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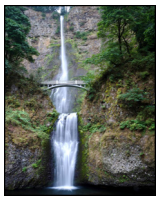

A qualitative investigation of unsupervised outdoor activities for 10- to 13-year-old children: "I like adventuring but I don't like adventuring without being careful"

Mariana Brussoni[a,*], Yingyi Lin[b], Christina Han[c], Ian Janssen[d], Nadine Schuurman[e], Randy Boyes[d], David Swanlund[e], Louise C. Mâsse[f]

[a] Department of Pediatrics, University of British Columbia, School of Population and Public Health, University of British Columbia, British Columbia Injury Research & Prevention Unit, British Columbia Children's Hospital, Room F511, 4480, Oak Street, Vancouver, BC, V5H 3V4, Canada
[b] Department of Pediatrics, University of British Columbia, Room F504, 4480 Oak Street, Vancouver, BC, V5H 3V4, Canada
[c] Department of Pediatrics, University of British Columbia, British Columbia Injury Research & Prevention Unit, British Columbia Children's Hospital, Room F513, 4480 Oak Street, Vancouver BC, V5H 3V4, Canada
[d] School of Kinesiology and Health, Queen's University KHS 301W, Kingston, Ontario, K7L 3N6, Canada
[e] Department of Geography, Simon Fraser University, RCB 6119/7134, Burnaby, British Columbia, V5A 1S6, Canada
[f] School of Population and Public Health, University of British Columbia, British Columbia Children's Hospital, Room F508, 4480 Oak Street, Vancouver, BC, V5H 3V4, Canada

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ABSTRACT

There has been increasing recognition of the importance of children's outdoor play and independent mobility for thriving children, neighbourhoods, cities and society, which has led to calls to reverse children's retreat from the street commonplace in many Western nations. We privilege the voices of children aged 10–13 living in three diverse neighbourhoods in an urban centre in Canada to examine the factors that influence children's unsupervised outdoor activities (UOA), such as play, hanging out, and active. A total of 105 children participated in go-along interviews. Analyses revealed two themes: First, 'feeling safe' encompassed a sense of social and physical safety, including children's sense of neighbourliness, social dangers, discomfort around traffic, and personal agency to keep themselves safe. Second, having 'things to do,' included the affordances that children perceived as important in their neighbourhoods, particularly having other children to play with, diverse amenities and access to nature, and opportunities for challenge and risky play. We outline a conceptual model of children's decision process for UOA that identifies key variables that influence children's engagement in UOA.

1. Introduction

Children's retreat from the street in Western nations has raised the concerns of scholars, policy makers, and media (Council of Chief Medical Officers of Health, 2018; Tremblay et al., 2015). Where walking to school and playing in the streets without adult supervision were previously commonplace, they are no longer the norm in many societies (Karsten, 2005; Shaw et al., 2015). Evidence indicates the important influence of unsupervised outdoor activities (UOA), including unstructured play and independent mobility, on children's health, development and well-being. Outside, children are more physically active and less sedentary, particularly when unsupervised (Floyd et al., 2011; Schoeppe, Duncan, Badland, Oliver, & Curtis, 2013). UOA help children develop motor skills, social behaviours, risk management skills, a sense of self-control and independence (Brussoni et al., 2015; Gray et al., 2015; Hüttenmoser, 1995). Not surprisingly, children prefer playing outside, particularly when unfettered by adults (Glenn, Knight, Holt, & Spence, 2013; Gray, 2011).

Vibrant and sustainable cities are characterized by inclusive, play-friendly neighbourhoods, yet children are often deliberately designed out in favour of cars (Bishop & Corkery, 2017; Hart, 2002). Land use not dominated by cars is seen as adult territory, stemming from adults simultaneously perceiving children as innocent and vulnerable, and as irritants or juvenile delinquents (Scott, Jackson, & Backett-Milburn, 1998; Valentine, 1996). Children are thus relegated to designated play areas away from the harms of traffic and maleficent others (Brunelle,

* Corresponding author. F511 – 4480 Oak Street, Vancouver, BC, V6H 3V4, Canada.
E-mail addresses: mbrussoni@bcchr.ubc.ca (M. Brussoni), yingyili@usc.edu (Y. Lin), chan@bcchr.ca (C. Han), ian.janssen@queensu.ca (I. Janssen), nadine_schuurman@sfu.ca (N. Schuurman), randy.boyes@queensu.ca (R. Boyes), david_swanlund@sfu.ca (D. Swanlund), lmasse@bcchr.ubc.ca (L.C. Mâsse).

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Brussoni, Herrington, Matsuba, & Pratt, 2018; Hart, 2002). Furthermore, under the guise of safety concerns, play areas have been increasingly sterilized of challenge and risk-taking opportunities (Ball, Brussoni, Gill, Harbottle, & Spiegal, 2019; Woolley & Lowe, 2013).

The result has been children increasingly absent from the public realm in Western nations and spending unprecedented time indoors, on screens or being ferried to supervised activities (Barnes & Tremblay, 2017; Karsten & van Vliet, 2006). The adverse consequences permeate all levels of the socio-ecological model (Bronfenbrenner, 1986): children's development, health and well-being are compromised; neighbourhood social cohesion suffers; cities feel sterile and car-dominated; societies permeate inequity and exclusion (Cook, Whitzman, & Tranter, 2015; Hart, 2002).

