their parents’ safety concerns may result in restricted access: “We just go down with our skates and skate on [the river]. We sneak down there because we aren’t supposed to go down there by ourselves.” This concurs with the findings of a number of studies indicating that parental concerns about children’s safety are important factors in limiting the range of places where children are allowed to play [22].

3.2.2. Not challenging/boring equipment

Another factor influencing children's play space preferences is the lack of age-appropriate equipment that is attractive and challenging for older children. About 40% of the respondents from our key informant survey said that equipment in playgrounds was not challenging enough for 10 to 12 year olds. Those who stated that public park playgrounds involved enough challenge for the younger age group (6-9 year olds) but "nothing challenging or fun for the older group" mentioned that "most children lose interest in playgrounds after 9 or 10 years of age". "Most playgrounds would not be attractive for 10-12-year age group as they would not be challenging enough". Those kids (10-12 year olds) "...need a playground for their age (i.e. skate park)" or potentially a natural play space.

When asked about what improvements could be made to neighbourhood play spaces or playgrounds, almost two-thirds of the key informants indicated the addition of challenging play equipment and interactive elements such as portable elements or equipment. Another suggestion was to provide children with "adventure playgrounds that would teach more skills to youth playing safely."

Some literature suggests that both children and their parents recognize facilities at parks and playgrounds as an important factor in making decisions regarding their use. There is a substantial body of research indicating that existing play equipment in playgrounds does not meet children's need for complex imaginative play [24, 25]. Parents emphasized the importance of interesting and age-appropriate playground equipment in their decisions to visit the play spaces [22]. Playground equipment was often designed for toddlers and was not appealing to older children. Johnson suggested that in the pursuit of safety, manufacturers compromised the complexity of play equipment needed to challenge children and keep them motivated to play [26].

According to the literature, adventure playgrounds offer a wealth of play opportunities and developmental benefits to children of all ages [27, 28]. They are a place for children to play freely by making their own choices. Children are not limited by fixed play equipment or by organized activities or games. Rather, children spend a great deal of time building their own structures and creating their own games and rules together with their peers. Due to the interactive nature of adventure playgrounds, children learn to negotiate relationships with each other or with adults and, as a result, develop problem-solving skills and social responsibility [27, 29].

3.2.3. Socio-demographic factors: age and gender

Socio-demographic factors, such as children's age and gender, also play an important role in play space preferences. The majority of the respondents of the key informant survey agreed that public parks were the most preferable places for both 6-9 year old boys and girls followed by outdoor skate rinks/skateboard parks/swimming pools for boys and by schoolyard playgrounds for girls. However, according to respondents, among 10-12 year old children, a greater percentage of boys than girls preferred active play areas such as outdoor skate rinks/skateboard

parks/swimming pools and basketball courts as well as open nature spaces such as river banks/lakes/seashore.

There is a substantial body of evidence examining the differences in children's preferences for play spaces by gender and age. Observational studies of children playing in school playgrounds revealed that boys prefer more vigorous play and spent more time playing outdoors than girls [30, 31]. Boys' preference for more physically active games, such as football, results in their domination over most of the play space, whereas girls' preference for sedentary games leads to their occupying walled and seating areas in school playgrounds [32]. Boys also tend to visit school playgrounds more frequently and stay for longer periods of time in comparison to girls [33, 34]. The findings are similar with regards to other play spaces, with a higher proportion of boys than girls playing in public open spaces, such as sports fields, and a higher proportion of girls than boys playing in the yard at home [35]. A UK study showed that 10-11 year old boys were more likely than girls to be involved in daily outdoor play or structured exercise and sport [36]. Another European study showed that boys aged 7-9 years and 10-13 years spent more time in outdoor play than their girl peers [34].

Age influences children's preferences for play spaces. While there is evidence that the overall level of physical activity decreases as children get older, the differences become apparent only in children greater than 12 years of age [37]. However, there are differences in the spaces where children of 6-12 years of age play. According to Veitch et al [35], a higher proportion of children aged 10-12 years were active in the street/footpath compared to children aged 8-9 years. In addition, children's age was related to their independent mobility range, which also affected play areas they were able to visit without being accompanied by adults. For example, children of 9-10 years were more likely than 6-8 year old children to get parental permission to walk or cycle to a friend's house or to visit a local park on their own.

4 Conclusion

The findings from the key informant survey, the literature review and the PPM study indicate that along with formal play spaces such as public parks and schoolyard playgrounds, children 6-12 years of age commonly play in natural places, such as forests, beaches and riversides, as well as open spaces such as streets, parking lots and alleys, and outdoor skating or skateboard parks. Play in natural spaces has numerous advantages by providing children with opportunities for imaginative and creative play, often lacking in formal playgrounds.

The findings from our studies also point to a range of factors influencing children's active free play including safety concerns of parents and children themselves, lack of age-appropriate equipment or play opportunities that are attractive and challenging for children, as well as socio-economic factors and children's gender and age.

Finally, the survey findings reveal a need for more research in this area, including observational studies in vulnerable neighbourhoods, as well as studies directly involving children themselves, to better understand children's preferences for various play spaces and safety risks associated with them. In particular, more research is needed on play in natural environments, the role of gender and other forms of social inequality on play space preferences and experiences, and the impact of bullying on play.

5 Call to Action

1. Further promote the playspace safety assessment training tool recently developed by the Canadian Playground Safety Association. This online course is designed for community members in rural/remote communities to be able to assess play space safety.

<http://www.cpsionline.ca/index.php?action=cms.trainCpsiUpdates>

2. Raise awareness of the need for children to play in natural environments. This is particularly important in urban areas where access to nature can be limited. While children identified risks in natural environments, they also identified such places as being particularly interesting, imaginative and stimulating.
3. Encourage discussion on the tension between where children are allowed to play (often under-stimulating playgrounds) and where they want to play. Use this discussion to involve and inform play space designers (e.g. schools, Parks and Recreation, etc.) and policy makers. Children's narratives from this project highlight a tension between the risk and delight of playing in outdoor natural environments, and the related controversy about children's engagement in "risky play".
4. Include playground manufacturers, insurers, lawyers and children when addressing the balance between healthy child development and issues of liability. It is now the time to look beyond current norms about where and how our children are spending their play time and to redefine 'protection' to allow for healthy development through challenge and play that includes age-appropriate risk-taking.

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