As the adverse effects of a decline in children's UOA are increasingly recognized (Hillman, Adams, & Whitelegg, 1990; Rixon, Lomax, & O'Dell, 2019; Shaw et al., 2015), research on children's UOA and child-friendly environments has gained momentum (Marzi, Demetriou, & Reimers, 2018). Recent systematic reviews and meta synthesis of research have identified social, physical and built environment features associated with UOA at different levels of the socio-ecological model, from child and family-level issues, neighbourhood social and physical environments to policies and societal attitudes (Lambert, Vlaar, Herrington, & Brussoni, 2019; Lee et al., 2015; Marzi et al., 2018). With respect to children's characteristics, typically as age increases, so does parents' perception of children's competence and thus the freedom that parents afford children (Lee et al., 2015; Marzi et al., 2018). The results for gender are mixed with some studies indicating greater freedom for boys and others showing no effect, or varying freedoms for boys and girls depending on circumstances, such as activity, destination and companions (Lee et al., 2015; Marzi et al., 2018). Family-level factors include parents' safety concerns, particularly related to traffic and potentially threatening people, such as strangers or bullies/teenagers. Some research has also identified children's access to a mobile phone as facilitating UOA, providing assurance of instant communication between parents and children (Riazi et al., 2019). The neighbourhood social environment is influential, including perceptions of neighbourliness and safety, norms around the acceptability of children's outdoor play, and availability of friends to play with (Lee et al., 2015; Marzi et al., 2018). Research on the influence of the neighbourhood physical environment is mixed, though there is evidence for importance of lower traffic volumes, yard access, and neighbourhood greenness to support outdoor play (Lambert et al., 2019).

The State of Play: Socio-ecological perspectives on children's outdoor play is a mixed-methods study which aims to develop a conceptual framework to measure how friendly a given outdoor environment is for UOA (i.e. neighbourhood "playability") for children aged 10–13 years (Han et al., 2018). This research defines UOA as inclusive of unstructured outdoor activities (e.g., climbing trees, playing street hockey, hanging out with friends) and independent mobility ("the freedom of children to travel around in their neighbourhood or city without adult supervision" (Hillman et al., 1990). Note that while our focus is the outdoors, it may include both indoor and outdoor time (e.g., playing while running in and out of the house, going into a store).

This research is grounded in the United Nations Convention on the Rights of the Child (CRC), which enshrines the child's right to be heard (Article 12) and to play (Article 31) (Office of the United Nations High Commissioner for Human Rights, 1989). The well-being of the youngest citizens is the optimal indicator of the healthiness of a city's environment, governance, and sustainable planning policies (Malone, 2017).

This research is informed by Boxberger, Reimers, Boxberger, and Reimers's (2019) socio-ecological model, reflecting the nested contexts from micro child- and family-level factors to macro societal-level factors that influence children's access to UOA. It is also informed by the social construction of gender framework, recognizing gender to be relational, dynamic and contextually sensitive (Ridgeway, 2009). We considered UOA as a gendered practice shaped by parental and societal expectations around gender roles and idealized cultural practices. We focused on the 10–13 year age span as a time of transition from parental influence and control to increasing independence, engagement with peers and independent mobility (Christensen, Mikkelsen, Nielsen, & Harder, 2011; Matthews, 1987; O'Brien, Jones, Sloan, & Rustin, 2000). Herein, we report findings from the qualitative component of our study, privileging children's voices, and representing the grounding step in the larger study. We examine the factors that facilitate and/or impede children's UOA and develop a conceptual model to guide subsequent work.

2. Methods

The detailed methodology and theoretical framework for *State of Play* was published elsewhere (Han et al., 2018) and is described briefly below, highlighting methods for the qualitative component.

2.1. Study settings

Metro Vancouver is a metropolitan area of 21 municipalities, one Electoral Area and one Treaty First Nation in British Columbia, Canada (Metro Vancouver 2019; 2019). The population of Metro Vancouver is ~20% children, and ethnically diverse, with 49.3% identifying as Caucasian, 47.6% visible minorities (South Asian, East Asian, Black, Filipino, Latin American, Arab, Southeast Asian and West Asian.) and 3.1% Aboriginal (Statistics Canada, 2016).

2.2. Study neighbourhoods

We recruited in three neighbourhoods in Metro Vancouver that represented a mix of urban and suburban housing types and geography (see Fig. 1): Vancouver's Grandview-Woodland is an urban neighbourhood close to downtown, with extensive pedestrian infrastructure and access to multiple stores and restaurants. North Vancouver's Lower Lonsdale neighbourhood has a mix of single- and multi-family homes, and is located at the base of a mountain with a high concentration of natural areas. Richmond's Steveston neighbourhood is a suburban car-dependent neighbourhood, with the least population density and many cul-de-sacs, but includes several features to encourage walking (Han et al., 2018).

2.3. Study participants

Participants included 105 children aged 10 to 13 with equal distribution across the three neighbourhoods, gender (50.4% girls) and age (M = 11.4 years). Eligible children were allowed to roam independently at least within their yard and/or driveway, as reported by parents. Most participants (65.7%) were Caucasian. Ethics certification was provided by the University of British Columbia and Children's and Women's Health Centre of British Columbia Research Ethics Board. We obtained parental permission and child assent prior to commencing study activities.

2.4. Data collection

Participants took the researchers on a walking tour of places in their neighbourhood that were meaningful to them. Guided by semi-structured interview questions, researchers asked children's perceptions towards their neighbourhood and UOA (e.g., "How do you feel about playing outside without your parent or another adult around?", "Are there things you would like to do that you don't have a chance to do?") as well as specific prompts that participants' interview data had highlighted for researchers (e.g., "What is special about this place?"). All interviews were audio-taped, and conducted in English and lasted 45–60 min. Following the completion of interviews, researchers completed field notes to document the setting and the general mood, their

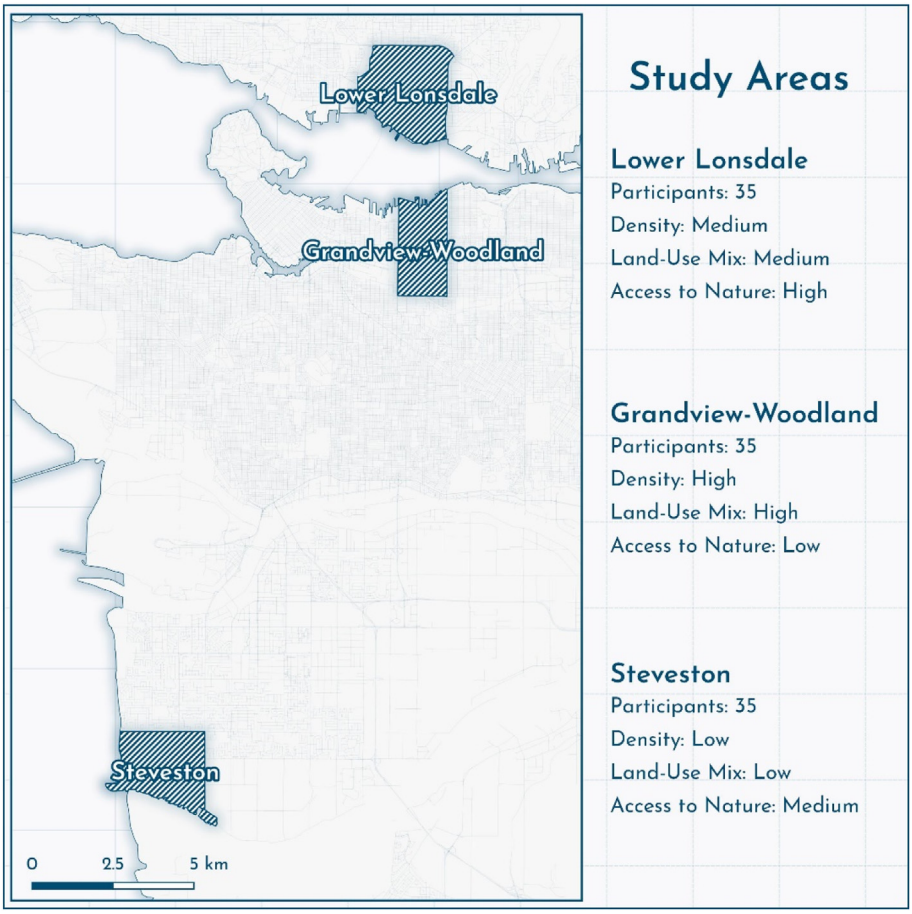

Fig. 1. Metro Vancouver study area locations and characteristics.

own reflection and impression of the interviews, and anything else they deemed notable.

2.5. Data analyses

To facilitate coding, de-identified interview transcripts were entered into NVivo 12 software (QSR International Pty Ltd, Melbourne, Australia). Children's interviews were made of disorganized, fragmented, ambiguous and sometimes inconsistent and contradictory narratives, which well reflects the way children talk and our complex realities (Watson, 2006)Therefore, a combination of 'line by line' and 'incident by incident' coding was used to keep the foci of the current analysis. Thematic analysis was conducted to identify patterns – *themes*, without making a theoretical commitment (Braun & Clarke, 2006). Through group discussions, we developed the broader and overarching coding frame by identifying key themes for the *State of Play* study, a recursive and inductive process that is data-driven.

For the current paper, two sub-themes were analyzed: (1) 'about children's UOA – where, why, doing what, with whom, how often' and (2) 'children's perception of their neighbourhood – things they like or do not like about their neighbourhood, concerns that are neighbourhood-related, things they would like to change.' Narratives included in these themes were explored anew to derive emerging patterns in the specific context of the current research questions. Grounding our analyses in the socio-ecological model (Bronfenbrenner, 1986), we considered interactions between the child and characteristics of the social and physical environment, as well as broader social factors. Further, the social construction of gender framework provided a lens to examine children's UOA as a gendered practice (e.g., how participants engage with and respond to their environment and how this might be influenced by gender). Particular attention was paid to similarities and differences across neighbourhoods, age and gender groups.

3. Results

Analyses revealed two main themes: 'feeling safe' and 'things to do.' Feeling safe related to aspects that contributed to children's sense of safety. Things to do related to whether children perceived there were compelling affordances in the neighbourhood that they could easily and safely access. Findings were largely consistent across children's gender, age, and neighbourhood with some subtle differences for different ages and neighbourhoods. Relevant differences are discussed within the themes.

3.1. Feeling safe: A sense of social and physical safety and personal agency

Feeling safe included four subthemes that related to children's perceptions of neighbourliness, potentially threatening people, traffic in their neighbourhood, and their personal agency in keeping themselves safe.

3.1.1. "Nobody is there yet everyone is there"

Children's perceptions of neighbourliness emerged as a central aspect in supporting UOA, regardless of age, gender or neighbourhood. Neighbourliness helped children feel that assistance would be forthcoming if needed. This 11-year-old girl (Project identification; PID3022, Richmond) described what made her feel safe in her neighbourhood: "*someone couldn't do something without another person seeing it being done, so there's a lot of people.*" An 11-year-old boy (PID3001, Richmond) described his neighbourhood as "*a great place to play,*" elaborating

further:

> "Because like there's still adults everywhere. Like my brother fell the other day and then like minutes later all the adults were around to help him, so it's like the perfect amount of supervision because nobody is there yet everyone is there."

Children of all ages described the importance of strong ties among neighbours, who rely on and trust each other, and collectively monitor for potential dangers to children. This 10-year-old girl (PID1007, Vancouver) felt safe being outside without adult supervision: "*[…] because everyone lives with their doors open so the adults can always come outside or sometimes the adults hang out and I don't know like talk about adult stuff while the kids play.*" Likewise, a 12-year-old boy (PID3004, Richmond) described his close-knit neighbourhood: "*we all know each other. We have a block, we like a set of rules, we have like a group that gets together and makes decisions*."

The presence of other children was also important in fostering a sense of safety in numbers, as well as relying on older peers to help. A 12-year-old boy (PID3004, Richmond) stated:

> "If one thing happens one kid's obviously going to get his parents, right? There's like ten kids outside. If he [the 'bad guy'] gets one kid, it's not like he's going to be able get all the kids, right? Plus, now a lot of these kids are now teenagers, right? Like 13, 14. So these kids would be able to stand up a little bit better."

Children described this sense of collective safety influencing parents' decisions and being given greater freedom when with friends: a 13-year-old girl (PID2034, North Vancouver) discussed being able to go out after dark, "*as long as I have a buddy with me,*" because "*if something happens like they [friends] could go like, tell my parents or something.*"

3.1.2. "Getting the feeling like someone's gonna try to hurt me"

People around could also inhibit children's UOA, particularly for those children living in Vancouver's Grandview-Woodland neighbourhood. Some pockets of this neighbourhood are connected to public consumption of alcohol and drug use, and social issues such as homelessness, mental illness, street violence and sex work. Avoiding these areas was prominent in many children's interviews, such as a 13-year-old boy (PID1032, Vancouver) who stated: "*sometimes getting the feeling like someone's gonna try to hurt [me] in public.*" A 11-year-old Vancouver boy shared what led him decide to stay away from one problematic street:

> R: Is there any place that you don't like that you don't want to go?
> 1011: Not really. I'm … I'm okay with going anywhere. Unless, well actually probably this part of Hasting Street. That just … I don't see any point of going there because … It's kind of … that's a sketchy little part. It's a sketchy … it's like …
> R: Can you define what sketchy means to you?
> 1011: Um, well just like there's a lot of kind of druggy people or people that are high.

Children also occasionally described feeling threatened by peers, described as "bullies" or slightly older "teenagers." For a 12-year-old girl in Richmond (PID3009) an otherwise unremarkable corner in a quiet neighbourhood was perceived as a dangerous place:

> "Like in the trees there is a little area section inside that, where all the trees have been cleared and there's like a rope swing […] normally um people who I don't like or normally don't hang out with do go there. A lot of people like say oh that's where people do drugs and stuff like that, so I normally try to avoid it."

Likewise, when asked if there were any areas of the neighbourhood she avoided another 12-year-old girl (PID3017, Richmond) replied: *"The playground, late at night. Like the one over there. Because that's where like the high school kids sometimes go. And then that's probably it."* Her quote exemplified how safety concerns heightened after dark, even for areas perceived as safe in the daytime. A 13-year-old girl (PID1005, Vancouver) explained where she would avoid at night in her neighbourhood:

> "Usually in like the sunlight it's like not as bad it's like but when it gets a little bit darker sometimes like especially on a week night like on Friday or Saturday night like across like from my house in the field I can hear people like yelling sometimes. And like there's been times where like they found like passed out people there and just so it's like I can find it a little bit scary sometimes."

The fear of potentially threatening people also influenced the freedom parents granted their children, such as described by this 10-year-old girl (PID1001, Vancouver):

> 1001: … for some reason I'm not allowed to walk to the bus stop but I can still take the bus by myself. [Mother] always like walks me to the bus stop and then I just take the bus by myself.
> R: Why do you think she does that?
> 1001: Well she thinks it's like the last two blocks of the seven blocks it takes to walk to the bus stop are like sketchy or something, even though nothing has ever happened there and there are two schools in those two blocks, so I don't really know why she does that.

Many parents' reticence to allow their children, particularly younger children, to take public transport was notable in our sample. An 11-year-old boy (PID1008, Vancouver), who was not allowed to take the Skytrain, Metro Vancouver's rapid public transit system, described his parents' reasoning:

> "*Because it's, it goes very far and [shopping mall]'s kind of far so. I guess and there's also a lot of people on the Skytrain and I don't know, yeah, I guess that's it and they [parents] don't want me to get hurt.*"

3.1.3. "I stay away from the bigger roads"

Children consistently reported discomfort around heavy traffic and speeding cars. Perceived physical boundaries for most children's UOA tended to be set by major roads: "*just not [bike around] if I go near the busy streets*" (PID2021, 12-year-old, boy, North Vancouver); "*I stay away from the bigger roads*" (PID3022, 11-year-old, girl, Richmond). Safety concerns related to the fear of getting hit by cars, although a few children also mentioned noise and pollution produced by heavy traffic. Children preferred quieter streets, such as alleyways and cul-de-sacs.

Children considered road infrastructure as catering to vehicles, rather than pedestrians and cyclists. They described wanting safer crosswalk systems, more street lights to increase visibility after dark, and traffic calming features, such as stop signs and speed humps. Children wanted more sidewalks, as well as bike lanes since they described feeling more vulnerable when they were cycling, skateboarding, or scootering on regular roads while sharing spaces with cars, when compared to walking on sidewalks. For instance, a 13-year-old girl (PID1034, Vancouver) stated:

> "Walking is nicer and easier cause when you're biking there's a lot of cars. They're [car drivers] not really looking where they're going. They don't always appreciate what's the biker's space and what's like your space."

Some children expressed concerns that existing road safety interventions were ineffective because some people were not following the traffic rules. While a few children mentioned their own responsibility as pedestrians: "*If you don't look then you should be worried!*" (PID1011, 11-year-old, boy, Vancouver), many children referred to drivers' actions: "*some people follow the rules, and some people don't. There's signs that say, 'Kids crossing, don't go fast,' but not everyone listens to that*" (PID3028, 13-year-old, girl, Richmond). An 11-year-old Vancouver boy (PID1002) living in an area with extensive traffic calming features said: "*it doesn't*

really work so it just makes people more frustrated and they go faster."

3.1.4. "I know how to get out of basically any situation"

While social and physical elements of the environment influenced children's sense of safety, children, particularly older children also described strategies and feelings of competence to keep themselves safe: "*there are safety things like, running fast, I know I could easily escape someone. And then I know a maneuver, I know how to get out of basically any situation*." (PID1021, boy, 12-year-old, Vancouver). Another 12-year-old girl (PID2011, North Vancouver) described herself as very "*knowative*", "*awarative*" and "*observative*" of things or people around: "*I like adventuring but I don't like adventuring without being careful*."

Children's familiarity with their physical surroundings influenced their sense of competence in keeping themselves safe. For example, a 12-year-old boy (PID2017, North Vancouver) had been living in his neighbourhood for 9 years: *"I know all the lights along here. I know what's safe, what's not …. If I had to go somewhere, I'd figure out how to get there.*" Conversely, a 10-year-old girl (PID2019, North Vancouver) whose family had recently immigrated to Canada, said she did not want to go outside on her own because:

> "There's a lot of busy roads, so I do not want to get hit and I don't really … And I know my places but I'm not quite sure what to do and I'm kind of lost without my parents in the city because it's so new to me and I'm still getting through to all these things."

Notably, some children's sense of competence seemed influenced by having access to a cell phone, and likewise some parents insisted they carrying it, such as this 12-year-old girl (PID3032, Richmond):

> R: Does it make you feel safer having a cellphone?
> 3032: Definitely.
> R: What about it?
> 3032: It's probably just that if there's like anything that's going on, I can just quickly call someone or something like that.
> R: Do you have rules around using your cellphone from your parents?
> 3032: Probably the only rule is that if I'm going out with anyone, or if I'm going to school, I'll have to take the cellphone with me just in case there's anything that's going on. Or if we just go out with like—even if it's just the family, just in case I get lost in the store."

3.2. Things to do: Accessing local affordances with friends

Regardless of age, gender or neighbourhood, the availability of friends to play with and things to do influenced children's desire to go out. Most children did not seem inclined to be outside without friends. Once outside, they a variety of affordances within walking distance, such as places to hang out with friends, local greenspaces, friends' houses, parks, and commercial areas. Children also described features they valued in these environments: access to inexpensive food, claiming spaces as their own, and opportunities for risks and challenge.

3.2.1. "It's more fun with friends"

According to most children, whether they were outside and where they went *depended* on being able to be with friends. A 12-year-old boy (PID3004, Richmond) usually did homework and played video games after school in the absence of friends, but "*when they're [friends] not busy, I'm usually outside."* Similarly, the time children spent outside depended on being with friends. A 13-year-old girl (PID1003, Vancouver) spent "*an hour a day*" outside when none of her friends were around, and "*the majority of the day*" when her friends were around.

Children identified several reasons for wanting friends around, including finding activities more enjoyable, feeling accompanied, and expanding the freedom their parents afforded them (described above). Being with friends also influenced children's preferences for the activities they engaged in and the places they went. A 12-year-old girl from Vancouver (PID1023) said she would not go to a park alone even if her parents allowed it, because, "*it wouldn't be fun - it's more fun with friends.*" Likewise, another 12-year-old girl (PID1027, Vancouver) described school as her favourite place to hang out even though she did not like school, because, "*it's where my friends are"*.

Notably, having friends living within walking distance appeared to be an important facilitator of UOA, affording impromptu opportunities for hanging out, rather than requiring pre-planning and a parent to facilitate transport. An 11-year old boy (PID2016, North Vancouver) described how his UOA more than doubled after moving to his current neighbourhood, since "*my friends' houses are close so I could go to my friends' and I can walk to school.*" Previously, he was reliant on his mother to transport him, limiting his ability to play outside, because "*mom doesn't like driving all-day, there and back*." Children without friends close by strongly noted the absence, such as this 10-year-old boy (PID1008) from Vancouver who considered the least favourite thing about his neighbourhood as: "*that none of my school friends live within walking distance*".

3.2.2. "There's lots of places to play"

Many children appreciated "*to have everything around*" (PID2003, 11-year-old, girl, North Vancouver) in their neighbourhood. Each neighbourhood had an area with diverse affordances attractive to children. In Vancouver, many children mentioned 'The Drive' as a place they frequently visited, which is a mixed residential-commercial area with public amenities (schools, library, gym, pool, ice rink), many ethnic stores, community groups, cafes, shops, and is served by multiple bus routes. A 13-year-old girl (PID1030) described what she liked about The Drive: "*all the different places, all the different stores that you can go and explore, and all the different aspects*." A 12-year-old girl (PID 3032) in Richmond highlighted the Steveston area: "*it's a nice little community, because you have public transportation, you have like the high school, the elementary school, and you have like Steveston.*" Steveston was also the favourite place for another 13-year-old girl (PID3026):

> "*Because there's lots to do there, you can go see things, there's Garry Point Park where there's a little sandy area, and you can go to the community centre. There's a teen hangout room where kids my age can hang out.*"

Businesses selling food emerged as popular destinations to visit, particularly with friends. These included convenience stores, pharmacies, dollar stores, coffee shops, fast food restaurants and supermarkets. Children were attracted to the ease (e.g., quick access to food), low prices, and ability to hang out with friends. In particular, children liked the sense of independence gained by being able to feed themselves. A 13-year-old girl (PID1003, Vancouver) described why she liked visiting a corner store:

> 1003: I think like as soon as I was allowed to go out by myself and like buy things by myself, I went there [the corner store] once and now I just always go back there. So, it's kind of special in a weird way.
> Researcher: Okay, because that's the first place that you ….
> 1003: Yeah, that was like the first time I could ever like 'oh I can go buy candy by myself'

Importantly, children generally preferred having a variety of affordances and amenities within walking distance: "*Anywhere past walking distance is kinda far*" (PID2012, 12-year-old, boy, North Vancouver). Their preference for walking, rather than cycling or other ways of navigating the neighbourhood, was primarily related to their safety concerns on roadways, as described above. A 10-year-old goy (PID: 2013, North Vancouver) who has lived in the same house his *'whole life'* shared some of the qualities that made his neighbourhood a perfect place for him:

2013: Yeah, like it's close to schools, it's close to all the places we always go to.
R: OK. What else do you really like about your neighbourhood, about where you live?
2013: It's like, there's lots of places to play.

Children also described that having destinations nearby helped decrease their parents' safety concerns and thus resulted in more independent mobility. For example, an 11-year-old boy (PID2027, North Vancouver) wanted a skate park close to home, "*because then, you don't have to travel anywhere. Just 'Mom, I'm going down to the skate park.'*"

Often, children's favourite things to do did not involve formal amenities, but rather unprogrammed spaces, such as alleys, tucked away spaces or other spaces with flexibility so that children could take over the space, even temporarily, and explore play opportunities. This 11-year-old girl in Vancouver describes her use of an alley:

1015: My favorite thing is that no one ever comes by and it's not very popular so it's so nice …. And that's like the best part, like we can play in the middle of the street and no one would care. I made an ice rink in one of the parking lots once and no one cared.

Children's spaces could be expansive, such as games of chase spanning entire blocks, with favourite hiding places: *"The best hiding spot in Manhunt that you can hide is this little bush area there"* (PID 2032, 10-year-old boy, North Vancouver). Spaces could also be tiny, such as the crawlspace under a parked boat: *"Me and [older sister], we used to go play spies under there"* (PID 3027, 10-year-old boy, Richmond).

At times, the tension between children's use of space and adult control and assumptions about the children's intentions hampered play, as apparent in the narrative of this 13-year-old boy in Vancouver describing a "fort" he and his friends built in an apartment garage:

1003: But we built a fort there, it was great. We had like a vending machine, there was a Halloween costume that we made into a real thing, we had like nets and we had chairs and desks and we had like coolers and stuff. It was great, it was like the ideal hangout. But then we got kicked out because, apparently, we were drinking …. Which we weren't …. But yeah, that guy kicked us out … But that was like the coolest spot while it lasted … It was always a good temperature, so like if it was cold out, and we had like a constant supply of like drinks and food and things to do, it was like the greatest thing … then that got shut down, which is really too bad.

Children in all neighbourhoods described wanting ready access to nature, as "*scenic*" and "*pretty,*" as well as making for a more enjoyable play experience, through fostering feelings of "*calm*", "*cool*", "*safe*", "*fun*", "*magic*" and "*homey.*" A 10-year-old girl (PID3020, Richmond) described her least favourite place in the neighbourhood as a fence that blocked her access to the forest, because "*it [the fence] just makes me feel like I'm not in the wilderness again and I hate being brought back to reality*." In North Vancouver and Richmond – neighbourhoods with more natural areas – some children mentioned enjoying interacting with wild animals, such as feeding ducks in the pond, chasing squirrels, watching eagles building nests; while a few children mentioned being scared of potentially dangerous wild animals, including cougars, rats, bears and raccoons.

"*Something fun but hard to do*"

Regardless of age or gender, children highlighted the need for opportunities to be challenged and take risks, which also provided them with feelings such as fun, enjoyment, excitement, thrill and pride. For example, an 11-year-old boy (PID1014, Vancouver) described climbing a school roof despite it being considered "*unsafe*" and banned by the school. This was a special place for him that he would only climb on the weekends: "*it's the one thing I can do that nobody else can do.*" Several older boys mentioned wanting locations for parkour: "*something fun but hard to do, like a parkour course*" (PID1010, 13-year-old, boy, Vancouver).

Children often perceived a lack of challenging opportunities in the fixed play equipment found in their local parks, which they described as being "*like for the babies*" (PID2013, 10-year-old, boy, North Vancouver). When asked what she would like changed in the neighbourhood, a 12-year-old girl (PID1023, Vancouver) described "*maybe more things to climb on – maybe less things that are really safe, you know, really low to the ground, small – like more extreme fun things*". When children described playground equipment that interested them, it was typically about equipment that afforded more flexible and challenging ways of play. For example, while describing his favourite place in a park, a monkey bar, an 11-year-old boy (PID3005, Richmond) stated, "*I can climb up, I can go backwards and reverse like that and do a backflip, I can just climb on the side, it's pretty cool, you can do cool tricks with that.*"

Children also valued play afforded by nature elements, such as "*climbable trees*" and "*bushes for camouflage.*" Trees were frequently mentioned because they served multiple functions, including providing shade, high perches for prospect, sticks for building things, opportunities for affixing a swing set, climbing and jumping off, which in turn provided a sense of achievement and helped overcome children's fear of heights:

"*It's [tree] really nice and it's really easy to climb up like you can just like … Oh, I'm actually terrified of heights but I try to push myself so I went up to like way up there. I was like at the top.*" (PID1005, 13-year-old, girl, Vancouver)

4. Discussion

The current study sought to investigate the perspectives of children aged 10–13 with respect to the factors that facilitate and/or impede their UOA in their neighbourhood. Two main themes emerged relating to children's feelings of safety, as well as whether there were things to do once they went outside. A sense of safety came from having people around them that they felt they could rely on, as well as feeling confident navigating the streets around their neighbourhood – both in terms of potentially threatening others, as well as traffic. Children valued having friends to play with and a diversity of things to do close by, including being able to access nature and opportunities to engage in risky play. Notably, themes were consistent with subtle differences in how they were manifested for different ages and neighbourhoods. We found no gender differences. Children in Vancouver's Grandview-Woodland neighbourhood were more likely to express feeling threatened by "sketchy" people, which likely reflects the neighbourhood's population density and proximity to areas with a greater concentration of marginalized populations. Older children were more likely to describe a sense of competence in keeping themselves safe than younger children, which also seemed to carry through to parents' perceptions, as they also appeared to have greater freedom for UOA.

The results indicated that rather than acting in isolation, these factors interacted, with some being contingent on others and ultimately influencing whether children chose to go out and play independently and the time they spent doing so. Fig. 2 outlines a conceptual model of children's decision process that emerged from our data.

4.1. Am I allowed to go out?

Children's perceptions of parental permission for UOA fundamentally influenced children's access, activities, and spatial and temporal boundaries. This factor permeated multiple themes, particularly those relating to safety, including potentially threatening people or traffic. Children described more limited freedom when their parents had safety concerns, such as being required to avoid certain streets or public transport. Boxberger, Reimers, Boxberger, and Reimers's (2019) systematic review examining parental correlates of children's outdoor play highlighted parents' gatekeeper role. Likewise, Lee et al.'s (2015)

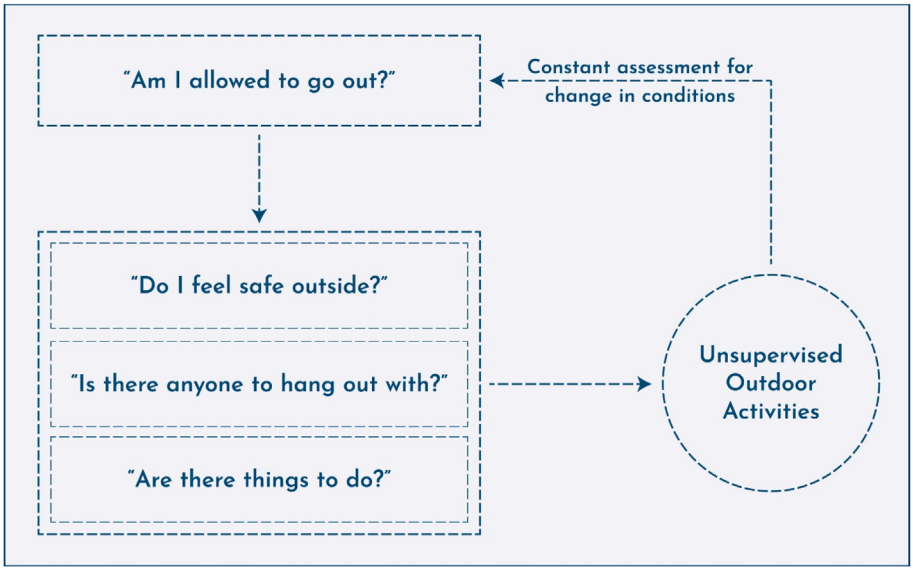

Fig. 2. Conceptual model of children's decision process for UOA.

qualitative meta synthesis indicated that parents' safety concerns were the primary barrier, and similar to our findings, indicated that the most consistent fears related to strangers, bullies or other teens, and traffic.

Children noted conditions that helped allay parents' fears and resulted in more freedom: being with other children, remaining within walking distance, and not going out after dark. Furthermore, some children's UOA was contingent on carrying cell phones. Consistent with Lee et al.'s (2015) meta synthesis, parents appeared to manage safety concerns through direct or indirect surveillance, including establishing spatial or temporal limits, driving children to destinations beyond acceptable boundaries, requiring that children go out with friends, and/or insisting children carry cell phones.

4.2. Do I feel safe outside?

Personal feelings of safety influenced children's willingness to be outside, where they went and their activities. Two main factors influenced their feelings of safety: potentially threatening people (which could also be limited to certain locations perceived as unsafe), and busy traffic. Feelings of safety were also affected by temporal factors; darkness was perceived as more dangerous than daylight, because there might be more threatening people, and because traffic could be more difficult to navigate.

It is important to recognize how parents' perception of their neighbourhood's safety could affect their children's view of the neighbourhood, and general sense of safety. Parents' perspectives permeated children's narratives directly in setting limits to freedom, as well as indirectly in influencing children's interpretation of the people and places in their neighbourhood. Past research indicates the internalization of parent perspectives and even the intergenerational transmission of fear around neighbourhood safety (Backett-Milburn, 2004; De Groof, 2007).

There were various factors that helped allay children's fears. In particular, knowing their neighbours and having other children around (whether friends or not) helped give them a perception of informal surveillance and 'latent neighbourliness' – that help was on hand in an emergency (Cordes & Hothi, 2010). Daily neighbourly exchanges ('manifest neighbourliness') helped develop relationships of trust among neighbours that fostered a sense of latent neighbourliness (Cordes & Hothi, 2010). Children also described personal agency in keeping themselves safe and had a variety of strategies that they employed to do so, such as going out with friends, avoiding certain areas and major roads, or not playing after dark. Some children described feeling reassured by carrying a cell phone.

4.3. Is there anyone to hang out with?

Even if children were allowed to be outside unsupervised and felt safe doing so, they were unlikely to do so without friends. Having friends within walking distance appeared to be an important factor in facilitating UOA. Friends provided companionship, helped make outdoor activities more fun, allayed parents' safety fears and enhanced children's feelings of competence in staying safe.

The importance of friends was underscored in Moore's (1986) seminal research on children's outdoor play, where most outdoor activities involved friends. Research on children's after school time found that children spent more time outdoors with friends than with parents or alone, and that they were more physically active while outdoors with friends than when indoors or with other people (Pearce, Page, Griffin, & Cooper, 2014).

4.4. Are there fun things to do?

Children wanted a variety of affordances within walking distance, including formal affordances (e.g., public amenities, inexpensive food, stores, entertainment venues) and informal, unprescribed spaces where there was a sense of potential and mystery, that they could take control of, even temporarily, and incorporate their own ideas. These informal spaces were often ignored or overlooked by adults, such as alleys and hiding spots, and had loose parts (e.g., sticks, water, chairs) available for children to move around and allow their imagination to shape play. Children further highlighted their desire to easily access nature and were highly critical of the lack of opportunities to be challenged and take risks, with most playground equipment described as "for the babies." Some children sought opportunities for risk and challenge in unsanctioned places, such as the school roof.

The importance of diverse affordances for play has been consistently identified in previous research. Sobel (1990) highlighted children's need for "special places" – secret places that children found or constructed on their own, felt a sense of ownership and safety. Lee et al.'s (2015) qualitative meta synthesis showed that children valued flexible spaces to play and identified the tedium of prefabricated and fixed equipment. Kyttä (2004) outlined a model for child-friendly urban environments such that the most child friendly environments were

those where children have high independent mobility and diverse and actualized affordances for play.

Notable to the decision process outlined in Fig. 2 is that children appeared to engage in a constant reassessment of the factors, such that any changes (e.g., parents wanting children to come home, friends no longer available, becoming bored with available affordances, getting dark) result in retreating indoors.

4.5. Socio-ecological and gender perspectives

The conceptual model in Fig. 2 illustrates micro child-, parent- and neighbourhood-level factors and how these factors intersect to influence children's UOA. However, distal cultural and social contacts and policies are evident in parents' and children's decision-making. Societal and neighbourhood norms regarding "good parenting," conceptions of the child, and more specifically the acceptability of children's UOA influence the freedom that parents afford their children.

The consistency of our findings across age, gender and neighbourhood point to the pervasiveness of the cultural forces dictating parenting practices and children's UOA. It is noteworthy that we did not uncover gender differences from the children's data. It is possible they would emerge in interviews with parents. Parents typically fear sexual predation for girls, but excessive risk taking behaviour for boys, particularly when with their peers (Valentine, 1997). The boys and girls in our study did not express notable differences in their safety fears, nor in their UOA, despite our additional probes to elucidate potential patterns. This may be because the children in our sample seemed to perceive high levels of neighbourliness, thus mitigating safety fears. It is also possible that because having at least some level of UOA was a condition for participation, we are missing the perspectives of children without freedom or desire to engage in UOA.

5. Limitations

The generalizability of the current study findings may be limited. First, geographically, the current study was conducted in metropolitan areas of a developed country, which might have little relevance to other contexts, such as rural settings in low- and middle-income countries. Second, although extensive attempts were made to include families from a variety of socioeconomic and cultural backgrounds, participants were predominantly (over 50%) from middle-class Caucasian backgrounds. This might have limited our ability to generalize the current findings to children of non-Caucasian or lower SES backgrounds.

6. Conclusion

Children in Western nations have become increasingly absent from streets and had previously commonplace freedoms curtailed (Hillman et al., 1990; Karsten, 2005). Concerns for the effects on children's health and development, as well as the sustainability of cities has fueled interest and research to reverse this trend (Marzi et al., 2018; UNICEF, 2018). Our findings strengthen previous research, highlighting the importance of social and physical environment factors in facilitating and impeding UOA (Marzi et al., 2018). Our proposed model outlines the process by which these factors work to influence children's access to UOA. Efforts to improve children's access to UOA must address all levels of the socio-ecological model, including ensuring equitable access for children irrespective of socio-demographic factors. There are several implications of our findings for policy makers and municipal planners. Safety fears are prominent for both parents and children yet bear little relation to statistics (Brussoni et al., 2015), and fostering a sense of neighbourliness can mitigate these fears. Interventions such as play streets, which close streets to traffic and encourage play, may improve neighbourliness and children's access to UOA (Umstattd Meyer, Bridges, Schmid, Hecht, & Pollack Porter, 2019). Furthermore, the importance of including children's voices in city making is clear and the benefits extend beyond children to promote vibrant cities for all citizens (Bishop & Corkery, 2017; Hart, 2002).

CRediT authorship contribution statement

Mariana Brussoni: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Writing - original draft, Supervision, Funding acquisition. **Yingyi Lin:** Formal analysis, Data curation, Writing - original draft. **Christina Han:** Methodology, Formal analysis, Investigation, Data curation, Writing - original draft, Project administration. **Ian Janssen:** Conceptualization, Methodology, Formal analysis, Writing - review & editing, Funding acquisition. **Nadine Schuurman:** Conceptualization, Methodology, Formal analysis, Writing - review & editing, Funding acquisition. **Randy Boyes:** Formal analysis, Writing - review & editing. **David Swanlund:** Formal analysis, Writing - review & editing. **Louise C. Mâsse:** Conceptualization, Methodology, Formal analysis, Writing - review & editing, Funding acquisition.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jenvp.2020.101460.

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